



Political Networks in an Interdisciplinary World

S i x t h A n n u a l

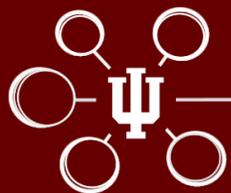
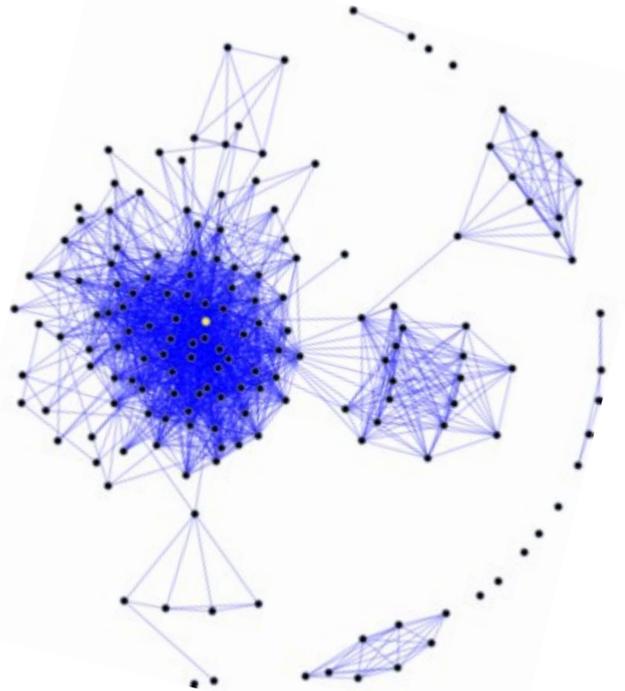
# POLITICAL NETWORKS CONFERENCE & WORKSHOPS

June 26-29, 2013

Indiana University

Indiana Memorial Union

Bloomington, IN



Political Networks in an Interdisciplinary World



## Membership

We encourage all who are interested in the use of social networks to study politics to join the Political Networks organized section of the American Political Science Association.

Our section has grown rapidly since its formation in 2009 — we now number over 250 active members. We're already seeing some of the benefits of forming our section. Networks research is gaining increased attention in the discipline and in popular journalism, and networks-based articles are increasingly finding homes in leading academic journals. Additionally, a new generation of scholars is learning how to apply network methods to political questions. These successes are due in part to the concerted efforts of our section's members.

Renew your membership or join the Political Networks organized section of the American Political Science Association at <http://www.polinetworks.org/membership/>.





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## WELCOME

Indiana University is proud to host the 6th Annual Meeting of the Political Networks Section of the American Political Science Association. The meeting starts on June 26 with a series of beginner- and advanced-level workshops. Conference proceedings will start with an opening reception on the evening of June 27 and conclude on Saturday, June 29.

## PROGRAM COMMITTEE

Conference Program Chair:

**Mark Lubell** | University of California Davis

Workshop Program Chair:

**Sandra González-Bailón** | Oxford University

## FELLOWSHIP COMMITTEE

Fellowship Committee Chair:

**Bruce Desmarais** | University of Massachusetts

Fellowship Committee Members:

**Jennifer Hadden** | University of Maryland

**Jaime Settle** | College of William & Mary

Fellowship Committee Advisor:

**Jan Box-Steffensmeier** | The Ohio State University

## HOST COMMITTEE

Host Committee Chair:

**Armando Razo** | Indiana University, Political Science

Host Committee Co-Chair:

**Bernice Pescosolido** | Indiana University, Sociology





## ACKNOWLEDGEMENTS

Funding for this conference is generously provided by the National Science Foundation and Indiana University through various departments and organizations noted under sponsors.

At Indiana University, we are especially grateful to the following individuals and organizations:

Bernice Pescosolido (INSIEME and Sociology), Jean Robinson (Associate Executive Dean of the College of Arts and Sciences), and Russ Hanson (Chair of Political Science) were instrumental in helping us secure seed funding for our hosting bid.

The Indiana Clinical and Translational Sciences Institute, Ted Carmines (Director of the Center on American Politics), and James Wimbush (Dean of The University Graduate School) provided generous funding for the conference part of our meeting.

Administrative and conference planning support was ably provided by Alex Laszlo Capshew, Brandi Host, and Melissa Kocias.

Travel Fellowships to the Workshops and Conference, as well as Workshop instruction, were financed with significant support from the National Science Foundation.

We are grateful to Jan Box-Steffensmeier (Ohio State University) and Bob Huckfeldt (UC Davis) for preparing the NSF proposal that enabled renewed support for our annual meeting.

We also thank Cindy Simmons of UC Davis for helping us administer and disburse NSF funds.

## IU CONFERENCE SPONSORS

Center on American Politics—primary sponsor of the Art Museum Reception

College of Arts & Sciences

Department of Economics

Department of Political Science

Department of Sociology

INSIEME—An Indiana University Network Science Initiative

School of Public and Environmental Affairs

The Graduate School—primary sponsor of the Mentoring Lunch

The Indiana Clinical and Translational Sciences Institute

The Vincent and Elinor Ostrom Workshop in Political Theory and Policy Analysis





# MEETING LOGISTICS

## Location Information

The conference venue is the Indiana Memorial Union Biddle Hotel and Conference Center located at 900 E. 7<sup>th</sup> Street, Bloomington, IN 47405. The main telephone number is 812-856-6381.

## Registration Desk

The registration desk will be open from 8:00 am—5:00 pm on Wednesday, Thursday, and Friday, June 26-28. IU Conference staff will be available to answer your logistical questions.

## Meals

Breakfast and lunch will be provided each day of the workshops and conference in the Frangipani Room. An opening reception with hot and cold hors d'oeuvres is scheduled after the keynote address on Thursday, June 27; a second reception will be held during the poster session on Friday, June 28.

The mentoring lunch will be held on Friday, June 28 from 12:30 pm—2:00 pm in the Frangipani Room. Table assignments are included in your registration materials. Seating assignments were selected to match more senior colleagues with more junior colleagues. Please be sure to sit at the assigned table.

Dinner is on your own. A dining guide to local and campus restaurants is included in the program book. On Wednesday night, June 26th, there will be hosted dinners at a selection of local restaurants. Stop by the registration desk to review menus and sign up to join. Attendees are responsible for their meals.

## Session Organization & Presentation Times

Each panel has an assigned Chair who will keep time on presentations to be delivered in the order indicated on the program. The duration of each panel is 90 minutes, which will be divided equally among all listed papers. Presenters should prepare to speak for a period of 15-20 minutes (as directed by the Panel Chair, depending on the number of papers per panel). Questions and answers should take place after each presentation, rather than at the end of the session.

## Poster Session

The poster session is scheduled from 5:30 pm—7:00 pm on Friday, June 28. Poster set-up begins at 3:30 pm to give presenters time to set-up prior to the start of the Plenary Address at 4:00 pm. Conference staff will be onsite to direct and assist.

## Wireless Internet Access

### AT&T Free Wi-Fi

The wireless networking infrastructure at IU Bloomington broadcasts the AT&T Wi-Fi SSID. It is free to use for all visitors. To connect, select AT&T Wi-Fi from the list of available wireless networks on your computer.

- After opening your web browser, you should be redirected to the AT&T Wi-Fi connection page.
- Agree to the Terms of Service by clicking the checkbox
- Click “Get Connected” to gain access to the Internet

### IU Guest Network Wi-Fi

Conference attendees will receive a guest account for the duration of the conference that will allow you to log on to the IU Guest Network.

- When given an option of networks to join, select IU Guest
- Enter Guest username & password [NOTE: User names and Passphrases are case sensitive and should be typed exactly as they appear.]
- Click connect

**NOTE:** The AT&T Wi-Fi network is not encrypted, meaning that it is possible for hackers to intercept plain-text transmissions. Please ensure that you are using appropriate security measures such as SSL/TLS encryption for web pages and email, and also apply any important antivirus/antispyware and operating system updates available.

### More Information:

AT&T Wi-Fi service: <http://kb.iu.edu/data/azqb.html>

Best security practices: <http://kb.iu.edu/data/akln.html>

Information Technology Services (UITS) Support Center: <http://uits.iu.edu/>





## MEETING LOGISTICS (cont.)

### Printing Options

Campus Card Service, located within the IU Bookstore in the IMU, offers full service copies and faxing, finishing services and supplies. While it is convenient for regular photocopying needs, poster size print jobs cannot be accommodated. A self service copy machine is also available in the IMU across from the ATMs.

### Banking Options

The IMU's banking options include ATMs from IU Credit Union, Chase, Fifth Third, and Old National. There is also a branch of the IU Credit Union located within the hotel.

### Campus Bus Service

Conference participants and guests are welcome to use the campus bus service free of charge—no badges or passes are required. Bus routes and schedules can be explored on the bus service website at [http://www.iubus.indiana.edu/campus\\_bus/index.html](http://www.iubus.indiana.edu/campus_bus/index.html).

### Lost & Found

Please check the conference registration desk for any items you may have misplaced. After registration closes on Friday all lost and found items will be turned into the hotel front desk.

### Questions

Questions during the conference can be directed to the conference registration desk located in the Tree Suite Lounge on the Mezzanine Level of the IMU. Other comments or questions regarding PolNet 2013 may be sent to [polnet@indiana.edu](mailto:polnet@indiana.edu).

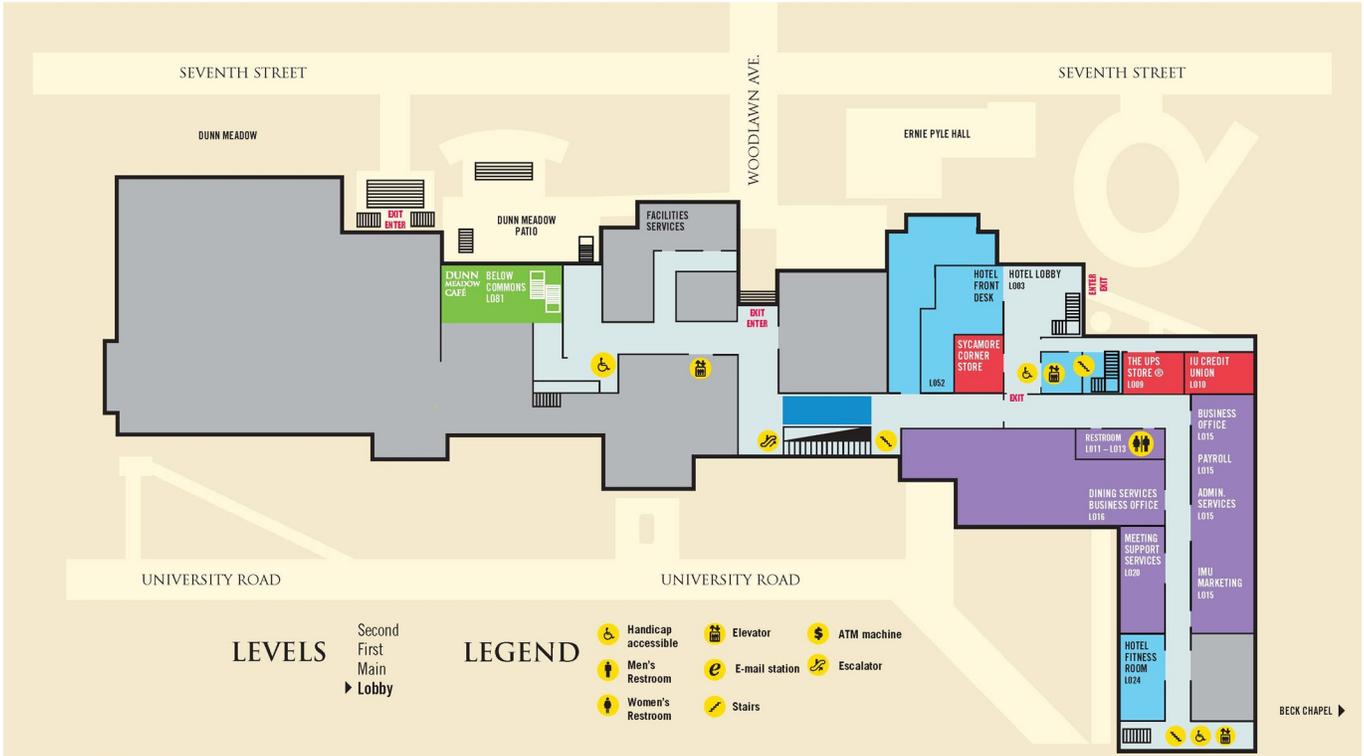
### Emergency Information

The Indiana University Police Department may be reached by calling 812-855-4111 or in the event of a true emergency dialing 911.





# MAPS: HOTEL—Indiana Memorial Union—Lobby & Main



**Ψ INDIANA MEMORIAL UNION**  
 INDIANA UNIVERSITY  
 Bloomington

## LOBBY LEVEL



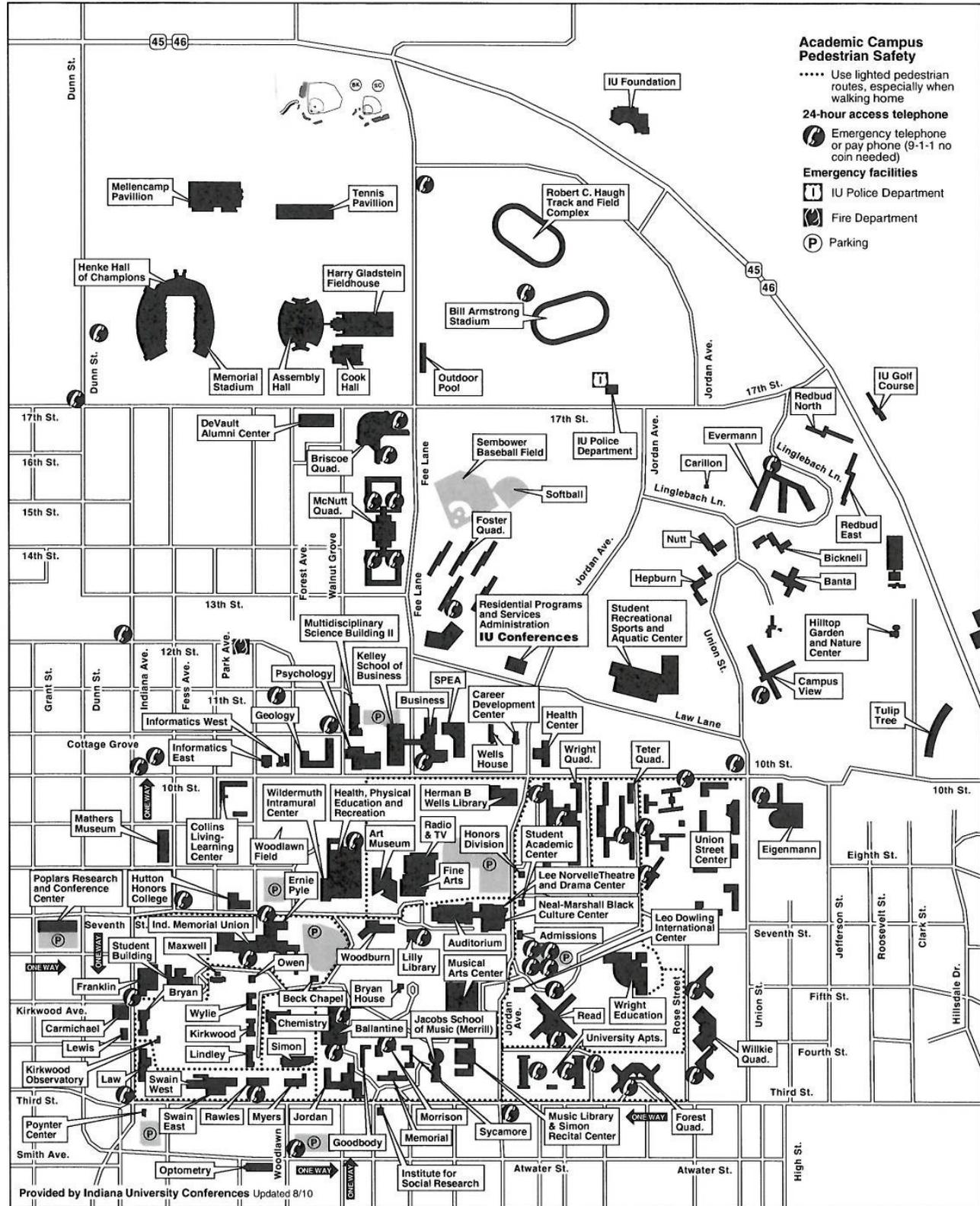
**Ψ INDIANA MEMORIAL UNION**  
 INDIANA UNIVERSITY  
 Bloomington

## MAIN LEVEL





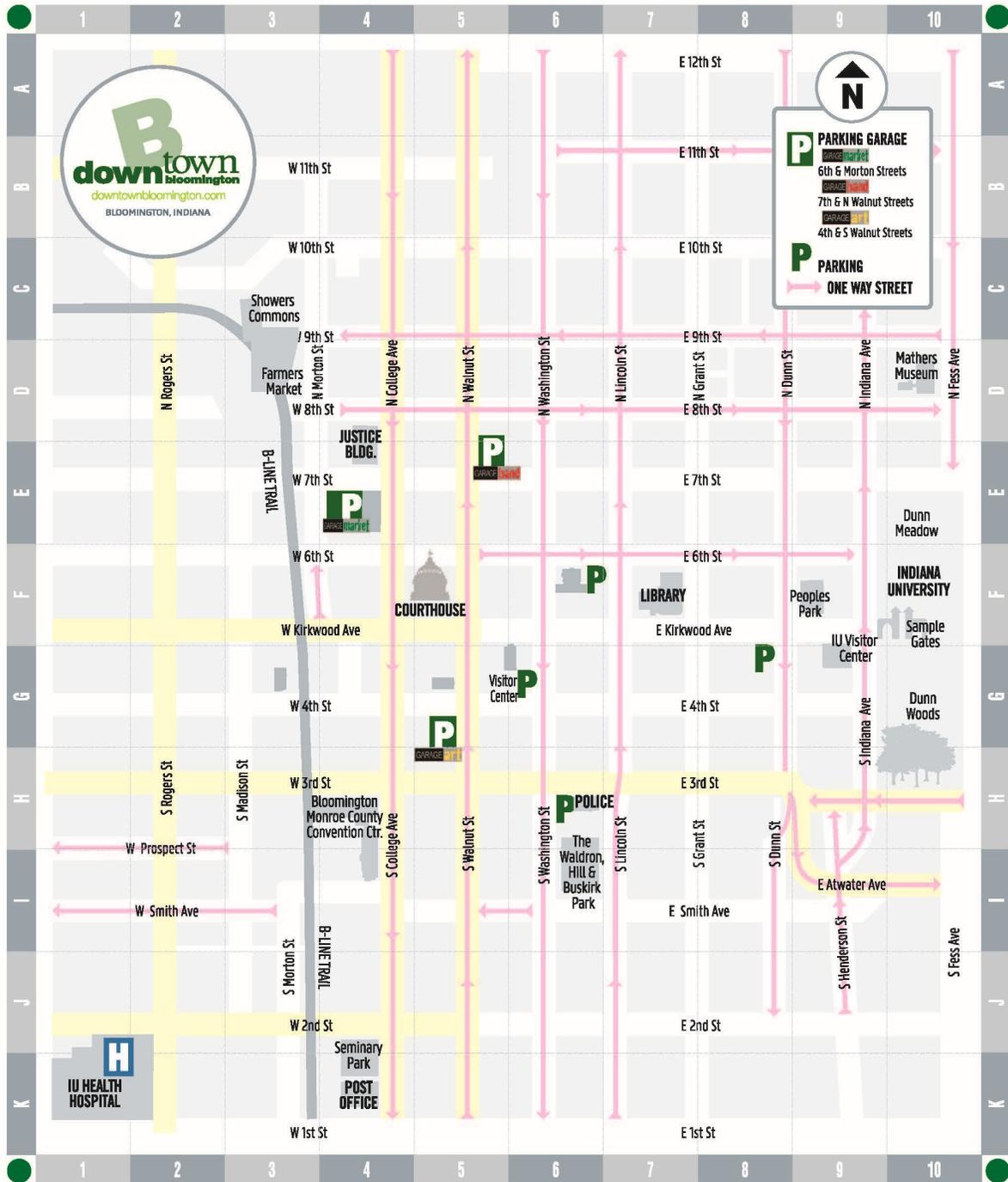
# Indiana University Bloomington Campus



Provided by Indiana University Conferences Updated 8/10



# MAPS: DOWNTOWN BLOOMINGTON



## GARAGE art

CLEARANCE: 7' 0"  
 ADDRESS: 4th and Walnut  
 ENTRANCE LOCATION: 100 W. 4th St.  
 HOURS OF OPERATION: Open 24/7  
 RATES/HOW TO PAYHOURLY RATE: 50¢ per hour [accepts nickels, dimes and quarters]. A change machine is located on the first floor near the entrance.  
*\*Rates subject to change.*

## GARAGE market

CLEARANCE: 7' 0"  
 ADDRESS: 7th and College  
 ENTRANCE LOCATION: 300 N. Morton St.  
 HOURS OF OPERATION: Open 24/7  
 RATES/HOW TO PAYHOURLY RATE: 50¢ per hour [accepts cash, Visa and MasterCard]. A pay station is located on the first floor next to the elevator.  
*\*Rates subject to change.*

## GARAGE band

CLEARANCE: 7' 6"  
 ADDRESS: on Walnut between 7th and 8th  
 ENTRANCE LOCATION: 300 N. Walnut St.  
 HOURS OF OPERATION: Open 24/7  
 RATES/HOW TO PAYHOURLY RATE: 50¢ per hour [accepts nickels, dimes and quarters]. Enforcement will be 24 hours per day. A change machine is located on the first floor near the entrance.  
*\*Rates subject to change.*





# Conference Guide to Casual & Fine Dining



IU Bloomington Campus and Downtown Area

**WALKING DIRECTIONS FROM THE INDIANA MEMORIAL UNION**

1. WHEN LEAVING CONFERENCE LOUNGE AREA, EXIT THE IMU BUILDING THROUGH THE DOORS LEADING INTO THE GARDEN AREA.
2. WALK UP THE STAIRS TO THE SIDEWALK, TURN RIGHT AND WALK ALONG THE SIDEWALK UNTIL YOU SEE THE LARGE LIMESTONE GATES (SAMPLE GATES).
3. WALK THROUGH THE SAMPLE GATES.
- 4A. TO GET TO KIRKWOOD AVENUE (5TH STREET): KIRKWOOD IS STRAIGHT IN FRONT OF YOU AS YOU WALK THROUGH SAMPLE GATES
- 4B. TO GET TO INDIANA & FOURTH STREET: TURN LEFT ON INDIANA AVE, THEN TURN RIGHT ON TO 4TH STREET.
- 4C. TO GET TO THE DOWNTOWN AREA: CROSS INDIANA AVENUE AND WALK STRAIGHT DOWN KIRKWOOD UNTIL YOU COME TO THE COURTHOUSE. RESTAURANTS ARE AVAILABLE ON ALL SIDES OF THE COURTHOUSE SQUARE, AND WITHIN A BLOCK OR TWO IN EACH DIRECTION.

## In the IMU

**THE FOOD COURT,  
BURGER KING, BAJA  
FRESH, PIZZA HUT, DUNN  
MEADOW CAFE**  
855-1533 ☺☺☺  
(FAST FOOD)

**STARBUCKS** ☺  
(COFFEE)

**SUGAR 'N SPICE**  
(COFFEE & BAKERY)

**TUDOR ROOM**  
855-1620 \$\$  
(BUFFET)

## Fourth Street

**ANATOLIA**  
405 E. 4TH ST.  
334-2991 \$\$  
(TURKISH)

**ANYETSANG'S LITTLE TIBET**  
415 E. 4TH ST.  
331-0122 ♥\$  
(INTERNATIONAL)

**AMOL INDIA**  
416 E. 4TH ST.  
331-8844 ♥\$  
(INDIAN)

**TASTE OF INDIA**  
316 E. 4TH ST.  
333-1399 ♥\$  
(INDIAN)

**MY THAI**  
402 E. 4TH ST.  
333-3993 ♥\$  
(THAI)

**DATS**  
211 S. GRANT ST.  
339-3090 \$\$  
(CAJUN, CREOLE)

**PUCCINI'S LA DOLCE VITA**  
420 E. 4TH ST.  
333-5522 \$\$  
(ITALIAN)

**SIAM HOUSE**  
430 E. 4TH ST.  
331-1233 ♥\$\$  
(THAI)

## Indiana Ave.

**BUFFA LOUIE'S**  
114 S. INDIANA AVE.  
333-3030 ♥\$\$  
(WINGS)

**CHOW BAR**  
216 S. INDIANA AVE.  
336-3888 \$\$  
(ASIAN)

**DAGWOOD'S SUBS**  
116 S. INDIANA AVE.  
333-3000 ♥☺\$  
(SANDWICHES)

**PENN STATION**  
212 S. INDIANA AVE.  
333-7366 \$  
(SANDWICHES)

**QDOBA**  
116 S. INDIANA AVE.  
339-1122 ☺\$  
(MEXICAN)

**STARBUCKS**  
110 S. INDIANA AVE.  
(COFFEE) ☺\$

## Kirkwood Area

**BLOOMINGTON BAGEL**  
113 N. DUNN ST.  
333-4653 ☺\$  
(BREAKFAST & LUNCH)

**CAFÉ DJANGO**  
116 N. GRANT ST.  
335-1297 ♥\$  
(INTERNATIONAL)

**CAFÉ PIZZARIA**  
405 E. KIRKWOOD AVE.  
332-2111 \$

**CHIPOTLE GRILL**  
420E. KIRKWOOD AVE.  
330-1435 ♥\$  
(MEXICAN)

**ESAN THAI**  
221 E. KIRKWOOD AVE.  
333-8424 ♥\$  
(THAI)

**FALAFEL'S**  
430 E. KIRKWOOD AVE.  
355-3555 ♥\$  
(GREEK/ISRAELI)

**FARM BLOOMINGTON**  
108 E. KIRKWOOD AVE.  
323-0002 ♥\$\$\$  
(NEW AMERICAN)

**FINCH'S BRASSERIE**  
514 E. KIRKWOOD AVE.  
333-2700 ♥\$  
(FARM TO TABLE)

**HARTZELL'S ICE CREAM**  
107 N DUNN ST.  
332-3502 \$

**JIMMY JOHN'S DELI**  
430 E. KIRKWOOD AVE.  
332-9265 ☺\$  
(SANDWICHES)

**KILROY'S BAR & GRILL**  
502 E. KIRKWOOD AVE.  
339-3006 ☺\$

**LAUGHING PLANET**  
322 E. KIRKWOOD AVE.  
323-2233 ♥\$  
(BURRITOS)

**NICK'S ENGLISH HUT**  
423 E. KIRKWOOD AVE.  
332-4040 ☺\$  
(BAR & GRILL)

**NOODLES COMPANY**  
517 E. KIRKWOOD AVE.  
323-1400 ♥\$  
(HEALTHY FAST FOOD)

**PITA PIT**  
530 E. KIRKWOOD AVE.  
355-3500 ♥\$  
(SANDWICHES)

**POTBELLY SANDWICHES**  
517 E. KIRKWOOD AVE.  
334-9846 \$  
(SANDWICHES)

**RUNCIBLE SPOON**  
412 E. 6TH ST.  
334-3997 ♥\$  
(BREAKFAST, COFFEE,  
SANDWICHES)

**SOMA**  
322 E. KIRKWOOD AVE.  
325-6219 \$  
(COFFEE & JUICE BAR)

**VILLAGE DELI**  
409 E. KIRKWOOD AVE.  
336-2303 ☺♥\$  
(BREAKFASTS,  
SANDWICHES)

**WHICH WICH**  
422 E. KIRKWOOD AVE.  
332-9424 \$  
(SANDWICHES)

## Downtown Area

**BLOOMINGTON SANDWICH CO.**  
118 E KIRKWOOD AVE.  
330-9611 \$  
(SANDWICHES)

**COACHES LOUNGE**  
245 N. COLLEGE AVE.  
339-3537 \$\$  
(BAR & GRILL)

**CRAZY HORSE**  
214 W. KIRKWOOD AVE.  
336-8877 ☺\$  
(BAR & GRILL)

**DARN GOOD SOUP**  
107 N. COLLEGE AVE.  
335-3533 ♥\$  
(SOUP)

**GRAZIE!**  
106 W. 6TH ST.  
323-0303 \$\$  
(ITALIAN)

**IRISH LION**  
212 W. KIRKWOOD AVE.  
336-9076 \$  
(IRISH BAR & GRILL)

**JANKO'S LITTLE ZAGREB**  
223 W. 6TH ST.  
332-0694 \$\$\$  
(STEAKHOUSE)

**KILROY'S SPORTS BAR**  
319 N. WALNUT ST.  
333-6006 ☺\$

**MALIBU GRILL**  
106 N. WALNUT ST.  
332-4334 ♥\$  
(CASUAL CALIFORNIAN)

**MAX'S PLACE**  
108 W 6TH ST.  
336-5169 \$\$  
(PIZZA & PUB)

**MICHAEL'S UPTOWN CAFÉ**  
102 E. KIRKWOOD AVE.  
339-0900 ☺♥\$  
(AMERICAN & CAJUN)

**OLIVER WINERY  
DOWNTOWN TASTING RM.**  
105 N. COLLEGE AVE.  
822-0466 ♥\$  
(TAPAS & WINE)

**OPIE TAYLOR'S**  
110 N. WALNUT ST.  
333-7287 \$\$  
(BAR & GRILL)

**LE PETITE CAFÉ**  
308 W. 6TH ST.  
334-9747 \$\$  
(FRENCH)

**RESTAURANT TALLENT**  
208 N. WALNUT ST.  
330-9801 ♥\$  
(LOCAL/SEASONAL)

**ROOTS ON THE SQUARE**  
124 N. WALNUT ST.  
336-7668 ♥\$  
(VEGETARIAN FOOD &  
JUICE BAR)

# Casual & Fine Dining (continued)

## Downtown Area cont'd

- SAMIRA**  
100 W. 6TH ST.  
331-3761 ♥\$\$  
(AFGHAN)
- SCHOLAR'S INN BAKEHOUSE**  
125 N. COLLEGE AVE.  
331-6029 ♥\$  
(BAKERY & SANDWICHES)
- SCOTTY'S BREWHOUSE**  
302 N. WALNUT ST.  
333-5151 \$\$  
(BAR & GRILL)
- STEFANO'S ICE CAFÉ**  
101 W. KIRKWOOD AVE.  
331-0575 \$  
(ICE CREAM, COFFEE)
- THE OWLERY**  
118 W. 6TH ST.  
333-7344 ♥\$\$  
(VEGETARIAN)
- TROJAN HORSE**  
100 E. KIRKWOOD AVE.  
332-1101 ♥\$\$  
(GREEK)

## Other Campus Spots

- BEAR'S PLACE**  
1316 E. 3RD ST.  
339-3460 \$\$  
(BAR & GRILL)
- COPPER CUP**  
1400 E. 3RD ST.  
415 N. COLLEGE AVE. ♥  
323-8492 \$  
(COFFEE)
- DRAGON EXPRESS**  
1400 E. 3RD ST.  
331-7030 \$\$  
(ASIAN)
- THE MAC GRILL**  
1430 E. 3RD ST.  
334-9100 \$\$  
(INTERNATIONAL)
- MOTHER BEAR'S PIZZA**  
1428 E. 3RD ST.  
332-4495 ♥\$\$
- PIZZA X**  
CAMPUS DELIVERY  
334-7737 ♥\$\$
- TURKUAZ CAFE**  
301 E. 3RD ST.  
333-7908 ♥\$  
(INTERNATIONAL)
- YOGI'S BAR & GRILL**  
519 E. 10TH ST.  
323-9644 \$\$

## Further Away (BUT WORTH THE TRIP)

- CHOCOLATE MOOSE**  
401 S. WALNUT ST.  
333-0475  
(ICE CREAM)
- LENNIE'S & BLOOMINGTON BREWING Co.**  
1795 E. 10TH ST.  
323-2112 ♥\$\$  
(BAR & GRILL, PIZZA)
- SCHOLAR'S INN**  
717 N. COLLEGE AVE.  
332-1892 ♥\$\$\$  
(AMERICAN FINE DINING)
- TRUFFLE'S 56 DEGREES**  
1131 S. COLLEGE MALL  
330-1111 ♥\$\$\$  
(AMERICAN FINE DINING)
- UPLAND BREWING Co.**  
350 W. 11TH ST.  
336-2337 ♥\$\$  
(BAR & GRILL)

**LEGEND**

\$ = Inexpensive  
 \$\$ = Average  
 \$\$\$ = Above Average

☒ = Delivery  
 ♥ = Vegetarian friendly  
 ☒ = IMU Room service  
 ☒ = Wifi

 **CITY ORDINANCE:**  
Smoking is prohibited in all public places and work places.

**NOTE:** ALL PHONE NUMBERS ARE AREA CODE: (812)

COMPILED BY:  
IU CONFERENCES  
MAY 2013





## SPECIAL EVENTS & HIGHLIGHTS

**KEYNOTE ADDRESS** [Thursday, June 27, 5:00—6:00 pm, Whittenberger Auditorium]

**The Dark Networks Project: What Have We Learned?**

*H. Brinton Milward*

H. Brinton Milward is the Director of the School of Government and Public Policy at the University of Arizona. He holds the Providence Service Corporation Chair in Public Management. He was *Director of the National Institute for Civil Discourse, which is co-chaired by President George Herbert Walker Bush and President Bill Clinton*. He has been president of two national associations: the Public Management Research Association and the National Association of Schools of Public Administration and Affairs. He is a



Fellow of the National Academy of Public Administration and in 2010 won the Distinguished Research Award given by the National Association of Schools of Public Affairs and Administration and the American Society for Public Administration for a "coherent body of work over a career." Dr. Milward's research interests revolve around networks and collaboration. The focus of his work has been on understanding how to efficiently and effectively manage networks of organizations that jointly produce public services like health and human services. He has conducted studies of what happens when governments privatize public services, which he terms "governing the hollow state." In addition, since 9/11 he has studied illegal and covert networks that pursue grievances or greed. His articles on "Dark Networks," have been widely cited for their application of network analysis and management theory to terrorist networks, human trafficking, drug smuggling, and other illegal activities. His particular foci have been the governance of dark networks, their trajectories, and accounting for their relative degrees of effectiveness and resilience. Milward received his B.A. from University of Kentucky and his Ph.D. from Ohio State University.

**OFFICIAL WELCOME** [Friday, June 28, 3:50—4:00 pm, Whittenberger Auditorium]

*Michael A. McRobbie*, President, Indiana University

**PLENARY ADDRESS** [Friday, June 28, 4:00—5:00 pm, Whittenberger Auditorium]

**Designing a Network Intervention for Scientific Collaborations**

*Christopher McCarty*

Dr. Christopher McCarty is director of the University of Florida's Bureau of Economic and Business Research and Associate Professor of Anthropology. This year he is serving as a National Science Foundation rotating program officer for the Cultural Anthropology Program. Dr. McCarty's primary research interests are in the field of social networks with a specialization in personal network analysis. He developed a program called EgoNet for the collection and analysis of personal network data. His research focuses on personal network structure and network elicitation techniques. He has adapted traditional network methods to large-scale telephone and field surveys. McCarty teaches Social Network Analysis at the University of Florida and has mentored more than 30 doctoral students in the application of social network analysis to their research.



Through his collaborations McCarty has worked on the development of methods such as the reverse small world and the network scale-up method for estimating the size of hard-to-count populations. Since 2008 the network scale-up method has been applied in many countries to estimate the size of populations most at risk for HIV. Using EgoNet McCarty and colleagues in Spain have examined the personal network characteristics of migrant networks. He has also worked with colleagues on projects relating to substance abuse treatment, co-offending in high crime neighborhoods, stress and hypertension associated with racism, mental health resources in disaster-prone communities and community resilience following disasters.

McCarty's most recent research is in the area of scientific collaboration networks. Through an NSF-funded grant McCarty and colleagues have examine the egocentric network conditions that lead to higher scientific productivity as measured by the h-index. He is currently working with a post-doc to develop collaborative network interventions at the University of Florida.





## SPECIAL EVENTS & HIGHLIGHTS (cont.)

### PLENARY ADDRESS

[Saturday, June 29, 12:15—2:00 pm, Frangipani Room]

Network Science, Political Science, and the Study of Politics

*Robert Huckfeldt*



Robert Huckfeldt is a Distinguished Professor of Political Science at the University of California at Davis and Director of the University of California Center Sacramento.

His primary research interests lie in participation, communication, and decision-making in democratic politics, at the level of individuals, groups, and electorates. The unifying focus of his work is on individuals who are imbedded within social contexts and connected to one another through networks of communication. He has carried out studies of urban neighborhoods, national election studies, comparative studies of urban areas, and cross-national election studies, as well as experimental studies and dynamic simulations of political processes. He is currently engaged in a study of political expertise within communication networks and the potential for individual level

expertise to enhance the decision-making capacity of aggregate populations. This project involves survey analysis, group based experiments, and agent based models. He is the author or coauthor of *Politics in Context*; *Race and the Decline of Class in American Politics*; *Citizens, Politics, and Social Communication*; *Political Disagreement*; and a series of research articles in various journals, including the *American Political Science Review*, *the American Journal of Political Science*, *the Journal of Politics*, *the American Journal of Sociology*, *Political Analysis*, *Political Behavior*, *Political Psychology*, *Political Geography*, and *Social Networks*.

He is the past president of the Midwest Political Science Association; past president of the Elections, Public Opinion, and Voting Behavior Section of the American Political Science Association; and the past chair of the Political Networks Section of the American Political Science Association. He received his Ph.D. from Washington University in St. Louis.

### OPENING RECEPTION

[Thursday, June 27, 6:30—8:30 pm, Art Museum]

Join us to celebrate the start of the conference with an opening reception at the IU Art Museum. The Western Art Gallery on the first floor will be open and self-guided tours will be available. Guests can enjoy live music by “Three to get Ready” in the Atrium as well as extensive hors d’oeuvres and a cash bar. A complementary drink ticket has been provided in your registration materials. The IU Art Museum is a short 3 block walk from the IMU. Please consult the campus map on page 12 or ask the front desk for directions.

### MENTORING LUNCH

[Friday, June 28, 12:30—2:00 pm, Frangipani Room]

Please join us for the traditional mentoring lunch. Table assignments are included in your registration materials. Seating is arranged to match more senior colleagues with more junior colleagues. Please be sure to sit at the assigned table.

From 1:15 to 2:00 pm, Prof. John Ishiyama (University of North Texas and APSR Lead Editor) will address the conference on the topic of “Publishing advice for political network analysis.” This will be an interactive session with opportunities for conference participants to ask questions.

### RECEPTION & POSTER SESSION

[Friday, June 28, 5:30—7:00 pm, Tudor Room]

The Poster Session follows the Plenary Address on the first night of the conference. Enjoy light hors d’oeuvres and a cash bar in the elegant Tudor Room as you take in the presentations. A complementary drink ticket has been provided in your registration materials.

### BUSINESS MEETING

[Saturday, June 29, 2:00—3:00 pm, Oak Room]

The conference concludes with the annual business meeting. All are welcome to participate.





## SCHEDULE OVERVIEW

### Wednesday, June 26, 2013

TIME	ACTIVITY	LOCATION
8:00 am—5:00 pm	Registration	Tree Suite Lounge
8:00 am—9:00 am	Continental Breakfast	Frangipani
8:30 am—12:30 pm	WORKSHOP: Introduction to Social Network Analysis	Oak
8:30 am—12:30 pm	WORKSHOP: Introduction to Social Network Analysis with UCINET	Dogwood
10:30 am—11:00 am	Beverage Break	Frangipani
12:30 pm—1:30 pm	Lunch	Frangipani
1:00 pm—5:00 pm	WORKSHOP: Exponential Family Random Graph Models for Social Networks	Dogwood
1:00 pm—5:00 pm	WORKSHOP: Mining Data from Social Media	Oak
3:00 pm—3:30 pm	Refreshment Break	Frangipani

### Thursday, June 27, 2013

TIME	ACTIVITY	LOCATION
8:00 am—5:00 pm	Registration	Tree Suite Lounge
8:00 am—9:00 am	Continental Breakfast	Frangipani
8:30 am—12:30 pm	WORKSHOP: TERGM: Exponential Random Graph Models for Dynamic Network Data	Oak
8:30 am—12:30 pm	WORKSHOP: Visualizing Networks with the Science of Science (Sci2) Tool	Dogwood
10:30 am—11:00 am	Beverage Break	Frangipani
12:30 pm—1:30 pm	Lunch	Frangipani
1:00 pm—5:00 pm	WORKSHOP: Strategic Network Formation	Oak
1:00 pm—5:00 pm	WORKSHOP: Social Influence Field Experiments in Networks: Models and Considerations	Dogwood
3:00 pm—3:30 pm	Refreshment Break	Frangipani
5:00 pm—6:00 pm	KEYNOTE ADDRESS: Brinton Milward	Whittenberger Auditorium
6:30 pm—8:00 pm	Opening Reception	Art Museum





## SCHEDULE OVERVIEW (cont.)

### Friday, June 28, 2013

TIME	ACTIVITY	LOCATION
8:00 am—5:00 pm	Registration	Tree Suite Lounge
8:00 am—9:00 am	Continental Breakfast	Frangipani Room
9:00am—10:30 am	Concurrent Sessions	Oak, Walnut, Maple, Dogwood
10:30 am—11:00 am	Beverage Break	Frangipani room
11:00 am—12:30 pm	Concurrent Sessions	Walnut, Maple, Dogwood
12:30 pm—2:00 pm	Mentoring Lunch   Publishing Advice Q&A: John Ishiyama	Frangipani Room
2:00 pm—3:30 pm	Concurrent Sessions	Oak, Walnut, Maple, Dogwood
3:30 pm—4:00 pm	Refreshment Break	Frangipani Room
3:30 pm—5:00 pm	Poster Set-up	Tudor Room
3:50 pm—4:00 pm	OFFICIAL WELCOME: Michael McRobbie	Whittenberger Auditorium
4:00 pm—5:00 pm	Plenary Presentation: Christopher McCarty	Whittenberger Auditorium
5:30 pm—7:00 pm	Reception & Poster Session	Tudor Room

### Saturday, June 29, 2013

TIME	ACTIVITY	LOCATION
8:00 am—9:00 am	Continental Breakfast	Frangipani Room
9:00am—10:30 am	Concurrent Sessions	Oak, Walnut, Maple, Dogwood
10:30 am—10:45 am	Beverage Break	Frangipani room
10:45 am—12:15 pm	Concurrent Sessions	Oak, Walnut, Maple
12:15 pm—2:00 pm	Lunch & Plenary Presentation: Robert Huckfeldt	Frangipani Room
2:00 pm—3:00 pm	Business Meeting	Oak





## WORKSHOP DESCRIPTIONS

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### Introduction to Social Network Analysis

**Time:** Wednesday, June 26 (8:30 am—12:30 pm)

**Room:** Oak

#### Description

This half-day workshop addresses network analysis for participants who have no prior training in the field. It introduces major theories, terminology, measures, and data formats. Applications to political networks are discussed.

#### Instructor

Michael T. Heaney is Assistant Professor of Organizational Studies and Political Science at the University of Michigan. His research focuses on networks among interest groups, social movements, and political parties in the United States. He is currently writing a book manuscript, co-authored with Fabio Rojas, titled *Party in the Street: The Antiwar Movement and the Democratic Party after 9/11*.

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### Introduction to Social Network Analysis with UCINET

**Time:** Wednesday, June 26 (8:30 am—12:30 pm)

**Room:** Dogwood

#### Description

This 4-hour workshop assumes a general familiarity social network concepts but no knowledge of the UCINET software. The workshop begins with importing, exporting, transforming and visualizing network data. Then we cover analysis of network data at three levels of analysis: the group or network level, the node level, and the dyad level. At the dyad level we discuss such concepts as geodesic distance, multiplexity and structural equivalence. At the node level we discuss ego network measures, such as structural holes, and more global measures, such as various concepts of centrality. At the group level we discuss ways of characterizing the shape and level of cohesion of a network. We end with a discussion of approaches to testing hypotheses in a network context. Throughout we maintain a running theme of analyzing network change over time.

#### Instructor

Steve Borgatti is the Paul Chellgren Chair of Management at the University of Kentucky, where he is part of the LINKS Center for Social Network Analysis. He is a co-author of the UCINET software package for social network analysis. His research interests focus on the intersection of social networks and cognition, including knowledge utilization in organizations.

Teaching Assistant: Matt Fowler (Indiana University)

#### Required Equipment/Software

A laptop capable of running Windows programs (Mac computers can run Windows either using a boot camp partition or through virtualization software).





# Exponential Family Random Graph Models for Social Networks

**Time:** Wednesday, June 26 (1:00 pm—5:00 pm)

**Room:** Dogwood

## Description

This workshop will provide an introduction to the practical use of exponential family random graph models (ERGMs) for the statistical analysis of social networks. In addition to a basic overview of ERGMs and their uses, the workshop will provide an overview of model estimation, simulation, diagnostics, and evaluation; analysis of missing and/or sampled data will also be discussed. The workshop will be conducted via a combination of didactic lecture and hands-on exercises using the statnet suite of software tools for the R statistical computing system; R and statnet are freely available for all major computing platforms, and instructions on downloading and installing these tools will be provided prior to the workshop.

## Instructor

Carter T. Butts is a professor in the Departments of Sociology and Statistics at the University of California, Irvine, where he leads the Networks, Computation, and Social Dynamics Lab ([www.ncasd.org](http://www.ncasd.org)) and the UCI Center for Networks and Relational Analysis ([www.relationalanalysis.org](http://www.relationalanalysis.org)). Butts is a founding developer of the statnet project ([www.statnet.org](http://www.statnet.org)), a consortium that produces free software for the analysis of network data. Professor Butts's research interests include techniques for the measurement, modeling, and analysis of relational data, the structure of emergent and spatially embedded networks, and social dynamics.

*Teaching Assistant:* Lorien Jasny (UC Davis)

## Required Equipment/Software

A laptop with R and statnet is strongly recommended; instructions for software installation will be provided to registrants.

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# Mining Data from Social Media

**Time:** Wednesday, June 26 (1:00 pm—5:00 pm)

**Room:** Oak

## Description

This interactive workshop will cover the crucial steps in conducting research on social media data: collection of the data using API calls and python scripts, network inference, network analysis, and text mining. While special attention will be given to the Twitter platform, other prominent platforms such as Google+ and Facebook will be covered. Throughout the workshop, participants will be encouraged to experiment with and run scripts provided by the instructor that will cover a range of tasks including tweet collection, retweet network inference, and sentiment analysis. While no programming skill is assumed or required, participants will benefit from some familiarity with scripting and, in particular, Python.

## Instructor

Derek Ruths is an Assistant Professor of Computer Science at McGill University. In his research he develops new tools and techniques for mining and measuring large-scale human behavior in online environments. Much of his work to date has focused on human behavior on Twitter. In the past, he has run a variety of tutorials on large-scale data analysis with emphasis on applications to social science, network analysis, and introductory programming skills.

*Teaching Assistant:* TBA

## Required Equipment/Software

A laptop with R and statnet is strongly recommended; instructions for software installation will be provided to registrants





## Visualizing Networks with the Science of Science (Sci2) Tool

Time: Thursday, June 27 (8:30 am—12:30 pm)

Room: Dogwood

### Description

This interactive workshop will introduce attendees to the Science of Science (Sci2) Tool, an open-source information visualization program developed at the Cyberinfrastructure for Network Science Center here at IU. This workshop will focus primarily on visualizing network data, but the visualization of temporal, topical, and geospatial data will also be briefly covered. The hands-on portion of the workshop will use sample datasets relevant to political network analysis.

### Instructor

Ted Polley is the Research and Editorial Assistant at the Cyberinfrastructure for Network Science Center, where he teaches and tests the Sci2 Tool. He is interested in how emerging technologies and instruction can be used in library settings to improve information literacy and enrich the lives of both students and the general public.

*Teaching Assistant:* Sam Hale (Indiana University)

### Required Equipment/Software

Laptop running 32 bit version of Java 1.6 or newer – 64 bit version of Java and 32 bit version can be run simultaneously if you have 64 bit operating system.

You can download Sci2 for free from <http://sci2.cns.iu.edu> – We will go over how to install Sci2 at the beginning of the workshop.

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## TERGM: Exponential Random Graph Models for Dynamic Network Data

Time: Thursday, June 27 (8:30 am—12:30 pm)

Room: Oak

### Description

Exponential random graph models (ERGMs) are flexible statistical models for relational data that are capable of representing and identifying an extensive range of interdependencies common in networks. ERGMs are conventionally applied to cross-sectional network data. The temporal ERGM (TERGM) is a recently developed extension of ERGMs to dynamic network data. How long does it take for a tie to be reciprocated? Will a friend of a friend become a friend? Do new actors in a network exhibit preference for already popular actors? Fundamental questions of network dynamics such as these can be directly addressed within the TERGM framework. This workshop will introduce the TERGM and demonstrate its application in the free and open source R statistical software. Participants will be provided with real-world longitudinal political network data as well as R code to apply TERGMs to that data.

### Instructor

Bruce received his PhD from UNC Chapel Hill in 2010 and joined UMass Amherst that year as an assistant professor in the Department of Political Science and a core faculty member in the Computational Social Science Initiative. Bruce's research focuses on the development and application of methods for the analysis of political networks. Substantive applications in his work include international security, legislative collaboration and communication networks within local government organizations.

*Teaching Assistant:* Luke Shimek (Indiana University)

### Required Equipment/Software

Workshop participants will require an internet-enabled laptop to download data archives and R code during the workshop. They are also encouraged to download R and the `ergm` package for R ahead of time.





## Social Influence Field Experiments in Networks: Models and Considerations

Time: Thursday, June 27 (1:00 pm—5:00 pm)

Room: Dogwood

### Description

Estimating the strength of social influence within social networks is extremely difficult due to selection processes, homophily, and mutual causation. The power of randomization is used by experiments to side-step these analytic challenges in most setting, but social networks pose a special challenge for field experiments. This workshop introduces students to the logic of experimentation, presents three analytic archetypes for conducting experiments in real world social networks, and provides guidance on the analysis. Topics covered will include the Rubin Causal Model and randomization inference.

### Instructor

David Nickerson is an associate professor of political science at the University of Notre Dame. He uses experiments to study how campaigns can best mobilize people to vote, volunteer, and donate.

### Required Equipment/Software

Workshop examples will use Stata, but all are easily adapted for R.

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## Strategic Network Formation

Time: Thursday, June 27 (1:00 pm—5:00 pm)

Room: Oak

### Description

This workshop will introduce attendees to games of network formation and the equilibrium dynamics of strategic interactions in social, political, and economic networks.

### Instructor

Frank Page is Professor of Economics in the COAS Department of Economics at Indiana University, Bloomington. In the area of networks, his current research focuses on the co-evolution of networks structures, strategic behavior, and equilibrium dynamics primarily within the context of economic and financial networks. In the area of game theory, his current research is on the foundations of dynamic stochastic games and the marriage of random graph theory and the theory of stochastic games.

### Required Equipment/Software

Coffee and a pad of paper (laptop for relief from technical material)





## PANEL & POSTER SESSION OVERVIEW

### Friday, June 28, 2013

PANEL ID	TIME	PANEL TITLE	LOCATION
1-1	9:00 am—10:30 am	Twitter Political Networks	Oak
1-2	9:00 am—10:30 am	Legislative Networks	Walnut
1-3	9:00 am—10:30 am	International Conflict and Cooperation Networks	Maple
1-4	9:00 am—10:30 am	Immigration and Political Networks	Dogwood
2-1	11:00 am—12:30 pm	Political Discussion Networks	Walnut
2-2	11:00 am—12:30 pm	Environmental Policy Networks	Maple
2-3	11:00 am—12:30 pm	Advances in Statistical Models of Political Networks	Dogwood
3-1	2:00 pm—3:30 pm	Health Policy Networks	Oak
3-2	2:00 pm—3:30 pm	Mathematical Models of Political Networks	Walnut
3-3	2:00 pm—3:30 pm	Community Detection in Political Networks	Maple
3-4	2:00 pm—3:30 pm	Experiments in Political Networks	Dogwood
P-1	5:30 pm—7:00 pm	Posters: Empirical Methods	Tudor Room
P-2	5:30 pm—7:00 pm	Posters: Formal, Computational and Experimental Methods	Tudor Room
P-3	5:30 pm—7:00 pm	Posters: Legislative Networks	Tudor Room
P-4	5:30 pm—7:00 pm	Posters: Networks and Mass Political Behavior	Tudor Room
P-5	5:30 pm—7:00 pm	Posters: Policy Networks	Tudor Room

### Saturday, June 29, 2013

PANEL ID	TIME	PANEL TITLE	LOCATION
4-1	9:00 am—10:30 am	Social Media Political Networks	Oak
4-2	9:00 am—10:30 am	Public Management Networks	Walnut
4-3	9:00 am—10:30 am	Networks in Comparative Politics	Maple
4-4	9:00 am—10:30 am	Applications of Co-Citation Networks	Dogwood
5-1	10:45 am—12:15 pm	Computational Models of Political Networks	Oak
5-2	10:45 am—12:15 pm	Interest Group and Lobbying Networks	Walnut
5-3	10:45 am—12:15 pm	The Geography of Political Networks	Maple





## SESSION DESCRIPTIONS

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### 1-1: Twitter Political Networks

Time: Friday, 9:00 am—10:30 am  
Room: Oak

Chair: Sandra González-Bailón (Oxford University)

Pablo Barberá (New York University) "Birds of the Same Feather Tweet Together. Bayesian Ideal Point Estimation Using Twitter Data"

Sandra González-Bailón (University of Oxford) "The Bridges and Brokers of Global Campaigns in the Context of Social Media"  
Co-author: Ning Wang (Oxford Internet Institute, University of Oxford).

Derek Ruths (McGill University) "Political Orientation Inference on Twitter: It's not easy!"  
Co-author: Raviv Cohen (McGill University)

Ingmar Weber (Qatar Foundation) "Secular vs. Islamist Tension on Arabic Twitter: A Network Analysis"  
Co-author: Venkata Rama Kiran Garimella (Qatar Computing Research Institute)

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### 1-2: Legislative Networks

Time: Friday, 9:00 am—10:30 am  
Room: Walnut

Chair: Meredith Rolfe (London School of Economics)

Auter, Zachary (University of Pittsburgh) "Second Street Gangs: Ad Hoc Policy Commissions in the Senate"  
Co-authors: Jennifer Nicoll Victor (George Mason University), Kristen Coopie Allen (University of Pittsburgh), Ian Palmer Cook (University of Pittsburgh)

Robert Huckfeldt (University of California, Davis) "The U.S. Senate, Networks of Interests, and the Politics of the 1957 Civil Rights Act"  
Co-authors: Erik Engstrom (University of California, Davis), Christopher Donnelly (University of California, Davis), Matthew Pietryka (University of California, Davis), Jack Reilly (University of California, Davis)

Jennifer Victor (George Mason University) "Multiplex Legislative Networks and the Power of Caucuses to Alleviate Partisan Polarization"  
Co-authors: Nils Ringe (University of Wisconsin, Madison), Stephen Haptonstahl (Berico Technologies)

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### 1-3: International Conflict and Cooperation Networks

Time: Friday, 9:00 am—10:30 am  
Room: Maple

Chair: Alex Montgomery (Reed College)

Eliane Tschaen Barbieri (Brandeis University) "Closing the Jihad Gender Gap: the Growing Role of Women in Western Terrorist Networks"

Skyler Cranmer (University of North Carolina, Chapel Hill) "Hyper-Dyadic Pressures for Peace: How the Network of Nations Influence Peace and the Conflicts in which they are not Directly Involved"  
Co-authors: Lee Foster, Zhengqi Pan

Alla Khadka (University of Pittsburgh Graduate School of Public and International Affairs) "Who Supplies Nuclear Capabilities to Iran? Using Centrality Measures to Determine the most Influential Actors in the Network"  
Co-author: Ryan E. Franzer

Kyle Joyce (University of California, Davis) "The Effects of Shocks on International Networks"  
Co-author: Zeev Maoz (University of California, Davis)





## 1-4: Immigration and Political Networks

Time: Friday, 9:00 am—10:30 am  
Room: Dogwood

Chair: Julia Carboni (IUPUI)

**Raluca Bejan** (University of Toronto) "Balancing the Budget but Who's Left to Budget the Balance: A Visual Representation of Professional Networks within Toronto East Local Immigration Partnership"

**Sara Pavan** (Queen's University at Kingston) "Studying the Effects of Immigrant Integration Policies on Social Cohesion: A Network Approach"

**Michael Rivera** (University of California, San Diego) "Immigration: Latinos and Social Media Frames"  
Co-authors: Jason Jones (University of California, San Diego), Zoltan Hajnal (University of California, San Diego)

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## 2-1: Political Discussion Networks

Time: Friday, 11:00 am—12:30 pm  
Room: Walnut

Chair: Nick Beauchamp (Columbia University)

**Nick Beauchamp** (Columbia University) "Political Argument as the Strategic Exchange of Conceptually Networked Ideas"

**Casey Klofstad** (University of Miami) "Long Term Influences of Political Discussion on Civic Engagement"

**Scott McClurg** (Southern Illinois University) "The Long-Term Influence of Political Disagreement on Partisanship"  
Co-authors: Casey A. Klofstad (Miami University), Anand E. Sokhey (University of Colorado).

**Meredith Rolfe** (London School of Economics and Political Science) "Does Political Discussion Increase During a Campaign?"  
Co-author: Jason Bello

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## 2-2: Environmental Policy Networks

Time: Friday, 11:00 am—12:30 pm  
Room: Maple

Chair: Matthew Howell (Eastern Kentucky University)

**Bethany Cutts** (University of Illinois at Urbana-Champaign) "Urban Environments and the Scalar Politics of Environmental Justice – An Examination of Collaborative Networks in Sacramento, CA"

Co-authors: Chrissy J. McNulty, Betsy Liggett-Boehm, Danqi Fang, Therese Banzuela (University of Illinois at Urbana-Champaign), Jonathan London, Shaina Meiners (University of California, Davis), Kirsten Schwarz (Northern Kentucky University), Mary Cadenasso (University of California, Davis)

**Adam Douglas Henry** (School of Government and Public Policy, University of Arizona) "Policy Networks, Collaborative Institutions, and Learning for Sustainability"

**Lorien Jasny** (University of California, Davis) "2-Mode Belief Networks: The Relationship Between Goals and Practices in Diverse Stakeholder Discussion Groups"

Co-author: Mark Lubell (University of California, Davis)

**Jack Mewhirter** (Florida State University) "The Role of Uncertainty and Network Cohesion in the Ecology of Games"

Co-author: Dr. John Scholz (Florida State University)





## 2-3: Advances in Statistical Models of Political Networks

Time: Friday, 11:00 am—12:30 pm  
Room: Dogwood

Chair: Jan Box-Steffensmeier (The Ohio State University)

**Bruce Desmarais** (University of Massachusetts Amherst) "Inferring Policy Diffusion Networks in the American States"  
Co-authors: Jeffrey J. Harden (University of Colorado Boulder), Frederick J. Boehmke (University of Iowa)

**Scott McClurg** (Southern Illinois University) "Modeling Social Networks in Political Science"  
Co-author: Skyler Cramner (University of North Carolina)

**Jason Morgan** (The Ohio State University) "The Frailty Exponential Random Graph Model"  
Co-authors: Janet M. Box-Steffensmeier (The Ohio State University), Dino P. Christenson (Boston University), Hong Zhu (The Ohio State University)

**Scott Pauls** (Dartmouth College) "Affinity communities among state actors in the United Nations"  
Co-authors: Skyler Cranmer (University of North Carolina), Bruce Desmarais (UMass Amherst)

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## 3-1: Health Policy Networks

Time: Friday, 2:00 pm—3:30 pm  
Room: Oak

Chair: Bernice Pescosolido (Indiana University)

**Jennie Law** (Rockefeller College of Public Affairs & Policy, University at Albany) "Housing and Food Security Networks: A Capabilities Approach"

**Seunghoo Lim** (Florida State University) "The Political Process of Risk: Dynamics of Perception-Building on Mad Cow Disease among Stakeholders in South Korea"  
Co-authors: Frances S. Berry (Florida State University) and Keon-Hyung Lee (Florida State University)

**Jessica Shearer** (Centre for Health Economics and Policy Analysis, McMaster University) "The Exchange and Use of Research Evidence in Health Policy Networks: Logistic and Exponential Random Graph Models"  
Co-authors: Julia Abelson (Centre for Health Economics and Policy Analysis, McMaster University), Michelle Dion (Department of Political Science, McMaster University)

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## 3-2: Mathematical Models of Political Networks

Time: Friday, 2:00 pm—3:30 pm  
Room: Walnut

Chair: Luke Shimek (Indiana University)

**Michael Gabbay** (University of Washington) "A Mathematical Model of Factional Dynamics in Insurgent Networks"

**Jennifer Larson** (New York University) "Interethnic Conflict, Incendiary Rumors, and the Networks that Help or Hurt"

**John Patty** (Washington University in St. Louis) "Inclusion, Exclusion, and Information Networks: A Theory of 'The Loop'"

**Luke Shimek** (Indiana University, School of Public and Environmental Affairs & Department of Political Science) "Strategic Rule Formation in a Public Bad Game: Multilevel Institutional Analysis Using Network Formation Games"





## 3-3: Community Detection in Political Networks

Time: Friday, 2:00 pm—3:30 pm  
Room: Maple

Chair: Derek Ruths (McGill University)

**Skylar Cranmer** (University of North Carolina, Chapel Hill) "Multiplex Network Modularity and the Conflict Propensity of the International System"

Co-authors: Elizabeth Menninga, Peter Mucha

**Alexander Furnas** (Sunlight Foundation) "Examining Networks of Influence: using semantic similarity clustering and affiliation network analysis to reveal lobbying dynamics"

Co-author: Lee Drutman (Sunlight Foundation, Johns Hopkins University)

**Douglas Hughes** (University of California, San Diego) "Uncovering Latent Social Structures"

Co-author: Christopher Fariss (University of California, San Diego), Michael Davidson (University of California, San Diego)

**Jason Morgan** (The Ohio State University) "A Latent Space Approach to Tracing the Dimensions of Party Competition in New Democracies: The Case of the Polish Sejm"

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## 3-4: Experiments in Political Networks

Time: Friday, 2:00 pm—3:30 pm  
Room: Dogwood

Chair: Julie Wronski (Stony Brook University)

**Neelanjan Sircar** (Columbia University) "An Experimental Approach to Causal Identification of Spillover Effects in Social Networks"

Co-author: Alexander Coppock

**Peter Twieg** (George Mason University) "Endogenous Trust Networks in the Lab"

Co-authors: Kevin McCabe (George Mason University), Sang Chin (Johns Hopkins University)

**Julie Wronski** (Stony Brook University) "Social Context and Information Seeking: Examining the Effects of Network Attitudinal Composition on Engagement with Political Information"

Co-author: Lindsey Levitan (Stony Brook University)

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## P-1: Empirical Methods

Time: Friday, 5:30 pm—7:00 pm  
Room: Tudor Room

**Todd Theriault** (CNS Center, SLIS, Indiana University--Bloomington) "Places & Spaces: Mapping Science"

Co-author: Katy Börner (SLIS, Indiana University)



## P-2: Formal, Computational and Experimental Methods

Time: Friday, 5:30 pm—7:00 pm

Room: Tudor Room

Sasha Goodman (Northeastern University and Harvard University) "Money, Networks and Congressional Voting"

Franziska Keller (New York University, Department of Politics, GSAS) "Divide and Conquer? Protest Spread in Heterogeneous Societies"

José Manuel Magallanes (George Mason University) "Organizing and Exploring Political Interactions in Legislators for Computational Network Analysis"

Co-authors: Annetta Burger (George Mason University), Nikhil Murali, Maurice Champagne

John Ternovski (Analyst Institute) "Challenges and Limitations of Contemporary Experimental Designs in Dynamic Social Networks"

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## P-3: Legislative Networks

Time: Friday, 5:30 pm—7:00 pm

Room: Tudor Room

Michael Kowal (University of Massachusetts) "Political Corporations: An Examination of the Corporate PAC and Congressional Finance Network"

Susanna Supalla (University of Rochester) "The Market for "Hard" Money: Funding Flows through Political Parties Post-BCRA"

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## P-4: Networks and Mass Political Behavior

Time: Friday, 5:30 pm—7:00 pm

Room: IMU Tudor Room

Raluca Bejan (University of Toronto) "It's Who You Know: Exploring Settlement Workers' Ethnic Positionality through Their Professional Networks"

Co-author: Christopher Black (Meta Strategies)

Mark Fredrickson (University of Illinois, Urbana-Champaign) "Using a Randomized Experiment to Investigate Spillover in Voter Registration Irregularities in the 2008 Ghana Election"

Co-authors: Nahomi Ichino (Harvard University), Jake Bowers (University of Illinois, Urbana-Champaign)

Lauren Ratliff (The Ohio State University) "Group Membership and Political Behavior"

Cheng Wang (University of California, Irvine) "Dynamics of Friendship Networks and Political Tastes"

Co-author: David Hachen (University of Notre Dame)



## P-5: Policy Networks

Time: Friday, 5:30 pm—7:00 pm

Room: IMU Tudor Room

**Chang-Gyu Kwak** (Florida State University) "[POSTER] Impacts of Federal Funding Program on Network Change Among Local Governments in Economic Development Policy"

Co-authors: Richard Feiock (Florida State University), Christopher Hawkins (University of Central Florida), Youngmi Lee (Kyonggi University)

**Manabu Nakashima** (University of Albany-SUNY) "A framework for antecedents and consequences of performance information use in governance networks"

**Jessica Shearer** (McMaster University) "Theoretical and Empirical Explorations of How Policy Networks Interact with Institutions, Interests and Ideas to Affect Policy Change"

Co-authors: John Lavis (McMaster University), Julia Abelson (McMaster University), Michelle Dion (McMaster University), Gill Walt (London School of Hygiene and Tropical Medicine)

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## 4-1: Social Media Political Networks

Time: Saturday, 9:00 am—10:30 am

Room: Oak

Chair: **Maurice Champagne** (George Mason University)

**Gary Bogle** (George Mason University, Computational Social Sciences) "Comparison of Political and Social Media Networks within the 111th and 112th U.S. Congresses"

Co-authors: Maurice B. Champagne (George Mason University, School of Public Policy), Jessica Hughes (George Mason University, Computational Social Sciences), Melanie Swartz (George Mason University, Computational Social Sciences)

**Emilio Ferrara** (Indiana University Bloomington, Center for Complex Networks and Systems Research, ) "The Digital Evolution of Occupy Wall Street"

Co-authors: M.D. Conover, F. Menczer & A. Flammini (Center for Complex Networks and Systems Research, Indiana University Bloomington)

**Yu-Ru Lin** (Northeastern University) "Rising Tides or Rising Stars?: Dynamics of Shared Attention on Twitter during 2012 U.S. Presidential Election"

Co-authors: Brian Keegan, Drew Margolin, David Lazer (Northeastern University)

**Derek Ruths** (McGill University) "Large-Scale Trends in Campaign Contributor Behavior: A First Look"

Co-authors: Guy Lifshitz (McGill University), Sasha Goodman (Northeastern University), David Lazer (Northeastern University)





## 4-2: Public Management Networks

Time: Saturday, 9:00 am—10:30 am  
Room: Walnut

Chair: **Gwen Arnold** (University of California-Davis)

**Gwen Arnold** (University of California, Davis) "How do Networks Affect Entrepreneur-Driven Policy Diffusion? Examining Municipal Adoption of Fracking Policies in New York's Southern Tier"  
Co-author: Dr. Le Anh Nguyen (Catania University of Muenster Institute for Political Science)

**Matthew Howell** (Eastern Kentucky University) "The Effect of Intergovernmental Associations on the Structure of Intergovernmental Networks Relations among Kentucky Cities"

**Aleksey Kolpakov** (Ohio University) "Towards a Theory of Structural Development of Public Management Networks over Time"

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## 4-3: Networks in Comparative Politics

Time: Saturday, 9:00 am—10:30 am  
Room: Maple

Chair: **Armando Razo** (Indiana University)

**Julia Carboni** (Indiana University School of Public and Environmental Affairs (IUPUI)) "Economic integration and Social Networks in Displacement"  
Co-author: Beth Mitchneck (University of Arizona)

**Sanna Ojanpera** (American University, School of International Service) "Networked Structures in International Development: A Proposal for a Research Agenda"

**Neelanjan Sircar** (Columbia University, Political Science) "The Effect of Kinship Networks Upon Political Preferences"

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## 4-4: Applications of Co-Citation Networks

Time: Saturday, 9:00 am—10:30 am  
Room: Dogwood

Chair: **Shane Gleason** (Southern Illinois University)

**Scott Comparato** (Southern Illinois University) "Influencing the Law From Afar: State Supreme Court Citation Networks"  
Co-author: Shane Gleason (Southern Illinois University)

**Darrin Griffin** (University at Buffalo, State University of New York) "Central Journals and Authors in Communication: Analyzing an authorship network"  
Co-authors: San Bolkan (California State University, Long Beach), Frank Tutzauer (University at Buffalo, State University of New York), Jennifer Holmgren (California State University, Long Beach).

**Matthew Hitt** (The Ohio State University) "Using Lower Federal Court Citation Networks to Measure the Influence of Supreme Court Precedent"

**Jikuo Lu** (University of Pittsburgh) "Evaluating Structural Properties of Knowledge Production Systems and the Quality of Research They Generate: Citation Network Analysis of IPE and Health Sciences Research"  
Co-authors: Eamonn F. Berry, Abigail Stark, Johanna E. Steenrod





## 5-1: Computational Models of Political Networks

Time: Saturday, 10:45 am—12:15 pm  
Room: Oak

Chair: Bruce Desmarais (University of Massachusetts)

Scott McClurg (Southern Illinois) "Deliberative Networks: Social Structure and Group Decision-Making"  
Co-authors: David Siegel (Florida State), Anand Sokhey (University of Colorado)

John Patty (Washington University in St. Louis) "Sequential Decision-Making & Information Aggregation in Small Networks"  
Co-author: Elizabeth Maggie Penn (Washington University in St. Louis)

Matthew Zimmerman (University of California, Davis) "When are Hierarchical Political and Economic Networks Most Efficient?"

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## 5-2: Interest Group and Lobbying Networks

Time: Saturday, 10:45 am—12:15 pm  
Room: Walnut

Chair: Jennifer Victor (George Mason University)

Shane Gleason (Southern Illinois University) "Lobbying Together: State Attorney General Amicus Curiae Coalitions"

Michael Heaney (University of Michigan) "How Partisanship Structures Social Movement Networks: The Case of the Antiwar Movement after 9/11"  
Co-author: Fabio Rojas (Indiana University-Bloomington)

Justin Kirkland (University of Houston) "Dollar Values and the Campaign Finance Network"  
Co-authors: Paul S. Herrnson (University of Maryland)

Anh Tran (Indiana University) "One Mandarin Benefits the Whole Clan: Hometown Network Favoritism in an Authoritarian Regime"  
Co-authors: Quoc-Anh Do (Science Po, Paris), Trang Nguyen (World Bank)

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## 5-3: The Geography of Political Networks

Time: Saturday, 10:45 am—12:15 pm  
Room: Maple

Chair: David Meyer (UC San Diego)

Brandon Behlendorf (National Consortium for the Study of Terrorism and Responses to Terrorism (START), The University of Maryland, College Park) "Charting the Course: Multi-method Network Analysis of Potential Smuggling Routes"  
Co-authors: Ruth Bluestone (START), Sarah Spalding (START)

Karissa McKelvey (Indiana University) "The Geospatial Characteristics of A Social Movement Communication Network"  
Co-authors: Michael D. Conover, Clayton Davis, Emilio Ferrara, Filippo Menczer, Alessandro Flammini (Indiana University)

David Meyer (University of California, San Diego) "Analyzing Political Divisions with Telecommunications Network Data"





## APPENDIX: Paper Abstracts

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ARNOLD, Gwen (University of California Davis)

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*Co-Author(s):* Dr. Le Anh Nguyen, Catania University of Muenster, Institute for Political Science

*Paper:* **How Do Networks Affect Entrepreneur-Driven Policy Diffusion? Examining Municipal Adoption of Fracking Policies in New York's Southern Tier**

*Abstract:* Can the odds of a policy entrepreneur inducing adoption of her preferred policy be predicted by aspects of the policy networks in which she operates? We explore this question by examining efforts of network-embedded policy entrepreneurs in New York's Southern Tier to convince municipal leaders to adopt measures concerning a natural gas and oil extraction technique called hydraulic fracturing, or fracking.

The argument that entrepreneurship affects policy adoption is not new (e.g., King and Roberts 1992; Kingdon 1984). The argument that policy networks help policy entrepreneurs achieve their goals also is not new (e.g., Mintrom and Vergari 1998, 2005; Koski 2010), though we believe this line of inquiry can be further developed. The policy diffusion literature in political science explains why policies are adopted by some jurisdictions but not others (e.g., Berry and Berry 1990; Walker 1969). A jurisdiction's policy adoption is generally explained by facilitative factors within the jurisdiction, such as slack resources, and/or factors outside the jurisdiction, such as the adoption of a similar policy by neighbors. This paper's primary theoretical contribution is that it explicitly links the policy diffusion and policy entrepreneurship literatures to social network analysis in an innovative way.

We specifically argue that policy diffusion is shaped by the interpersonal ties decision-makers in a jurisdiction forge with local and external policy actors. Those ties form a policy network. We develop theory-rooted expectations for why levels of certain network attributes (constraint and heterogeneity) should facilitate or inhibit entrepreneurs' efforts to foster policy adoption. We test these hypotheses by applying them to a set of cases wherein policy entrepreneurs have encouraged municipalities in New York's Southern Tier (the area of the state atop the Marcellus Shale) to take policy positions concerning fracking. Network relationships among policy actors are inferred using newspaper records; this quantitative analysis is complemented by qualitative analysis of interview data. The paper concludes with a discussion of the network attributes which appear to promote or inhibit policy entrepreneur efficacy.

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AUTER, Zachary (University of Pittsburgh)

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*Co-Author(s):* Jennifer Nicoll Victor, George Mason University  
Kristen Coopie Allen, University of Pittsburgh  
Ian Palmer Cook, University of Pittsburgh

*Paper:* **Second Street Gangs: Ad Hoc Policy Commissions in the Senate**

*Abstract:* Recent debates in the U.S. Congress over major policy issues, such as the US debt ceiling, the use of the filibuster in the Senate, and health care reform, have witnessed the emergence of small groups of legislators -- given names like "The Gang of Six" in popular press -- working to craft a bill that (they may expect) covers the middle-ground between opposing factions. Given the usual expectations that, 1) committee members are not preference outliers, and 2) committees have better policy expertise than the average chamber member, what purpose do these small groups serve? The argument here is that these gangs represent a focal point for accusations of ideological compromise and potential blame (if the product does not proceed to a floor vote). As partisanship in Congress has increased, the cost of compromise has increased, which may make the otherwise jurisdictionally-appropriate committee members less inclined to allow bills that would appeal to moderate voters to progress. Allowing other legislators to so visibly drive the work on moderate bills deflects the extremists from accusations of being "soft." At the same time the heightened attention on the gang raises the reputational costs of failure. We should expect, then, to see gang membership to be comprised of more ideologically moderate members, who have served longer or who have won their seats by a wide margin (making them better able to absorb the reputational cost of failure). We construct a simple model of delegation from the full party to some subset of actors who then settle on the final location of a bill (with uncertainty over full party preference), then review the (small) number of cases of emergent gangs to examine the model's comportment with observed behavior.





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**BARBERA, Pablo (New York University)**

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*Paper: Birds of the Same Feather Tweet Together. Bayesian Ideal Point Estimation Using Twitter Data*

*Abstract:* Parties, candidates, and voters are becoming increasingly engaged in political conversations through the micro-blogging platform Twitter. In this paper I explore whether the structure of the social networks in which they are embedded has the potential to become a source of information about policy positions. Under the assumption that social networks are homophilic, this is, the propensity of users to cluster along partisan lines, I develop a Bayesian Spatial Following model that scales Twitter users along a common ideological dimension based on who they follow. I apply this network-based method to estimate ideal points for Twitter users in the US, the UK, Spain, and the Netherlands. The resulting positions of the party accounts on Twitter are highly correlated with offline measures based on their voting records and their manifestos. Similarly, this method is able to successfully classify individuals who state their political orientation publicly, and a sample of users from the state of Ohio whose Twitter accounts are matched with their voter registration history. Finally, I introduce three applications that rely on Twitter-based ideal points: first, I estimate the posterior ideal point of the weighted average Twitter user in each state; second, I examine the extent to which online behavior is clustered along ideological lines; and third, I use sentiment analysis to examine the polarization of public opinion about presidential candidates.

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**BARBIERI, Eliane Tschaen (Brandeis University)**

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*Paper: Closing the Jihad Gender Gap: The Growing Role of Women in Western Terrorist Networks*

*Abstract:* While women remain vastly underrepresented among jihadist terrorists, their participation in terrorist networks has been steadily increasing in recent years, particularly in the West. Most of the literature on women and jihad portrays women jihadists as victims, often coerced into the movement out of loyalty to their husbands, brothers, or fathers, as reluctant providers of mostly material support for the men engaged in terrorist activities. This paper aims to test the victimization thesis. It uses social network analysis to map out the role women play in transnational Western jihadist networks—are women central or peripheral to the networks?—and offer a framework for understanding the radicalization and recruitment processes of Western women into international Jihad.

Relying on data culled from a large dataset of individuals engaged in Al Qaeda-inspired terrorist activity in twenty Western countries compiled by the author and her research colleagues at Brandeis, the paper challenges the conventional assessment of women in jihad. It argues that while women jihadists are occasionally victims drawn in by their male counterparts, many are in reality much more than involuntary sidekicks in the jihadist movement. A growing number of Western women, such as the American Colleen LaRose or the Belgian Malika el-Aroud, have become the strategic bridgeheads and pivotal communication nodes of vast networks spanning multiple countries, a role hardly compatible with the victimization thesis.

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**BEAUCHAMP, Nick (Columbia University)**

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*Paper: Political Argument as the Strategic Exchange of Conceptually Networked Ideas*

*Abstract:* This paper models political argument on online blogs and forums using networks at two distinct levels: the social network of who chooses to argue with whom, and the conceptual network of ideas that those individuals deploy in the course of their arguments. New Bayesian topic modeling methods are developed to infer from the text of thousands of online posts this network of positively and negatively correlated topics, frames, and ideas. This conceptual network then allows us to predict the topics deployed by arguers, by positing that a respondent will deploy frames and ideas that are related to, but different from, what their interlocutor has just said. Within this network can be discerned hierarchical clusters, and vote-based ideological scaling of participants shows that these clusters vary with ideology. Policy-based frames tend to be used more often by the left, and emotion-based frames more commonly on the right; within those clusters, we see more domestic policy on the left and foreign policy on the right, and more negative emotional terms on the left versus more positive ones on the right. This structure appears quite consistent with authoritarian-based models of political psychology. Looking at the longer term (over multiple years), panel vector autoregression methods show that left- and right-leaning topics do indeed appear to shift those that hear them in the expected direction, although these effects diminish the farther a speech's topic distribution is from the listener's preferred topic distribution. Finally, we find that the long-term evolution of topics for the population as a whole shifts in the direction of the first eigenvector of the graph Laplacian, suggesting that this large system of political arguers can be best modeled on various conceptual and temporal scales by combining text and network methods. Substantively, we see that political discussants argue deliberatively and with persuasive effect, albeit not always in the direction of more rational policy debate.





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**BEHLENDORF, Brandon (University of Maryland—College Park)**

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*Co-Author(s):* Ruth Bluestone, START, University of Maryland—College Park  
Sarah Spalding, START, University of Maryland—College Park

*Paper:* **Charting the Course: Multi-Method Network Analysis of Potential Smuggling Routes**

*Abstract:* The illicit movement of radiological and nuclear (RN) materials by non-state actors is increasingly recognized as a threat with considerable consequences. As strategic actors, these clandestine organizations pursue innovative methods to optimize transport routes while evading detection or disruption. While dynamic, the transportation of illicit goods still suffers from considerable constraints shared by legitimate industries, which limit the choices available to these groups and provide a far narrower set of possible trafficking routes for operational consideration. Using commonly available networking tools, we model the most likely routes for clandestine organizations to smuggle illicit RN material into the United States for the 20 highest-threat organizations operating in Central America and the Caribbean Basin (CACB). Incorporating original open-source data collected in multiple languages, as well as network relations of 155 illicit organizations in the region from 2010 to 2012, we created socio-spatial polygon weights which identified an organization's area of operations, as well as those for friendly and rival organizations. Results from the socio-spatial analysis were layered onto a multi-modal transportation network containing 8.8 million segments (with 3 million nodes) connecting 14 methods of transportation to capture the universe of possible routes throughout the region and into the United States. Topological simulations across the weighted network were run for 80,000 possible routes to identify similarity and divergence in the possible route selection into the United States. Findings indicate the presence of "chokepoints" in the network architecture for transit routes through the region where additional investment in enforcement resources or detection capabilities could mitigate multiple transit possibilities available to clandestine organizations. Further, additional simulations removing key nodes within the network highlight secondary displacement effects on routes which, if not anticipated, could shift the risk of RN trafficking to countries with fewer resources to address the threat. Overall, the use of multi-method network analysis provides both a useful framework for understanding policy implications and a promising avenue for theoretical development in the study of non-state security threats.

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**BEJAN, Raluca (University of Toronto)**

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*Paper:* **Balancing the Budget but Who's Left to Budget the Balance: A Visual Representation of Professional Networks within Toronto East Local Immigration Partnership**

*Abstract:* Using visual representations of current working relations among professionals delivering settlement services within the Toronto East Local Immigration Partnership (TE-LIP), this paper explores the potential impact of Citizenship and Immigration Canada (CIC)'s decision to amalgamate the Toronto LIPs into a regional model.

*Methodology:* A network mapping survey was tested for validity and reliability and administered with TE LIP professionals. In addition to basic organizational information (type, sector, professional role), participants provided job details (geographical catchment areas, workgroups, affiliation to local networks) and identified the people they are connected to, on four axes of collaboration: 1) Current Working Relationships, 2) Innovation, 3) Leadership and 4) Potential Cooperation. The Smart Network Analyzer (SNA) software was used to create maps and network metrics, and SPSS to conduct descriptive statistics and correlations.

*Results:* Participants had many years of practice within the settlement sector ( $M=13.8$ ;  $SD=8.34$ ) ranging from less than one year to over 20 years of experience. The sample consisted of white (67%), either Canadian born (49%) or Canadian citizens from an immigration background (41%), professionals, in executive or management positions (57%), mainly conducting their work, within the non-profit sector (60%). The TE LIP paid staff played an essential role in sustaining the Partnership's structural network: without them, the network density score dropped to 1.82 from 2.43 (a 26% reduction) and its professional ties got halved to 764, from the initial 1466.

*Conclusion:* TE LIP service providers have managed to create and sustain dense professional linkages, which problematizes CIC's lack of sustained funding support.



**BEJAN, Raluca (University of Toronto)**

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*Co-Author(s):* Christopher Black, Meta Strategies

*Poster:* **It's Who You Know: Exploring Settlement Workers' Ethnic Positionality through Their Professional Networks**

**Abstract:** Introduction: This paper's objective is to assess the state ingrained ethnicized politics of representation, by visualizing the race structured working relationships among professionals delivering settlement services within a network of community stakeholders, the Toronto East Local Immigration Partnership (TE LIP).

**Background:** Within the context of Canadian multiculturalism, concepts of access and equity have been guiding governmental and non-profits' politics of representation. This could potentially transform racial identities in sources of organizational positionalities.

**Methodology:** A network mapping survey was administered with TE LIP professionals. Participants were asked to identify the people they are professionally connected to, on four collaboration dimensions: 1) Current working relationships, 2) Innovation 3) Leadership and 4) Potential cooperation. The Smart Network Analyzer (SNA) software was used to create maps and network metrics.

**Results:** An even distribution of centrality and peripheral positions among both racialized and white participants was observed on the working relationship network dimension. Descriptive statistics with an overlay of respondents' organizational roles showed both groups holding a similar number of executive positions, although based on their proportional representation, racialized individuals were more likely to be found in front-line occupational roles. Analyzing respondents' connectedness amongst themselves or externally to others (E/I ratio), added connections with white individuals were found, a potential indication of racial stratification within the Partnership.

**Conclusion:** Finalized results will further compare participants' ethno-racial positionality within the TE LIP organizational structures, on all collaboration dimensions, along with the direction and centrality of their professional linkages.

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**BOGLE, Gary (George Mason University)**

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*Co-Author(s):* Jessica Hughes, George Mason University  
Melanie Swartz, George Mason University

*Paper:* **Comparison of Political and Social Media Networks within the 111th and 112th U.S. Congresses**

**Abstract:** This paper will outline and compare political networks within the 111th and 112th US Congresses in order to examine 1) how social media networks can differ from the real-world networks within organizations; 2) how networks in these two realms reinforce and undermine one another; and 3) and how these network evolve over time. An understanding of the dynamics between real-world and social media networks becomes more and more important as social media networks gain importance in the day-to-day activities of political leaders. This paper will use 2-mode affiliation and attribute networks to analyze and compare coalitions that form within the body. This will be based on members' bill sponsorship and voting records. We will also examine blog postings and tweets that members or their staff post, tweet or retweet on various issues. We will also compare how these coalitions change over time.



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**CARBONI, Julia (Indiana University-Purdue University Indianapolis)**

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*Co-Author(s):* Beth Mitchneck, University of Arizona

*Paper:* **Economic Integration and Social Networks in Displacement**

*Abstract:* National governments have the primary responsibility of protecting and providing humanitarian assistance to internally displaced persons (IDPs). Globally, there are a variety of national laws and regulations governing IDPs within countries and countries increasingly offer integration into new communities as a durable solution. However, there are often impediments to integration. Government policy and programs to integrate IDPs often emphasize shelter, food security and healthcare as durable solutions with an eye toward reducing dependence of the displaced on the State. Relatively little attention is paid to how the social networks of the displaced affect integration into new communities. Research demonstrates that networks are important resources for developing economic opportunity (Granovetter 1975; Burt 2002). In this paper, we examine four properties of IDP ego networks- network connectedness, strength of ties, network homophily, and the geographic distribution of alters. We predict that as networks become more diverse, economic integration and perceived economic well-being will increase. Data are from a panel study (3 waves of data) of IDPs displaced from the South Ossetia region during the 2008 war with Russia. Results from this study have potential implications for IDP governance. For example, national governments can support creation of diverse networks to increase likelihood IDPs will be self-sufficient and less reliant on the State for aid.

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**COMPARATO, Scott (Southern Illinois University)**

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*Co-Author(s):* Shane Gleason, Southern Illinois University

*Paper:* **Influencing the Law From Afar: State Supreme Court Citation Networks**

*Abstract:* State supreme court justices rely on numerous sources to justify their decisions, not the least of which is the reasoning provided by other state supreme courts. Citations to other state supreme courts is never required, though some state supreme courts do so regularly, while others rarely engage in the practice. In this paper we explore why some state supreme courts are more inclined to cite their colleagues on other courts than others. This question implicates influence over the shape of state law. If a handful of courts are routinely cited then those courts will have a disproportionate influence over the shape of American state law, even in states where they have no jurisdiction.

Several studies explore the citation patterns of state supreme courts (Caldeira 1983; 1985; 1988; Mott 1936), but no study has done so in the past thirty years. In that time period computer technology has drastically lowered the cost of legal research and state supreme courts have become more professional. Accordingly, the institutional context of in which state supreme courts operate and cite each other has changed and warrants further investigation. Our preliminary analysis indicates the courts most likely to cite and be cited are usually one in the same. We argue this is a function of the resources available to each state supreme court. Those states mired with a heavy mandatory caseload and small support staffs are unable to conduct the legal research required to find relevant precedents from other state supreme courts. By the same token, those courts with high mandatory caseloads are not able to pick the most novel cases which are most likely to attract the interest of other courts.

We explore state supreme court citations with both descriptive network statistics and exponential random graphs. In doing so, we endeavor to identify the central actors who cite and are cited most frequently. We also aim to predict what factors, be they administrative or political, are most likely to place a state supreme court in a central role in a given network. This research importantly explores the factors which give a state supreme court disproportionate influence over the shape of American state law in both their state, as well as in other states.





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CRANMER, Skyler (University of North Carolina—Chapel Hill)

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*Co-Author(s):* Lee Foster  
Zhengqi Pan

*Paper:* **Hyper-Dyadic Pressures for Peace: How the Network of Nations Influence Peace and the Conflicts in which they are not Directly Involved**

*Abstract:* To what extent does peace within a dyad of states depend upon the hyper-dyadic connections, connections between those states and others not in the dyad, in the international network of nations? Much existing work on conflict limits investigation to attributes of the dyad (e.g. bilateral trade, joint IGO membership, and joint democracy). This approach, however, fails to address the extent to which, for example, the network of other trading partners and IGO members can influence the conflictual behavior of the dyad of states. We examine the extent to which trade dependencies and IGO connections with states outside the dyad provide hyper-dyadic pressure on states within the dyad to maintain peaceable relations. That is, we seek to capture the influence that the rest of the network exerts on conflict in a particular dyad. We test these hyper-dyadic pressures using the temporal exponential random graph model (TERGM).

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CRANMER, Skyler (University of North Carolina—Chapel Hill)

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*Co-Author(s):* Elizabeth Menninga  
Peter Mucha

*Paper:* **Multiplex Network Modularity and the Conflict Propensity of the International System**

*Abstract:* The global prevalence of violent inter-state conflict is a key outcome indicator of the stability of the international system. Recent efforts at explaining patterns of international conflict have been heavily focused on the factors affecting conflict between pairs of states. Unfortunately, while such dyadic-level models fundamentally ignore the inherent network character of relations between nations, the system-wide implications of theories developed to model bilateral interaction are poorly understood. Here, we articulate a systemic theory of how factors established at the dyadic level aggregate to produce more or less inter-state violence and then, using multislice community detection to construct a measure we call Kantian modularity, we quantify the fractionalization of global networks of states to evaluate our theory. We control for established system-level conflict indicators and find that our measure contributes more to model fit for violent inter-state conflict than anything established in the literature. Furthermore, a series of Granger causal tests suggest that the temporal variability of Kantian modularity is consistent with a causal relationship with the prevalence of conflict in the international system.





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**CUTTS, Bethany (University of Illinois—Urbana Champaign)**

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*Co-Author(s):* Chrissy McNulty, Betsy Liggett-Boehm, Danqi Fang, Therese Banzuela, Univ. of Illinois, Urbana-Champaign  
Jonathan London and Shaina Meiners, University of California  
Davis Kirsten Schwarz, Northern Kentucky University  
Mary Cadenasso, University of California, Davis

*Paper:* **Urban Environments and the Scalar Politics of Environmental Justice: An Examination of Collaborative Networks in Sacramento, California**

*Abstract:* Environmental justice emerged out of the coalescence of environmental, labor, and civil rights concerns associated with systematic co-location of low income minority communities and environmental hazards. By the early 1990s, concern for environmental justice had become a consideration in the enforcement, regulation, and remediation of environmental hazards. Since then, the major focus of most formal environmental justice planning has remained on the distribution of particular hazards although activists and scholars have pointed out there may be multiple planes of environmental injustice at work – including the inequitable distributions of benefits as well as burdens, and procedural, and recognition injustices that may not have a spatial signature. As environmental justice action has occurred, many organizational networks have formed and successfully grown to include a wider array of issues and approaches to under the umbrella of environmental justice. Many networks have been able to leverage collaborations to form environmental justice coalitions that span neighborhoods to advocate for change at higher levels of political organization. Others have not been as successful at spanning issues or jumping scales. Our objective is to use website networks and newspaper articles to test hypotheses about how social networks and issue framing unite and divide political actors to define the boundaries of what “counts” as environmental justice within a city. We evaluate the intersection of concern for an environmental amenity – urban gardens – and an environmental burden – soils lead concentrations – in Sacramento, CA. We examine the ways in which neighborhood identity and collective action are constructed for both issues and the ways in which the issues intersect. Drawing from the advocacy coalition framework of policy change, we construct issue networks for both topics and examine the extent to which both are part of the public discourse on environmental justice. We discuss the results with respect to the extent that the actors and themes of articles across from 1980-present suggest the emergence of direct connections between issues, or parallel issue frames and consider whether ‘network weaving’ or intentional and strategic connection building is likely or possible. The study makes a novel contribution to environmental justice scholarship by employing social network analysis methods and the advocacy coalition framework to understand the role of scale in promoting and inhibiting collaboration across environmental justice issues.

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**DESMARAIS, Bruce (University of Massachusetts—Amherst)**

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*Co-Author(s):* Jeffrey J. Harden, University of Colorado—Boulder  
Frederick J. Boehmke, University of Iowa

*Paper:* **Inferring Policy Diffusion Networks in the American States**

*Abstract:* For decades scholars of state politics have studied the ways in which innovations in public policy diffuse across the states. Several studies indicate that policy diffusion is an explicitly dyadic process whereby states learn and adopt policies from their neighbors in geographic, social, economic, and political space. This dyadic diffusion process implies the existence of a policy diffusion network among the states. Using a dataset consisting of more than 100 policies, we introduce and apply algorithms designed to directly infer a diffusion network from a sample of policy adoption sequences. In addition to presenting the network inference algorithm, we offer two substantive contributions with regard to research on policy diffusion in the American states. First, we summarize and analyze the structure of the inferred diffusion network and assess the ways in which it has changed over the last several decades. Second, we demonstrate how the inferred diffusion network can be integrated into conventional statistical models of state policy adoption.



**FERRARA, Emilio (Indiana University Bloomington)**

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*Co-Author(s):* M.D. Conover, Indiana University Bloomington  
F. Menczer, Indiana University Bloomington  
A. Flammini, Indiana University Bloomington

*Paper:* **The Digital Evolution of Occupy Wall Street**

*Abstract:* The adoption of social media, chief among them Twitter, to ease communication related to politics, policy and social protest has emerged as one of the most prominent social phenomena in recent years. Social media have played important roles in social and political upheaval, starting from the 2009 Arab Spring (Choudhary et al., 2012), and following in Europe (Borge-Holthoefer et al., 2012), and the United States (Conover et al., 2013). However, a complete understanding of how this technology and the political and social processes underlying user behaviors relate is still lacking.

By analyzing a high-volume, fifteen-month long sample from Twitter, our manuscript provides a quantitative perspective on the birth and evolution of the US anti-capitalist movement known as Occupy Wall Street. Our analysis relies on computational and statistical tools to collect evidence of individual engagement, patterns of activity and social connectivity, with the final aim of investigating changes in online user behavior by analyzing participant interests and relations before, during and after the inception and development of the Occupy movement. This type of approach nicely dovetails with established methodology in social movement theory, which we adopted to interpret results and to empower our understanding of these social processes.

The main findings highlight that the Occupy movement, at least on Twitter (and possibly, by extension, on other social media) has elicited participation mostly of users with pre-existing interests in domestic politics and foreign social movements. The movement went through a short initial ‘explosive’ phase, with high peaks of activity, and a dramatic decrease of volume shortly after. Activity was strongly correlated with “on the ground” events, to a good extent local in nature, and focused more on organizational aspects than on establishing a common collective framing process. Comparing traffic before and after the “high-activity” phase of the movement, we show that user inter-connectivity and interests have remained mostly unchanged.

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**FREDRICKSON, Mark (University of Illinois—Urbana Champaign)**

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*Co-Author(s):* Nahomi Ichino, Harvard University  
Jake Bowers, University of Illinois—Urbana Champaign

*Poster:* **Using a Randomized Experiment to Investigate Spillover in Voter Registration Irregularities in the 2008 Ghana Election**

*Abstract:* Irregularities in voter registration can affect the outcome of elections in new democracies and strain their credibility. In an effort to prevent political parties from artificially inflating the size of the electorate in 2008, Ghana's Coalition of Domestic Election Observers randomly allocated observers to voter registration centers in several regions. Faced with these monitoring activities, party agents may have concentrated registration fraud at unmonitored (control) registration centers, perhaps along a network of roads connecting treated and control registration centers. In this poster, we show that randomization inference and experimental design can enable assessment of different causal theoretical mechanisms that may explain the spillover of treatment across registration centers connected in networks. Stronger theoretical understanding of pre-election fraud can help policymakers with the design of future interventions.



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**FURNAS, Alexander (Sunlight Foundation)**

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*Co-Author(s):* Lee Drutman, Sunlight Foundation; Johns Hopkins University

*Paper:* **Examining Networks of Influence: Using Semantic Similarity Clustering and Affiliation Network Analysis to Reveal Lobbying Dynamics**

*Abstract:* Scholars of lobbying have been limited in their ability to measure organizational lobbying agendas, positions and coalitions. They are either forced to rely on time-consuming interviews or overly-broad Lobbying Disclosure Act-mandated issue codes. We propose a new approach. We use a hierarchical agglomerative clustering (HAC) algorithm to group bills within LDA issue codes based on their similarity, calculated using latent semantic analysis of a corpus we constructed from summary text provided by the Congressional Research Service. This technique allows us to disaggregate within the existing categories and label individual bills with higher resolution than was previously possible. We then the clustering groups to label bills within an weighted affiliation network based on how much different industries lobby on different bills. The topic labels of bills within the network provide more detailed insight into the specific policies or provisions different industries have supported, and might be likely to support in the future. As a test, we apply this approach to lobbying on immigration legislation during the 109th – 112th Congresses.

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**GABBAY, Michael (University of Washington)**

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*Paper:* **A Mathematical Model of Factional Dynamics in Insurgent Networks**

*Abstract:* Insurgencies are often characterized by multiple groups who share a common foe in the incumbent regime but have independent organizations and may differ with respect to ideologies, political goals, and their use of violence. These groups may cooperate at a tactical level in conducting attacks and at a strategic level in terms of setting common goals and demands, pooling resources, establishing formal alliances or fronts, or merging organizations. However, they may also compete with each other over popular support, recruitment of fighters, funding, and ultimately military dominance. A mathematical model of insurgent factional dynamics is presented which integrates competing dynamics drawn from realist phenomena such as power-driven balancing and bandwagoning as well as homophily-driven cooperation between groups that have similar ideologies. The model evolves cooperative ties between groups accounting for the interplay between ideology, power, and the level of threat from counterinsurgents. The results of the model are compared to empirical data from the Iraqi and Afghan insurgencies.





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**GLEASON, Shane (Southern Illinois University)**

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*Paper: Lobbying Together: State Attorney General Amicus Curiae Coalitions*

*Abstract:* State attorneys general are frequent amici at the U.S. Supreme Court. In this role they provide the Court with legal advice in pending cases, while also advancing their own policy preferences. However, filing amicus curiae briefs at the Court is an elective activity in which state attorneys general are not required to file. Since amicus curiae briefs require significant resources, amici often file in coalitions in order to minimize costs. Studies on political networks have addressed amicus curiae brief coalitions and networks before, but are limited to interest groups (e.g. Box-Steffensmeier and Christenson 2012). While interest group studies are informative, state attorneys general operate in a different institutional setting and likely behave differently than interest groups in their coalition activity. In this paper I explore state attorney general amicus curiae networks in greater depth and argue they balance political and administrative considerations when forming coalitions with each other.

Recent scholarship on interest group amicus curiae networks finds the networks are vast and contain many groups specializing in a very narrow area of law. These networks are characterized by small localized clusters which can mobilize grand coalitions when a central actor takes the initiative. By contrast, there are only fifty state attorneys general, all of whom are legal generalists. This should lead to a dense network in which many states routinely file together. For state attorneys general, such an arrangement helps control the administrative cost of filing amicus curiae briefs. Moreover, since the early 1980s the National Association of Attorneys General has maintained the Supreme Court Project, which helps facilitate coalition formation in amicus curiae briefs. This institution should further enhance coalition formation. However, while there are administrative and institutional incentives for state attorneys general to form large coalitions, political considerations may also influence the composition of state attorney general amicus curiae coalitions.

Recent research by Hansford (n.d.) suggests state attorneys general behave differently as amici based on their state's ideology. He finds state attorneys general are more likely to support the same party as an ideologically proximate interest groups in a given case. Accordingly, state attorney general amicus curiae brief networks should also exhibit a political component, with ideologically similar state attorneys general filing together in order to advance their policy preferences.

State attorneys general, I argue, are strategic political actors who must balance administrative and political considerations when forming amicus curiae coalitions. According to preliminary analysis, their networks are quite dense, though not all state attorneys general have the same propensity to file with each other. I deploy exponential random graphs in order to determine which political, administrative, and institutional factors are most likely to produce ties between each state attorney general.

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**GONZALEZ-BAILON, Sandra (University of Oxford)**

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*Co-Author(s):* Ning Wang, University of Oxford

*Paper: The Bridges and Brokers of Global Campaigns in the Context of Social Media*

*Abstract:* In May of 2011 a political movement emerged in Spain that, under the influence of the Arab Spring, occupied the squares of dozens of cities as a protest against policy reactions to the financial crisis; a few months later, the Occupy movement erupted in New York, borrowing some of the tactics of the Spanish protesters and taking the message of discontent against the financial system to a global scale. In May of 2012, the Spanish protesters went to the streets again to celebrate the first anniversary of the first mass demonstrations, this time as part of the global Occupy campaign. Protesters and media reporters converge in their view that social media play a significant role in the rapid growth of these mobilisations and in their internationalisation; however, there are still many open questions about how online networks facilitate communication and, in particular, about how they integrate local flows of information. We examine this question using data from Twitter communication, sampled over a month in 2012, coinciding with the first anniversary of the Spanish (15-M) movement. Using the publicly available API, we collected about half a million messages containing information related to the Occupy and the 15-M campaigns. We reconstruct networks of communication using RTs and mentions, and we analyse the level of integration of information flows, shedding light on positions of brokerage in this communication exchange. Our findings help assess claims about the instrumental role of online networks in the dissemination of protest information and, more generally, about collective action in the digital age.

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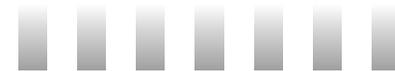
**GOODMAN, Sasha (Northeastern University and Harvard University)**

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*Paper: Networks and the Roots of Growth in Contract Lobbying*

*Abstract:* How do the relations of a lobbying organization affect its revenue growth? Contract lobbying firms are considered 'lobbyists lobbyists', often hired by interest groups and corporate lobbyists to communicate on their behalf to officials. Understanding the networks of these contracted firms can offer an insight into the somewhat murky world of organized advocacy, an oft-perceived threat to democracy. Using campaign contribution data, I construct a dynamic bipartite network of each individual lobbyist with the two main American political parties, where the strength is measured through money flow, and then examine the network at an organizational level to study the financial impact on the company. I find that the more an organization spans political parties with its lobbyists, the more it grows. The time series models also control for each lobbyist's work experience in the federal government, laws affecting lobbying in general and changes to party control of the legislative and executive branches.





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**GRIFFIN, Darrin (University of Buffalo, State University of New York)**

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*Co-Author(s):* San Bolkan, California State University—Long Beach  
Frank Tutzauer, University at Buffalo, State University of New York  
Jennifer Holmgren, California State University—Long Beach

*Paper:* **Central Journals and Authors in Communication: Analyzing an Authorship Network**

*Abstract:* Researchers who publish in peer reviewed journals disseminate their ideas, theories, and findings to others. However, publications are also commonly used as a measure of performance and promotion by research institutions. Historically the lists that rank prolific scholars in the communication discipline are based on citation hits across a list of specified journals. Previously published rankings of citations in communication journals only provide measures of depth (authors' sum total of publications in any journal). Rather than simply summing authors' publications, social network analysis can examine journal and researcher prestige by measuring relationships among authors and journals. It remains unclear what exactly it means to be prolific, so the current study measures author centrality in the publication network to rank author proliferation. First, two-mode publication data from 24 communication journals' citation records from years 2007 – 2011 is examined and rankings from the results of journal centrality are compared to previous published journal rankings which were based on journal impact factors. Following, a new ranking of the most central authors in the communication discipline is offered based on the network analysis. Last, results are presented that support the hypothesis that journal centrality is related to degree of difficulty for publishing in the 24 journals. Limitations and suggestions for future research are discussed.

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**HEANEY, Michael (University of Michigan)**

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*Co-Author(s):* Fabio Rojas, Indiana University Bloomington

*Paper:* **How Partisanship Structures Social Movement Networks: The Case of the Antiwar Movement After 9/11**

*Abstract:* This paper argues that partisanship structures social movement networks through two mechanisms. The first mechanism — homophily — leads individuals to join social movement organizations with others that have similar partisan leanings. The second mechanism — resource allocation — leads organizations to allocate resources to the work of the movement based on the likelihood that they will advance a partisan cause.

Our empirical work is based on a study of grassroots activists and organizations in the antiwar movement after 9/11. We surveyed individuals participating in street protests during the 2004-2010 period and asked for information on their organizational participation. We interviewed movement leaders in the 25 most active antiwar organizations. Our analysis combines quantitative analysis of social network data with qualitative data for the interviews in order to illustrate the role of partisanship in structuring grassroots networks.

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**HENRY, Adam Douglas (University of Arizona)**

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*Paper:* **Policy Networks, Collaborative Institutions, and Learning for Sustainability**

*Abstract:* Effectively dealing with problems of sustainability requires policy learning—actors must seek out and synthesize diverse sources of information about salient problems and their possible solutions. An important barrier to learning is the fragmentation observed within many policy networks across ideological boundaries, functional domains, and vertical levels of government. According to an Institutional Collective Action (ICA) perspective, collaborative policy making institutions can reduce fragmentation—and enhance learning outcomes—by lowering the transaction costs of collaboration across these critical boundaries. On the other hand, the Advocacy Coalition Framework (ACF) argues that ideological conflict is a primary barrier to learning, and in most situations collaborative institutions are unlikely to manage these conflicts. These hypotheses are tested using data on learning and networks gathered from policy elites involved in regional land use planning in five California regions. Exponential random graph (ERG) models are used to examine the extent to which collaborative institutions in these regions change the structural features of networks, and whether these changes lead to enhanced learning outcomes. This study underscores the importance of non-hierarchical information exchange relationships in promoting learning within complex issue domains, although the results also suggest that persistent ideological conflict is an important barrier to learning.



**HITT, Matthew (Ohio State University)**

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*Paper:* **Using Lower Federal Court Citation Networks to Measure the Influence of Supreme Court Precedent**

*Abstract:* The direct impact of Supreme Court decisions on the American legal system is felt mainly in lower courts that must interpret and apply the Supreme Court's precedents. Prior studies of Supreme Court precedents focus on how future Supreme Court opinions utilize past precedents. Thus, measuring the relative influence of the Court's precedents over time in the American legal system at large requires analyzing how these precedents are cited and used in the lower federal courts. Using an original dataset encompassing every published federal circuit court opinion 1949-2007, I show which precedents are most cited in the lower courts. By leveraging the fact that precedents are often cited with other Supreme Court precedents, I apply the method of structural holes and constraint pioneered in the business literature to go beyond raw citations counts to more precisely measure the influence of precedents. I conclude with an analysis each Supreme Court opinion's influence in the lower courts over time.

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**HOWELL, Matthew (Eastern Kentucky University)**

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*Paper:* **The Effect of Intergovernmental Associations on the Structure of Intergovernmental Networks Relations among Kentucky Cities**

*Abstract:* Cooperation between governments has long been recognized as a way for local governments to better serve their residents. Cooperation allows cities to use economies of scale to lower service costs and to address policy concerns -such as pollution -which cross city borders. However, cooperation appears to be rare. The reasons for local government autonomy are many and varied, but its existence is commonly noted. Cities will maintain informal connections, though. Mayors may not agree to a formal arrangement or merger, but they will happily talk to other mayors. Likewise, lower city officials will maintain communication with their neighbors even if formal cooperation is unlikely. This social network is a potential way for cities to cooperate about which little is known.

However, the reasons for local government networking are speculative and ill understood. Some research argues that mayors network with other similar mayors or similar cities -a standard homophily argument -but this was not found in studying Kentucky Mayors. Instead, mayors tended to network with those mayors who shared the same Area Development District. It was unclear whether these mayors knew each other because they were geographically close to each other, because of the ADDs coordinating role in Kentucky local government, or because the ADD meetings are a forum for networking. To address this question, using MRQAP, a dataset of Kentucky Mayor social connections was compared to a network of mayor co-attendance at ADD meetings, as well as membership and rank in other intergovernmental organizations and controls for city homophily to see if mayors' personal networking could be explained by their formal relationships in intergovernmental organizations.

The analysis shows that, while co-membership is beneficial to having contact, co-activity and formal position within the organizations dominates the explanation for mayor-to-mayor contact in Kentucky. Networking among local officials originates in the opportunity intergovernmental organizations offer officials to talk to each other, not in the fact that mayors share the same organization.

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**HUCKFELDT, Robert (University of California — Davis)**

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*Co-Author(s):* Erik Engstrom, Christopher Donnelly, Matthew Pietryka, Jack Reilly, University of California — Davis

*Paper:* **The U.S. Senate, Networks of Interests, and the Politics of the 1957 Civil Rights Act**

*Abstract:* The rules of the U.S. Senate have historically occupied a crucial role in the passage of important, controversial legislation by the Congress. Time-honored, extra-Constitutional rules within the chamber require an extraordinary majority to end debate and hence to pass legislation. This paper revisits Senate consideration of the 1957 Civil Rights Act. The history of the 1957 Act is particularly informative because it carries important lessons regarding the potential for progress in the face of seemingly intractable polarization and conflict within the chamber. We argue that the key to legislative success, as well as to the influence of individual legislators, is directly related to the centrality of particular senators within particular voting blocks who build networks of relationships that make legislative progress possible. Hence the influence of individual members is not simply a consequence of their ability to cast pivotal votes, but also to their strategic capacity to construct networks of support for legislative initiatives, as well as their centrality relative to networks of communication within the chamber. Our argument is based on the analysis of several crucial votes during Senate consideration of this landmark civil rights legislation.

**HUGHES, Douglas (University of California — San Diego)**

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*Co-Author(s):* Christopher Fariss, University of California — San Diego  
Michael Davidson, University of California — San Diego

*Paper:* **Uncovering Latent Social Structures**

*Abstract:* The relationships that exist between social groups influence a variety of political and economic outcomes, however the measurement of these structures and their inter-relationships is difficult. In this paper we develop a model that is capable of uncovering the latent class structure of a society given the existence of identifiable social groups. First, we demonstrate the model performs as theoretically expected using simulated data. Second, we apply the model to experimental data from individuals living in central Chennai, the sixth most populous city in India. The model estimates parameters, which are readily interpretable as an ordering of caste sub-groups along a latent social dimension in India. Third, we validate the model predictions using out-of-sample data measuring within-group and between-group marriage ties in India. As this validation demonstrates, the model allows us to make predictions about the general formation of social network ties in India.

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**JASNY, Lorien (University of California — Davis)**

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*Co-Author(s):* Mark Lubell, University of California — Davis

*Paper:* **2-Mode Belief Networks: The Relationship between Goals and Practices in Diverse Stakeholder Discussion Groups**

*Abstract:* In managing rangelands, one of the biggest problems is that different interest groups vary in their goals and the methods they use to achieve these goals. This paper examines the network of relationships between the goals and practices that diverse groups of stakeholders set for the same piece of land. Using network methods, we are able to explore the similarities and differences between these groups, as well as how their beliefs change after they discuss their ideas in both homogenous and heterogeneous stakeholder groups.

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**JOYCE, Kyle (University of California — Davis)**

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*Co-Author(s):* Zeev Maoz, University of California — Davis

*Paper:* **The Effects of Shocks on International Networks**

*Abstract:* We study how different types of shocks propagate in various cooperative international networks and the conditions under which such networks rebuild themselves following shocks. We focus on three types of shocks: major wars, the collapse of empires and rapid state formation processes, and major waves of regime changes in the system. We examine the properties of such shocks and relate the type of shocks and their properties to processes of network evolution during the post-shock period. We develop agent-based model that uses two well-known models of network formation: preferential attachment and homophily and examine the structure of international networks during the pre-shock period, and compare them to the structure of post-shock networks. The agent-based model produces testable propositions about the effects of shocks on international networks. We then test these propositions on alliance, trade, and institutional networks over the period of 1816-2004.



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**KELLER, Franziska (New York University)**

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*Poster: Divide and Conquer? Protest Spread in Heterogeneous Societies*

*Abstract:* Studies have established that connections to participants in protest movements influence an individual's choice to join or remain in the movement. Social network analysis should thus help us predict under what circumstances a group of protesters succeeds in setting off a "protest cascade", mobilizing a large part of society. In this paper, I explore the effect of a society's heterogeneity, that is the size and number of subgroups, on the probability of such a cascade occurring. Using a simple agent-based model and network simulations, I examine the spread of complex contagion in a network with homophilic clustering, and find that societies with a moderate number of subgroups and a moderate level of segregation are more likely to experience a protest cascade. In a society with two groups, a minority group making up only a small proportion of society can be more effective in starting a cascade than a larger group.

Unlike some other network characteristics that have been identified as influencing cascade capacity, these results can be validated empirically, because we do have information on the size and number of subgroups in different societies. But unlike the stylized societies I use to explore my model, real societies vary both in the number and size of subgroups. In the second part of the paper, I thus explore the cascade capacity of 56 districts with different (real-life) subgroup fragmentation in the Kyrgyz Republic. With the help of socio-economic background data, I infer the size and number of subgroups in each of the 56 districts, and simulate possible social networks that connect a district's population and calculate its cascade capacity. I then test if the simulated cascade capacity predicts the likelihood of small-scale demonstrations turning into bigger protest, using data on protests in those districts between 2000 and 2007.

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**KHADKA, Alla (University of Pittsburgh)**

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*Co-Author(s):* Ryan E. Franzer

*Paper: Who Supplies Nuclear Capabilities to Iran? Using Centrality Measures to Determine the Most Influential Actors in the Network*

*Abstract:* The possibility of Iran developing a nuclear weapon is viewed as one of the greatest threats to global security. Iran's nuclear program receives material, equipment, technology, and expertise from suppliers around the world. The solution to halting Iran's efforts to develop nuclear weapons depends on tracking countries, organizations, and individuals that supply nuclear capabilities to Iran. In this study, we employ dynamic social network analysis to map out the suppliers of nuclear material and expertise to Iran and their contacts inside Iran as a network that evolves over time. To achieve this end, first, we create a comprehensive dataset that captures nuclear technology, material, and knowledge that was supplied to Iran. The primary data sources used in this study are the Wisconsin Project on Nuclear Arms Control's "Iran Watch" dataset (Iran Watch, 2011), IAEA reports assessing Iran's nuclear posture (e.g. IAEA, 2012), and the NTI publication on Nuclear Iran (NTI, 2011). Next, we process data through ORA. Once the network of suppliers is elicited, we employ centrality measures (out-degree degree centrality and betweenness centrality) to assess the most influential members of the network (Freeman, 1978). Particular attention is paid to the 'opinion leaders' (nodes that have the highest out-degree centrality scores) and 'brokers' (top nodes in terms of betweenness centrality) (Burt, 1992; Valente, 2010). Additionally, we evaluate the members of the supplier network based on the material or expertise they supply. Considering that there are two phases of the nuclear cycle—Enrichment and Weaponization—that specifically contribute to the development of nuclear weapons, the emphasis is on the members of the network that are most central to empowering those two phases. Determining Iran's most critical suppliers provides necessary insights for any policy directed at disrupting its nuclear capability.



**KIRKLAND, Justin (University of Houston)**

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*Co-Author(s):* Paul S. Herrnson, University of Maryland

*Paper:* Dollar Values and the Campaign Finance Network

*Abstract:* Prior work on the campaign finance network has utilized either binary networks coded 1 when a transaction between campaign actors exist or a 0 otherwise, or count networks counting the number of transactions between actors. This prior research has demonstrated that these networks are strongly defined by party-based hierarchies. Formal party committees form the core of each party's extended party network, with politicians' principal campaign committees and leadership PACs forming the next layer, and party allies on the fringe of the party network. Nonaligned PACs fall outside each party's extended network. This hierarchy exists despite the fact that formal party organizations are involved in relatively few financial transactions, implying that they are using their limited connections to generate broad influence. In this research, we utilize actual dollar amounts to construct a weighted campaign finance network. We then compare the structure of this network to networks made of dichotomous or count observations using a novel data set of transactions between campaign actors during the 2006 Congressional elections. We expect that utilizing actual dollar amounts as edge values will amplify the observed tendency of formal party organizations to position themselves as central to their party's extended networks, and decrease the centrality of actors without formal party affiliations. Our expectations are based on the major parties' hegemony over the political process, including their dominance over the political and legislative agenda, their informational advantages, and their roles as intermediaries between campaign contributors and candidates.

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**KLOFSTAD, Casey (University of Miami)**

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*Paper:* Long Term Influences of Political Discussion on Civic Engagement

*Abstract:* This paper will present data from a new wave of a panel study of freshman undergraduates who were randomly assigned to their dormitory roommates in 2003. This is the fourth time these individuals have been contacted over the past decade. The paper examines the influence of exposure to political discussion in these dyads on current levels of civic engagement. Measures of civic engagement include membership in and leadership of civic organizations, volunteering for political campaigns, and voter turnout. The new wave of data also contains an extensive battery of questions on respondents "important matters" discussion networks. The innovative design of this study—random assignment to social context followed by measurement of behavioral change over time—has led to some of the most direct evidence of social influence on political behavior to date.

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**KOLPAKOV, Aleksey (Ohio University)**

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*Paper:* Towards A Theory of Structural Development of Public Management Networks Over Time

*Abstract:* Public administration and public policy literature witnesses the growth of network studies attempting to understand the structural aspects of public management and public policy networks. However, the growing literature on public management networks suffers from an imbalance due to the abundance of static network studies. Only recently public management scholars years have attempted to understand the evolution of selected structural aspects of public management networks over time. Most of them, however, do not address the complexity and multi-faceted nature of public management networks over time.

The goal of the present study is to develop and test the conceptual framework for the structural development of public management networks over time using a multi-theoretical multilevel approach (Contractor, Wasserman, & Faust, 2006) in the dynamic perspective. First, it suggests propositions about structural configurations of public management networks in the different stages of network development. Second, it tests a theoretical framework of the structural development of public management networks over time using the case of Metro High School in Columbus. From the theory development point of view, this present research moves away from traditionally adopted public administration approaches to describe and explore network processes at one level and using one theory to actually confirm and make inferences using multiple theories and different levels of the networks. From the practical stance, it provides some valuable recommendations for policy makers, public managers and public program evaluators who evaluate the effectiveness of networks that are a response to the complex and "wicked" problems (Rittel & Webber, 1973)

**KOWAL, Michael (University of Massachusetts)**

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*Poster:* **Political Corporations: An Examination of the Corporate PAC and Congressional Finance Network**

*Abstract:* Many studies from the political science and management literature have examined the ways in which corporate political action committees (PACs) contribute to political campaigns. Recently, studies have begun to examine this from a network perspective. Understanding the ways in which corporate interests contribute to Congressional campaigns can have significant implications for understanding contemporary campaign finance. Recent changes to campaign finance law as a result of the Citizens United decision have increased the need to better understand how corporations contribute to political campaigns. This study examines donations made from corporate PACs to candidates for the House of Representatives from 1990-2012.

This study improves on existing research on corporate political donations in several ways. First, it introduces a bipartite network structure allowing for placement of both corporations and candidates into the network. Previous studies on the subject have relied on a unipartite network which does not allow for placement of both candidates and corporations into the same network. In addition, it examines the changes to corporate PAC donations over time, allowing for a greater understanding of the implications of changes to campaign finance reform.

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**KWAK, Chang-Gyu (Florida State University)**

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*Co-Author(s):* Richard Feiock, Florida State University  
Christopher Hawkins, University of Central Florida  
Youngmi Lee, Kyonggi University

*Poster:* **Impacts of Federal Funding Program on Network Change among Local Governments in Economic Development Policy**

*Abstract:* This poster examines how the federal funding to local governments produced by ARRA economic stimulus programs influenced network changes among local governments in economic development arena. Based on the risk hypothesis (Berardo and Scholz 2010), I hypothesize that the federal funding to support the development of local infrastructure influenced informal ties among local governments related to development. Where stimulus funds were awarded for small infrastructure or facility projects it shifts development activities to a coordination game in which actors choose partners to gain efficient information. Where funds are targeted to large scale or regional scale development projects it shifts development to a cooperation game in which actors choose actors to build commitment and avoid defection. Applying a stochastic actor-based model, this poster examines changes in development networks in the Orlando metropolitan area from 2009 to 2012.

Key words: Network change, Federal intervention, Local governance, Economic Development Policy, Stochastic Actor-Based Model

Reference: Berardo, Ramiro and John Scholz. 2010. Self-Organizing Policy Networks: Risk, Partner Selection, and Cooperation in Estuaries. *American Journal of Political Science* 54(3): 632-649.

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**LARSON, Jennifer (New York University)**

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*Paper:* **Interethnic Conflict, Incendiary Rumors, and the Networks that Help or Hurt**

*Abstract:* That ethnic conflict can be mitigated by civic interactions across ethnic lines has been observed by many scholars (e.g. Lipset and Rokkan 1967, Varshney 2003). Interethnic ties are thought to build trust and provide communication channels which dispel rumors and prevent polarization. However, little is known about the relative effectiveness of different kinds of cross-group ties. I present a game theoretic model of intergroup cooperation adapted from Fearon and Laitin (1996) which demonstrates that the effectiveness of interethnic ties depends on the structure of each group's word-of-mouth communication network. I show that rumors are only dispelled, and cooperation only enforced, when the communication network has a certain structure. I also show that not all cross-group ties are equally effective at thwarting incendiary rumors, discuss sources of improved intergroup cooperation, and relate the most effective network structures to observable features of ethnic groups, such as centralization, inequality, and segregation.

*Paper:* Housing and Food Security Networks: A Capabilities Approach

*Abstract:* This paper proposes that direct service networks providing food security and homeless services can operate most effectively when agencies that transcend service clusters are identified as primary points for new policy initiatives and funds disbursement. The analysis recognizes the correlation between food security, specifically the use of food pantries, and first time homelessness. First time homelessness is part of a reinforcing dynamic system that can severely limit the real opportunities individuals have for growth and self determination.

This paper examines food security and housing security 501(c)3 classified agencies in Albany, New York. The analysis is prefaced by an extensive literature review of Nobel Laureate Amartya Sen's "Capability Approach" (Sen, 1999) which examines development through a lens defined by the actual opportunities individuals have to define and drive their own political, social, and economic destinies. The paper examines the environment that constrains person centered development, focusing on the impact of hunger and homelessness on individuals opportunities within society. The analysis includes a review of principal-agent theory which supports the theory that 501(c)3 agencies are particularly suited to basic needs, person-centered services, especially in the fields of food security and homeless services. The efficacy and flexibility of 501(c)3 direct service agencies will be directly correlated to the collaboration, information sharing, and referral practices of the individual agencies.

The network data will be gathered through the distribution of surveys to relevant agencies in the Albany area that provide direct service to food insecure and homeless individuals. Due to the size of the sample set the results will be dichotomized to form a complete network map across all relations. The network data will be run through the UCINET 6 (Borgatti, Everett and Freeman, 2002) routines to determine clique and cluster densities within and across service areas. The data will also be submitted to the BLOCKS program within StOCNET (Boer, Huisman, Snijders, T.A.B., Steglich, C.E.G., Wichers, L.H.Y., and E.P.H. Zeggelink, 2006) to form a stochastic blockmodel that identifies agencies that transcend service areas to form "umbrella agencies" that are capable of organizing and initiating programs across service areas to prevent first time homelessness by empowering individuals.

The identification of "umbrella" agencies for funding and policy initiatives from is important to polity and funding organizations that seek to prevent the trauma and lifetime implications of first time homelessness on individuals, communities, and the nation at large. This specification is especially important given the shift to austerity in public funding domestically and abroad.

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LIM, Seunghoo (Florida State University)

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*Co-Author(s):* Frances S. Berry, Florida State University  
Keon-Hyung Lee, Florida State University)

*Paper:* The Political Process of Risk: Dynamics of Perception-Building on Mad Cow Disease among Stakeholders in South Korea

*Abstract:* In the past, final decision-making on technical science and risks, or other crises, has usually been done by experts and technocrats. It was believed that citizens don't have the capability and qualifications to take part in such complex decision-making processes, but with the spread of e-media and technology, citizens learn about issues and respond more quickly than ever. This can make it more difficult for the government to diagnose, prescribe and resolve risky problems because of the difference of viewpoint between experts and the public on the same scientific or other complex phenomena. The larger the gap in opinion between the objective and scientific concept on risks and the more subjective viewpoints of citizens, the larger the risks can be for politicians in the political process.

An interesting case in point concerns the risk perception about Bovine Spongiform Encephalopathy (BSE) among four groups of people in South Korea: bureaucrats, citizens, scientists and interest groups. This study will conduct content analysis of key words in 6400 articles published in 2008, and construct semantic networks for each of these four groups over four periods of time that correspond to four stages in the policy process: a) latency, b) escalation, c) deadlock and d) resolution. Through this unique data analysis, we can see the role and intensity of each of the four groups in the four policy stages. We are also able to analyze the concerns of the four groups by using key words and assessing the top ten words or phrases used in the articles for each of the four groups. We do find distinct differences in what issues each of the four groups focus on and how the focus of substance changes in each of the four policy stages. As expected, the role of scientists was strongest in the first phase and was greatly reduced in later stages as the policy was politicized. The content and range of citizens' discourse grew and was amplified over the time periods. In addition, interest groups were differentiated based on their various economic interests in order to pursue their respective purposes in response to change of risk policy directions of the government, and citizens' risk perceptions. As risk was politicized, bureaucrats not only responded to citizens' risk awareness and perceptions, but also showed firm resolve in order to reduce socially harmful effects and the costs of the political conflict in accordance with their more comprehensive risk awareness and political savvy. This work contributes to theory in agenda setting, policy change and policy networks, as well as risk management of crises in government.



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**LIN, Yu-Ru (Northeastern University)**

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*Co-Author(s):* Brian Keegan, Northeastern University  
Drew Margolin, Northeastern University  
David Lazer, Northeastern University

*Poster:* **Rising Tides or Rising Stars? Dynamics of Shared Attention on Twitter During the 2012 U.S. Presidential Election**

*Abstract:* The use of social media spikes during major news events as users share information and communicate with members of their communities. "Media events" such as political debates generate conditions of shared attention as many users simultaneously tune in with the dual screens of broadcast and social media to view and participate. This raises the question of whether behavioral changes during media events are distinct from other bursts of activity like breaking news events. In particular, do behavioral changes during media events with shared attention create a "rising tide" that shifts the behavior of many users or do they create "rising stars" that reinforces the popularity of elite users? Using data from about 200,000 Twitter users, we compare features of their behavior during eight major events during the 2012 U.S. presidential election to examine (1) the impact "media events" have on patterns of social media use compared to "typical" time and (2) whether changes during media events are attributable to changes in behavior across the entire population or an artifact of changes in elite users' behavior. Our findings suggest that while users across the system become more active during media events, this additional activity reflects concentrated attention to a handful of users, hashtags, and tweets. These findings have implications for distinguishing patterns of large-scale social behavior under conditions of uncertainty and shared attention while suggesting new ways of mining information from social media to support collective sensemaking following major events.

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**LU, Jikuo (University of Pittsburgh)**

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*Co-Author(s):* Eamonn F. Berry, Abigail Stark, and Johanna E. Steenrod

*Paper:* **Evaluating Structural Properties of Knowledge Production Systems and the Quality of Research They Generate: Citation Network Analysis of IPE and Health Sciences Research**

*Abstract:* Accepted validity and reliability checking mechanisms exist to establish the soundness of research at the construct level of an individual study. However, there is no mechanism to analyze and compare the structural properties of knowledge production systems. The deficit is critical because structures affect and are affected by the validity of knowledge produced through research. The examination of structural properties of knowledge systems allows us to relate possible structural properties such as density, complexity, and roll differentiation to the reliability and validity of research produced by a given system. Drawing upon Gibbons et al. (1994) and Burt (1992) approaches, we develop a framework for examining the overall structural properties of the knowledge system such as density, presence of different clusters and relationships between those clusters, and how these properties correlate with quality of knowledge these properties encourage. When the system grows increasingly dense over a decade, it indicates that the system becomes more specialized and ridged and less open to innovative approaches, negatively affecting the quality of knowledge. Presence of multiple clusters positively correlates with knowledge quality, because it indicates a presence of different perspectives that inform the system. Furthermore, the system tends to generate higher quality research if the clusters are in dialogue with each other which signifies reflexivity, feedback, and active participation of different subgroups. We introduce Citation Network Analysis (CNA) as a method for mapping the knowledge production system over time. We employ centrality measures as a basis for analyzing the system. While our approach is generalizable to any knowledge production system, it is applied to evaluate and compare knowledge production systems from two areas: International Political Economy (IPE) and health sciences. Specifically within IPE, the knowledge system is defined as all publications on development aid to Sub-Saharan Africa and within health sciences the system encompasses all publications on access to primary health care services in rural United States.

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**MAGALLANES, Jose Manuel (George Mason University)**

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*Co-Author(s):* Annetta Burger, George Mason University  
Nikhil Murali, Maurice Champagne

*Poster:* **Organizing and Exploring Political Interactions in Legislators for Computational Network Analysis**

*Abstract:* We present a computational network analysis process to be followed when studying patterns of support that arise as legislators endorse each other's bill proposals. The paper will identify and utilize a set of tools available to perform network analysis of legislative policy support. Legislative data are collected from available internet sources, and python (Networkx) is used to organize data relationships in a meaningful format. Other social network tools such as Gephi, Pajek or UCINET are used to visualize the network and compute metrics to analyze the network as a whole, social network relations, and legislators as individual nodes. For this case study the Peruvian Congress will be used as the political network, so that relevant information may be used for future research.



**McCLURG, Scott (Southern Illinois University)**

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*Co-Author(s):* David Siegel, Florida State University  
Anand Sokhey, University of Colorado

*Paper:* **Deliberative Networks: Social Structure nad Group Decision-Making**

*Abstract:* Traditional democratic theory rests on the ability of regular voters to formulate meaningful opinions that can be effectively communicated to elected leaders. Unfortunately, decades of empirical research demonstrate that voters frequently fall far short of such expectations -- this raises serious questions about both the stability of democratic governments, and about their ability to provide for representative government. One potential answer offered by scholars is that errors in individual attitudes cancel out in the aggregate, thereby allowing the public's opinions to appear rational and to be communicated effectively (e.g., Page and Shapiro 1992). Another lies in theories of juries and small groups, as scholars have spent considerable attention studying the conditions under which aggregates post decision-making gains (e.g. Gerardi 2000; Ladha 1992).

In this paper, we address both of these proposed explanations by examining the role that social networks may play in such processes of aggregation. If social networks are organized in ways that facilitate the exchange of informed opinions, it is possible that they could lead to aggregate opinions that are even more informed and rational than what simple aggregation processes (e.g., averaging) might imply. Conversely, social networks with biased information flows and/or structures that inhibit effective communication might lead to worse outcomes. We explore these questions through a computational model of the Condorcet Jury Theorem -- this allows us to incorporate social elements that represent aspects of everyday core social networks; we manipulate the social links and exchanges between actors to understand the role of networks in producing aggregate outcomes.

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**McCLURG, Scott (Southern Illinois University)**

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*Co-Author(s):* Casey A. Klofstad, Miami University  
Anand E. Sokhey, University of Colorado

*Paper:* **The Long-Term Influence of Political Disagreement on Partisanship**

*Abstract:* Determining whether interpersonal political disagreement has lasting consequences on political behavior is of fundamental importance to our understanding of participatory democracy, yet poses well-documented challenges for researchers using observational data on social networks. Here we carefully specify theoretical models of how disagreement might influence political behavior over time, and the empirical implications of those models. We test for these implications using data from the 2008-09 American National Election Studies Panel Study. Our assessment focuses on the consequences of being exposed to discussants who share different partisan preference than our own. Compared to individuals who are situated in agreeable social networks, those who are exposed to partisan disagreement are more likely to have stronger partisan preferences months after exposure to such dissonant points of view. Exposure to partisan disagreement has no relationship with a host of other political behaviors.

This evidence is consistent with the theory that while the consequences of partisan disagreement are limited, the relationship between partisan disagreement and strength of partisanship is causal.

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**McCLURG, Scott (Southern Illinois University)**

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*Co-Author(s):* Skyler Cramner, University of North Carolina

*Paper:* **Modeling Social Networks in Political Science**

*Abstract:* As the revolution in computing power opened a new vista of data to political science, those data in turn raised new challenges in statistical analysis. One of those challenges is how to recognize and model observational interdependence. In this paper, we focus interdependence caused by networks. We first explain the consequences of network interdependence in traditional regression models. We introduce a range statistical models that can be used to predict connections between observations and account for these problems. We specifically examine latent space, quadratic assignment procedure, and exponential random graph models. Our discussion mainly focuses on how to specify these models based on attributes of the observations, traits of dyads, and through inclusion of structural terms. Using this discussion as our guide, we replicate Koger et al.'s analysis of party networks to demonstrate how moving from a description to a model of a network can enhance our substantive and theoretical understanding of politics.



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**McKELVEY, Karissa (Indiana University)**

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*Co-Author(s):* Michael D. Conover, Clayton Davis, Emilio Ferrara, Filippo Menczer, and Alessandro Flammini

*Paper:* **The Geospatial Characteristics of A Social Movement Communication Network**

*Abstract:* Social movements rely in large measure on networked communication technologies to organize and disseminate information relating to the movements' objectives.

In this work we seek to understand how the goals and needs of a protest movement are reflected in the geographic patterns of its communication network, and how these patterns differ from those of stable political communication. To this end, we examine an online communication network reconstructed from over 600,000 tweets from a thirty-six week period covering the birth and maturation of the American anticapitalist movement, Occupy Wall Street.

We find that, compared to a network of stable domestic political communication, the Occupy Wall Street network exhibits higher levels of locality and a hub and spoke structure, in which the majority of non-local attention is allocated to high-profile locations such as New York, California, and Washington D.C. Moreover, we observe that information flows across state boundaries are more likely to contain framing language and references to the media, while communication among individuals in the same state is more likely to reference protest action and specific places and times. Tying these results to social movement theory, we propose that these features reflect the movement's efforts to mobilize resources at the local level and to develop narrative frames that reinforce collective purpose at the national level.

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**MEWHIRTER, Jack (Florida State University)**

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*Co-Author(s):* John Scholz, Florida State University

*Paper:* **The Role of Uncertainty and Network Cohesion in the Ecology of Games**

*Abstract:* How institutions, actors, and networks combine to influence policy outcomes and cooperation is a central question in political science, one that is particularly important in fragmented policy systems involving multiple decision venues and public policy issues. This paper applies the ecology of games framework (Long 1958) to understand the structure and performance of complex policy systems. Through a comparative analysis of the political ecology of estuaries with relatively low (Argentina), and high (Florida, California) institutional development, this paper explores how stakeholders evaluate different policy institutions in estuaries that vary in development and complexity. Specifically, we utilize a survey-based study using regression analysis to assess the impact of several variables: uncertainty about the expected goals and actions of other stakeholders; uncertainty about scientific basis of policy; the centrality of the actor within the forum structure (network measure); the perceived cohesion of the actor's organizational affiliation (network measure). We find that in general, more institutionally developed management networks are able to mitigate the effect of behavioral uncertainty but may be particularly vulnerable to scientific uncertainty; Conversely, institutionally underdeveloped networks are highly susceptible to behavioral uncertainty but not to scientific uncertainty. We also utilize network measures (2 mode data) based on both the find that the effect of centrality and perceived organizational cohesion are much more pronounced in more institutionalized settings. Perceptions of conflict play a malignant role across evaluations for all cases.





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**MEYER, David (University of California — San Diego)**

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*Paper:* **Analyzing Political Divisions with Telecommunications Network Data**

*Abstract:* Mobile phone use is increasingly common, especially in developing countries. Telecommunications traffic between areas served by individual mobile phone antennae in Cote d'Ivoire, provided by France Telecom-Orange's subsidiary as part of the D4D Challenge, thus provides a finely resolved measure of interactions within the geographically distributed population. We extract a community structure from this communication network, and observe that it is geographically localized. Fitting the intensity of interactions between nodes to a gravity model, we find that it decays with distance, (partially) explaining the geographic locality of the network communities. We develop a novel methodology to compare this network community structure with geographical divisions of the population originating in ethnic, language, or religious differences. The same methodology also supports analysis of the association between such cultural factors and political differences, accounting for spatial autocorrelations.

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**MORGAN, Jason (Ohio State University)**

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*Co-Author(s):* Janet M. Box-Steffensmeier, The Ohio State University  
Dino P. Christenson, Boston University  
Hong Zhu, The Ohio State University

*Paper:* **The Frailty Exponential Random Graph Model**

*Abstract:* Significant progress in specifying, estimating, and interpreting exponential random graph models (ERGMs) has been made in recent years. However, as is the case with other modeling techniques, achieving valid inferences is predicated on specifying models that correctly reflect the underlying data generating process. Unfortunately, given the complexity of network data, it may be prohibitively expensive or impossible to collect all exogenous covariates that affect the probability of tie formation. In this paper, we demonstrate how including node-level random effects can help capture unobserved heterogeneity in undirected exponential random graph models. We compare the performance of several models, including the latent variable model, the ERGM and the proposed Frailty ERGM (FERGM) in analyzing unobserved heterogeneity using Monte Carlo simulations. We apply the FERGM technique to Supreme Court amicus curiae cosigner networks in an effort to capture unobserved ideological heterogeneity.

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**MORGAN, Jason (Ohio State University)**

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*Paper:* **A Latent Space Approach to Tracing the Dimensions of Party Competition in New Democracies: The Case of the Polish Sejm**

*Abstract:* Ideology is fundamental in shaping party competition. In Western democracies, competition is often seen as taking place along a single, stable left-right dimension. In new democracies, where voters often have only tenuous attachment to parties and where parties often fail to articulate clear policy positions, the salient dimensions of political competition are less clear. This is problematic because theories of party system development and consolidation often see stable dimensions of party competition as critical to successful democratization. In this paper, I use a latent space model and the party affiliation network in the Polish Sejm to identify the dimensions of political competition in the Poland. In analyzing five parliamentary terms, I find that while parliamentary politics in Poland have been plagued by party creation, dissolution, and MP party switching, coalitions in parliament, as identified by MP's location in a 2-dimensional latent space, demonstrate a surprising degree of coherence.





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**NAKASHIMA, Manabu (University of Albany-SUNY)**

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*Paper: A framework for antecedents and consequences of performance information use in governance networks*

*Abstract:* While governance networks are important to address complex social problems (O'Toole 1997), they often fail to produce expected outputs or outcomes (Huxham & Vangen 2000). In order to effectively address complex social problems, performance management is essential in governance networks (Crosby and Bryson 2006; Koliba et al. 2011; Koppenjan 2008). Most studies on performance management in governance networks focus on producing performance information. On the other hand, performance information use in governance networks has not been fully studied (Moynihan et al. 2011), even though performance measurement has little impact when performance information is not used (Hatry 1999; Moynihan et al. 2011).

Studies on performance information use do not fully explore performance information use in network settings, either. Contrary to most studies that focus on performance information use by single actor, the interactive dialogue model of performance information use proposed by Moynihan (2008) is applicable for governance networks (Kim et al. 2011; Koliba et al. 2010, 2011). The model explains that social interactions and dialogue processes influence performance information use, and that performance information is more likely to be used during intra-organizational interactions than inter-organizational interactions. However, the model does not fully capture how interactions among actors affect performance information use, given that interaction patterns (i.e., structural embeddedness) and relational characteristics (i.e., relational embeddedness) among actors affect their perceptions and behaviors regardless of organizational boundary (Granovetter 1985).

To bridge the research gap, this research will explore two research questions: 1) Which actors use performance information in governance networks? 2) How do actors' interactions, positions, and relational characteristics in governance networks influence their performance information use? Identifying the actors who use performance information is important because they "serve as critical agents around which the governance of complex governance networks can (and in many cases does) take place" (Koliba et al. 2011, p.279). Finding these critical agents would mitigate accountability problem in governance networks by clarifying who should be accountable for network performance. Understanding how interaction processes affect performance information use is also important because it is necessary to consider the complexity of governance networks in order to foster performance information use (Moynihan et al. 2011) – Interactions among actors with different goals and strategies are the major factor bringing complexity or uncertainty into governance networks (Koppenjan and Klijn 2004).

To explore the questions, I will use data from a collaborative governance network which provides social services in Orange County, New York. For the first research question, I will use deterministic social network analysis to identify the communication network among the collaborators who use performance information. For the second research question, I will use Exponential Random Graph Model to model the effects of interaction patterns and relational characteristics on the communication network. This study will review the literature from performance management in governance networks as well as performance information use. Then, it will introduce the data, methods, and procedure, and will show the findings from network analysis. Finally, it will draw out implications for how to enhance performance information use in governance networks.

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**OJANPERA, Sanna (American University, School of International Service)**

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*Paper: Networked Structures in International Development: A Proposal for a Research Agenda*

*Abstract:* This paper demonstrates that by considering the networked structure of international development we can gain new insight to solve well-known problems in the international development industry. A long history of research in international development suggests that the problems rendering aid ineffective may stem from such diverse causes as political and strategic determinants of aid, donor bandwagoning, lack of recipient ownership and participation, and improperly designed international development frameworks. Using comprehensive data on development finance activities from 2009, we constructed a network where vertices represent aid donors and aid recipient countries and edges represent aid flows between them. We demonstrate that network metrics reveal useful information about the structural importance of certain agents in the international aid industry, which helps us to evaluate hypotheses about aid efficiency in a new light. For instance they allow us to characterize the clustering structure in the aid industry, which we can then analyze with regards to previous findings about political and strategic determinants of aid or donor bandwagoning. Network analysis is a fast growing field that has found applications in many fields of science and there are strong reasons to expect it to help study international development from a fresh perspective. Therefore we propose a dual research agenda, which firstly encourages the expansion of the international development research to include a consideration of social network analysis methods. Secondly we propose a data collection agenda to facilitate an informative network analysis of the field. We expect that research of this nature could inform aid policy-making as well as unveil new insights to the challenges that the field faces.





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**PATTY, John (Washington University — St. Louis)**

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*Co-Author(s):* Elizabeth Maggie Penn, Washington University in St. Louis

*Paper:* **Sequential Decision-Making and Information Aggregation in Small Networks**

*Abstract:* We describe and investigate a model of strategic sequential decision-making in networked policymaking environments with three agents. Our primary interest is the effect of network structure on sequential policymaking and information aggregation. Our model and results illustrate how individual policy decisions of varying weight (in terms of a decision-maker's unilateral effect on policy outcomes) can enable information aggregation in decentralized environments. In our environment, even though the aggregate social welfare from successful information aggregation is invariant to network isomorphisms, the incentive compatibility conditions for such information aggregation are not. We derive exact conditions for every acyclic network of 3 or fewer agents, establish welfare comparisons, and illustrate the counterintuitive nature of comparative statics with respect to both network structure and individual agents' policy preferences and discretionary authority.

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**PATTY, John (Washington University — St. Louis)**

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*Paper:* **Inclusion, Exclusion, and Information Networks: A Theory of “The Loop”**

*Abstract:* I describe a model of strategic, decentralized and asynchronous communication in policy-making networks. Two central focuses of the model are the actors' awareness of who other actors will talk to in the future and the sequential ordering of actors' communications. I show that communication can be more credible when (1) individuals with extreme policy preferences are excluded from current (and future) communication with those in the network and (2) when individuals with moderate policy preferences (relative to those in the network) participate/communicate earlier in the communication process. The results are applied to the question of how best to structure networks of executive advisors.

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**PAULS, Scott (Dartmouth College)**

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*Co-Author(s):* Skyler Cranmer, University of North Carolina  
Bruce Desmarais, University of Massachusetts — Amherst

*Paper:* **Affinity Communities among State Actors in the United Nations**

*Abstract:* We construct new “affinity communities” to identify several policy preference profiles that underlie the interactions between states. We find these communities through an examination of a similarity network based on roll call votes of members of the United Nations. We apply community detection techniques from the machine learning literature to identify affinity communities that maximize out of sample predictions on hold out sets of votes. We examine the similarities and differences between these community identifications to measures of similarity used in the existing literature, such as Gartzke's state affinity scores. Last, we use these scores to quantitatively discuss case studies of political transitions.

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**PAVAN, Sara (Queen's University at Kingston)**

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*Paper:* **Studying the Effects of Immigrant Integration Policies on Social Cohesion: A Network Approach**

*Abstract:* Immigration fluxes are altering the social fabric of most Western democracies, making it increasingly diverse. The question of whether ethnic heterogeneity constitutes a challenge for successful democracy has thus become a crucial concern in contemporary social science. Two main scholarly approaches have emerged. The American approach has focused on the effects of ethnic diversity on social capital, measured most frequently as generalized trust. The European approach, on the other hand, has emphasized how different citizenship regimes influence both the civic and the electoral participation of immigrants. Both approaches present methodological and theoretical weaknesses.

This paper suggests an original way to study the effects of ethnic diversity on social cohesion in Western democracies. Following Erickson, it defines social capital as ego-centered network diversity. It suggests that proactive immigrant integration policies stimulate social cohesion by enhancing social capital in diverse societies. It proposes that multiculturalism policies facilitate more diverse immigrants' networks, including bridging ties to other ethnic groups. Network diversity, in turn, is positively associated with the civic and electoral participation of immigrants. The paper proposes a strategy to empirically analyze the effects of immigrant integration policies on social cohesion. It suggests the implementation of a position generator study in two ethnically diverse polities characterized by different immigrant integration policies, Toronto and Los Angeles. It details how to modify traditional position generators to study the bridging social capital of immigrants and its association with their political and generalized trust as well as their political participation.





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**RATLIFF, Lauren (Ohio State University)**

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*Poster: Group Membership and Political Behavior*

*Abstract:* Citizens are embedded in multiple, overlapping groups in society; ties in one group are not entirely independent of ties in another. To the extent that individuals form opinions of the political world in relation to and interaction with each other, it is important to understand how homogenous and competing group memberships affect political behavior. To account for the multiplexity of individual's group ties, I utilize data on secondary organizations, reference groups as well as network batteries of intimate discussion partners from the General Social Survey (GSS) and the Comparative National Election Study (CNEP) to test if and how group membership influences individual political behavior. I find that membership in certain groups significantly affects individual issue attitudes while membership in other groups are less important.

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**RIVERA, Michael (University of California — San Diego)**

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*Co-Author(s):* Jason Jones, University of California — San Diego  
Zoltan Hajnal, University of California — San Diego

*Paper: Immigration: Latinos and Social Media Frames*

*Abstract:* As the fastest growing minority group, Latinos are becoming more salient in American Politics and in the minds of Americans. This project explores how immigration is discussed in social media and how public perceptions of Latinos changes over time. Using Twitter data, we demonstrate that the tone and frames on immigration evolve, especially around politically relevant events such as speeches about race and immigration, and salient state-level immigration policy. This project is critical to further understanding the informal institutions that affect the lives of immigrants, and furthers the study of online social media.

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**ROLFE, Meredith (London School of Economics and Political Science)**

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*Co-Author(s):* Jason Bello

*Paper: Does Political Discussion Increase During A Campaign?*

*Abstract:* Do campaigns stimulate political discussion? And if discussion increases during a campaign, who is involved and why? It might appear to be trivially obvious that people are more likely to discuss politics during election season, but prior studies have found surprisingly little evidence of electoral activity on political discussion. Moreover, there is almost no evidence on the causal pathway(s) through which campaign activity increases political discussion. Do interested partisans simply talk about politics with each other more often, or does the burst of campaign activity surrounding an election draw more peripheral members of the political sphere into the discussion? In this paper, we draw on two different longitudinal studies of political discussion to examine whether discussion increases during an election and, if so, which process(es) might mediate the observed increase. Increased political discussion during election season is a critical but largely untested assumption behind theories that point to the power of indirect mobilization to bring voters to the polls. Campaign related activity and mobilization efforts have long been thought to increase turnout primarily through direct effects on individual voters, whether by decreasing the costs of turnout or by increasing interest in the campaign. However, many prominent explanations of turnout suggest that campaign-related mobilization can impact electoral participation indirectly via social networks, presumably by stimulating political discussion. Our finding that electoral activity increases everyday political discussion offers substantial support to theories that highlight the link between mobilization, discussion and

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RUTHS, Derek (McGill University)

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*Co-Author(s):* Guy Lifshitz, McGill University

*Paper:* Large-Scale Trends in Campaign Contributor Behavior: A First Look

Abstract: The Federal Election Commission (FEC) database of individual political contributions has been a rich source of information about contribution patterns to political candidates and organizations in the United States. However, the lack of complete unique identifiers for individual contributors in the database (e.g., social security numbers) has consistently frustrated attempts to study large-scale contribution activity at the individual level. This has created a disconcerting silence in the literature on an important dimension of mobilization of campaign finances. By applying and innovating on techniques from the field of record linkage in Computer Science, we have inferred contributions made by the same individual. As a result, we have constructed the first version of the FEC individual contribution database in which transactions are linked to the individual who made them. In this talk, we will present a variety of descriptive statistics on contributor behavior that have been impossible to obtain previously. Results will include analysis of the variance in contributor commitment to particular candidates, the distribution of contributor giving frequency

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RUTHS, Derek (McGill University)

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*Co-Author(s):* Raviv Cohen, McGill University

*Paper:* Political Orientation Inference on Twitter: It's Not Easy!

Abstract: Numerous papers have reported great success at inferring the political orientation of Twitter users. This paper has some unfortunate news to deliver: while past work has been sound and often methodologically novel, we have discovered that reported accuracies have been systemically overoptimistic due to the way in which validation datasets have been collected, reporting accuracy levels nearly 30% higher than can be expected in populations of general Twitter users. Using careful and novel data collection and annotation techniques, we collected three different sets of Twitter users, each characterizing a different degree of political engagement on Twitter — from politicians (highly politically vocal) to “normal” users (those who rarely discuss politics). Applying standard techniques for inferring political orientation, we show that methods which previously reported greater than 90% inference accuracy, actually achieve barely 65% accuracy on normal users. We also show that classifiers cannot be used to classify users outside the narrow range of political orientation on which they were trained. While a sobering finding, our results quantifies and call attention to overlooked problems in the latent attribute inference literature that, no doubt, extend beyond political orientation inference: the way in which datasets are assembled and the transferability of classifiers.





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**SHEARER, Jessica (McMaster University)**

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*Co-Author(s):* Julia Abelson, McMaster University

*Paper:* **The Exchange and Use of Research Evidence in Health Policy Networks: Logistic and Exponential Random Graph Models**

*Abstract:* Background: Research evidence is considered an important input into health policy-making, but its actual use in policy-making is limited. It is known that research is more likely to be used if it is exchanged between policy-makers and researchers as part of a network of connected actors. This study aims to identify factors that predict the exchange of research evidence between health policy actors, and how those exchanges are associated with research use in policy-making.

Methods and Findings: This study uses social network analysis approaches to understand research exchange and use. Social network, demographic and qualitative data were collected from policy actors in three health policy domains in Burkina Faso (West Africa). Exponential random graph models were used to explain the existence of research exchange relations (research provision and request) between actors, controlling for network- and actor-level covariates. Network and actor-level covariates were then incorporated in logistic regression models of actors' individual-level use of research evidence to inform policy.

Network structure explained more than half of the research provision or request ties observed in these networks. Ties were more likely to exist if their opposite relation already existed. One network displayed clustering tendencies, meaning that ties were more likely to form if they closed triangles among sets of actors. Actors were more likely to use research evidence if they personally had sent and received ties, confirming that interpersonal relationships influence research use.

Conclusions: The exchange and use of research evidence in policy-making can be partly explained by the structure of actors' networks of relationships. Effective efforts to support knowledge translation and evidence-informed policy-making must consider network factors.

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**SHEARER, Jessica (McMaster University)**

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*Co-Author(s):* John Lavis, Julia Abelson, and Michelle Dion, McMaster University  
Gill Walt, London School of Hygiene and Tropical Medicine

*Poster:* **Theoretical and Empirical Explorations of How Policy Networks Interact with Institutions, Interests, and Ideas to Affect Policy Change**

*Abstract:* Policy networks have become increasingly central in the analysis of policy change as part of the 'relational turn' in political science. Until recently, policy network theories have been considered separately from other established theories and frameworks of political and policy change. There has been a growing call for policy network analysis to be situated within existing theories of policy change and to explore the interdependence among those theories. Efforts to integrate policy networks with theories of institutionalism have been a step in the right direction, but further discourse is needed from across political science's various communities.

This paper explores the ways in which policy networks interact with or mediate the influence of other causes of policy change, including the role of institutions, interests and ideas, referred to as the "3Is". We reviewed each of these branches of the political science literature to determine what theoretical linkages the 3Is might have with policy networks. We then explore the theoretical arguments for policy networks as a change variable; whether changes in networks may directly cause policy change or whether networks merely mediate the influence of institutions, interests and ideas in the policy change process.

Proposed relationships are tested using empirical data from three health policy networks (and their policy changes) in Burkina Faso, a low-income West African country. Empirical data for this study include over sixty in-depth interviews with policy actors across the three health policy networks, document analysis, and insights from social network data for these networks. The empirical case studies suggest that while network changes are indeed associated with policy changes, these changes were equally associated with changes in institutions, interests and ideas. In this context of high donor dependency, donors introduced new institutional rules that affected the composition and structure of the policy networks in two of the three networks. Similarly, donors influenced the composition and power of various interests in these networks, thus affecting the balance of power and the direction of policy change. The introduction of new ideas was critical in affecting policy changes across networks; these ideas gained entry during endogenous shifts in network composition, but more often because of donor-led restructuring of these networks through new institutional rules. The third policy case, in which policy change was led by local civil society actors in the network, displayed a wider range of interactions between variables. In this case, network changes were more often endogenous, resulting in changes to the 3Is and eventually policy change. In conclusion, policy networks interact with institutions, interests and ideas to affect policy change. These relationships may be bidirectional and cyclical; they may be instigated by endogenous or exogenous changes to any one of the variables discussed. Rarely do networks independently affect policy change without concomitant changes in other policy variables. Further empirical cases are necessary to better understand trends and generate hypotheses in this area.





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**SHIMEK, Luke (Indiana University)**

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*Paper:* **Strategic Rule Formation in a Public Bad Game: Multilevel Institutional Analysis Using Network Formation Games**

*Abstract:* I provide a basic example of the use of network formation games (NFGs) as a formal modeling tool inside the institutional analysis and development (IAD) framework. Network formation games are a relatively recent research area within the broader study of networks that are able to maintain the mathematical integrity of standard strategic game-theoretic models with a less linear structure and fewer required restrictions (Jackson and Wolinsky 1996). NFGs have the inherent ability to scale into supernetworks, in which the nodes are a particular network configuration and the arcs may be Markov chains or strategic interactions that dictate the transition between networks. These supernetworks can then act as nodes in a super-supernetwork, etc. This is highly useful, since the IAD framework is interested in multi-level analysis (Ostrom 1990, McGinnis 2011).

I address a simple public bad game: there are three players, each with 1 bag of garbage, and the government disposal/recycling official. The players decide whether to pass their garbage to one of their neighbors at no cost, or to send it to the disposal/recycling center for a diminishing cost per bag. The baseline game has no side payments between individuals and players act unilaterally, resulting in social sub-optimality or the costs being borne by one or two of the agents. At the collective choice level, players can vote whether they would prefer side payments or to maintain the status quo. Finally, the analysis considers the constitutional level, where the voting procedures are identified (unilateral, majority, or supermajority). I find the greatest improvement to social welfare results from a coalition assigning a Pigouvian tax to create side-payments between players. Changing the voting from unilateral to majoritarian to super majoritarian generally better distributes the cost of littering, but only weakly lowers the level of trash. However, more important than the results, this model demonstrates a promising future connection between network formation games and the IAD framework.

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**SIRCAR, Neelanjan (Columbia University)**

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*Paper:* **The Effect of Kinship Networks Upon Political Preferences**

*Abstract:* This paper finds a strong effect of kinship networks on changes in political preferences over an electoral campaign and puts forth a theory of horizontal democratic deliberation to explain these effects. The study of voter behavior in the developing world has been dominated by studies on clientelism and vote-buying. Surprisingly little attention, however, has been given to understanding how voters form their political opinions and vote choice in the developing world. This paper synthesizes six months of ethnographic research with a survey of every single voter in two villages, a total of over 1,800 voters, in West Bengal, India. The survey collected data on political preferences of all voters before and after the electoral campaign in order to allow for measurement of changes in preferences over the campaign period. The survey also collected data on various social and economic networks for each individual, including data on family, friends, common meeting places, sources for loans, land tenancy and ownership, and labor contracts.

There is generally an endogeneity problem when estimating network effects upon any outcome, where the endogeneity results from the fact that people select into networks in a way that is correlated to the outcome of interest. This study aims to isolate the effect of social networks upon vote choice. In particular, a fixed kinship network is measured before an electoral campaign begins, and political preferences and vote choice are measured before and after the campaign. This allows us to consider the campaign as a "treatment" over the population and the kinship network as a "pretreatment" predictor, so we can assess the heterogeneous effects of the campaign over the kinship network. In particular, the statistical model assesses the impact of "network lags" over the kinship network upon changes in political preference. The paper explains these effects by appealing to the literature on information diffusion and democratic deliberation. In particular, this paper argues that kinship effects are primarily due to "horizontal" information sharing and not due to "vertical" coercion. Furthermore, the paper advances a theory to understand how families engage in aggregation of political information to make more informed political choices. This is a particularly important function for families in low information environments like Indian villages. The paper provides survey and qualitative evidence for these arguments.



**SIRCAR, Neelanjan (Columbia University)**

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*Co-Author(s):* Alexander Coppock

*Paper:* **An Experimental Approach to Causal Identification of Spillover Effects in Social Networks**

*Abstract:* This paper proposes a non-parametric, design-based estimation strategy for causal inference in the presence of interference between units or spillover effects. Estimation of spillover effects is crucial to many areas of political science, such as the study of interpersonal communication (e.g., Nickerson, 2008) and second-order impacts of policy interventions (e.g., Ichino and Schundeln). Recent work on causal identification of spillover effects in political science, e.g., Aronow and Samii (2012) and Bowers, Fredrickson and Panagopoulos (2012), has focused upon parametric approaches to experimental data. By contrast, this paper removes parametric assumptions by appealing to a novel, but intuitive, sampling strategy over a known spillover structure.

In particular, this study proposes a two-stage experimental design. In the first stage, clusters of units are selected such that spillovers can occur within clusters but not across them (i.e., SUTVA holds across clusters). In the second stage, units are randomly assigned to treatment or control within clusters. This allows the researcher retrieve the probabilities of direct assignment to treatment as well as indirect assignment to spillovers. At the same time, the sampling of clusters in the first stage allows the researcher to retrieve inclusion probabilities for units as a function of the spillover structure. The paper discusses necessary assumptions to retrieve unbiased estimates of the causal, indirect, spillover effect, as well as the variance of the estimator. After a discussion of the mathematical properties of the design, the paper analyzes a set of algorithms that execute the two-stage design described above.

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**SUPALLA, Susanna (University of Rochester)**

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*Poster:* **The Market for “Hard” Money: Funding Flows through Political Parties Post-BCRA**

*Abstract:* Scholars and policymakers alike have long been interested in the effectiveness of campaign finance reforms, including the 2002 Bipartisan Campaign Reform Act (BCRA), also known as McCain-Feingold. In this paper I analyze the extent to which political parties take advantage of variations in state laws to circumvent federal campaign finance reforms. After the passage of BCRA, state and federal parties created segregated funds – one for “hard” money raised according to federal campaign finance laws and one for “soft” money raised according to state campaign finance laws, which are often more permissive. BCRA’s regulation of contributions to political parties along with the absence of federal regulation of intra-party transfers encouraged the formation of a market for “hard” money. In this paper I adopt social networking analysis methods to explore both the extent to which parties in various states have participated in this market and the state-level campaign finance regimes to which those states are subject. This analysis furthers our understanding of how parties wield their power in the campaign realm.

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**TERNOVSKI, John (Analyst Institute)**

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*Poster:* **Challenges and Limitations of Contemporary Experimental Designs in Dynamic Social Networks**

*Abstract:* Recently, there has been remarkable progress using randomized field experiments to measure the role of social influence in large-scale social networks (Bond et al. 2012, Centola 2010, Aral & Walker 2011, Aral & Walker 2013). And while there have been promising results that showcased the efficacy of social influence interventions, there are continuing challenges to implementing experimental designs in a social network. This paper delineates the problems that need to be addressed in order to ensure that treatment effect estimates are unbiased and as efficient as possible. A primary concern is that social networks tend to change over time. And while average network properties tend to be stable, there has been evidence that individual network properties are liable to change substantially (Kossinets & Watts 2006). This paper enumerates the limitations of many contemporary study designs and delineates important factors that need to be kept in mind during the design stages of any social network field experiment.



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**THERIAULT, Todd (Indiana University Bloomington)**

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*Co-Author(s):* Katy Börner, Indiana University

*Poster:* **Places and Spaces: Mapping Science**

*Abstract:* Drawing from across cultures and across scholarly disciplines, the Places & Spaces: Mapping Science exhibit demonstrates the power of maps to address vital questions about the contours and content of human knowledge. Created by leading figures in the natural, physical, and social sciences, scientometrics, visual arts, social and science policymaking, and the humanities, the maps in Places & Spaces allow us to better grasp the abstract contexts, relationships, and dynamism of human systems and collective intelligence. Places & Spaces debuted in 2005 and was conceived as a ten-year project. For each annual iteration of the exhibit, a call for maps is issued and a team of international reviewers and exhibit advisors select the most stunning and innovative maps submitted. Then, the top-10 maps are prepared for viewing by a general audience through large-format, high-resolution printing. Since many of the exhibit's maps were originally designed for inclusion in scientific papers or PowerPoint slides, this can be quite a dramatic transformation. Finally, the finished maps are included in an exhibition for public display at libraries, science museums, and national science academies.

As well as providing a showcase for the latest trends in visualization, Places and Spaces also features historically significant firsts in science mapping, including the first map of science, "The Structure of Science" (Boyack and Klavans 2005), the first "Wikipedia Map of Science" (Herr, Holloway, et al. 2009), and the first "Clickstream Map of Science" (Johan Bollen, et al. 2009). The exhibit has also brought to life the history and evolution of data visualization with Charles Joseph Minard's landmark "Napoleon's March to Moscow" (1869), Wattenberg and Viegas' "History Flow Visualization of the Wikipedia Entry on Abortion" (2006), the SENSEable City Lab's "Mobile Landscapes: Using Location Data from Cell phones for Urban Analysis" (Williams, Ratti, et al. 2006), and the concept map "Death and Taxes" (Bachman 2009). Now in its eighth year, the exhibit has traced the evolution of science maps, featuring the best examples of knowledge domain mapping, novel location-based cartographies, data visualizations, and science-inspired art works. Individually and as a whole, the maps of Places & Spaces allow data to tell stories which both the scientist and the layperson can understand and appreciate.

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**TRAN, Anh (Indiana University Bloomington)**

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*Co-Author(s):* Quoc-Anh Do, Science Po, Paris  
Trang Nguyen, World Bank

*Paper:* **One Mandarin Benefits the Whole Clan: Hometown Network Favoritism in an Authoritarian Regime**

*Abstract:* Although patronage networks in democracies has been studied extensively, it is less understood in undemocratic regimes, where a large proportion of the world's population resides. To fill this gap, our paper studies how government officials in authoritarian Vietnam direct public resources toward their connected hometowns. We manually collect an exhaustive panel dataset of political promotions of officials from 2000 to 2010 and estimate their impact on public infrastructure in their rural hometowns. We obtain three main results. First, promotions of officials improve a wide range of infrastructure in their hometowns, including roads, markets, schools, radio stations, clean water and irrigation. This favoritism is pervasive among officials across different ranks, even among those without budget authority, suggesting informal channels of influence. Second, in contrast to pork-barrel politics in democratic parliaments, elected legislators have no power to exercise favoritism. Third, only home communes receive favors, while larger and more politically important home districts do not. This suggests that favoritism is likely motivated by officials' social preferences for their hometowns rather than by political considerations.





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**TWIEG, Peter (George Mason University)**

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*Co-Author(s):* Kevin McCabe, George Mason University  
Sang Chin, Johns Hopkins University

*Poster:* **Endogenous Trust Networks in the Lab**

*Abstract:* We study the formation of trust networks in a virtual world economy consisting of twelve persons. In our economy there are three villages, each with four villagers. Villages contain harvesters where villagers can produce one of two goods (rings or circles) which can be consumed separately, or combined together to produce a new good called a triangle. Sharing and trading require the development of different kinds of trust relationships between villagers. The more time a villager spends at a harvester the more productive the villager becomes at harvesting. To produce triangles (which require both a ring and a circle) a villager must either barter (trade) rings for circles with another villager or share both a ring and circle harvester. Triangles can be consumed separately, or combined together with a triangle from another village to produce a new good called a diamond. To produce diamonds triangles must be traded with a villager from another village. Diamonds can only be consumed. Goods are given an induced value when they are consumed of 10 cents for a ring or circle, 40 cents for a triangle, and 160 cents for a diamond. In this experiment we consider two treatment variables both of which determine the relative wealth of villages. First, we vary the composition of rich and poor villages within a session by differentially setting the productivity of ring harvesters. Second, we manipulate the productivity of villages by varying the number of harvesters within a village, thus creating conditions of excess labor. From the data we can observe the formation of both trade networks and communications networks and examine the effect of both our wealth treatments and subject strategies on the economic welfare of our villagers.

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**VICTOR, Jennifer (George Mason University)**

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*Co-Author(s):* Nils Ringe, University of Wisconsin — Madison  
Stephen Haptonstahl, Berico Technologies

*Poster:* **Multiplex Legislative Networks and the Power of Caucuses to Alleviate Partisan Polarization**

*Abstract:* There is no stronger determinant of legislative voting than the party identification of legislators. Scholars can explain upwards of 90 percent of all legislative voting behavior by party alone. Given the marked increase in party-line voting and increasing ideological gap between the parties in Congress, which together form the oft-maligned problem known as polarization, it is worthwhile to explore the determinants of legislative voting behavior that might help explain the sources of polarization. Moreover, new research using social network methods have demonstrated the numerous non-party based linkages between legislators. Recent research has shown that Congress uses a dense network of congressional caucuses to solve an informational collection action dilemma that is not already solved by parties and committees (Ringe and Victor 2013). The argument suggests that the weak social ties provided by caucuses provide bridging relationships for legislators—helping to connect legislators across party lines, for example. In this paper, we argue that increased partisanship has caused the proliferation of caucuses, rather than the other way around. Caucuses provide an institutional remedy to partisan polarization found in the committees and parties. As caucus leaders increasingly value the cross-partisanship of their organizations, the caucus system serves as a relief to polarization.

We evaluate these claims using advanced social network analysis on a novel dataset that contains complete caucus membership data on nine Congresses of data (1993-2010). We argue that we can better understand the non-party determinants of legislative voting and the sources of polarization by examining the variety of ways in which legislators are connected to one another. A primary methodological barrier to studies like ours has been scholars' ability to appropriately control for the variety of ways that legislators are connected to one another. To overcome this barrier we use a novel method of aggregating the multiplex link strength between legislators, and evaluate the independent contributions of legislators' various relationships to their voting behavior. Does serving on the same committee contribute more to common voting behavior than serving on the same caucus or being from the same state? Our method will help to quantify these relationships and demonstrate the global known components of voting behavior, while testing our hypothesis about the value of caucus memberships for alleviating partisan polarization.



**WANG, Cheng (University of California — Irvine)**

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*Co-Author(s):* David Hachen, University of Notre Dame

*Poster:* **Dynamics of Friendship Networks and Political Tastes**

*Abstract:* The stochastic actor-based model (SABM) has been widely used to explore the co-evolution of friendship networks and behavior dynamics simultaneously in recent years. However, none of the studies has touched the area of respondents' political attitudes or activities. This study analyzes data from the Netsense project, a longitudinal survey and smartphone data collection of 196 college students over 4 semesters since 2011. And we find that selection effects play an important and consistent role in creating peer clusters with similar political tastes in a dynamic context, but friends were found to influence political tastes, net of other sociodemographic, network, or family factors.

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**WEBER, Ingmar (Qatar Foundation)**

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*Co-Author(s):* Venkata Rama Kiran Garimella, Qatar Computing Research Institute

*Paper:* **Secular vs. Islamist Tension on Arabic Twitter: A Network Analysis**

*Abstract:* We present a detailed study of the retweeting network for Twitter users in Egypt, Syria and other Arab countries. Network topology description and community detection is combined with analysis on node, i.e., user properties and edge, i.e., tweet properties. Concerning node properties, users are automatically assigned a score on a 1-dimensional axis ranging from secular to Islamist. This score is derived from retweeting behavior with respect to a set of manually labeled set users from either end of the spectrum. Additional profile based information such as gender is used to augment to derive further insights. For the edge properties, hashtags are used as a proxy for topics. Co-occurrence information is used to classify hashtags into topics such as politics, religion, music, sports and others. Words of the tweets are also compared against lists related to derogatory terms for other religions and terms related to the incitation or support of violence. The node and edge properties are correlated with the network topology to describe if clusters are formed more by node similarity or by topical edges. In particular, the secular vs. Islamist scores will be correlated with other node and edge properties. All analysis is done for both English and Arabic tweets, making use of state-of-the-art tools to normalize different Arabic dialects and to address issues of stemming and tokenization.

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**WRONSKI, Julie (Stony Brook University)**

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*Co-Author(s):* Lindsey Levitan, Stony Brook University

*Paper:* **Social Context and Information Seeking: Examining the Effects of Network Attitudinal Composition on Engagement with Political Information**

*Abstract:* The people we associate with everyday have an important influence on our exposure and reactions to political stimuli. Social network members in particular can have a dramatic impact on our political views and behavior. Prior research suggests that these attitudinal differences reflect the information available in a social network: attitudinally congruent networks expose individuals to supporting positions, bolstering their views; while heterogeneous networks provide information on both sides of an issue, generating doubt and ambivalence. In contrast, the current studies examine the effects of individuals' networks in motivating them to find and engage with new political information on their own. Using ANES panel data, a laboratory-based information board session that examines behavior in detail, and an experimental design that manipulates network composition, we find that individuals in attitudinally heterogeneous social networks seek out and attend to more political information. They spend more time looking for political information, and then (having found it) spend more time reviewing that new information compared to those whose network members are more like-minded. We further demonstrate that network composition causally determines these information-seeking preferences. Implications for democratic citizenship in light of these findings are discussed.



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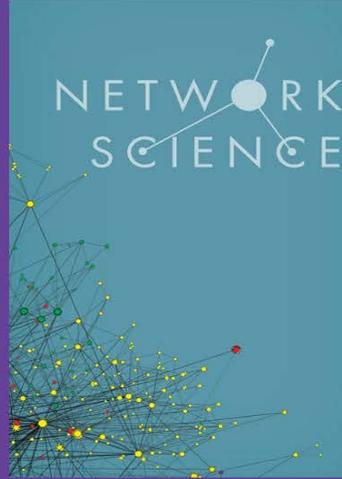
ZIMMERMAN, Matthew (University of California — Davis)

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*Poster:* When Are Hierarchical Political and Economic Networks Most Efficient?

*Abstract:* Large political and economic organizations are often hierarchically structured. Hierarchical organization seems like a sensible way to incentivize large-scale cooperation, but findings from institutional economics suggest creating effective hierarchies is very difficult in theory and practice (Miller 1992). When is hierarchical organization efficient? I model organizations as directed graphs where nodes are agents that can either free-ride or cooperate by contributing directly to a public good and/or indirectly through costly supervision (monitoring and enforcement). Edges represent the direction of costly supervision. I analyze these networks analytically and find the most socially-efficient Nash network for a variety of parameter conditions. These networks tend to be more hierarchical when the (1) the return to public good contributions is high, (2) supervision is less costly, (3) group sizes are small, and (4) punishment is more efficient. The results reflect both the trade-off between efficiency and stability found in many economic and social networks (Jackson 2001) and the tension between individual and social rationality found in studies of hierarchical institutions (Miller 1992).





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Connectedness: Networks in a Complex World

## Fall 2013

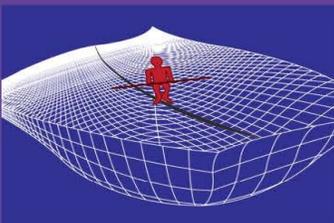
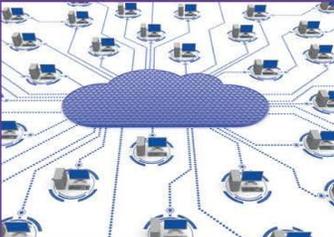
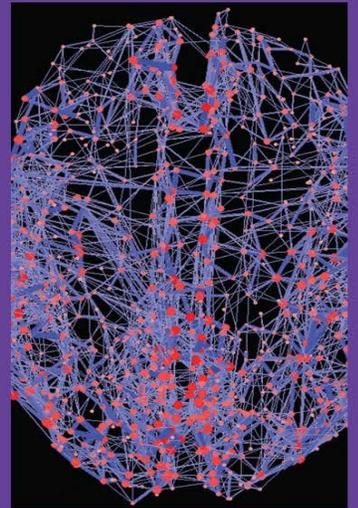
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