

Geneviève S. Metson, PhD

Assistant Professor. Department of Physics, Chemistry, and Biology, Linköping University, Sweden
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Citizenship: Canadian and American | Languages: Fluent in English and in French, some Swedish

EDUCATION

PhD, *Natural Resource Sciences*, 2014

Department of Natural Resource Sciences, McGill University, Montreal, Qc Canada
Dissertation: Urban phosphorus sustainability: how human diet, urban agriculture and socioecological context influence phosphorus cycling and management
Advisor: Elena Bennett

MSc, *Sustainability*, 2011

School of Sustainability, Arizona State University, Tempe, AZ USA
Thesis: Phosphorus cycling in metropolitan Phoenix
Advisors: Daniel Childers and Rimjhim Aggarwal

BS, *Environmental Systems, Earth Sciences track*, 2009

University of California, San Diego, CA USA
Primary Research: Environmental responses in paleoecology

RESEARCH INTERESTS

Urban ecology and sustainability, waste management, biogeochemistry (focus on phosphorus and nitrogen management), food systems, agriculture, transdisciplinary and solution research, ecosystem services, climate change

PUBLICATIONS [17 refereed articles, 3 book chapters, 5 in review, footnotes indicate media and outreach done in association with the publication]

17. Usman Akram, Geneviève S Metson, Nils-Hassan Quttineh, Uno Wennergren (2018). Closing Pakistan's yield gaps through nutrient recycling. **Frontiers in Sustainable Food Systems** 2(24), doi: 10.3389/fsufs.2018.00024
16. Geneviève S Metson, Dana Cordell, Brad Ridoutt, Steve Mohr (2018). Mapping phosphorus hotspots in Sydney's organic wastes: a spatially-explicit inventory to facilitate urban phosphorus recycling. **Journal of Urban Ecology**, 4(1), <https://doi.org/10.1093/jue/juy009>¹
15. Thomas Nesme, Geneviève S Metson, Elena M Bennett (2018). Global phosphorus flows through agricultural trade. **Global Environmental Change**, 50 133-141, <https://doi.org/10.1016/j.gloenvcha.2018.04.004>
14. Geneviève S Metson, Steve M Powers, Rebecca Hale, Jesse Sayles, Gunilla Oberg, Graham K MacDonald, Yusuke Kuwayama, Nathaniel Springer, Anthony Weatherley, Kelly Hondula, Kristal Jones, Rubel B Chowdhury, Arthur H W Beusen, Alexander F Bouwman. (2017). Socio-environmental assessment of phosphorus flows in the urban sanitation chain of diverse cities. **Regional Environmental Change**, 18(5) 1137-1401, <https://doi.org/10.1007/s10113-017-1257-7>

¹ 2015 – [Mapping Sydney's phosphorus supply and demand](#). Article in the Institute for Sustainable Futures Newsletter, University of Technology Sydney (March 23)

13. Geneviève S Metson, Jiajia Lin, Jana E. Compton, John A. Harrison. (2017) Linking 2012 terrestrial P inputs to riverine export from watersheds across the United States. **Water Research**, 124 177-191.
12. Geneviève S Metson, Dana Cordell, Brad Ridoutt. (2016). Potential impact of dietary choices on phosphorus recycling and global phosphorus footprints: the case of the average Australian city. **Frontiers in Nutrition** doi: 10.3389/fnut.2016.00035
11. Geneviève S Metson², David Iwaniec^{*}, Dana Cordell (2016). P-FUTURES: Towards urban food & water security through collaborative design and impact. **Current Opinion in Environmental Sustainability**, 20 1-7. ^{*}co-first authors
10. Thomas Nesme, Solène Roques, Geneviève S Metson, Elena M Bennett (2016). The surprisingly small but increasing role of international agricultural trade on the European Union's dependence on mineral phosphorus fertiliser (2016). **Environmental Research Letters** 11, 025003.
9. Geneviève S Metson, Graham K MacDonald, Daniel Haberman, Thomas Nesme, Elena M Bennett (2016). Feeding the Corn Belt: Opportunities for phosphorus recycling in U.S. agriculture. **Science of the Total Environment** 542 Part B, 1117-1126 doi:10.1016/j.scitotenv.2015.08.047²
8. Geneviève S Metson, Elena M Bennett. (2015). Facilitators and barriers to organic waste and phosphorus resource reuse in Montreal: laws are not enough. **Elementa** doi: 10.12952/journal.elementa.000070
7. Geneviève S Metson, Elena M Bennett. (2015). Phosphorus cycling Montreal's food and urban agriculture systems. **PLoS One** 10(3): e0120726
6. Geneviève S Metson, David M Iwaniec, Lawrence A Baker, Elena M Bennett, Daniel L Childers, Dana Cordell, Nancy B Grimm, J. Morgan Grove, Daniel A Nidzgorski, Stuart White. (2015). Urban phosphorus sustainability: Systemically incorporating social, ecological, and technological factors into phosphorus flow analysis. **Environmental Science and Policy** 47, 1-11, doi:10.1016/j.envsci.2014.10.005
5. Geneviève S Metson, Val H Smith, Dana Cordell, David A Viccari, James J Elser, Elena M Bennett (2014). Phosphorus is a key component of the resource demands for meat, eggs, and dairy production in the United States. **Proceedings of the National Academies of Science** doi: 10.1073/pnas.1417759111
4. Kate N Liss, Matthew GE Mitchell, Graham K MacDonald, Shauna Mahajan, Josée Méthot, Aerin L Jacob, Dorothy Maguire, Geneviève S Metson, Carly Ziter, Karine Dancose, Kyle Martins, Marta Terrado, and Elena M Bennett. (2013). Variability in ecosystem service measurement: a pollination service case study. **Frontiers in Ecology and the Environment**, 11, 414-42
3. Geneviève S Metson, Elena M Bennett, James Elser. (2012). The role of diet in phosphorus demand. **Environmental Research Letters**, 7 044043 doi:10.1088/1748-9326/7/4/044043³

² 2016- Article in Ensia magazine "[New study finds recycled phosphorus could fertilizer 100% of US corn](#)" (Jan)

³ 2013 – Radio interview on Desautels show on Première Chaîne de Radio-Canada (piece by E. Leblanc, Feb. 8)

2013 – [Article](#) in the McGill Headway Magazine and blog on diet research (Sept)

2013 – Interview for The Western Producer newspaper for piece "[Meat consumption linked to global phosphorus use](#)" (D. Yates Feb 8)

2013 – [Feature piece](#) for environmentalresearchweb (Feb 6)

2013 – Interview for newspaper Le Soleil for piece "Les réserves de phosphore menacé par les mangeurs de viande" (C. Samson Jan 21)

2012 – [Video abstract](#) for Environmental Research Letters website

2012 – Radio interview. Ecolibrium. CKUT 90.3FM. McGill Student Radio (March 24)

2. Geneviève S Metson, Daniel L Childers, Rimjhim Aggarwal. (2012). Efficiency through Proximity: Changes in P Cycling at the Urban-Agricultural Interface of a Rapidly Urbanizing Desert Region. **Journal of Industrial Ecology**, 16 (6), 914-927
1. Geneviève S Metson, Rebecca Hale, David Iwaniec, Elizabeth Cook, Jessica Corman, Christopher Galletti, Daniel Childers. (2012). Phosphorus in Phoenix: A Budget and Spatial Approach Representation of Phosphorus in an Urban Ecosystem. **Ecological Applications** 22 (2), 705-721

Edited book chapters

Dana Cordell, Geneviève S Metson, David Iwaniec, Thuy T. Bui, Daniel L. Childers, Nguyet Dao, Huyen T.T. Dang, J. Davidson, Brent Jacobs, Save Kumwanda, Tracy Morse, Viet-Anh Nhuyen, Bernard Thole, Elizabeth A. Tilley. Transforming Cities: Securing food and clean waterways through phosphorus governance. *Transdisciplinary Research and Practice for Sustainability Outcomes*, D. Fam, J. Palmer, C. Reidy, C. Mitchell (Eds.). **Routledge** (2017, **invited**)

Geneviève Metson, Karl Wyant, Daniel Childers. Phosphorus and Sustainability. *Phosphorus, Food, Our Futures*. J. Elser, K. Wyant, J. Corman (Eds.) **Oxford University Press** (2013, **invited**)

Shelby H. Riskin, Gaston Small, Robert Mikkelsen, Geneviève Metson, Anna Bateman, James Cooper, Ola S. Hanserud, Philip Haygarth, Cecilia Laspoumaderes, Michelle McCrackin, and Sonya Remington. Phosphorus in Urban and Agricultural Landscapes. *Phosphorus, Food, Our Futures*. J. Elser, K. Wyant, J. Corman (Eds.). **Oxford University Press** (2013, **invited**)

Manuscripts in review

Gunilla Oberg, Geneviève S Metson, Yusuke Kuwayama. Steven Conrad. (submitted) Mental lock-in to the 19th century model exacerbates the sanitation crisis. **Environmental Research Letters**

Steve Powers, Lex Bouwman, David Vaccari, Michelle McCrackin, Brooke Mayer, Geneviève S Metson, Graham MacDonald, Rubel Chowdhury, Arthur Beusen, Stephanie Hampton (in review). Global opportunities to increase agricultural independence through phosphorus recycling. **Earth's Future**

John Harrison, Arthur Beusen, Gabriel Fink, Geneviève Metson, Lauriane Vilmin, Lex Bouwman, Maryna Stokal, Ting Tang. (in review) Modeling phosphorus in rivers at the global scale: recent successes, remaining challenges, and near-term opportunities. **Current Opinion in Environmental Sustainability**

Usman Akram, Nils-Hassan Quttineh, Uno Wennergren, Karin Tonderski, Geneviève S Metson (in review).
Enhancing nutrient recycling from excreta to meet crop nutrient needs in Sweden – a spatial analysis.

Scientific Reports

Daniel L. Childers, Paul Bois, Hilairy E. Hartnett, Timon McPhearson, Geneviève S. Metson (submitted). Urban Ecological Infrastructure (UEI): An inclusive concept for the non-built urban environment. **Frontiers in Ecology & the Environment**

AWARDS & FELLOWSHIPS

2015-2017 – *National Research Council Research Associateship*, US National Academies of Science (50k \$/yr)

2015 – *Endeavour Research Fellowship*, Australian Government (23k AUS\$)

- 2014 – *Young Scientist Award*, 4th Sustainable Phosphorus Summit, Montpellier, France
- 2014 – *Graduate Research Enhancement and Travel Award*, McGill University (2k \$)
- 2013 – *Liber Ero Fellowship* in Science Communication and Policy Engagement, McGill University
- 2012 – *Best poster presentation award*, 5th Global Food Security Conference, McGill University (500 \$)
- 2011-2014 – *Alexander Graham Bell Canada Graduate Scholarship*, National Science and Engineering Resource Council of Canada (105k \$)
- 2011-2014 – *Graduate Excellence Fellowship*, McGill University (15k \$)
- 2011 – *Graduate Grant*, Central Arizona Phoenix Long-Term Ecological Research Site National Science Foundation, Arizona State University (4k \$)
- 2010 – *President's Award for Sustainability*, Awarded for project: Future of Agriculture and Water in Central Arizona, Arizona State University
- 2009 – *Provost Achievement Award*, Graduating senior, Warren College University of California San Diego (1k \$)
- 2009 – *Phi Beta Kappa Honors Society*, University of California San Diego Chapter
- 2008 – *Dean of Physical Sciences Undergraduate Award for Excellence*, Undergraduate Research, University of California San Diego (1k \$)
- 2008 – *Mary Louise and Charlie Robins Endowed Scholarship Fund for Marine Sciences*, Undergraduate Research, Scripps Institution of Oceanography, University of California San Diego (3k \$)
- 2005-2009 – *Provost Honors*, University of California San Diego

PROFESSIONAL EXPERIENCE

- 2017-present – **Assistant Professor**. Department of Physics, Chemistry, and Biology, Linköping University, Sweden
- 2016-present – **Researcher**. Nitrogen Footprint Tool Network⁴. *Developing a phosphorus footprint tool that can be combined with the existing nitrogen and carbon footprint tools the network has deployed.*
- 2015-2017 – **Postdoctoral Research Associate**. National Research Council, National Academies of Science with the US Environmental Protection Agency Western Ecology Division and Visiting Scholar at School of the Environment, Washington State University, Vancouver Campus, WA. *Developed maps and statistical models of drivers of phosphorus losses to waterways and their effect on water quality from 1969 to 2012 for the Willamette Valley and 2012 for the conterminous USA.*
- 2015 – **Postdoctoral Research Fellow**. Institute for Sustainable Futures, University of Technology, Sydney Australia. *Developed spatially explicit inventory of recyclable phosphorus supply and agricultural needs in the Greater Sydney Basin to identify risks and opportunities in the area through a series of stakeholder presentations and workshops (Sydney Water Corporation, New South Wales Environmental Protection Authority, and farmers, agronomists and organic*

⁴ <http://www.n-print.org/>

waste managers).

2014-present – **Researcher & Project Lead.** P-FUTURES: Towards urban food & water security – Integrating sustainable phosphorus management in urban decision-making and planning. *Responsible for research methodology design and work-plan the implementation, organization and facilitation/ presentation of workshops with stakeholders in Australia, Vietnam, Malawi and the US, budget management, writing reports, scientific articles, and developing a web platform.*

2014-2015 – **Collaborator.** Sustainable Future Scenarios for long-term ecological planning, Central Arizona Phoenix –Long Term Ecological Research (CAP-LTER) at ASU lead by Dr. D. Iwaniec. *Workshop facilitator (invited)*

2012-2017 – **Researcher & Project Lead.** Urban Fluxes and Flows Working Group and Green Infrastructure Working Group, as part of the Urban Sustainability Research Coordination Network⁵, funded by the US National Science Foundation at ASU. *Organized 2 interdisciplinary working groups where I coordinate workshops, lead a peer-reviewed publication and funding proposals in sustainable nutrient management and empirically assessing the benefits of green infrastructure projects in international cities with different biophysical contexts (invited)*

2009-2015 – **Researcher,** *Urban Stoichiometry Group, Graduates in Integrative Society and Environment Research (GISER), ASU, Tempe AZ USA*

2008-2009 – **Paleontological Lab Technician,** Richard Norris Lab, Scripps Institution of Oceanography, UCSD La Jolla CA USA

2008-2009 – **Research intern,** Jeremy Jackson Lab, Scripps Institution of Oceanography, UCSD, La Jolla CA USA

GRANTS

Awarded

2017-2018 – **Co-Principal Investigator** w/Uno Wennergren et al. The role of collaborative efforts around resource distribution and recycling logistics in creating an effective and sustainable Swedish food system. FORMAS Sweden. (1.5 million Swedish crowns)

2015 – **Co-Principal Investigator** w/S. Powers. Closing the global phosphorus (P) cycle: a synthesis of human P transport as food and waste products. Research workshop proposal. National Socio-Environmental Synthesis Center (SESYNC)

2014-2015 – **Co-Principal Investigator** w/D. Cordell and D. Iwaniec. P-FUTURES: Towards urban food

& water security –Integrating sustainable phosphorus management in urban decision-making and planning. Phase I: Development of methodology and preliminary data collection. Seed grant awarded through the Transformations to Sustainability Program. International Social Science Council and Future Earth (30k €, also Finalists for Phase II: top 8 out of 99 applications for 900k €) <http://www.p-futurescities.net/>

In Review

2018 – **Principal Investigator.** Appropriate recycling of nutrients in wastewater to support organic agricultural production: Local to national approaches in Sweden to meet sustainability goals. Research Project, Organic food production and consumption targeted call. Formas Sweden. (10 million sek)

⁵ <http://www.urban-sustainability-rcn.org/>

- 2018– **Principal Investigator**. P-FUTURES:Malawi: Towards resilient urban food & water systems by integrating sustainable phosphorus management in urban decision-making & planning. Research Project Grant KUF Sustainability and Resilience. Vetenskapsrådet Sweden (6 million sek)
- 2018 – **Principal Investigator**. Can urban agriculture change consumer preferences for sustainable nutrient management at the store? Research Project, Food and the consumer in a circular and innovative food system targeted call for the National Research Program for Food. Formas Sweden. (7 million sek)
- 2018– **Co-Principal Investigator** w/A. Abdi. A risk assessment framework for ecosystem services in global drylands based on net primary production. Research Project Grant. Vetenskapsrådet Sweden (5 million sek)
- 2018 – **Principal Investigator**. Sustainable urban nutrient management under climate change: Can urban agriculture help build food, energy, and water resilient cities?. Future Research Leaders Formas Sweden. (3 million sek)
- 2018– **Principal Investigator**. Urban biogeochemistry - quantifying the role of urban agriculture on nitrogen and phosphorus efficiency and losses to waterways. Starting Grant Vetenskapsrådet Sweden (6 million sek)
- 2018 – **Principal Investigator and Coordinator**. Op-4Rec-H2O: Opportunities for Recycling of Human wastewater to Organic agriculture to meet water & food sustainability goals. Water Joint Proposal Initiative pre-proposal call 2017 on Water Resource Management in support of the United Nations Sustainable Development Goals. (Accepted to stage 2 of the grant call, 1.15 million €)

TEACHING & SUPERVISION EXPERIENCE

- 2018- present – **Co-supervisor** 3 Post Doctoral Fellows (Malin Tälle, Lotten Wiréhn, Daneil Ellström), Theoretical Biology, Thematic Studies, Management and Engineering, Linköping University
- 2018- present – **Co-supervisor** 2 MSc students, Management and Engineering, Linköping University
- 2018-present – **Instructor**, “Ecological Applications in Agriculture, Forestry, and Fisheries”. First year MSc class in Biology, Linköping University
- 2017- present – **Co-supervisor** 1 PhD student (Usman Akram), Theoretical Biology, Linköping University
- 2017 – **Supervisor** for 2 undergraduate independent studies. Data collection and analysis for phosphorus footprint of food, Washington State University Vancouver and McGill University
- 2017 – **Guest lecturer**, “Urban nutrient budgets and using interdisciplinary methods for sustainable management”, Urban Ecology, University of St-Thomas
- 2017 – **Guest lecturer**, “Sustainable tourism, what are we not thinking of? Sanitation”, Exploration in tourism and travel, Ryerson University
- 2016 – **Guest lecturer**, “Algal blooms and nutrients: Why should cities care?” Earth People and the Environment, Rowan University
- 2016 – **Guest lecturer**, “The Science-Policy Interface: The complexities of better managing

phosphorus” Environmental Policy, Environmental Science, Washington State University
Vancouver

2013-2018 – **Guest lecturer**, “Phosphorus: an essential resource,” Geography of Natural Resources
Arizona State University online undergraduate class. Video lecture

2013 – **Guest lecturer**, “Agriculture, food, and water and the phosphorus lens,” Strategies for
Sustainability, School of Management, McGill University

2013 – **Supervisor** for two data-collection assistants administering surveys on urban agriculture on the
island of Montreal, McGill University

2011 – **Guest lecturer**, “The use of extractive vs. participative methods in student sustainability
research,” Research proposal writing, Arizona State University

2009-2011 – **Teaching Assistant**, Arizona State University
Sustainable Ecosystems (1 semester, undergraduate class)
The Sustainable World (3 semesters, undergraduate class)
Responsible for solo-teaching breakout and co-developing curricula

ACADEMIC PRESENTATIONS

Talks [23 as presenting author, not listing non-presenting co-author talks]

Geneviève S. Metson. Phosphorus and Society: The importance of consumer choices. United Nations
Environment Program Special Session 6th Sustainable Phosphorus Summit. August 20-22 2018
Brasilia, Brazil (international conference, **invited**).

Geneviève S. Metson. The importance of spatially explicit data to inform phosphorus recycling
between urban-rural and rural-rural divides. 6th Sustainable Phosphorus Summit. August 20-22 2018
Brasilia, Brazil (international conference).

Geneviève S. Metson, Tina-Simone Neset, Karin Eliasson, Michelle McCrackin. Exploring the
importance of teleconnections for phosphorus sustainability in Sweden’s food system strategy. 6th
Sustainable Phosphorus Summit. August 20-22 2018 Brasilia, Brazil (international conference).

Geneviève S. Metson, Nils-Hassan Quttineh, Roozbeh Feiz, Usman Akram, Carl-Martin Johansson,
Johana Wretman, Karin Tonderski, Uno Wennergren. Optimizing phosphorus recycling through
biogas production: How can we optimally locate plants in Sweden? Sustainable European Phosphorus
Conference. June 11-12 2018 Helsinki, Finland (international conference).

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through urban
and agricultural nutrient linkages. October 3 2017, Institute of Meteorology and Climate Research,
Karlsruhe Institute of Technology, Garmisch-Partenkirchen Germany (**invited**)

Geneviève S. Metson. Linking terrestrial phosphorus management to water quality across the USA,
within the Willamette, and at the consumer level. Western Ecology Division Aril Division **Seminar**,
April 26 2017, EPA Corvallis USA (**invited**)

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through the
urban phosphorus lens. **Seminar**, April 5 2017, Linköping University, Linköping Sweden (**invited**)

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through the
urban phosphorus lens. **Departmental Seminar**, March 22 2017, University of California Merced,
Merced USA (**invited**)

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through the
urban phosphorus lens. **Seminar**, March 9 2017, Ryerson University, Toronto Canada (**invited**)

Geneviève S. Metson, Jiajia Lin, Jana E. Compton, John A. Harrison. Linking terrestrial phosphorus inputs to riverine export across the United States. **Association for Sciences of Limnology and Oceanography**, Feb 26-March 3 2017, Honolulu HI USA (international conference)

Geneviève S. Metson. Food and water security in the face of environmental change through the urban phosphorus lens. **Departmental Seminar**, October 27 2016, University of California Irvine, Irvine USA (**invited**)

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through the urban phosphorus lens. **Departmental Seminar**, October 17 2016, University of Florida, Gainesville USA (**invited**)

Geneviève S. Metson. Integrating phosphorus into the nitrogen footprint calculator. **3rd Annual Nitrogen Footprint Network Meeting**, June 20-22 2016, University of New Hampshire, USA (**invited**)

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through the urban phosphorus lens. **Departmental Seminar**, April 11 2016, Rowan University, New Jersey USA (**invited**)

Geneviève S. Metson. Sustainability and resilience in the face of environmental change through the urban phosphorus lens. **Departmental Seminar**, March 16 2016, Concordia University, Montreal Qc Canada (**invited**)

Geneviève S. Metson, Jana E. Compton, Dana Cordell, John A. Harrison, David Iwaniec. Shaping future phosphorus management pathways by understanding the past and present. **American Geophysical Union Fall Meeting**, Dec 14-18 2015, San Francisco USA (international conference, **invited**)

Geneviève S. Metson. From cities to oceans: How to integrate people into sustainable phosphorus management. **Departmental Seminar**. Nov 2 2015, Washington State University, Vancouver USA, (**invited**)

Geneviève Metson and Elena Bennett. The role of urban agriculture in Montreal phosphorus cycling. **4th Sustainability Phosphorus Summit**, Sept 1-3 2014, Montpellier France (international conference)

Geneviève Metson. Using dance to explore and communicate research on sustainable phosphorus management. **10th Interdisciplinary Graduate Student Research Symposium**, April 1-2 2014, McGill University, Montreal Qc Canada (international conference)

Geneviève Metson. L'importance de l'agriculture urbaine sur le cycle urbain du phosphore. Midi-conférence series 2012-2013 organized by Université du Québec à Montréal Science and Environment Institute, the Collectif en aménagement paysager et agriculture urbaine durable, and the Urban agriculture lab. April 9 2013, Montreal Qc Canada (**invited**)

Geneviève Metson, Elena Bennett, James Elser. The role of diet in mined P demand. **Third Sustainable Phosphorus Summit**. Feb 29-March 2 2012, University of Technology Sydney, Sydney Australia

Geneviève Metson, Arijit Guha, Edward Burgess, Lela Preshad. Comparative Remote Sensing work on Phoenix and London at ASU and visual representation through JEARTH. **The Comparative Genetics of Cities: Towards and Integrated Methodology for Pragmatic Urban Decision-making**. May 21-23 2010, Workshop at University College London UK

Geneviève Metson. Changes in life habits and environments of the Arcidae (Bivalvia, Mollusca) in response to the rise of the Isthmus of Panama". **Undergraduate Research Conference** 2009, UCSD, La Jolla CA USA

Posters [11]

Usman Akram, Nils-Hassan Quttineh, Geneviève Metson, Uno Wennergren. A transition towards bio-based sustainable crop nutrition in Sweden and Pakistan. **Eco-Bio**, March 4-7 2018, Dublin Ireland (international conference)

Rebecca L. Clarke, Geneviève S. Metson, Allison M. Leach, Graham K. MacDonald, Jana E. Compton, Jennifer Andrews, Elizabeth Castner, James Galloway, Tim Moore. Towards an integrated nitrogen and phosphorus footprint tool for consumers in the United States. **Ecological Society of America**, Aug 6-11 2017, Portland OR USA

Dana Cordell, Geneviève Metson, David Iwaniec. P-FUTURES Phosphorus: Future Urban Transformations. 3rd **International Faecal Sludge Management Conference** Jan 18-21 2015, Hanoi Vietnam (international conference)

Dana Cordell, Geneviève Metson, David Iwaniec. P-FUTURES Phosphorus: Future Urban Transformations Cities in Future Earth, Third **Australian Earth System Outlook Conference** Dec 8-9 2014, Canberra Australia (international conference)

David Iwaniec, Geneviève Metson, Daniel Childers. Phosphorus Cycling in Phoenix and serendipitous recycling. **National Science Foundation site review** for CAP-LTER Sept 25-27 2013, Tempe AZ USA

Geneviève Metson, Elena Bennett, James Elser. Human diet affects phosphorus demand around the world. Fifth **McGill Conference on Global Food Security- Food Prices and Political Instability**. October 16-18, 2012, McGill, Montreal Qc Canada (international conference)

Geneviève Metson, Christopher Galletti, Elizabeth Cook, Rebecca Hale, Jessica Corman, David Iwaniec. Phosphorus in Phoenix: a budget and spatial analysis of phosphorus in urban ecosystems. **Sustainable Phosphorus Summit**, Feb 3-5 2011, ASU Tempe AZ USA (international conference)

Geneviève Metson, Jessica Corman, Elizabeth Cook, Rebecca Hale, David Iwaniec, Christopher Galletti. "Nutrient movements in human environment interactions: Phosphorus in Phoenix". **CAP LTER Thirteenth Annual Poster Symposium** and All Scientists Meeting, Jan 13 2011, ASU, Tempe AZ USA

Geneviève Metson, Arijit Guha, Robin Cleland, Benjamin Jewel. "The different roles of urban agriculture: the response of farmers' markets, community gardens, and dairy farming to economic recession and "green trends" in central Arizona". 'Land Systems, Global Change and Sustainability', **Global Land Project Open Science Meeting**, Oct 17-19 2010, ASU, Tempe AZ USA (international conference)

Jessica Corman, Elizabeth Cook, Rebecca Hale, Geneviève Metson, David Iwaniec. "An Elemental Approach to Understanding Human-Environment Interactions". **International Conference on Urbanization and Global Change**, Oct15-17 2010, ASU, Tempe AZ USA (international conference)

Elizabeth Cook, David Iwaniec, Jessica Corman, Rebecca Hale, Geneviève Metson, Jesse Sayles, Xiaoli Dong. "Urban Stoichiometry: An Elemental Approach to Understanding Human-Environment Interactions". **Urban Ecology and Sustainability** Twelfth Annual Poster Symposium CAP-LTER, Jan 14 2010, ASU, Tempe AZ USA

OTHER PROFESSIONAL EXPERIENCE

Ad-hoc journal, grant, and publication peer-review

2011-2018 – Peer-reviewer for manuscripts in the following journals and conference proceedings:

Agroecology and Food System Transformation	Environmental Research Letters ⁶	Ecological Engineering
Nutrients Cycling in Agroecosystems	Journal of Industrial Ecology	Resource Conservation and Recycling
Food Security	Science of the Total Environment	Global Change Biology
Global Environmental Change	Journal of the American Water Resources Association	Sustainability and Social Science Research Symposium
Landscape and Urban Planning	Earth's Future ⁷	Nature Sustainability

2017– Peer-reviewer of grant applications to Vienna Science and Technology Fund

2010 – Reviewer and contributor to Dickson, E., Tiwari, A., Baker, J., Hoornweg, D. (2010). Understanding Urban Risk An Approach for Assessing Disaster & Climate Risk in Cities. Urban Development and Local Government Unit The World Bank

Non-peer reviewed publications

Geneviève Metson. (2016) The Nature Of Cities Global Round Table: Urban agriculture has many benefits. Is one of the m a contribution to urban sustainability? The Nature of Cities (June 28 2016: <http://www.thenatureofcities.com/> , **invited**)

Geneviève Metson. (2014) Cities as a key components of sustainable food-system P cycling. **Scope Newsletter** special issue Perspectives of phosphorus stewardship. European Sustainable Phosphorus Platform. August 2014 n°106 ([online](#))

Geneviève Metson. (2011) A tale of two neighbors: the United States' and Canada's distinct but intertwined paths to sustainability. **The Sustainability Review** ([online](#))

Geneviève Metson, Arijit Guha, Robin Cleland, Benjamin Jewel. Food and Urban Agriculture. The Comparative Genetics of Cities: Towards and Integrated Methodology for Pragmatic Urban Decision-making. Published by: Global Institute of Sustainability and Center for Sustainability Science Applications. Pamphlet presented at University College London, May 21-23, 2010. P 10-11

Outreach

2016 – Public lecture. *The P-ness of it all: it's all about phosphorus*. Summer of Science Series, Portland, OR USA (Sept)

2012-2015 – Founding member and regular writer for Montreal at your Ecological Service Website <http://esmontreal.ca/>

2012-2015 – Research and science communication blog: urbanphosphorusballet.com

⁶ Commended Referee (shown in 10th anniversary highlights of ERL)

⁷ 2017 American Geological Union Editor's Citation for Excellence in Refereeing for Earth's Future

- 2011 – Runner-Up Social Science Category in *Dance your PhD 2010* contest sponsored by the American Association for the Advancement of Science.⁸
- 2014 – Phosphorus and Dance performance and discussion. Freaky Fridays at the Redpath Museum, McGill University (Sept)
- 2014 – *Substance P+Atomic #15* dance-science show. Festivale d’art souterrain and Nuit Blanche March 2014. Montreal Qc. Canada With The/Le Sensorium⁹
- 2014 – Interview at Montreal par la Racine show on CIBL radio (18 Feb)
- 2013 – Finalist in the #McGillAndMe contest. *Why I study Phosphorus?*
- 2012 – Green Thumb. Black Water. Art collaboration with Jose Methot and Francis Dumas. Dance Video contribution to Bodies of Water Project for The Art of Engagement online network, the Island Institute
- 2012 – Public Lecture. *Hey, what are they growing on that roof?* Food Production in Our Cities. Ashtanga Montreal Studio, Qc Canada (**invited**)
- 2011 – *The P-ness of it all*. Art collaboration with Edgar Cardenas (video installation). Shown at the Sustainable Phosphorus Summit and the Step Gallery Feb 2011 ASU, Tempe AZ USA
- 2011 – Got Bones? Got Ca? Got P? Art collaboration with Joshua White (photography). Shown at the Sustainable Phosphorus Summit and the Step Gallery Feb 2011 ASU, Tempe AZ USA
- 2010 – Geneviève Metson, Anna Krithis, Carissa Taylor The Future of Agriculture and Water in Arizona. Presentation and Discussion of findings to the general public. Feb 12 2010, Science Café, Chandler AZ USA

Service activities, participation, and memberships

- 2018 – Co-chair and convener. Session “Geopolitics of Phosphorus – the importance of trade, teleconnections and governance for phosphorus sustainability”. 6th Sustainable Phosphorus Summit with Tina Neset. Brasilia, Brazil
- 2018 – Rapporteur. Session “Nutrient Circular Economy”, 3rd European Sustainable Phosphorus Conference, Helsinki, Finland (**invited**)
- 2017 – Association for Sciences of Limnology and Oceanography membership
- 2016 – Participant. Transformative Knowledge Workshop for the Transformations to Sustainability International Social Science Council Programme. Jawaharlal Nehru University. New Delhi, India (**invited**)
- 2016-2017 – North America and European regional committee member. Integrated land ecosystem-atmosphere processes study (iLEAPs) Early Career Scientist Network. (**invited**)
- 2015 – Participant. International Geosphere-Biosphere Program and Future Earth Workshop on co-design and co-production for early career researchers. San Francisco, CA USA (**invited**)
- 2015 – American Geophysical Union membership

⁸ Quoted in Why Do Scientists Dance? John Bohannon (5 Nov. 2010) *Science* 330 (6005), 752-b. [DOI:10.1126/science.330.6005.752-b]

⁹ [Article](#) in the McGill Reporter and [video](#) on La Fabrique Culturelle (April)

- 2015 – Volunteer session note-taker. World Resource Forum Asia-Pacific 2015. University of Technology Sydney, Australia
- 2014 – Guest panelist for Vanier Celebrates Women in Science. Vanier College, Montreal, Qc Canada **(invited)**
- 2014 – Working group facilitator at the 4th Sustainability Phosphorus Summit Montpellier, France **(invited)**
- 2013 – Spokes-Person for Groupe de Travail en Agriculture Urbaine (GTAU) Montreal, Qc Canada. Elected position
- 2012-2014 – Post-peer review commentaries for Faculty of 1000 Associate Faculty
- 2012 – Participant. Dissipation and Recycling Node. 4th Global transdisciplinary processes for sustainable phosphorus management (Global TraPs) Workshop. El Jadida, Morocco **(invited)**
- 2012 – Ecology Society of America membership
- 2012 – Graduate Student Social Chair, School of Sustainability, ASU. Elected Position
- 2011-2015 – Quebec Center for Biodiversity Science membership
- 2011-2014 – Group de Travail en Agriculture Urbaine (GTAU) Montreal membership
- 2010 – Participant. Farming and food systems as social-ecological systems: integrated assessment for resilience and adaptive capacity. NOVA University Network. Finland **(invited)**