

Curriculum Vitae
Caroline S. Wagner

John Glenn College of Public Affairs
Ohio State University
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1994 Suffolk Road #3
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EDUCATION

Ph.D. in Science and Technology Dynamics, Amsterdam School of Communication Research,
University of Amsterdam, The Netherlands, 2003
M.A. in Science, Technology, and Public Policy, Elliot School of International Affairs, George
Washington University, 1983
B.A. Liberal Arts, Trinity College, 1977

ACADEMIC POSITIONS

2011 – Present Ambassador Milton A. and Roslyn Z. Wolf Chair, School of Public Affairs, John
Glenn School of Public Affairs, The Ohio State University, Columbus, Ohio
2010 – 2011 Associate Professor, International Affairs, Dickinson School of Law, The
Pennsylvania State University, State College, PA

RESEARCH

Books and Monographs

Wagner, C.S. *21st Century Science*, Springer, in review, 2017.

Wagner, C., Farley, S., & Hawkins, R. (2011). *Science and Technology for Economic Growth and
Industrial Development in Mozambique*. Washington: The World Bank.

Arnold, E., Mahieu, B., Stroyan, J., Campbell, D., Carlberg, M., Giaracca, F., Wagner, C. (2011).
Understanding the Long Term Impact of the Framework Programme. Brighton: Technopolis (for
EC DG Research and Innovation).

Brar, S., Farley, S., Hawkins, R., & Wagner, C. (2010). *Science and Technology for Economic
Growth and Industrial Development in Mozambique*. Washington, DC: The World Bank.

Mohrman, S. & Wagner, C. (2008). *The Dynamics of Knowledge Creation: A Baseline for the
Assessment of the Role and Contribution of the Department of Energy's Nanoscale Science
Research Centers*. Los Angeles: Center for Effective Organizations, Marshall School of Business,
University of Southern California.

Wagner, C. (2008). *The New Invisible College: Science for Development*. Washington: Brookings
Press.

Mohrman, S. & Wagner, C. (2006). *The Dynamics of Knowledge Creation: A Baseline for the
Assessment of the Role and Contribution of the Department of Energy's Nanoscale Science
Research Centers*. Los Angeles: Center for Effective Organizations, Marshall School of Business,
University of Southern California.

- Wagner, C., Cave, J., Tesch, T., Allee, V., Thomson, R., Leydesdorff, L. & Botterman, M. (2005). *Evaluation of NETWORKS of Collaboration among Participants in IST Research and their Evolution to Collaborations in the European Research Area (ERA)*. Leiden: RAND Europe.
- Wagner, C., Botterman, M., Feijen, E., Schmidt, L., Simmons, S., Van't Hof, C., Van Laerhoven, L. (2004). *Europe, Competing: Market Prospects, Technology Trends, and Challenges for Virtual, Smart Business Organizations*. Leiden: RAND Europe
- Wagner, C., Wong, A., Lee, S. & Brahmakulam, I. (2003). *Phase Transition in U.S.-Korea Cooperation in Science and Technology Relations*. Santa Monica: RAND Corporation.
- Wagner, C., Staheli, L., Kadtko, J., Silberglitt, R., & Wong, A. (2002). *Learning Lessons from International Collaboration in Science and Technology*. Santa Monica: RAND Corporation.
- Wagner, C., Brahmakulam, I., Peterson, D., Staheli, L. & Wong, A. (2002). *U.S. Government Funding of Science and Technology Cooperation with Russia*. Santa Monica: RAND Corporation.
- Popper, S. & Wagner, C. (2002). *New Foundations for Growth: The U.S. Innovation System Today and Tomorrow*. Santa Monica: RAND Corporation.
- Wagner, C. & Science & Technology Policy Institute Staff. (2001). *Science and Technology Issues Facing the Nation: A Report to the President*. Santa Monica: RAND Corporation.
- Wagner, C., Brahmakulam, I., Jackson, B. & Wong, A. (2001). *Science & Technology Collaboration: Building Capacity in Developing Countries*. Santa Monica: RAND Corporation.
- Wagner, C., Yezril, A. & Hassell, S. (2001). *International Cooperation in Research and Development: An Update of an Inventory of U.S. Government Spending*. Santa Monica: RAND Corporation.
- Wagner, C. (2000). *International Cooperation in Research and Development: An Update of an Inventory of U.S. Government Spending*. Santa Monica: RAND Corporation.
- Fukuyama, F., Wagner, C., Schrum, R. & Pelletiere, D. (2000). *Information and Biotechnology: Global Governance Challenges for the 21st Century: Summary of a Study Group*. Santa Monica: RAND Corporation.
- Wagner, C. & Berstein, N. (1999). *U.S. Government Funding of Cooperation in Science and Technology with Canada and Mexico*. Santa Monica: RAND Corporation.
- Wagner, C. & Yezril, A. (1999). *Global Science and Technology Information: A New Spin on Access*. Santa Monica: RAND Corporation.
- Popper, S., Wagner, C. & Larson, E. (1998). *New Forces at Work: Industry Views Critical Technologies*. Santa Monica: RAND Corporation.
- Wagner, C. (1998). *International Agreements on Cooperation in Remote Sensing and Earth Observation*. Santa Monica: RAND Corporation.
- Cave, J., Frinking, E., Lotstra, A., Grünfeld, H. & Wagner, C. (1997). *Government as a Launching Customer: An International Survey of Public Procurement of Innovative Goods and Services*. Leiden: RAND Europe.
- Wagner, C. (1997). *Critical Technologies in a Global Context: A Review of National Reports*. Santa Monica: RAND Corporation.

Wagner, C. (1997). *International Cooperation in Research and Development: An Inventory of Spending and a Framework for Assessing Benefits*. Santa Monica: RAND Corporation.

Wagner, C. (1996). *Advising the President on Science and Technology Policy*. Santa Monica: RAND Corporation.

Wagner, C. (1995). *Techniques and Methods for Assessing the International Standing of U.S. Science*. Santa Monica: RAND Corporation.

Articles

Wagner, C.S., Whetsell, T., Leydesdorff, L. (2017) Growth of International Collaboration in Science: revisiting six specialties. *Scientometrics*, online first, 9 January 2017.

Wagner, C.S., Leydesdorff, L. (2017) Envisioning Vision: Journal Clusters in Ophthalmology. *Insights in Ophthalmology*, 1(1).

Wagner, C.S. (2016) Rosalind's Ghost: Biology, Collaboration, and the Female. *PLoS Biology*, 4 November.

Wagner, C. & Gajary, L. (forthcoming) Environmental health and safety research in nanomaterials: an impact evaluation. *Research Evaluation*.

Lyons, E., Colglazier, W., Borner, K., Dooley, D., Mote, D., Roco, M. & Wagner, C. (2016) How collaborating in international science helps America. *Science Diplomacy*.

Leydesdorff, L., Wagner, C. & Bornmann, L. (2016). Replicability and the public/private divide. *Journal of the Association for Information Science and Technology*, 67(94), 1777-1778.

Wagner, C., Leydesdorff, L., Bornmann, L. (2015). Recent developments in China-U.S. science cooperation. *Minerva*, 20(4), 1-20.

Wagner, C., Horlings, E., Whetsell, T., Mattsson, P. & Nordqvist, K. (2015). Do Nobel laureates create prize-winning networks? An Analysis of Collaborative Research in Physiology or Medicine, *PLOS One*, July 31, 2015. <http://dx.doi.org/10.1371/journal.pone.0134164>

Wagner, C., Park, H. & Leydesdorff. (2015). The continuing growth of global cooperation networks in research: a conundrum for national governments. *PLOS One*, July 21, 2015. <http://dx.doi.org/10.1371/journal.pone.0131816>

Bornmann, L., Wagner, C., & Leydesdorff, L. (2015). BRICS countries and scientific excellence: A bibliometric analysis of most frequently cited papers. *Journal of the Association for Information Science and Technology*, 66(7), 1507-1513.

Leydesdorff, L., Park, H. & Wagner, C. (2014). International coauthorship relations in the social science citation index: Is internationalization leading the network? *Journal of the American Institute for Information Science and Technology*, 65(10), 2111-2126.

Leydesdorff, L., Wagner, C. & Bornmann, L. (2014). The European Union, China, and the United States in the top-1% and top-10% layers of most-frequently cited publications: competition and collaborations. *Journal of Infometrics*, 8(3), 606-617.

Wagner, C. & Kim, D. (2014). The price of big science: scarcity or abundance in scientific publishing? *Policy and Complex Systems*, 1(1), 108-127.

Wagner, C. Alexander, J. (2103) Evaluating transformative research programmes: A case study of the NSF Small Grants for Exploratory Research programme. *Research Evaluation* 22(3) 187-197.

Wagner, C. & Leydesdorff, L. (2012). An integrated impact indicator: A new definition of "impact" with policy relevance. *Research Evaluation*, 21(3), 183-188.

Wagner, C. & Wong, S. (2012). Unseen science? Representation of BRICs in global science. *Scientometrics*, 90(3), 1001-1013.

Wagner, C., Roessner, D. & Bobb, K., Klein, J., Boyack, K., Keyton, J., Borner, K. (2011). Approaches to understanding and measuring interdisciplinary scientific research (IDR): A review of the literature. *Journal of Infometrics*, 5(1), 14-26.

Leydesdorff, L., Wagner, C., Park, H.W., Adams, J. (2013) Colaboración internacional en ciencia: mapa global y red. *El profesional de la información*, 22(1) 87-94.

Leydesdorff, L. & Wagner, C. (2009). Macro-level indicators of the relations between research funding and research output. *Journal of Infometrics*, 3(4), 353-362.

Leydesdorff, L. & Wagner, C. (2009). Is the United States losing ground in science? A global perspective on the world science system. *Scientometrics*, 78(1), 23-36.

Leydesdorff, L. & Wagner, C. (2008). International collaboration in science and the formation of a core group. *Journal of Infometrics*, 2(4), 317-325.

Kostoff, R., Del Rio, J., Cortes, J., Smith, C., Smith, A., Wagner, C., Tshiteya, R. (2007). Clustering methodologies for identifying country core competencies. *Journal of Information Science*, 33(1), 21-40.

Wagner, C. & Leydesdorff, L. (2005). Network structure, self-organization, and the growth of international collaboration in science. *Research Policy*, 34(10), 1608-1618.

Kostoff, R., Del Rio, J., Cortes, J., Smith, C., Smith, A., Wagner, C., Tshiteya, R. (2005). The structure and infrastructure of Mexico's science and technology. *Technological Forecasting and Social Change*, 72(7), 798-814.

Wagner, C. (2005). Six case studies of international collaboration in science. *Scientometrics*, 62(1), 3-26.

Wagner, C. & Popper. (2003). Identifying critical, technologies in the United States: a review of the federal effort. *Journal of Forecasting*, 22(2-3), 113-128.

Wagner, C. & Leydesdorff, L. (2003). Seismology as a dynamic, distributed area of scientific research. *Scientometrics*, 58(1), 91-114.

Reviewed Reports

Battelle Center for Science & Technology Policy. (2012, 2013, 2014, 2015).

Newspaper/Magazine Articles

Wagner, C.S., Bird, S. (2017) Why we march for science." Chemistry Weekly, Royal Society of Chemistry.

Wagner, C. (2015) Iranian scientists, *The Economist*, (Letters) Sept 19.

Wagner, C. (2014). Innovation goes global. *Science Magazine*, 343(6172). (Letters)

Wagner, C. (2012). Uncovering the world's 'unseen' science, *SciDev*, July 19.

Conference/Seminar Participation

Wagner, C. (2017) Juried presentation for a panel on "Rise of the Rest: High Impact Science in a Multipolar World," Annual meeting of the American Association for the Advancement of Science.

Wagner, C. (2016) Understanding Global Science, invited panel presentation, Science Policy Research Unit 50th Anniversary Conference, University of Sussex, UK, September.

Wagner, C. (2016) Assessing the value of government-funded science. Conference on Science of Science Policy, Approaches to Modeling, National Academy of Sciences.

Wagner, C. (2015) Governing the Global Network of Science, invited keynote, the Organization for Economic Cooperation and Development Ministerial on Science, Technology, and Innovation, 2015, Daejeon, South Korea.

Wagner, C. (2014) Network analysis methods for understanding knowledge transfer. SONIC, Northwestern University Kellogg School

Wagner, C. (2014). Network analysis as a tool to understand science. Presented at Websci. Bloomington, IN.

Wagner, C. (2014). Declining asymmetries in China's international S&T relations: impact and consequences. Presented at The Role of Science and Technology in China's International Relations, Tempe, AZ.

Wagner, C. (2014). Global science dominating the agendas of national governments. Presented at American Association for the Advancement of Science, Chicago, IL.

Wagner, C. (2014). Knowledge networks among Nobel Prize winners in physiology or medicine. Presented at Atlanta Conference on Science and Technology Policy, Atlanta, GA.

Wagner, C. (2013). Global science collaborations. Invited presentation, Government-University Industry Roundtable of the National Academy of Sciences, Washington, DC.

Wagner, C. (2013) Organized and led workshop on standards for classification of metrics, International Society for Science Information, Vienna, Austria.

Wagner, C. (2013). Collaboration in science. Presented at Atlanta Conference on Science & Technology Policy, Atlanta, GA.

Wagner, C. (2012). Science of Team Science Annual Conference, invited Keynote Speaker, April, 2012.

Wagner, C. (2012) African Technology Policy Studies Network Annual Conference, invited paper, November. Addis Ababa, Ethiopia.

Wagner, C. and Kim, D.J. (2012) APPAM annual conference, selected panel presentation, "Knowledge Abundance Systems Modeling, April, 2012.

Wagner, C. (2012) IEEE conference presentation, Stockholm, Sweden.

Service

College and University Service

Director, Battelle Center for Science and Technology Policy 2011-2016
Glenn College representative, University International Affairs Committee, 2016 – present
Core team member, Smart Cities Project, Ohio State University
Chair and Member, University Faculty Research Committee, 2015 - 2018
Member, University Senate Faculty Steering Committee, 2016-2017
Search Committee, Armstrong Chair in Space Policy, 2016
Search Committee, Director, Glenn College of Public Affairs, 2014-2015
Science, Engineering and Public Policy curriculum committee, 2015 - present,
Ad hoc committee to revise the Glenn School's APT document, 2014-2015
Member, Discovery Themes Sustainability Science Committee, 2014-2015
Member, Undergraduate Curriculum Committee, 2012 - 2015
Member, Undergraduate Capstone "Best Paper" Committee, 2014 – present

Anonymous External Reviewer

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| 1. Mar 2016-Jun 2016 | <i>Socius Journal</i> |
| 2. Dec 2015-Jan 2016 | <i>Journal of the American Society for Information Science and Technology (JASIST)</i> |
| 3. Nov 2015-Dec 2015 | <i>PLoS One</i> (Public Library of Science (PLoS)) |
| 4. Oct 2015 | <i>Science Magazine</i> |
| 5. Nov 2015 | <i>Minerva</i> |
| 6. Jun 2014-Jul 2014 | <i>Journal Public Administration & Management</i> |
| 7. Feb 2016-Apr 2016 | <i>Research Policy</i> |
| 8. May 2014-July 2014 | <i>Research Policy</i> |
| 9. Mar 2012 – April 2012 | <i>Research Policy</i> |
| 10. April 2012 – May 2012 | <i>Scientometrics</i> |

Editorship

Editor in Chief, *Science & Public Policy*, Oxford University Press, 2011 – Present

Membership, Editorial Boards

Journal of Contemporary Eastern Asia, 2015 – Present
Policy and Complex Systems, 2013 – Present
International Journal of Technology & Globalisation, 2008 – Present

External Reviewer, Research Proposals

2016	Reviewer	NSF Grants Review Panel, Education & Human Resources
2016	Reviewer	NSF Grants Review Panel, Program on the Science of Science Policy within the Social and Behavioral Sciences Directorate
2011 – Present	Editor,	<i>Science & Public Policy</i> , Oxford University Press
2015	Reviewer	NSF Committee of Visitors, University of California in Santa Barbara, review of a research center

Other External Service

2017	Advisor	NSF International Advisory Panel (3-year appointment)
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2016	Organizer	Regional data science group, Columbus region, 2015-2016
2016	Advisor	CRDF Global Board of Advisors
2015	Nominator	(Invited) MacArthur Foundation "Genius" grants
2015	Reviewer	NSF Committee of Visitors, University of California in Santa Barbara, review of a research center

External reviewer of tenure and promotion dossiers

Massachusetts Institute of Technology (full professor)
 Indiana University (2 people) (1 associate; 1 full)
 Arizona State University (full professor)

Conference Organization

Organizer, Workshop on Network Analysis as an Indicator of Science Dynamics, National Science Foundation and George Washington University, December, 2016

Scientific Committee member, Atlanta Conference on Science and Technology Policy, 2017, 2015 and 2013

- Evaluator and jurist for 20 papers and best conference paper

Science of Science Policy Modeling Conference at the National Academy of Sciences, panel organizer, 2016

Organized international conference on Big Data and the Social Future, Ohio State University, 2014

Scientific Committee member, Computational Social Science conference, 2016

- Evaluated papers submitted to the conference

NASPAA Regional conference workshop leader, 2016

Reviewer, American Association for the Advancement of Science, 2015-2017

- Evaluated panel proposals for conference each year

Awards/Honors:

May 2016 Best paper (over a 5-year period), SCIMAGO-EPI award, Barcelona, Spain, awarded, May 6, 2016, for paper in *El profesional de la información*, v.22, no.1, Dec 2013

Spring, 2015 Elected to the Council on Foreign Relations

February 2013 Elected, Member-at-Large, Section on Societal Impacts of Science & Technology, American Association for Advancement of Science

February 2006 Elected Distinguished Fellow, American Association for Advancement of Science

Grants /Contracts Awarded

Aug 2015-Jul 2017 Wagner, C.S., "Can Network Measures Serve as Indicators of Knowledge Creation and Flow? A Workshop Proposal, \$35,000 (USO) Principal Investigator

Jan 2014 - Mar 2014 Wagner, C.S., "Environmental, Health, and Safety Implications of Nanoscale Research" White House Office of Science and

Technology Policy. \$30,000 (USO). Principal Investigator.

May 2013 Wagner, C.S., "Economic Impacts of Spectra Energy Research"
Spectra Energy. \$30,000 (USO). Principal Investigator.

Dec 2012 Shane, P., "BIG Data and the Social Future" BETHA. \$78,000 (USO).
Co-Principal Investigator.

Oct 2012 Wagner, C.S., "Measuring the Impact of NNI Research: Nano EHS
Outcomes for FY2009 Projects" National Nanotechnology Coordinating Office.
\$30,000 (USO). Principal Investigator.

Apr 2012 Wagner, C., "Reinventing the STEAM Engine: Creating a Discovery Tool," Battelle
Memorial Laboratory.
\$15,000 (USO). Principal Investigator.