

CONTACT DETAILS

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Director, Risk Innovation Lab and Professor, School for the Future of Innovation in Society Arizona State University. PO Box 875603, ASU, Tempe AZ 85387-5603

AFFILIATION: Arizona State University

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CENTER WEB PAGE: <https://riskinnovation.asu.edu/>

EDUCATION

PhD: University of Cambridge, U.K. 1989 – 1992
Cavendish Laboratory, Microstructural Physics Department. Ph.D. (Aerosol Physics).
Thesis: Ultrafine aerosol particle collection and analysis

BSc: University of Birmingham, U.K. 1984 - 1987
Physics. B.Sc. (Hons): Iii

EMPLOYMENT

Arizona State University 8/3/15 - Present
Professor, School for the Future of Innovation in Society 8/3/15 - Present
Director, Risk Innovation Lab 8/3/15 - Present
Chair, Master of Science & Technology Policy program 1/1/16 - Present
Senior Sustainability Scholar 1/1/16 - Present

University of Michigan 4/1/10 – 7/30/15
Professor, Environmental Health Sciences, School of Public Health 9/1/10 – 7/30/15
Director, University of Michigan Risk Science Center 4/1/10 – 7/30/15
Chair, Department of Environmental Health Sciences 6/1/12 – 11/30/14
NSF International Chair of Environmental Health Sciences 1/1/13 – 11/30/14
Charles and Rita Gelman Professor of Risk Science 9/1/10 - 12/31/12

Woodrow Wilson International Center for Scholars 8/15/05 – 3/31/10
Chief Science Advisor, Project on Emerging Nanotechnologies
Science Advisor, Synthetic Biology Project

National Institute for Occupational Safety and Health 1/18/00 – 7/8/05
Team Leader – Aerosols Research Team (GS15) 1/1/04 – 7/8/05
Senior Service Fellow (GS14). (2000 – 2004) 1/18/00 – 1/1/04

Health and Safety Executive, U.K. 9/21/92 – 1/17/00
Head, Exposure Control Section, Health and Safety Laboratory 9/1/98 – 1/17/00
Senior Scientific Officer (1994 – 1998) 9/1/94 – 9/1/98
Higher Scientific Officer (1992 – 1994) 9/21/92 – 9/1/94

Severn Trent Water Ltd., U.K. 1/10/87 – 1/10/89
Management Trainee.

ACADEMIC AFFILIATIONS

Senior Sustainability Scholar Julie Ann Wrigley Global Institute of Sustainability, ASU	2016 - Present
Faculty Fellow Center for Law, Science & Innovation, ASU	2015 - Present
Affiliate Faculty Member Global Security Initiative Center for Human, Artificial Intelligence, and Robot Teaming (CHART), ASU	2018 - Present

EXECUTIVE & ADVISORY POSITIONS

Canadian Institute for Advanced Research Member of the President's Research Council	2017 - Present
American Association for the Advancement of Science AAAS Early Career Award for Public Engagement with Science Selection Committee	2015 - Present
International Life Science Institute North America ILSI North America Board of Trustees	2012 - Present
World Economic Forum Council on the Future of Technology, Values and Policy (2016 – present) Global Agenda Council on Emerging Technologies. (2008 – 2014) Chair of the World Economic Forum Global Agenda Council on Emerging Technologies. (2010 – 2011) Co-chair, World Economic Forum Global Agenda Council on Nanotechnology (2014 – 2016). Metacouncil on Emerging Technologies (2014 – 2016) Advisory Committee, World Economic Forum Technology Pioneers (2012 – Present)	2008 - Present
Nature Nanotechnology Advisory Panel Advisory group to the editor on developing content on the relationship between technology and society	2017 - Present
United Nations Expert Group on Exponential Technological Change New group addressing exponential technological change, automation, and policy implications for sustainable development	2016 - 2017
National Academy of Sciences Committees National Academy of Sciences Planning Committee on New Technologies and Engagement Approaches to Enhance Research on the Communication about Individual Environmental Health Data. (2016) National Academy of Sciences Committee on the Science of Science Communication (2015 – 2016) National Academy of Sciences Committee to develop a research strategy for environmental, health, and safety aspects of engineered nanomaterials (2010 – 2013) National Academy of Sciences review panel for the National Nanotechnology Initiative Strategy for Nanotechnology Environmental Health and Safety Research (2008)	2008 - 2017
Keep on Questioning (I'm A Scientist USA) Board of Advisors	2015 - 2017
RELATE (Science Communication) Faculty Advisor	2015 - Present

Center for Policy on Emerging Technologies Senior Fellow	2012 – Present
Dow Distinguished Faculty Fellows Member, University of Michigan Dow Distinguished Faculty Fellows	2013 - 2015
Center for Nanotechnology in Society, ASU Member, Board of Visitors	2012 - 2015
Graham Sustainability Institute, University of Michigan Member, Executive Committee	2012 - 2015
Center for the Environmental Implications of Nanotechnology Chair, External Advisory Board	2009 – 2016
Nanoscale Informal Science Education Network Advisory board member	2009 – 2015
Environmental Protection Agency Chair, External Peer Review of the U.S. Environmental Protection Agency Draft Nanomaterial Research Strategy	2008
Environmental Protection Agency Panel member, Public Meeting on Risk Management Practices for the U.S. Nanoscale Materials Stewardship Program	2008
Council of Canadian Academies Expert Panel on Nanotechnology Assessment	2007
President’s Council of Advisors on Science and Technology Member of the Nanotechnology Working Group	2010 - 2012
President’s Council of Advisors on Science and Technology Member of the Nanotechnology Technical Advisory Group	2006 - 2009
Chemical & Engineering News Advisory Board member	2008 - 2011
Organization for Economic Cooperation and Development Working Party on Manufactured Nanomaterials. Project on Emerging Nanotechnologies representative.	2005 - 2007
International Council On Nanotechnology (ICON) Executive Committee member	2004 - 2011
International Life Sciences Institute Member of the ILSI Health and Environmental Sciences Institute Nanomaterial Safety Subcommittee Project Steering Team.	2004 – 2010

EDITORIAL BOARDS

Annals of Work Exposure and Health International Advisory Board	2017 - Present
Journal of Responsible Innovation Member, Board of Editors	2013 - Present
Annals of Occupational Hygiene International Advisory Board	2006 - 2016
Nano Today Member of the editorial board	2006 - 2009

Journal of Nanoparticle Research Member of the editorial board	2006 - 2012
Nanotoxicology Member of the editorial board	2006 - Present

GOVERNMENT TESTIMONY AND BRIEFINGS

Formal testimony and briefings include:

President's Council on Science and Technology (PCAST)

Private Meeting on Nanotechnology. Invited briefing. *November 1 2011.*

Wisconsin Assembly Committee on Public Health

Presentation at an information hearing on nanotechnology, potential impacts and regulation. *October 2009*

National Organics Standards Board Materials Committee

Comments on Proposed Recommendations for Nanotechnology in Organic Production and Processing *May 2009.*

U.K. House of Lords Select Committee on Science and Technology.

Written evidence to the Inquiry into the use of nanotechnology in the food sector. *March 2009.*

Food and Drug Administration.

Public meeting on FDA-regulated products that may contain nanoscale materials. *September 8 2008.*

U.S. House of Representatives Committee on Science and Technology.

Hearing on The National Nanotechnology Initiative Amendments Act of 2008. Invited testimony. *April 16 2008.*

U.S. House of Representatives Committee on Science and Technology, Subcommittee on Research and Science Education.

Hearing on Research on Environmental and Safety Impacts of Nanotechnology: Current Status of Planning and Implementation under the National nanotechnology Initiative. Invited testimony. *October 31 2007.*

U.S. House of Representatives Committee on Science.

Hearing on Research on Environmental and Safety Impacts of Nanotechnology: What Are the Federal Agencies Doing? Invited testimony. *September 21 2006.*

President's Council on Science and Technology (PCAST)

Public Meeting on Nanotechnology. Invited briefing. *June 25 2007.*

President's Council on Bioethics.

Nanotechnology. Invited briefing. *June 29 2007.*

Nanoscale Science, Engineering and Technology Subcommittee, National Science and Technology Council, Committee on Technology;

Research Needs and Priorities Related to the Environmental, Health, and Safety Aspects of Engineered Nanoscale Materials: Public Meeting. Submitted testimony. *January 4 2007.*

Food and Drug Administration (FDA)

Consideration of FDA-Regulated Products That May Contain Nanoscale Materials; Public Meeting. Submitted testimony. *September 9 2008.*

European Food Safety Authority

Written comments on nanomaterials and nanotechnology and food and feeds. *March 2008.*

Congressional Nanotechnology Caucus.

General Briefing on Nanotechnology. Chair. *March 3 2007.*

Congressional Nanotechnology Caucus.

Meeting on Nanotechnology and Environment, Health and Safety. Invited briefing. *November 19 2007*

OTHER COMMITTEES

NSET NIOSH representative on the Nanomaterial Science, Engineering and Technology (NSET) subcommittee of the National Science and Technology Council (NSTC).	2004 - 2005
NEHI Co-chair of the Nanotechnology Environmental and Health Impacts (NEHI) interagency working group.	2004 - 2005
International Standards Organization Convener of the International Standards Organization working group TC146/SC2/WG1: Size-selective aerosol sampling and analysis.	2001 - 2005

COURSES TAUGHT

The Moviegoer's Guide to the Future (FIS 394) 3 Credit Hours. Arizona State University School for the Future of Innovation in Society	2018 – Present
Research & Development Administration (HSD 598) 3 Credit Hours. Co-taught. Arizona State University School for the Future of Innovation in Society	2017 – Present
Risk and the Future (FIS 332) 3 Credit Hours Arizona State University School for the Future of Innovation in Society	2016 – Present
Advanced Science and Technology Policy (HSD 502) 3 Credit Hours Arizona State University School for the Future of Innovation in Society	2015 – Present
Introduction to Risk Innovation (HSD 598) 3 Credit Hours Arizona State University School for the Future of Innovation in Society	2015 – Present
Entrepreneurial Ethics 1.5 Credit Hours University of Michigan College of Engineering	2013 – 2015
Principles of Risk Assessment 2 Credit Hours University of Michigan School of Public Health	2011 - 2015
Professional Perspectives in Environmental Health 2 Credit Hours University of Michigan School of Public Health	2011 - 2014
Environmental Health Policy 2 Credit Hours University of Michigan School of Public Health	2012 - 2014
Communicating Science through Social Media 2 Credit Hours	2012 - 2013

University of Michigan School of Public Health

Aerosol Dynamics

2002 - 2004

3 Credit Hours

University of Cincinnati, Department of Environmental Health

PHD COMMITTEES

Jonathan Klane	Current
Elizabeth Garbee	Current
Ryan Lewis	2015
Dingsheng Li, University of Michigan	2014
Eiwin Lo, University of Michigan	2012
Kristen Russ, University of Michigan	2012
Sebastien Bau, INRS, France. Surface area measurement of nanoscale aerosols.	2008
Shu An Lee, University of Cincinnati. Laboratory and field evaluation of N95 respirators using a new method	2004

CONFERENCE & WORKSHOP LEADERSHIP

Seventh International Symposium on Nanotechnology and Occupational Health
South Africa (2015). Advisor, and member of the International Advisory Board

2015 Michigan Meeting: Academic engagement in public and political discourse
Ann Arbor (2015). Meeting organizing committee

2013 Bernstein Symposium: Why Is It Hard to Pivot Based on Science?
Ann Arbor (2013). Symposium Chair

Sixth International Symposium on Nanotechnology and Occupational Health
Japan (2013). Advisor, and member of the International Advisory Board

2011 Risk Science Symposium: Risk, Uncertainty and Sustainable Innovation
Ann Arbor MI (2011). Symposium Chair

Fifth International Symposium on Nanotechnology and Occupational Health
Boston (2011). Advisor, and member of the International Advisory Board

Fourth International Symposium on Nanotechnology and Occupational Health
Helsinki (2009). Advisor, and member of the International Advisory Board

Third International Symposium on Nanotechnology and Occupational Health
Taiwan (2007). Co-chair

Second International Symposium on Nanotechnology and Occupational Health
Minneapolis, USA (2005). Co-chair

Materials Research Society
Symposium: Nanomaterials and the Environment (2005). Co-chair

First International Symposium: Nanotoxicology: Biomedical Aspects
Miami (2005). Organizing committee

Developing Experimental Approaches for Evaluation of Toxicological Interactions of Nanoscale
Materials
Gainesville Florida (2004) Steering Committee member

First International Symposium on Nanotechnology and Occupational Health

Buxton, UK (2004). Co-chair

Emerging Issues in Nanoaerosol Science and Technology

Workshop sponsored by the National Science Foundation and the Environmental Protection Agency (2003).

Panel Member

Royal Society (London)

“Ultrafine Particles in the Atmosphere” (London, 2000). Co-chair

EVENTS AND INITIATIVES – GENERAL (SELECT, FROM 2017)

Including events and initiatives organized and led by Andrew Maynard, and those other than invited talks and presentations where Maynard had substantive input and involvement

Beneficial AI – invited participant in the 2017 Beneficial AI conference at Asilomar, which was responsible for developing the Asilomar AI Principles. (Asilomar, January 2017)

Challenges of Artificial Intelligence – Invited participant in an Origins workshop. (Tempe, February 2017)

Effective Video Techniques – Developed a suite of online training resources for scientists and engineers interested in creating video content for a broad audience (March 2017) <https://riskinnovation.asu.edu/video-techniques/>

Science communication through video – developed, organized and ran a two-day workshop for researchers on creating effective science videos for general audiences. (Tempe, March 2017)

Science communication through video – developed, organized and ran a two-day workshop for researchers within the NEWT Engineering Research Center on creating effective science videos for general audiences. (Houston, June 2017)

Swiss National Science Foundation videos – co-creation of seven videos describing the work of researchers and its relevance in the NRP 64 research program (June 2017) <http://www.nrp64.ch/en/news-media/multimedia>

Chief Science Officer Organization Summer camp – developed and ran a session on science engagement and communication for 90 middle and high school CSOs. (Phoenix, July 2017)

Homecoming – developed and ran two exhibits designed to engage members of the public around science, technology, society and risk. (Tempe, October 2017)

Chief Science Officer program and ASU Biodesign Institute – co-developed and led a workshop for middle and high school students on science engagement and communication. (Tempe, November 2017)

10 MOST CITED PUBLICATIONS IN PEER REVIEW JOURNALS

Google Scholar metrics: Citations: 16.718. H-index: 46 (Updated 1/18/18)

1. Poland, C. A., R. Duffin, I. Kinloch, A. Maynard, W. A. H. Wallace, A. Seaton, V. Stone, S. Brown, W. MacNee and K. Donaldson (2008). "Carbon nanotubes introduced into the abdominal cavity of mice show asbestos-like pathogenicity in a pilot study." *Nature Nanotechnology* **3**: 423-428. (2913 citations, 1/18/18)
2. Oberdörster, G., A. Maynard, K. Donaldson, V. Castranova, J. Fitzpatrick, K. Ausman, J. Carter, B. Karn, W. Kreyling, D. Lai, S. Olin, N. Monteiro-Riviere, D. Warheit and H. Yang (2005). "Principles for characterizing the potential human health effects from exposure to nanomaterials: elements of a screening strategy." *Part. Fiber Toxicol.* **2**(8): doi:10.1186/1743-8977-1182-1188. (1803 citations, 1/18/18)
3. Maynard, A. D., R. J. Aitken, T. Butz, V. Colvin, K. Donaldson, G. Oberdörster, M. A. Philbert, J. Ryan, A. Seaton, V. Stone, S. S. Tinkle, L. Tran, N. J. Walker and D. B. Warheit (2006). "Safe handling of nanotechnology." *Nature* **444**(16): 267-269. (1356 citations, 1/18/18)
4. Shvedova, A. A., E. R. Kisin, R. Mercer, A. R. Murray, V. J. Johnson, A. I. Potapovich, Y. Y. Tyurina, O. Gorelik, S. Arepalli, D. Schwegler-Berry, A. F. Hubbs, J. Antonini, D. E. Evans, B. K. Ku, D. Ramsey, A. Maynard, V. E. Kagan, V. Castranova and P. Baron (2005). "Unusual inflammatory and fibrogenic pulmonary responses to single-walled carbon nanotubes in mice." *Am. J. Physiol.-Lung Cell. Mol. Physiol.*

- 289**: 698-708. (1205 citations, 1/18/18)
5. Shvedova, A. A., E. R. Kisin, A. R. Murray, V. Z. Gandelman, A. D. Maynard, P. A. Baron and V. Castranova (2003). "Exposure to carbon nanotube material: Assessment of the biological effects of nanotube materials using human keratinocyte cells." *J. Toxicol. Environ. Health* **66**(20): 1909-1926. (1279 citations, 1/18/18)
 6. Elder, A., R. Gelein, V. Silva, T. Feikert, L. Opanashuk, J. Carter, R. Potter, A. Maynard, J. Finkelstein and G. Oberdorster (2006). "Translocation of inhaled ultrafine manganese oxide particles to the central nervous system." *Environmental Health Perspectives* **114**(8): 1172-1178. (849 citations, 1/18/18)
 7. Maynard, A. D., P. A. Baron, M. Foley, A. A. Shvedova, E. R. Kisin and V. Castranova (2004). "Exposure to Carbon Nanotube Material: Aerosol Release During the Handling of Unrefined Single Walled Carbon Nanotube Material." *J. Toxicol. Environ. Health* **67**(1): 87-107. (821 citations, 1/18/18)
 8. Maynard, A. D. and E. D. Kuempel (2005). "Airborne nanostructured particles and occupational health." *Journal Of Nanoparticle Research* **7**(6): 587-614. (544 citations 1/18/18)
 9. Shvedova, A. A., E. Kisin, A. R. Murray, V. J. Johnson, O. Gorelik, S. Arepalli, A. F. Hubbs, R. R. Mercer, P. Keohavong, N. Sussman, J. Jin, J. Yin, S. Stone, B. T. Chen, G. Deye, A. Maynard, V. Castranova, P. A. Baron and V. E. Kagan (2008). "Inhalation vs. aspiration of single-walled carbon nanotubes in C57BL/6 mice: inflammation, fibrosis, oxidative stress, and mutagenesis." *Am. J. Physiol.-Lung Cell. Mol. Physiol.* **295**: L552-L565. (539 citations, 1/18/18)
 10. Tsuji, J. S., A. D. Maynard, P. C. Howard, J. T. James, C. W. Lam, D. B. Warheit and A. B. Santamaria (2006). "Research strategies for safety evaluation of nanomaterials, part IV: Risk assessment of nanoparticles." *Toxicological Sciences* **89**(1): 42-50. (461 citations. 1/18/18)

PUBLICATIONS IN ACADEMIC JOURNALS

Google Scholar: <https://scholar.google.com/citations?hl=en&user=b8NhWc4AAAAAJ>

1. Maynard, A. D. (2018). "Thinking Differently about Risk." *Astrobiology* **18**(2).
2. Hansen, S. F., R. Hjorth, L. M. Skjolding, D. M. Bowman, A. Maynard and A. Baun (2017). "A critical analysis of the environmental dossiers from the OECD sponsorship programme for the testing of manufactured nanomaterials." *Environmental Science: Nano*: 4, 282-291.
3. Maynard, A. D. and R. J. Aitken (2016). "'Safe handling of nanotechnology' ten years on." *Nature Nanotechnology* **11**: 998-1000.
4. Maynard, A. D., D. M. Bowman and J. G. Hodge Jr (2016). "Mitigating Risks to Pregnant Teens from Zika Virus." *The Journal of Law, Medicine & Ethics* **44**(4): 657-659.
5. Maynard, A. D. (2016). "Is nanotech failing casual learners?" *Nature Nanotechnology* **11**(9): 734-735.
6. Lewis, R. C., R. Hauser, A. D. Maynard, R. L. Neitzel, L. Wang, R. Kavet, P. Morey, J. B. Ford, J. D. Meeker and R. Dadd (2016). "Personal Measures Of Power-Frequency Magnetic Field Exposure Among Men From An Infertility Clinic: Distribution, Temporal Variability And Correlation With Their Female Partners' exposure." *Radiation protection dosimetry* **172**(4): 401-408.
7. Wilding, L. A., C. M. Bassis, K. Walacavage, S. Hashway, P. R. Leroueil, M. Morishita, A. D. Maynard, M. A. Philbert and I. L. Bergin (2016). "Repeated dose (28-day) administration of silver nanoparticles of varied size and coating does not significantly alter the indigenous murine gut microbiome." *Nanotoxicology* **10**(5): 513-520.
8. Lewis, R. C., R. Hauser, A. D. Maynard, R. L. Neitzel, L. Wang, R. Kavet and J. D. Meeker (2016). "Exposure to Power-Frequency Magnetic Fields and the Risk of Infertility and Adverse Pregnancy Outcomes: Update on the Human Evidence and Recommendations for Future Study Designs." *Journal of Toxicology and Environmental Health - Part B: Critical Reviews* **19**(1): 29-45.
9. Wilding, L. A., C. M. Bassis, K. Walacavage, S. Hashway, P. R. Leroueil, M. Morishita, A. D. Maynard, M. A. Philbert and I. L. Bergin (2016). "Repeated dose (28-day) administration of silver nanoparticles of varied size and coating does not significantly alter the indigenous murine gut microbiome." *Nanotoxicology* **10**(5): 513-520.

10. Maynard, A. D. (2016). "Are we ready for spray-on carbon nanotubes?" *Nature Nanotechnology* **11**: 490-491.
11. Ault, A. P., D. I. Stark, J. L. Axson, J. N. Keeney, A. D. Maynard, I. L. Bergin and M. A. Philbert (2016). "Protein corona-induced modification of silver nanoparticle aggregation in simulated gastric fluid." *Environmental Science: Nano* **3**(6): 1510-1520.
12. Maynard, A. D. (2016). "Navigating the risk landscape." *Nature Nanotechnology* **11**(3): 211-212.
13. Bergin, I. L., L. A. Wilding, M. Morishita, K. Walacavage, A. P. Ault, J. L. Axson, D. I. Stark, S. A. Hashway, S. S. Capracotta, P. R. Leroueil, A. D. Maynard and M. A. Philbert (2016). "Effects of particle size and coating on toxicologic parameters, fecal elimination kinetics and tissue distribution of acutely ingested silver nanoparticles in a mouse model." *Nanotoxicology* **10**(3): 352-360.
14. Maynard, A. D. (2015). "Navigating the fourth industrial revolution." *Nature Nanotechnology* **10**: 1005–1006.
15. Maynard, A. D. (2015). "Why we need risk innovation." *Nature Nanotechnology* **10**: 730-731.
16. Lewis, R. C., R. Hauser, A. D. Maynard, R. L. Neitzel, L. Wang, R. Kavet, P. Morey, J. B. Ford and J. Meeker (2015). "Personal measures of power-frequency magnetic field exposure among men from an infertility clinic: distribution, temporal variability and correlation with their female partners' exposure" *Radiation Protection Dosimetry Online Publication*: 1-8.
17. Axson, J. L., D. I. Stark, A. L. Bondy, S. S. Capracotta, A. D. Maynard, M. A. Philbert, I. L. Bergin and A. P. Ault (2015). "Rapid Kinetics of Size and pH-Dependent Dissolution and Aggregation of Silver Nanoparticles in Simulated Gastric Fluid." *Journal of Physical Chemistry C* **119**(35): 20632-20641.
18. Maynard, A. D. (2015). "Learning from the past" *Nature Nanotechnology* **10**: 482-483
19. Maynard, A. D. and J. Stilgoe (2015). The ethics of noumenal technologies. In: *The Ethics of Nanotechnology, Geoengineering and Clean Technology*. A. D. Maynard and J. Stilgoe, Ashgate: In Press.
20. Maynard, A. D. and J. Stilgoe, Eds. (2015). *The Ethics of Nanotechnology, Geoengineering and Clean Technology*. The Library of Essays on the Ethics of Emerging Technologies series, Ashgate Publishing Ltd. In Press
21. Maynard, AD. (2015) Chapter 1 – Challenges in nanoparticle risk assessment. In: *Assessing nanoparticle risks to human health, 2nd edition* (Gurumurthy, R. ed.). William Andrew Applied Science Publishers, In Press.
22. Maynard, A. D. (2015). "Responsible Innovation – the (nano) entrepreneur's dilemma." *Nature Nanotechnology* **10**: 199-200.
23. Harper, S., W. Wohlleben, M. Doa, B. Nowack, S. Clancy, R. Canady and A. Maynard (2015). "Measuring Nanomaterial Release from Carbon Nanotube Composites: Review of the State of the Science." *J Phys Conf Ser* **617**(1).
24. Maynard, A. D. (2014). Could we 3D print an artificial mind? *Nature Nanotechnology* **9**(12): 955-956.
25. Maynard, A D. (2014). Exploring boundaries around the safe use of advanced materials: A prospective product-based case studies approach. In: *Nanotechnology Environmental Health and Safety, Second Edition: Risks, Regulation, and Management (Micro and Nano Technologies) Second Edition*. (Hull, M. and Bowman D. M. eds). William Andrew, NY.
26. Hansen, S. F., Maynard, A., Baun, A., Tickner, J. A. and Bowman, D. M. (2014). What are the warning signs that we should be looking for? In: *Nanotechnology Environmental Health and Safety, Second Edition: Risks, Regulation, and Management (Micro and Nano Technologies) Second Edition*. (Hull, M. and Bowman D. M. eds). William Andrew, NY.
27. Maynard A. D. (2014). Old materials, new challenges? *Nature Nanotechnology* **9**: 658-659
28. Scherer, L. D., A. Maynard, D. C. Dolinoy, A. Fagerlin and B. Zikmund-Fisher (2014). The psychology of 'regrettable substitutions': examining consumer judgments of Bisphenol A and its alternatives. *Health Risk & Society* **16**(7-8): 649-666.
29. Maynard A. D. (2014). Is novelty overrated? *Nature Nanotechnology* **9**(3): 409-410.
30. Hodge, G. A., A. D. Maynard and D. M. Bowman (2014). "Nanotechnology: Rhetoric, risk and regulation."

Science and Public Policy **41**(1): 1-14.

31. Maynard A. D. (2014). A decade of uncertainty. *Nature Nanotechnology* **9**(3): 159-160.
32. Ramachandran, G., J. Howard, A. Maynard and M. Philbert (2012). "Handling Worker and Third-Party Exposures to Nanotherapeutics During Clinical Trials." *Journal of Law Medicine & Ethics* **40**(4): 856-864.
33. Fatehi, L., S. M. Wolf, J. McCullough, R. Hall, F. Lawrenz, J. P. Kahn, C. Jones, S. A. Campbell, R. S. Dresser, A. G. Erdman, C. L. Haynes, R. A. Hoerr, L. F. Hogle, M. A. Keane, G. Khushf, N. M. P. King, E. Kokkoli, G. Marchant, A. D. Maynard, M. Philbert, G. Ramachandran, R. A. Siegel and S. Wickline (2012). "Recommendations for Nanomedicine Human Subjects Research Oversight: An Evolutionary Approach for an Emerging Field." *Journal of Law Medicine & Ethics* **40**(4): 716-750.
34. Ramachandran G, Ostraat M, Evans DE, Methner MM, O'Shaughnessy P, D'Arcy J, et al. (2011). A Strategy for Assessing Workplace Exposures to Nanomaterials. *JOEH* **8**(11): 673-685.
35. Kriegel, C., J. Koehne, S. Tinkle, A. D. Maynard and R. A. Hill (2011). "Challenges of Trainees in a Multidisciplinary Research Program: Nano-Biotechnology." *J. Chemical Edu.* **88**(1): 53-55.
36. Maynard AD, Warheit D, Philbert MA. (2011). The New Toxicology of Sophisticated Materials: Nanotoxicology and Beyond. *Tox Sci* **120**(Suppl 1): S109-S129.
37. Maynard AD, Bowman D, Hodge G. (2011). The problem of regulating sophisticated materials. *Nature Mat* **10**: 554-557.
38. Maynard A. D. (2011). Regulators: Don't define nanomaterials. *Nature* **475**: 31.
39. Shatkin JA, Abbott LC, Bradley AE, Canady RA, Guidotti T, Kulinowski KM, et al. (2010). Nano Risk Analysis: Advancing the Science for Nanomaterials Risk Management. *Risk Analysis* **30**(11): 1680-1687.
40. Abbott L.C., Maynard A.D. (2010). Exposure Assessment Approaches for Engineered Nanomaterials. *Risk Analysis* **30**(11): 1634-1644.
41. Aitken, R. J., P. J. A. Borm, K. Donaldson, G. Ichihara, S. Loft, F. Marano, A. D. Maynard, G. Oberdörster, H. Stamm, V. Stone, L. Tran and H. Wallin (2009). "Nanoparticles: one word: a multiplicity of different hazards." *Nanotoxicology* **3**(4): 263-264.
42. Heitbrink, W. A., D. E. Evans, B. K. Ku, A. D. Maynard, T. J. Slavin and T. M. Peters (2009). "Relationships Among Particle Number, Surface Area, and Respirable Mass Concentrations in Automotive Engine Manufacturing." *J. Occup. Environ. Hyg.* **6**(1): 19-31.
43. Maynard, A. D. and Rejeski, D. (2009) Too small to overlook. *Nature* **460**, July 2009
44. Maynard, A. D. (2009). "Commentary: Oversight of Engineered Nanomaterials in the Workplace." *J Law Med Ethics* **37**: 651-658.
45. Park, J. Y., Raynor, P. C., Maynard, A. D., Eberly, L. E. and Ramachandran, G. (2009). Comparison of two estimation methods for surface area concentration using number concentration and mass concentration of combustion-related ultrafine particles *Atm. Environ.* **43**:502-509.
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- for it? The Conversation US. <https://theconversation.com/the-future-of-personal-satellite-technology-is-here-are-we-ready-for-it-58478>
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ONLINE CONTENT – SELECTED

Risk Bites (<https://www.youtube.com/user/riskbites>)

Risk Bites is a YouTube channel produced by and featuring content created by Andrew Maynard. Risk Bites uses white board videos to explore risk for a broad audience. Launched July 2012.

Videos posted as of 1/18/18: 108. Subscribers as of 1/18/18: 8,032. Views to 1/18/18: 1,230,154.

Recent videos (selection):

1. What is the Fourth Industrial Revolution? And why should you care? (Jan 16 2018). <https://www.youtube.com/watch?v=qhLvHYFL0WE>
2. How can Solution Focused Risk Assessment help govern Emerging Technologies? (with Adam Finkel) (Jan 2 2018). <https://www.youtube.com/watch?v=n7XkdbpYWHk>
3. What is Epidemiology (with Mariya Voytyuk) (July 27 2017). <https://www.youtube.com/watch?v=r9poHB-ldqk>
4. Measuring radiation dose using Sieverts. (April 23 2017). <https://youtu.be/vRYwUPBZ-J4>
5. What is nanotechnology? (July 2016). <https://www.youtube.com/watch?v=DAOFpgocfrg>
6. Les nanoparticules sont-elles dangereuses? (April 2016) <https://www.youtube.com/watch?v=TNYJhpCLUfo>
7. Are Engineered Nanoparticles Dangerous? (March 2016) <https://www.youtube.com/watch?v=wxFbYoF7SLc>
8. Should young kids avoid peanut products? (March 2016) <https://www.youtube.com/watch?v=cnfuMzHsbOo> (in collaboration with ACS Reactions)
9. Cinco coisas que valem a pena saber sobre o Zika e a microcefalia (Portuguese) (March 2016) <https://www.youtube.com/watch?v=hGkNpkhnT8M>
10. Cinco cosas que valen la pena saber sobre el Zika y la microcefalia (Spanish) (March 2016) <https://www.youtube.com/watch?v=gyCoNibaFoU>
11. Zika and microcephaly: Five things worth knowing (March 2016) https://www.youtube.com/watch?v=w3XX_W7pLAM
12. What are gene drives? A Risk Bites guide (November 2015) <https://www.youtube.com/watch?v=KgvhUPiDdq8>
13. Should you be worried about Microbeads? (September 2015)

- <https://www.youtube.com/watch?v=K5tdhilRoW0>
14. A New Way to Evaluate Chemical Safety - TOX21 (July 2015)
<https://www.youtube.com/watch?v=vKhn1HRXgn8>
 15. What's Pluto got to do with risk? (July 2015) <https://www.youtube.com/watch?v=mEIO5WRgvgy>
 16. How Safe are Tanning beds? (June 2015) <https://www.youtube.com/watch?v=jyAwGIRnnNk>
 17. What does "Probably Cause Cancer" actually mean? (March 2015)
<https://www.youtube.com/watch?v=CbBkB81ySxQ>
 18. The Risk Bites Guide to Staying Alive - a Toxicology Primer (March 2015)
https://www.youtube.com/watch?v=b_y9VTDlmlE
 19. Five things you should know about concussion and contact sports (December 2014)
<https://www.youtube.com/watch?v=1M-T5yzkeBs>
 20. 5 things worth knowing about Ebola (October 2014) <https://www.youtube.com/watch?v=jRv5zZUcWRc>
 21. Why Aren't We More Scared of Measles? (September 2014)
<https://www.youtube.com/watch?v=X9udphYRJMw>
 22. Five things worth knowing about nanoparticles and sunscreens (June 2014)
<https://www.youtube.com/watch?v=VV0cCg4clMw>
 23. Electronic cigarettes and health - the basics (April 2014)
<https://www.youtube.com/watch?v=mToznqKD5Ac>
 24. How much pee could you end up swallowing while swimming? (April 2014)
<https://www.youtube.com/watch?v=GIU8Qwf6Snk>

Future Out Loud (<https://soundcloud.com/user-723097380>)

Future Out Loud is a podcast conceived and produced by Heather Ross, and co-hosted by Andrew Maynard. It explores the intersection between science, technology and society.

Episodes posted as of 1/18/18: 58. Launched November 2016.

Recent episodes (selection):

1. GeneSports (February 2018) <https://soundcloud.com/user-723097380/genesports>
2. Can My Tech Feel Me? (February 2018) <https://soundcloud.com/user-723097380/can-my-tech-feel-me>
3. Sci Fi Grounded in Space (January 2018) <https://soundcloud.com/user-723097380/sci-fi-grounded-in-space>
4. Net Neutrality (January 2018) <https://soundcloud.com/user-723097380/net-neutrality>
5. Greg Benford (December 2017) <https://soundcloud.com/user-723097380/greg-benford>
6. WriterGuy Ken Eklund (December 2017) <https://soundcloud.com/user-723097380/writerguy>
7. Huthority – 2017 Disruptive Innovation Festival (November 2017) <https://soundcloud.com/user-723097380/huthority>
8. Renewlogy – 2017 Disruptive Innovation Festival (November 2017) <https://soundcloud.com/user-723097380/renewlogy>
9. Hygiea – 2017 Disruptive Innovation Festival (November 2017) <https://soundcloud.com/user-723097380/hygiea>
10. RISE Puerto Rico (November 2017) <https://soundcloud.com/user-723097380/rise-pr>
11. Machine Translation (November 2017) <https://soundcloud.com/user-723097380/machine-translation>
12. Cyber Grand Challenge (November 2017) <https://soundcloud.com/user-723097380/cyber-grand-challenge>
13. Richard Harris (October 2017) <https://soundcloud.com/user-723097380/richard-harris>
14. Fringe (in collaboration with the Center for Science and the Imagination) (October 2017)
<https://soundcloud.com/user-723097380/fringe>
15. Stem Cell Clinics: FDA update (September 2017) <https://soundcloud.com/user-723097380/stem-cell-clinics-fda-update>

16. Should we trust robots? (September 2017) <https://soundcloud.com/user-723097380/should-we-trust-robots>
17. DNA cyberhacking (September 2017) <https://soundcloud.com/user-723097380/dna-cyberhack>
18. PV Energy Transitions (September 2017) <https://soundcloud.com/user-723097380/pv-energy-transitions>
19. International Cybersecurity (August 2017) <https://soundcloud.com/user-723097380/intl-cybersecurity>
20. Marissa Duarte (July 2017) <https://soundcloud.com/user-723097380/marisa-duarte>
21. A Boring Episode (June 2017) <https://soundcloud.com/user-723097380/boring>
22. Jessica Rajko Feels your Data (June 2017) <https://soundcloud.com/user-723097380/rajko>
23. Waymo Ride (May 2017) <https://soundcloud.com/user-723097380/waymo-ride>
24. Nadya Bliss on Security Research (May 2017) <https://soundcloud.com/user-723097380/nadya-bliss>
25. Cybersecurity and the FDA (May 2017) <https://soundcloud.com/user-723097380/cyber-fda>
26. Autonomous since 1939 (May 2017) <https://soundcloud.com/user-723097380/autonomous-since-1939>
27. Drive Safe (April 2017) <https://soundcloud.com/user-723097380/drive-safe>
28. Unsilencing the Future of Energy (April 2017) <https://soundcloud.com/user-723097380/unsilencing-the-future-of-energy>
29. WikiCyberLeaks (April 2017) <https://soundcloud.com/user-723097380/wikicyberleaks>
30. What Algorithms Want (April 2017) <https://soundcloud.com/user-723097380/ed-finn>
31. Beyond the Pocket Protector: How to Identify as a 21st Century Engineer (April 2017) <https://soundcloud.com/user-723097380/darshan-karwat>
32. Cybersecurity Research Ethics (March 2017) <https://soundcloud.com/user-723097380/cyberethics>
33. Frankenstein (March 2017) <https://soundcloud.com/user-723097380/frankenstein>
34. Solar SPELL (March 2017) <https://soundcloud.com/user-723097380/solarspell>
35. Stem Cell Clinics (February 2017) <https://soundcloud.com/user-723097380/stem-cell-clinics>
36. Deborah Strumsky: A Tall Drink of Interdisciplinary Kool Aid (January 2017) <https://soundcloud.com/user-723097380/deborah-strumsky>
37. Hands Off? Jack Stilgoe on Autonomous Vehicles (January 2017) <https://soundcloud.com/user-723097380/hands-off>
38. Clark Miller Returns: More On Election Systems (January 2017) <https://soundcloud.com/user-723097380/clark-miller-returns-more-on-election-systems>
39. American Dream Lab (January 2017) <https://soundcloud.com/user-723097380/american-dream-lab>
40. Felonious Bunk (December 2016) <https://soundcloud.com/user-723097380/felonious-bunk>
41. Have Yourself a Cybersecure Holiday (December 2017) <https://soundcloud.com/user-723097380/have-yourself-a-cybersecure-holiday>
42. Camille Nebeker: CORE Project (December 2017) <https://soundcloud.com/user-723097380/camille-nebeker-core-project>
43. Britt Crow-Miller (December 2017) <https://soundcloud.com/user-723097380/britt-crow-miller>
44. Sarewitz Saves Science? (December 2017) <https://soundcloud.com/user-723097380/sarewitz-saves-science>

Edge of Innovation (<https://theconversation.com/columns/andrew-maynard-128048>)

Edge of Innovation was a column written for The Conversation between 2015 – 2016 (when column writers were incorporated into mainstream articles on the website). A full list of articles on The Conversation can be found here: <https://theconversation.com/profiles/andrew-maynard-128048/articles>

Recent articles (also listed elsewhere in CV):

1. Will driving your own car become the socially unacceptable public health risk smoking is today? (September 2016) <https://theconversation.com/will-driving-your-own-car-become-the-socially-unacceptable-public-health-risk-smoking-is-today-65891>

2. Considering ethics now before radically new brain technologies get away from us (September 2016)
<https://theconversation.com/considering-ethics-now-before-radically-new-brain-technologies-get-away-from-us-65215>
3. It'll take more than tech for Elon Musk to pull off audacious new Tesla master plan (July 2016)
<https://theconversation.com/itll-take-more-than-tech-for-elon-musk-to-pull-off-audacious-new-tesla-master-plan-62884>
4. How risky are the World Economic Forum's top 10 emerging technologies for 2016? (June 2016)
<https://theconversation.com/how-risky-are-the-world-economic-forums-top-10-emerging-technologies-for-2016-61349>
5. Nanoparticles in baby formula: should parents be worried? (May 2016)
<https://theconversation.com/nanoparticles-in-baby-formula-should-parents-be-worried-59246>
6. We don't talk much about nanotechnology risks anymore, but that doesn't mean they're gone (March 2016)
<https://theconversation.com/we-dont-talk-much-about-nanotechnology-risks-anymore-but-that-doesnt-mean-theyre-gone-56889>
7. Public universities must do more: the public needs our help and expertise (March 2016)
<https://theconversation.com/public-universities-must-do-more-the-public-needs-our-help-and-expertise-56016>
8. Three ways synthetic biology could annihilate Zika and other mosquito-borne diseases (February 2016)
<https://theconversation.com/three-ways-synthetic-biology-could-annihilate-zika-and-other-mosquito-borne-diseases-54087>
9. Can citizen science empower disenfranchised communities? (January 2016)
<https://theconversation.com/can-citizen-science-empower-disenfranchised-communities-53625>
10. The fourth industrial revolution: what does WEF's Klaus Schwab leave out? (January 2016)
<https://theconversation.com/the-fourth-industrial-revolution-what-does-wefs-klaus-schwab-leave-out-53049>

Science Showcase (<http://scienceshowcase.org>)

Science Showcase is a new YouTube platform that is curated by Andrew Maynard. It provides a forum for researchers to showcase highly accessible videos on the “what” and “how” of science, technology and engineering. More information: <https://riskinnovation.asu.edu/science-showcase-info/>

In 2017, the first Science Showcase science video contest was run, encouraging scientist-communicators to create and submit compelling and effective science videos. Prizes were awarded for three videos: <https://riskinnovation.asu.edu/2017-science-showcase-winners/>

Miscellaneous

Select online content featuring Andrew Maynard:

1. FastCompany – [How The World Economic Forum Is Tackling The Dangers Of Big Tech](https://www.fastcompany.com/40518077/how-wef-tackles-dangers-of-big-tech) (January 2018)
<https://www.fastcompany.com/40518077/how-wef-tackles-dangers-of-big-tech>
2. World Economic Forum – Podcast: The Fourth Industrial Revolution and the future of work (February 2018) <https://www.weforum.org/agenda/2018/02/podcast-work-in-the-4ir/>
3. The State Press – [Frankenstein Project is starting conversations about scientific responsibility](http://www.statepress.com/article/2017/10/spscience-frankenstein-is-used-to-start-conversations-about-scientific-responsibility) (October 2017) <http://www.statepress.com/article/2017/10/spscience-frankenstein-is-used-to-start-conversations-about-scientific-responsibility>
4. Salon – [The Impossible Burger wouldn't be possible without genetic engineering](https://www.salon.com/2017/09/03/the-impossible-burger-would-not-be-possible-without-genetic-engineering_partner-2/) (September 2017)
https://www.salon.com/2017/09/03/the-impossible-burger-would-not-be-possible-without-genetic-engineering_partner-2/
5. ASU Now – [ASU prof hosts video contest to bolster science communication](https://asunow.asu.edu/20170803-solutions-asu-prof-hosts-video-contest-bolster-science-communication) (August 2017)
<https://asunow.asu.edu/20170803-solutions-asu-prof-hosts-video-contest-bolster-science-communication>

6. Space.com – Planetary Protection: Contamination Debate Still Simmers (May 2017) <https://www.space.com/36708-planetary-protection-astrobiology-nasa-missions.html>
7. Scientific American – Could "Planetary Protection" Scuttle Otherworldly Exploration? (May 2017) <https://www.scientificamerican.com/article/could-planetary-protection-scuttle-otherworldly-exploration/>
8. Express – Nanotechnology among us but regulators aren't doing enough to protect humans, experts warn (March 2017) <https://www.express.co.uk/news/science/776686/nanotechnology-danger-cancer-brain-lungs>
9. KEDtalks – Risk is not just a four letter word (January 2017) <https://vimeo.com/196890016>
10. Big Picture Science – Amelia Earhart: Andrew Maynard / Inescapable Uncertainty (January 2017) <http://blog.bigpicture-science.org/2017/01/big-picture-science-amelia-earhart-andrew-maynard-inescapable-uncertainty/>
11. Big Picture Science – Skeptic Seth: Andrew Maynard / Fearing Technology (August 2015) <http://blog.bigpicture-science.org/2015/08/big-picture-science-skeptic-seth-andrew-maynard-fearing-technology/>
12. Big Picture Science – The Me in Measles: Andrew Maynard / Accurate Data (March 2015) <http://blog.bigpicture-science.org/2015/03/big-picture-science-the-me-in-measles-andrew-maynard-accurate-data/>
13. Big Picture Science – Tale of the Distribution: Andrew Maynard / Risk Assessment (October 2014) <http://blog.bigpicture-science.org/2014/10/big-picture-science-tale-of-the-distribution-andrew-maynard-risk-assessment/>
14. University of Michigan School of Public Health: Think Small (as in Nano Small). (May 2012). <https://www.youtube.com/watch?v=p77fzbfNyes>
15. Discovery – Nanotech Risks (April 2009) <https://www.youtube.com/watch?v=qc0KLV8CW08>
16. Discovery – Nanotech Rewards (April 2009) https://www.youtube.com/watch?v=yYXWHVZU0_g

2020 Science (<http://2020science.org>)

2020 Science is a personal blog exploring emerging technologies and responsible innovation. It started life as a blog at SafeNano in 2007. New posts are infrequent these days as content is developed for and posted on other platforms.

Mind the Science Gap (<http://mindthesciencegap.org>)

Mind the Science Gap was launched in 2012 as a unique approach to helping public health graduate students at the University of Michigan hone their science communication skills, and ran until 2014. While active, it had nearly 400 posts, over 4000 comments, and half a million page views.

INVITED LECTURES AND ADDRESSES - SELECTED

A selection from over 250 invited lectures, talks and presentations:

1. Presentation to a meeting of the National Academies of Science Board of Lifesciences Annual Meeting, on risk, 11/30/17
2. Workshop leader, workshop on agile governance at the World Economic Forum Annual Meeting of the Global Future Councils, Dubai, 11/9/17
3. Workshop on Agile Governance, World Economic Forum Annual Center for the Fourth Industrial Revolution, 9/25/17
4. Presentation to the National Academies of Science Meeting of Experts: Planetary Protection and Terrestrial Contamination Requirements Associated with Sample Caching and Return. 7/31/17
5. Interdisciplinary Perspectives on Complex Risk Analysis Relevant to Emerging Technologies. Presentation to the National Academies of Science Committee to Review Planetary Protection Policy Development Processes, 6/27/17
6. Swiss National Science Foundation: Invited keynote on the culmination of the NRP 64 program on Opportunities and Risks of Nanotechnology. 6/2/17

7. Planetary Protection: Assessing the Risks. A Community Conversation. Plenary at the 2017 Astrobiology Science Conference 4/24/17
8. Risk Communication & Talking to the Public About Chemicals. Panel at GlobalChem 2017, 2/24/17
9. Emerging technologies and their applications – a presentation to the United Nations Expert Meeting on Exponential Technological Change, automation, and their policy implications for sustainable development, 12/6/16
10. Innovating for Social and Economic Success. NEWT Science Seminar, 11/28/16
11. The Future of Zika. Event hosted by the School for the Future of Innovation in Society, 11/9/16
12. American Industrial Hygiene Association Fall Conference. Risk Innovation and the Workplace of the Future. 10/25/16
13. Responsible Industry workshop, Berlin: Responsible Research and Innovation A US Perspective. 6/22/16
14. Future Tense: Engineering Away Disease (panel discussion). 2/23/16
15. AAAS 2016 Annual Meeting. Moderating panel on Public Engagement and Risk Communication: Case Study of Synthetic Biology. 2/11/16
16. World Economic Forum Summit on the Global Agenda. Panel discussion on the Fourth Industrial evolution. 10/26/15. <https://www.youtube.com/watch?v=Oj3a7O-73bY>
17. NanOEH conference, South Africa. Plenary Presentation “Responsible Innovation and Nanotechnology”. 10/18/15
18. Notre Dame University. Invited lecture “Is responsible nanotechnology doomed to failure?” 10/27/14
19. Royal Society of London meeting on bio-nano interactions: new tools, insights and impacts. Invited lecture: “Innovative approaches to emergent risks”. 5/1/14
20. National Academy of Sciences Forum on Synthetic Biology invited presentation: “Innovative approaches to emergent risks” 3/13/14
21. World Economic Forum Annual Meeting of the New Champions, Dalian China. Panelist “Building the 21st century regulatory system” 9/12/13
22. Argentinean Foundation of Nanotechnology. “Thinking critically and imaginatively about the challenges of sophisticated materials” 10/30/12
23. 2012 Arnold Small Lecture, Human Factors and Ergonomics Society Annual Meeting. “From the nanoscale to the human scale: Connecting nanotechnology and human factors” 10/24/12
24. Harvard University. “The new science of sophisticated materials: Nanomaterials and beyond” 4/13/12
25. Swiss National Science Foundation. “The new science of sophisticated materials: Nanomaterials and beyond” 3/3/11
26. World Economic Forum Annual Meeting, Davos. Challenge to the panel. “The science agenda in 2011” 1/26/11
27. Cincinnati Contemporary Arts Center. “Small Gods... and the art of technology innovation” 12/11/10
28. University of Cambridge Center for Research in the Arts, Social Sciences and Humanities (CRAASH). 6/1/10 “Governing emerging technologies under conditions of uncertainty”
29. Johnson & Johnson. “Effective evidence-based communication strategies. Lessons from nanotechnology” 5/19/10
30. Wisconsin Assembly Committee on Public Health. “Nanotechnology. Opportunities and challenges.” 10/6/09
31. Brookings Institution. “Controlling wayward science: Dangers of unanticipated consequences.” 6/19/09
32. Transatlantic Consumer Dialogue. “Nanomaterials and consumer products. A perspective from the US.” 6/10/08
33. International Joint Commission. “Nanotechnology in perspective. New technologies, new challenges?” 3/30/09
34. Oxford University. “Rethinking science and technology innovation for the 21st century: A nanoscale perspective.” 3/12/09
35. Royal Society. Briefing on Synthetic Biology 10/17/08

36. European Aerosol Conference. "Developing Responsible Nanotechnologies. An Aerosol Perspective." 8/28/08
37. Gothenburg University, Gothenburg, Sweden. "Managing the Small Stuff. Ensuring the success of safe nanotechnologies." 5/13/08
38. Swedish Academies of Science. "Smart Science. Challenges and opportunities in the race to develop safe nanotechnologies." 5/12/08
39. New York Academy of Sciences. "Nanotechnology. Science, society and policy." 5/14/07
40. Nanoscience Centre, University of Cambridge, UK. "Nanotechnology and potential risk. Challenges to measuring exposure to engineered nanomaterials." 05/05/07
41. Johns Hopkins University. "The science of nanotechnology and public health" 4/10/07
42. Health Effects Institute annual conference. "Nanoparticles from manufacturing." 4/16/07
43. CalEPA. "Nanotechnology. Maximizing the benefits. Minimizing the risks." 3/8/07
44. Senior Management at the Hong Kong Department of Labor. "Nanotechnology benefits and challenges." 2/8/07
45. Rabobank North American Agribusiness Advisory Board. "Nanotechnology. Why should you care?" 1/30/07
46. University of Virginia. Invited comments on the Opening ceremony for Wilsdorf Hall. 11/10/06
47. NATO ARW, Bulgaria. "Nanotechnology: Overview and issues." 8/13/06
48. The Conference Board. "Nanotechnology. An introduction to the technology, and its EH&S implications." 06/08/06
49. Warner Lecture, British Occupational Hygiene Society. "Nanotechnology: The next big thing, or much ado about nothing?" 04/25/06
50. Robert and Floretta Austin Distinguished Lecture in Science. University of Idaho, Moscow. "Nanotechnology: The next big thing, or much ado about nothing?" 04/17/06
51. Institute of Occupational Safety and Health (IOSH), Taiwan. "Working at the Nanoscale. Nanotechnology and Potential Occupational Health Risk" 01/05/06
52. Academia Sinica, Taiwan. "Nanotechnology: Environment, Safety and Health." 01/04/06
53. Asia Nanotechnology Forum. "Assessing the environmental safety and human health risk of emerging nanotechnologies" 12/9/05
54. Australian Institute for Occupational Hygiene. "Engineered Nanomaterials and Occupational Health" 12/4/05
55. Society Of Toxicology. "Engineered Nanomaterials and Occupational Health" 11/2/05
56. NASA. "Nanotechnology: Overview and relevance to Occupational Health" 10/21/05
57. National Academies of Science, Chemical Sciences Round Table. "Nanotechnology: Opportunities and Challenges in a Changing World." 09/21/05
58. American Industrial Hygiene Association "Nanotechnology: Overview and Relevance to Occupational Health. 09/14/05
59. EPA. "Nanotechnology and Occupational Health." 6/13/05
60. Korean Society of Toxicology. "Nanotechnology and occupational health – addressing potential health risks." 5/13/05
61. American Association for the Advancement of Science. "Nanoaerosol exposure. Generating and characterizing airborne nanoparticles." 2/20/05
62. American Chemistry Council. Nanotechnology and Occupational Health. "Ensuring a safe and healthful workforce in a changing environment." 10/24/04
63. NIOSH Board of Scientific Councilors. "The NIOSH Nanotechnology Initiative. Ensuring a safe and healthful workforce in a changing environment." 10/21/04
64. California Department of Health Services". Perspectives on a 'small' problem. Nanotechnology and Occupational Health." 3/25/04

65. Scandinavian Electron Microscopy Conference. "From Nuisance dusts to Nanoparticles. The Role of Electron Microscopy in Occupational and Environmental Health." 6/13/03
66. Royal Society. "Overview of methods for analyzing single ultrafine particles." 3/15/00

RESEARCH SUPPORT (Post 2010)

Risk Innovation Accelerator

Funding: ASU, 2017 – 2019

Role: Principle Investigator

Direct Costs: \$250,000

Nanosystems Engineering Research Center for Off-Grid Nanotechnology Enabled Water Treatment (NEWT).

Funding: NSF 2015 – 2025

Role: Investigator

Center for Ingredient Safety and Risk Assessment-Risk Communications Subcontract

Funding: Michigan State University 2014 – 2017

Role: Principle Investigator

Direct costs: \$370,149

Designing a "Solution-Focused" Governance Paradigm for SynBio: Case Studies of Improved Risk Assessment and Creative Regulatory Design

Funding: Alfred P Sloan Foundation (via University of Pennsylvania subcontract) 2013 - 2014

Role: Participating Investigator

Direct costs (personal): \$7,964

Seminar series: Information Communication through Data Visualization

Funding: University of Michigan OVPR. 2012 – 2013

Role: Principle Investigator

Direct costs: \$7,500

Workshop: A roadmap for developing and implementing minimum nanomaterial characterization reporting requirements within regulatory and development communities

Funding: NSF CBET-1239092. 2012 – 2013

Role: Principle Investigator

Direct costs: \$29,500

Modulation of immune-GI function by nanoAg. The goal is to better understand the mechanisms by which ingested engineered nanomaterials interact with the GI tract and the microbiome, and impact on further organs and systems.

Funding: NIEHS, U01. 2010 - 2015

Role: Co-Investigator

Direct costs: \$387,276.00

Support for 2011 Risk Science Symposium. 2011

Funding: Sloan Foundation (B2011-23) 2011

Role: Principle Investigator

Direct costs: \$20,000

University of Michigan Risk Science Center

Funding: Private Donation

Role: Director (2010 – 2015)

Direct costs: ~\$5M