

Dr. David S. Hachen Jr.

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Education

1974 B.A. – Political Science and Philosophy Lake Forest College
1978 MA. – Philosophy University of Wisconsin-Madison
1983 Ph.D. – Sociology University of Wisconsin-Madison

Professional Experience

1993 – present Associate Professor of Sociology, University of Notre Dame
1988 – 1993 Assistant Professor of Sociology, University of Notre Dame
1987 – 1988 Visiting Assistant Professor of Sociology, University of Notre Dame
1983 – 1987 Assistant Professor of Sociology, University of Washington

Research Areas

Social Networks, Research Methods and Statistics, Labor Markets, Social
Stratification and Mobility, Organizations, Work and Occupations

Awards and Honors

National Academies Keck Futures Initiative: Invited Participant 2012

Grants

NetHealth: Modeling the Co-Evolution of Social Networks and Health Behaviors”,
NIH- NHLBI, 2014-2108, 2014-2018 (\$2,913,061)

“Center for Sustainability Data Research Initiative – Notre Dame” (lead PI Aimee
Buccallato), Center for Sustainable Energy at Notre Dame, Sustainable Energy
Initiative, 2013 (\$29,800)

“Center for Sustainability Data Research Initiative – Notre Dame,” Institute for
Scholarship in the Liberal Arts at Notre Dame, 2013 (\$2,500).

“Using Smart Devices to Capture the Emotionality of Offline Communication” (lead
PI), National Academies Keck Futures Initiative, 2013-2015 (\$100,000).

“MRI: Acquisition of a Data Analytics Cluster for Computational Social Science” (lead
PI Jaroslaw Nabrzyski), National Science Foundation, MRI, 2012-14 (\$451,839).

"Explorations on the Effects of Pervasive Networking on Social Relationships and Resource Planning" (co-PI with Aaron Streigel, Omar Lizardo and Chris Poellabauer), National Science Foundation, Social-Computing Systems (SoCS), 2010-2013 (\$748,825)

"Network Science Collaborative Technology Alliance" (co-PI with Zoltan Toroczka, Omar Lizardo, Nitesh Chawla), Army Research Lab, 2009-2010 (\$350,000).

"Open Sourcing the Design of Civil Infrastructure (OSD-CI)" (with Tracy L Kijewski-Correa, Ahsan Kareem, Gregory Madey, Douglas Thain), National Science Foundation, Cyber-Enabled Discovery and Innovation , 2009-2013 (\$1,537,180).

"Social Networks Distinguished Lecture Series" (with Omar Lizardo), ISLA, University of Notre Dame, 2009-10 (\$15,000).

"Longitudinal Analysis and Modeling of Large-Scale Social Networks Based on Cell Phone Records" (co-PI with Zoltan Toroczka, Omar Lizardo, Nitesh Chawla and Mark Alber), National Science Foundation, Division of Behavioral and Cognitive Sciences, HSD – Dynamics of Human Behavior, 2008-2011 (\$699,770)

"Integrated Wireless Phone Based Emergency Response System" (co-PI with Albert-Laszlo Barabasi, PI, and Gregory R. Madey, co-PI). National Science Foundation, Dynamic Data Driven Application Systems, 2006-2009 (\$500,000).

"Pilot Study in the Michiana Area of Temporary Help and Staffing Agencies." Pilot Fund for Social Science Research, University of Notre Dame, 2006 (\$11,427)

"Organizational Determinants of the Gender Gap in Evaluative Ratings in the Uruguayan State." (with Ana L. Rodriguez-Gusta). National Science Foundation Doctoral Dissertation Research Improvement Grant, 1999-2000 (\$7,410)

"Piecing Together Employment: A Study of Multiple Job Holding" (with Naomi Cassirer). Summer Graduate Research Fellowship in Arts and Letters, University of Notre Dame, 1999 (\$5,000)

"Social Networks and Labor Market Mobility." (with Michael Davern). National Science Foundation Doctoral Dissertation Research Improvement Grant, 1997-1998 (\$4,425)

"Sociology in Action: Making Connections." New Course Preparation Grant, 1996. Institute for Scholarship in the Liberal Arts, University of Notre Dame (\$3,500).

"Life Course Transitions: Their Changing Character and Policy Implications." Henkel Visiting Scholar Series, University of Notre Dame, 1994-1995 (\$5,540 for program)

"Revision of Course 'Today's Organizations.'" Lilly Teaching Fellowship, Lilly Endowment, Inc. and University of Notre Dame, 1992-1993. (\$2,500 and course reduction)

"Comparative Job Mobility." Faculty Summer Research Stipend, Institute for Scholarship in the Liberal Arts, University of Notre Dame, Summer 1991 (\$2,500)

"Revision of Course 'Research Methods.'" Course Development Grant, Hesburgh Program in Public Service, University of Notre Dame, Summer 1989 (\$1,000)

Publications – Articles

Wang, C. Lizardo, O., and Hachen, D.S. 2014. "Triadic evolution in a large-scale mobile phone network. *Journal of Complex Networks*, doi: 10.1093/comnet/cnu030.

Wang, C., Lizardo, O, and Hachen, D.S. .2014. "Algorithms for Generating Large-scale Clustered Random Graphs." *Network Science*, 2(03):403–15.

Wang, C., Hachen, D. S., and Lizardo, O. 2013. "The Coevolution of Communication Networks and Drinking Behaviors. *2013 AAAI Fall Symposium Series: Social Networks and Social Contagion*, 30-36.

Striegel A., Liu S., Meng, L., Poellabauer, C. , Hachen, D , and Lizardo, O. 2013 . "Lessons learned from the Netsense smartphone study," *Proceedings of ACM HotPlanet (workshop at ACM SIGCOMM), Hong Kong* , 51–56. **Best Paper Award.**

Wang, C., Lizardo, O, Hachen, D., Strathman, A., Toroczkai, Z., Chawla, N. 2013. "A dyadic reciprocity index for repeated interaction networks," *Network Science* 1(1):31-48.

Zhi Zhai, Tracy Kijewski-Correa, Ashan Kareem, David Hachen, Greg Madey. 2012. "Citizen Engineering: Evolving OSS Practices for Engineering Design and Analysis." 8th International Conference on Open Source Systems, (OSS2012), Hammamet, Tunisia.

Zhi Zhai, Tracy Kijewski-Correa, David Hachen and Greg Madey. 2012. "Haiti Earthquake Photo Tagging: Lessons on Crowdsourcing In-Depth Image Classifications." Seventh IEEE International Conference on Digital Information Management, ICDIM 2012, Macau, China, August 22-24, 2012. IEEE 2012, ISBN 978-1-4577-1538-9.

Zhi, Z., Hachen, D., Kijewski-Correa, T. Shen, F. and Madey, G. 2012. "Citizen Engineering: Methods for 'Crowdsourcing' Highly Trustworthy Results," *Proceedings 45th Hawaii International Conference on System Sciences*, January 4-7, Maui, Hawaii: 3406-3415.

Troy Raeder, Omar Lizardo, Nitesh V. Chawla and David Hachen. 2011. "Predictors of Short-Term Decay of Cell Phone Contacts in a Large Scale Communication Network." *Social Networks*. 33 (4):245-257.

Hachen, David (co-authored with Gregory R. Madey, Albert-László Barabási, Nitesh V. Chawla, Marta Gonzalez, Brett Lantz, Alec Pawling, Timothy Schoenharl, Gábor Szabó, Pu Wang and Ping Yan). 2007. "Enhanced Situational Awareness: Application of DDDAS Concepts to Emergency and Disaster Management" in International Conference on Computational Science, serial Lecture Notes in Computer Science (LNCS 4487), Y. Shi, G. D. van Albada, J. Dongarra, and P. M. A. Sloot, Eds.:1090-1097

Hachen, David (co-authored with Michael Davern). 2006. "The Role of Information and Influence in Social Networks: Examining the Association Between Social Network Structure and Job Mobility." *American Journal of Economics and Sociology*. 65 (2):269-293

Hachen, David (co-authored with Brian Conway). 2005. "Attachments, Grievances, Resources, and Efficacy: The Determinants of Tenant Association Participation Among Public Housing Tenants." *Journal of Urban Affairs*. 27 (1):25-52.

Hachen, David. 1993. "Intragenerational Mobility Regimes in the United States and Canada: A Comparative Analysis." Pp. 3-41 in *Research in Social Stratification and Mobility*, Volume 12, edited by R. Althauser and M. Wallace. Greenwich, CT: JAI Press.

Hachen, David. 1992. "Industrial Characteristics and Job Mobility Rates." *American Sociological Review* 57:39-55.

Hachen, David. 1990. "Three Models of Job Mobility in Labor Markets." *Work and Occupations*. 17:320-354.

Hachen, David. 1988. "Industrial Labor Markets and Job Mobility Rates." Pp. 35-68 in *Research in Social Stratification and Mobility*, Volume 7, edited by Arne Kalleberg. Greenwich, CT: JAI Press.

Hachen, David. 1988. "The Delicate Balance: Technology and Control in Organizations." *The British Journal of Sociology*. 39:337-357.

Hachen, David. 1988. "The Competing Risks Model: A Method for Analyzing Processes with Multiple Types of Events." *Sociological Methods and Research* 17:21-54.

Hachen, David. 1988. "Gender Differences in Job Mobility Rates in the United States." *Social Science Research*. 17: 93-116.

Wright, Erik, Cynthia Costello, David Hachen and Joey Sprague. 1982. "The American Class Structure." *American Sociological Review*. 47: 709-726

Publications – Books

Hachen, David. 2001. *Sociology in Action: Cases for Critical and Sociological Thinking*. Thousand Oaks, CA: Sage.

Hachen, David. 2001. *Instructor's Manual to Accompany Sociology in Action*. Thousand Oaks, CA: Sage

Papers and Presentations

"The Life of a Tie: Formation, Persistence, and Development of Social Ties in a College Student Cohort." June 2015. International Conference on Computational Social Science (IC2S2), Helsinki, Finland (co-authored with Omar Lizardo, Michael Penta, Brandon Sepulvado, and Matthew Chandler).

"Emotionality and Social Networks." August 2014. NAKFI Informed Brain in a Digital World Mid-Cycle Grant Meeting, Chicago, IL (co-authored with Jeffrey Liew, Omar Lizardo, Aaron Striegel)

“Dynamic Ego Networks.” June 2014, NetSci’14 Symposium: Temporal Networks, Human Dynamics and Social Physics, Berkeley, CA (co-authored with Lizardo, Penta, Sepulvado and Workman).

“Growth, Stability, Change and Inequality in Dynamic Ego Networks.” February 2014, International Sunbelt Social Network Conference, St. Petersburg Beach, FL (co-authored with Lizardo, Penta, Sepulvado and Workman)

“Growth, Stability, Change and Inequality in Dynamic Ego Networks.” October 2013, Indiana University-Bloomington, Social-Psychology Colloquium.

“Virtual Communities.” Sustainable Data Community Forum, July 2013, Chicago, IL (with Tracy Kijewski-Correa)

“The Effects of Individual Traits on the Formation of Social Networks Among First-Year College Students.” NSF SoCS PI Meeting, June 2013, Seattle, WA (with Omar Lizardo)

“The Effects of Individual Traits on the Formation of Social Networks Among First-Year College Students.” NetSci 2013, June 2013, Copenhagen, DK (with Omar Lizardo)

“Weighted reciprocity in human communication networks.” American Sociological Association Meetings, Denver, CO, August 2012 (co-authored with Wang, Strathman, Lizardo, Toroczka, and Chawla)

“D-Work: Controlling Distributed, Volunteer, and Redundant Work to Facilitate Innovation.” 24th Annual Meetings of Society for the Advancement of Socio-Economics (SASE), MIT, Cambridge, MA, June 2012 (co-authored with Zack Kertcher)

“NetSense: A New Network Data Collection Platform for the Study of the Dynamics of Social Relationships.” SoCS NSF PI Meetings, Ann Arbor, MI, June 2012.

“D-Work: Controlling Distributed, Volunteer and Redundant Work to Facilitate Innovation.” American Sociological Association Meetings, Denver, CO, August 2012 (co-authored with Zack Kertcher)

“NetSense: A New Network Data Collection Platform for the Study of the Dynamics of Social Relationships.” Sunbelt Social Network Conference, Redondo Beach, CA, March 2012 (with Lizardo, Penta, and Crubaugh)

“It’s Boring and Repetitive: Why Do People Do It? An Experiment on Motivation in Crowdsourcing Work.” CrowdConf 2011, San Francisco, CA, November 2011. (co-authored with Zack Kertcher, presenter)

“It’s Boring and Repetitive: Why Do People Do It? An Experiment on Motivation in Crowdsourcing Work.” 4th Annual People and Organizations Conference, The Wharton School, Philadelphia, PA, October 2011. (co-authored with Zack Kertcher, presenter)

“Online Work Motivation: An Experiment with Instrumental and Moral Incentives.” American Sociological Association Meetings, Las Vegas, NV, August 2011. (co-authored with Zack Kertcher, presenter)

“Online Work Motivation: An Experiment with Instrumental and Moral Incentives.” Society for the Advancement of Socio-Economics (SASE), Madrid, Spain, June 2011. (co-authored with Zack Kertcher, presenter)

“Dyadic Reciprocity and the Emergence of Degree-Assortativity in Weighted Social Networks.” International Sunbelt Social Network Conference, St. Petersburg Beach, FL, February 2011 (co-authored with O. Lizardo, Z. Toroczkai, A. Strathman, H. Kim and C. Wang).

“Temporary Help Agencies as Intermediaries in Labor Markets.” Higgins Labor Studies Program, University of Notre Dame, January 2011.

“Longitudinal Analysis and Modeling of Large-Scale Social Networks Based on Cell Phone Records.” Human and Social Dynamics 2010 Grantees Conference, Washington, D.C., September 2010.

“Reciprocity and Degree Assortativity in Social Networks.” Workshop on Information in Networks (WIN), NYU Stern School of Business, New York City, September 2010.

“Weighted reciprocity in a human communication network.” International Sunbelt Social Network Conference, Riva del Garda, Italy, July 2010.

“Network Behavior Indicators of Trust.” Network Science (NS) Collaborative Technology Alliance (CTA) Conference, Boston, June 2010

“Reciprocity and Degree-Assortativity in Human Communication Networks” NetSci 2010, Cambridge, MA, May 2010 (with Omar Lizardo).

“The Evolution of Dyadic Reciprocity in Social Networks.” Symposium – Human Behavior Modeling in Network Science. Behavioral Representation in Modeling Simulation (BRIMS) Conference, Charleston, SC, March 2010.

“Reciprocity in a Human Communication Network.” Department of Sociology Colloquium, University of Notre Dame, March 2010.

“Weighted Reciprocity in a Human Communication Network.” Networks and Complex Systems Talk Series, Cyberinfrastructure for Network Science Center, School of Library and Information Science, Indiana University Bloomington, February 2010.

“Reciprocity: The Missing Link.” NetSci09, International Workshop on Network Science, Venice, Italy, June 2009.

“Correlates of Reciprocity in a Large-Scale Communication Network: A Weighted Edge Approach.” International Sunbelt Social Network Conference, San Diego, March 2009.

“Look Who’s Talking... in Europe.” *Wireless Wave*. Fall 2007, pp. 52-54.

“WIPER: The Integrated Wireless Phone Based Emergency Response System” Dynamic Data Driven Applications Systems - New Drivers for Networking and Communication Organized in conjunction with the National Science Foundation (NSF), IEEE Globecom Conference, Washington, D.C., November 2007.

“Mobile Phone Use and Social Networks” Department of Sociology Colloquium, University of Notre Dame, February 2007.

"Using WebCT Vista" Presentation to Vista User's Group, University of Notre Dame, September 2005.

"Contracting Out Work in the 1990s." American Sociological Association Meetings, San Francisco, August 2004.

"Contracting Out in the 1990s." Sociology Department Colloquia, University of Notre Dame, November 2003.

Discussant. "Virtual Culture: The Internet and Social Movement Mobilization." American Sociological Association Meetings, Atlanta, August 2003.

"Grievances, Resources, Attachment and Efficacy: The Determinants of Tenant Association Participation Among Public Housing Tenants." Sociology Department Colloquia, University of Notre Dame, January 2003.

Discussant "Social Policy and Social Organization." The Year of the Euro Conference, Nonovic Institute for European Studies, University of Notre Dame, December 2002.

"Electronic Resources for Bibliographical Research on Sociological Topics." Undergraduate Proseminar, University of Notre Dame, September 2001, October 2002, April 2003, October 2003, September 2004.

"Using the Web of Science for Bibliographic Research." Institute for Educational Initiatives Lecture Series, University of Notre Dame, March 2001.

Presenter at Teaching Well, Saving Time Workshop, Kaneb Center for Teaching and Learning, University of Notre Dame, December 2000.

Discussant "Are Private Schools Privatizing? Schooling Organizations and Parents' Political Participation." Conference on Public and Private School Influences on Student Outcomes, Institute for Educational Initiatives, University of Notre Dame, November 2000.

"Piecing Together Employment: A Study of Multiple Job Holding." Sociology Department Colloquia, University of Notre Dame, April 2000.

"Places and Spaces for Conversing at Notre Dame." Faculty Brownbag, Kaneb Center for Teaching and Learning, University of Notre Dame, September 1999.

"Voluntary Job Mobility and Social Network Structure," with Michael Davern. American Sociological Association, Chicago, August 1999.

"An Analysis of Changing American Industrial Characteristics," with Michael Davern. American Sociological Association, San Francisco, August 1998.

"Mobility Channels and Social Inequalities." American Sociological Association, New York, August 1996.

"Can Computer-Generated Presentations Increase Interaction in the Classroom?" Ameritech and Ohio Foundation of Independent Colleges Conference, University of Notre Dame, July 1995.

"Creativity in Learning." Junior Parents Weekend, University of Notre Dame, February 1995.

"Mobility Channels and Social Inequality." International Conference on *Income Inequality: Perspectives from Europe and America*, University of Notre Dame, September 1995.

"Cases and Cooperative Learning Groups: An Integrated Active Learning Model." American Sociological Association, Washington, D.C., August 1995.

"The Interrelationships Among Job Shift Characteristics." American Sociological Association, Washington, D.C., August 1995.

"Using Cooperative Learning Groups in College Classrooms." Presentation to Teaching Fellows, College of Arts and Letters, University of Notre Dame, October 1994.

"Teaching with Cases and Cooperative Learning." Workshop conducted with Charles Claiborn. The Wakonse Conference on College Teaching, Shelby, Michigan, May 1994.

"Labor Markets: International Comparisons." Discussant. American Sociological Association, Miami, Florida, August 1993.

"Mobility Regimes in the United States and Canada: A Comparative Analysis." American Sociological Association, Pittsburgh, Pennsylvania, August 1992.

"Unemployment and Work Transition. Regular Session." Discussant. American Sociological Association, Cincinnati, Ohio, August 1991.

"Mobility Regimes in the United States and Canada: A Comparative Analysis." Vith International Meetings of the Comparative Project on Class Structure and Class Consciousness, Granada, Spain, July 23-26, 1991.

"Social Stratification. Regular Session." Organizer and Presider. American Sociological Association, Washington, D.C., August 1990.

"Labor Market Structure: Causes and Consequences. Regular Session." Discussant. American Sociological Association, Washington, D.C., August 1990.

"New Skills and New Jobs." American Sociological Association, San Francisco, California, August 1989.

"Industrial Characteristics and Job Mobility Rates." American Sociological Association, Atlanta, Georgia, August 1988.

"Gender Differences in Job Mobility Rates: A Test of Human Capital and Segmentation Explanations." American Sociological Association, New York, August 1986.

"Gender Differences in Job Mobility Rates: A Test of Human Capital and Segmentation Explanations." Presented at International Conference on Applications of Event History Analysis in Life Course Research. Max Planck Institute for Human Development and Education, Berlin, June 1986.

"Gender Differences in Career Mobility Patterns." Presented at Meeting of the International Sociological Association Research Committee on Social Stratification and Mobility, Harvard University, Cambridge, Massachusetts, September 1985.

"Technology and Control in Complex Organizations." American Sociological Association, Washington, D.C., August 1985.

"Class and Career Mobility." Midwest Sociological Society, Kansas City, April 1983.

"Inequality in World Perspective." Session Organizer and Chair. Midwest Sociological Society, Kansas City, April 1983.

"Class Structure and Career Mobility." Wisconsin Sociological Association, Eau Claire, Wisconsin, October 1982.

"A Framework for the Analysis of Work Organizations in Capitalist Societies." Midwest Sociological Society, Des Moines, Iowa, April 1982.

"Reagan's Economics: Intellectual and Ideological Considerations." Discussant. Midwest Sociological Society, Des Moines, Iowa, April 1982.

Synergistic Activities

Review Panel, National Science Foundation, 2012

Founding Fellow, Interdisciplinary Center for Network Science and Applications, University of Notre Dame, 2008- present; Co-Director, 2009-present.

Founding Fellow, Wireless Institute, University of Notre Dame, 2009-present

Fellow, Institute for Education Initiatives, University of Notre Dame, 2000-present

Faculty Affiliate, Higgins Labor Research Center, University of Notre Dame, 2000-present

Course Management Systems Steering Committee, University of Notre Dame, 2005-2008

Chair and Organizer, Faculty Learning Community, Notre Dame Web Group, 2003-2006

Advisory Board Member, Center for Creative Computing 2003-2006

Co-Organizer, Race & Culture Film Series, 2003-2004