

## **Dr. Todd Kuiken – Curriculum Vitae**

### **Contact Information:**

Phone: 919-515-2593 (office), 202-486-8654 (cell)

Email: [tkuiken@ncsu.edu](mailto:tkuiken@ncsu.edu)

ResearchGate: [http://www.researchgate.net/profile/Todd\\_Kuiken2](http://www.researchgate.net/profile/Todd_Kuiken2)

Linkedin: <https://www.linkedin.com/in/drtoddkuiken>

### **Education:**

2003-2007 - Tennessee Technological University   Cookeville, TN

Doctor of Philosophy – Environmental Sciences

2001-2005 - The George Washington University   Washington, DC

Master of Arts – Environmental and Resource Policy

1995-2000 - Rochester Institute of Technology   Rochester, NY

Bachelor of Science – Environmental Management and Technology

-Minor in Environmental Science

### **Professional Experience:**

**08/2016-present- North Carolina State University, Raleigh NC**

Genetic Engineering & Society Center - Senior Research Scholar

**2008-2016 - Woodrow Wilson International Center for Scholars, Washington, DC**

Science and Technology Innovation Program (STIP)—Senior Program Associate

**05/03-05/07 - Tennessee Technological University, Cookeville, TN**

Center for the Management, Utilization and Protection of Water Resources – Graduate Research Assistant

**03/02-05/03 - National Wildlife Federation, Washington, DC**

Clean the Rain Campaign – Special Project Assistant

**06/99-08/01 - Oak Ridge National Laboratory, Oak Ridge, TN**

Research Assistant in the PIP program under the direction of Oak Ridge Associated Universities

### **Expert Testimony**

10/2016 – European Commission DG Environment – Synthetic Biology

11/2015 – Royal Society Sackler USA-UK Scientific Forum, Trends in synthetic biology and gain of function and regulatory implication

07/2015 - U.S. National Security Agency Advisory Board

07/2015 - U.S. National Academies of Science

09/2014 - U.S. National Science Foundation Advisory Committee for Environmental Research and Education

02/2012 - Organization for Economic Co-operation and Development  
12/2011 – United Nations Bioweapons Conventions  
09/2010 - Wisconsin Legislature, Special Committee on Nanotechnology

### **Major Press & Media Appearances**

**Scientific American** - Should We Fear DIY Biologists' Use of Cutting-Edge Gene-Editing Technology? 2016. <http://www.scientificamerican.com/article/should-we-fear-diy-biologists-use-of-cutting-edge-gene-editing-technology/>

**Washington Post** – The big trends in synthetic biology you need to know. 2015. <https://www.washingtonpost.com/news/innovations/wp/2015/10/08/the-big-trends-in-synthetic-biology-you-need-to-know/>

**Science Magazine**– Shaping the future of synthetic biology. 2015.

**NPR Science Friday** – Community Labs Practice Do-It-Yourself Biology. 2014.

<http://www.sciencefriday.com/segments/community-labs-practice-do-it-yourself-biology/>

**DIYSECT** - Bioterror & Bioerror. 2014. <http://www.diysect.com/bioterrorbioerror/>

**New York Times** – A Dream of Trees Aglow at Night. 2013.

<http://www.nytimes.com/2013/05/08/business/energy-environment/a-dream-of-glowing-trees-is-assailed-for-gene-tinkering.html>

**New York Times** – Amateur Biologists Are New Fear in Making a Mutant Flu Virus. 2012.

<http://www.nytimes.com/2012/03/06/health/amateur-biologists-are-new-fear-in-making-a-mutant-flu-virus.html>

### **Advisory Boards/Professional Appointments**

Member - United Nations Convention on Biological Diversity Ad Hoc Technical Expert Group on Synthetic Biology

Member – MIT-Broad Foundry Biosecurity and Biosafety Committee

Member –TU Delft's PRISMA Project Advisory Board

Founding Member - iGEM Biosafety/Security Committee

Co-Chairperson - iGEM Human Practices Committee

Guest Lecturer – Georgetown University, George Mason University

### **Book Chapters:**

Kuiken, T., Quadros, M., McGinnis, S., Hull, M. 2015. Public's Understanding, Perceptions, and Acceptance of Nanotechnology through the Lens of Consumer Products. In: Nanoengineering: Global Approaches to Health and Safety Issues, Edited by Patricia I. Dolez. Elsevier. ISBN: 9780444627476.

Kuiken, T. 2015. Nanomedicine: Ethical Considerations. In: Handbook of Safety Assessment of Nanomaterials. Edited by Bengt Fadeel. Pan Stanford., ISBN: 9789814463362.

Kuiken, T. 2013. Converging Technologies for a Smarter Health and Wellness Future. In OECD ICTs and the Health Sector: Towards Smarter Health and Wellness Models. OECD Publishing.

## **Selected Major Publications:**

Boeke, J., Church, G., Hessel, A., Kelley, N.J., Arkin, A., Cai, Y., Carlson, R., Chakravarti, A., Cornish, V.W., Holt, L., Isaacs, F.J., Kuiken, T., Lajoie, M., Lessor, T., Lunshof, J., Maurano, M.T., Mitchell, L.A., Rine, J., Sanjana, N.E., Silver, P.A., Valle, D., Wang, H., Way, J.C., Yang, L. 2016. The Genome Project-Write. *Science*. June, 2016.

Kuiken, T. 2016. Governance: Learn from DIY biologists. *Nature*. Vol. 531, 167-168.

Marina E., Todd Kuiken, Eric P. Vejerano, Sean P. McGinnis, Michael F. Hochella Jr., David Rejeski and Matthew S. Hull. Nanotechnology in the real world: Redeveloping the nanomaterial consumer products inventory. *Beilstein J. Nanotechnol.* 2015, 6, 1769–1780.

Kenneth A Oye, Kevin Esvelt, Evan Appleton, Flaminia Catteruccia, George Church, Todd Kuiken, Shlomiya Bar-Yam Lightfoot, Julie McNamara, Andrea Smidler, James P Collins. 2014. Regulating Gene Drives. *Science*. Vol. 345(6197).

Kuiken, T., Dana, G.V., Oye, K., Rejeski, D. 2014. Shaping Ecological Risk Research for Synthetic Biology. *Journal of Environmental Studies and Sciences*. Volume 4, Issue 3, pp 191-199.

Dana, G.V., Kuiken, T., Rejeski, D., Snow, A.A. 2012. Four steps to avoid a synthetic biology disaster. *Nature*, 483, No. 7387, 29.

Karn, B., Kuiken, T., and Otto, M. 2009. Nanotechnology and in Situ Remediation: A Review of the Benefits and Potential Risks. *Environmental Health Perspectives*, 117(12).

Kuiken, T., Zhang, H., Gustin, M., Lindberg, S. 2008. Mercury emission from terrestrial background surfaces in the eastern USA: I. Air/surface exchange of mercury within a southeastern deciduous forest (Tennessee) over one year. *Applied Geochemistry*, 23(3), 345-355.

Kuiken, T. Gustin, M., Zhang, H., Lindberg, S., Sedinger, B. 2008. Mercury emission from terrestrial background surfaces in the eastern USA: II. Air/surface exchange of mercury within forests from South Carolina to New England. *Applied Geochemistry*, 23(3), 356-368.

## **Reports**

Todd Kuiken. 2015. U.S Trends in Synthetic Biology Research Funding. Woodrow Wilson Center.

Todd Kuiken, Kelly Drinkwater, Shlomiya Lightfoot, Julie McNamara, Kenneth Oye. 2014. Creating a Research Agenda for the Ecological Implications of Synthetic Biology. Woodrow Wilson Center.

Grushkin, D. Kuiken, T., Millet, P. 2013. Seven Myths and Realities about Do-It-Yourself Biology. Synthetic Biology Project/Woodrow Wilson Center.