

Department of Ecology, Evolution, and Environmental Biology (E3B)
Columbia University
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1200 Amsterdam Avenue
New York, NY 10027
USA

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EDUCATION

9/84 - 8/88 Ph. D. University of California, Berkeley (Zoology)
9/81 - 6/84 MA - University of California, Berkeley (Zoology)
9/76 - 6/79 B.A. - University of California, Berkeley (Biology)
2/75 - 9/76 City College of San Francisco
9/72 - 6/74 City University of New York, C.C.N.Y.

EMPLOYMENT

8/2003 – present Professor of Ecology, Department of Ecology, Evolution, and Environmental Biology, Columbia University in the City of New York, NY, USA
9/98 – 6/2003 Professor, Dept. of Zoology, University of Washington, Seattle, WA, USA
(Tenure received in 2000, Promotion 2003)
1/94 – 6/98 Associate Professor, Dept. of Ecology, Evolution and Behavior, University of Minnesota, St. Paul, MN, USA (Tenure received in 1998)
2/92 - 2/94 Postdoctoral Fellow, Centre for Population Biology, Silwood Park, Imperial College, Ascot, Berkshire, England.
8/89 - 2/92 Fellow (Assistant Professor), Michigan Society of Fellows, University of Michigan, Ann Arbor.
1/91 - 5/91 Postdoctoral Fellow, Marine Biological Laboratory, Helsingør, University of Copenhagen, Denmark (overlapped with U. Mich.).
6/89 - 8/89 Instructor, Zoo-10 Introductory Zoology (for non majors), University of California, Berkeley.
1/89 - 6/89 Instructor, Invertebrate Zoology, University of California, Berkeley.

ACADEMIC AWARDS

ISI Highly Cited Author 2014, 2015, 2016
Lenfest Prize, Columbia University 2008
ISI Highly Cited Author 2003
Elected, Member at Large, Ecological Society of America. 2003.
Fellow of the American Association for the Advancement of Science. 2001
Aldo Leopold Leadership Fellow. 2001
Mercer Award, best ecological paper by younger ecologist, Ecol. Soc. of America, 1995.
McKnight Land-Grant Professor, Univ. of Minnesota, Minneapolis/St. Paul, 1995-1997.

Michigan Society of Fellows Postdoctoral Fellowship, University of Michigan, Ann Arbor, 1989 - 1991.

Smithsonian Tropical Research Institute Fellowship, Barro Colorado Island, Panama, 1989 - 1990. (Declined.)

NATO Postdoctoral Fellowship, Denmark, 1991.

Murray F. Buell Award for best Graduate Student Paper at Ecological Society of America Meetings, August 1988.

Murray F. Buell Award (1 of 2 Hon. Mentions) for best Graduate Student Paper at Ecological Society of America Meetings.

Driscoll Fellowship, University of Minnesota, Summer 1987.

Noyes Tropical Research Fellowship 1985/1986.

U. C. Regents Fellowship for 1985/1986.

Teaching Assistant Award, U. C. Berkeley, 1984.

Graduated U.C. Berkeley, Biology with Honors 1978.

MEMBERSHIP

American Association for the Advancement of Science

American Institute of Biological Sciences

American Society of Naturalists

Ecological Society of America

SERVICE / OUTREACH

Department Chair, E3B, Columbia University (Fall 2005 – 2011)

Panelist, Science Advisory Board, TEAM, Moore Foundation, San Francisco (20-24 July 2007)

Committees at Columbia University

Planning and Policy Committee, Faculty of Arts and Sciences, member (2015-2016)

Chair, Planning and Policy Committee, Faculty and Arts and Sciences, (2014-current)

Planning and Policy Committee, Faculty of Arts and Sciences, member (2013-2014)

Member, Appointments Committee, Earth Institute (2013- present)

Member, Search Committee, DEEB Population Biology Search (2014-2015)

Member, Search Committee, Vice President of Development, Faculty of Arts and Sciences (2013-2014)

Member, Search Committee, Executive Vice President of Faculty of Arts and Sciences

Co-chair, U.N. Sustainable Solutions Network, Thematic Group 8, Forests, Oceans, Biodiversity and Ecosystem Services (2013-present)

Member, Steering Committee of the Chairs
Earth Institute Fellows Selection Committee
Earth Institute Committee for State of the Planet Conference 2006
Academic Committee, Earth Institute
Appointments Subcommittee, Earth Institute
President's Taskforce on Undergraduate Education
President's Taskforce on Undergraduate Education, Science Subcommittee
Course Evaluations Committee
Administrative Advisory Group
ECFAS – Science Representative
Advisory Committee for Socially Responsible Investing (ACSRI)
Board Member of CERC (duty of chair of E3B)
Management Committee of CERC (duty of chair of E3B)
Director of Science Programs, CERC
Search Committee Chair (2007/2008), Denning Family Chair, senior faculty position, E3B, Columbia.
Search Committee Chair (2003/2004), junior faculty position, E3B, Columbia.
EPA STARR Graduate Fellowship Panel (2004)
National Science Foundation Panels
Ecology Panel (2017)
Ecology Panel (2014)
Ecology Panel (2012)
Ecology Panel (2010)
Ecology Panel (2008)
Ecology Panel (2007)
Ecology Panel (2006)
Ecology Panel (2004)
Ecology Panel (2003)
Ecology Panel (2010)
Dissertation Improvement Panel (2000)
DIVERSITAS, Co-director Core Project 2, 2002-2003.
Organization of Tropical Studies, Zoology Department Representative (2000-current).
Zoology Graduate Program Coordinator (2001-2003), Dept. of Zoology, U. Washington.
Ecological Society of America, Publications Committee, member (1999 – current)
Ecological Society of America, Mercer Awards Committee, member (2002)
American Society of Naturalists, Young Investigator Award, (2002)
Zoology Seminar Committee (1998-200), Dept. of Zoology, U. Washington.
American Society of Naturalists, Young Investigator Award, 1998
EEB Seminar Committee (1994/1995, 1995-1996)
EEB Advisory Committee (1995/1996)
EEB Forward Steering Committee (1997/1998)
EEB Greenhouse Committee (1994-1998)
EEB Lindeman Lecture Committee (1997/1998)
EEB Art Committee (1994-1998)
Ecology Graduate Admissions Committee (1995/1996, 1996/1997)
Plant Biological Science Admissions Committee (1997/1998)

Ecological Society of America, Buell Award judge, 1995-1998

J. Tropical Biology
Ecological Entomology
P.N.A.S.
Science
Nature
Ecological Economics
Oikos

Editorial Service

Deputy Editor

Science Advances (2015 – current)

Editor for Special Features

Ecology (2006 -2009)

Associate Editor for:

Ecology Letters (2006 - 2009)

Receiving Editor for:

Ecology Letters (1998-2005)

Public Lectures:

- 9 March 2017. *Sustainability in an Age of Mass Extinction and Isolationism*, Threshold: Biodiversity, Climate, and Humanity at a Crossroads, New York Botanical Garden.
- 3 June 2016. Panel participant, Stewards of the Earth: Hope for Our Planet, for the 2016 World Science Festival, AMNH
- 4 February 2014. Anne Sophie Laumont '99 Lecture, Spence School, New York, NY
- 18 October 2011. *Why so Many Species? (Or why so few?)*. Hudson Highlands Nature Museum, Cornwall, NY.
- 9 November 2009. Café Science, Columbia University, Picnic, New York, NY.
- 4 October 2009. Darwin Lecture, Cornelia Street Café, New York, NY.
- 30 July 2007. Columbia Science Invitational. Public lecture to recruitment high-school students to Columbia Science programs.
- 31 March 2007. The biology of Eden. Dan's Day, Columbia University
- 11 March 2006. The Future of the Humanities and Sciences Curriculum in the Age of Technology: Should Trinity Change?" Trinity School, New York, NY.
- 23 August 2006. How much is nature worth? Picnic (Restaurant), in collaboration with Columbia University.
- 4 December 2002. Skyscraper Earth: The Ecological Implications of Biodiversity Loss. Pittsburgh Ecoforum, Eminent Biologist Lecture Series, Carnegie Museum of Natural History.
- 19 March 2002. The significance of biodiversity. Lake Forest Lion's Club. Lake Forest, WA.

TEACHING/EDUCATION

Courses taught:

ENVBW2141. Summer Ecosystem Experiences for Undergraduates (SEE-U)
Agro-eco- and Food Systems: The rural-urban landscapes of New York City
ENVBN0525. Global Change (EICES Certificate)
ENVBN0324. Biodiversity and Climate Change (EICES Certificate)
SDEV 6420. The Science of Sustainable Development (co-taught with 5 others),
Columbia University.
EEEB G4650. Biodiversity and Ecosystem Processes, Columbia University.
EEEB G4250. Understanding nature through observation and experiment (multivariate
statistics for graduate student), Columbia University.
EEEB W3001 The Saga of Life
DEEB W2001. Introductory Biology, Columbia University
Zoology 220. Animal Diversity. (undergraduate), U. Washington, Seattle.
Biology 472. Foundations of Ecology. (undergraduate), U. Washington, Seattle.
Biology 1201. Ecological and Evolutionary Perspectives. (undergraduate), U. Minn.
Biology 5950. Contemporary Issues in Ecology. (graduate seminar), U. Minn.
Biology 5950. Understanding Nature through Observation and Experiment.
(graduate/undergraduate), U. Minn.
Zoology for Non Majors. University of California, Berkeley
Invertebrate Zoology. University of California, Berkeley
Introductory Biology. University of Michigan, Ann Arbor

Guest Lectures:

History of Environmental Thinking, History BC 3909 *Why is More Diversity Better?*
(Columbia University, Spring 2017)
Sustainable Development Seminar II (Spring 2006, Spring 2007)
Survey of Faculty Research. (Biology 491, Univ. Washington). 13 April 2000.
Ecology and Evolution (Biol 5044), J. Curtsinger, 1996
Ecosystems, E. Gorham, 1998
Biology Colloquium, 1997
Biology Colloquium, 1998
Ecology and Evolution (EEB 3008), R. Shaw and M. Davis, 1998

Laboratory Development:

Ecology and Evolution (EEB 3008), R. Shaw and M. Davis, 1998, HSS laboratory
exercise.

Teaching assistant:

My teaching assistantships as a graduate student included cell biology, biology, ecology,
general zoology, community ecology, non-majors biology and humans in the tropics.

Mentoring:

- 2000 Huckabay Foundation Teaching Fellowship to Amanda Graham for course entitled: *Critical perspectives on environmental discourse: integrating communication and ecological views*. With John Stewart (Speech Communication).
- 1997 NSF Young Scholars Program: High School Summer Science Research Program.
- 1996 President's Distinguished Faculty Mentor Program.
- 1996 Life Sciences Summer Research Program.
- 1996 NSF Young Scholars Program: High School Summer Science Research Program.
- 1995 University of Minnesota Alumni Association, College of Biological Sciences Mentor Program.
- 1995 NSF Young Scholars Program: High School Summer Science Research Program.
- 1995 President's Distinguished Faculty Mentor Program.

Training/Workshops:

- 2002 Focus Group on Undergraduate Biology Education, Friday Harbor Laboratories, WA
- 1995/1996 Bush Faculty Development Program for Excellence and Diversity in Teaching
- 1995 Group and Cooperative Learning, Professional Development Opportunity.
- 1995 Multi Media, Complete Scholar.
- 1994 Nuts and Bolts of Teaching at the U.

Contributions to Undergraduate Textbook Revision:

- Mader, S. S. Biology. W. C. Brown and Company, Dubuque, Iowa.
- Purves, W. K., Orians, G. H. and Heller, H. C. Sinauer Associates and W. H. Freeman and Company.

Graduate Students:

- Krishna Anujan (PhD 2016 -)
- Sebastian Heilpern (PhD 2015 -)
- Brian Weeks (PhD 2011-, NSF Fellowship)
- Stephen Wood (PhD 2015)
- Vivian Valencia (PhD 2015)
- Case Prager (MA 2009, NSF Honorable Mention, PhD 2011-, NSF Fellowship)
- Georgia Hart (PhD, 2009 -2010 (transferred), NSF Fellowship)
- Meha Jain (PhD, 2008-2014, NSF Fellow)
- Nicholas Mirotnik (MA, 2009)
- Jason Sircely (MA, 2007)(PhD, 2007-2011)
- Claire Jouseau (PHD, 2008)
- Daniel Flynn (PhD, N.S.F. Fellowship 2007 , 2011)
- Ellen Trimarco (MA, 2007)
- Gregor Schuurman (Ph. D. 2003, N.S.F. Fellowship 1995)
- Kate Howe (Ph. D. December 2002, N.S.F. Fellowship 1996)
- Daniel Hahn (PhD 2003, N.S.F. Fellowship honorable mention 1996, NOAA fellowship 1999)
- Theodore Kennedy (Ph. D. December 2002, N.S.F. Fellowship honorable mention 1996, NASA Graduate Student Fellowship 1998-2001)

Heather Macrellis (PhD, did not move to Columbia University)
Anita Bajpai (Completed Masters 1997, UCLA Medical School)
Shibin Li (Completed Masters 1997, UM Biomedical Computing)

External committee member:

Anita Antonika, Northern Arizona University, Flagstaff (Nancy Johnson, Advisor)
Amy Downing, University of Chicago (Mathew Liebold, Advisor)
Zachary Long, Rutgers University (Peter Morin, Advisor)
Cara A. Faillace (Peter Morin, Advisor)

Committees to date: 30

Undergraduate Student Research:

Leslie McGinnis, research training, University of Washington.
Stefanie Schmidt, research training, University of Washington.
Jessica Barkas, research training, NASA and University of Washington.
Chi Pham, University of Washington.
Jennifer Muslimi, University of Washington.
Tamara K. Harms, NASA fellowship, University of Washington.
Joshua Behr, research training, University of Minnesota.
Samuel Gale, REU, University of Minnesota.
J. Muir Hooper, REU, University of Minnesota.
Amy Grack, Honors Thesis, University of Minnesota.

Undergraduate Honors Committees:

2000. Knox College, Honors Program (one student).
1998. Swarthmore College, Honors Program (two students).

Other

30 July 2007. Columbia Science Invitational. Public lecture to recruitment high-school students to Columbia Science programs.

ILLUSTRATION

Cover of: *Biota*, R. K. Colwell (1997), Sinauer Associates.
Frontice piece for *Null Models in Ecology*, by N. Gotelli and G. R. Graves, (1996) Smithsonian Institution Press.
A Primer for Population Biology, by N. Gotelli, (1996) Sinauer Associates, Sunderland.
Cover of: *Mites*, by M. A. Houck (1994), Chapman and Hall, London.
The Birder's Handbook for European Birds, by Paul R. Ehrlich, D. S. Dobkin, Stuart Pimm, and D. Wheye (1994), Oxford Press, London.
The Birder's Handbook, by Paul R. Ehrlich, D. S. Dobkin, and D. Wheye (1988), Simon and Schuster, N. Y.
Professional work exhibited twice (1980 and 1982) at the California Biological Art shows, Oakland Museum, California.
Cover of: *The Natural Selection of Populations and Communities*, by D. S. Wilson, Benjamin/Cummings (1980), Menlo Park.

VISITING SCHOLAR

19-27 May 2016, National Centre for Biological Sciences (NCBS), Bangalore, India

18-27 June 2011, Universidad Catolica, Chile.

17-24 March 2001. Visiting Scholar, Umeå University, Sweden.

6-10 November 2000. Visiting Scientist, Imperial College of London, Silwood Park, Ascot, Berks, U. K.

22-26 May 2000. Eminent Ecologist, Kellogg Biological Station, State University of Michigan.

INVITED PAPERS

1. 19 May 2016. *The multiple dimensions of biodiversity loss: Examples from a temperate forest, Alaskan tundra, and the avifauna of the Solomon Islands*. National Centre for Biological Sciences (NCBS), Bangalore, India.
2. 7 September 2016. *Who serves whom in Nature? Lessons from contemporary ecological approaches to linking ecosystem services to societal well-being*. 46th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland, “150 Years of Ecology, Lessons for the future.”
3. 9-10 November 2012 *Biodiversity in the Balance: Causes and Consequences*, European Molecular Biology Organization (EMBO), Heidelberg, Germany
4. 22 March 2012. *Ecological capacity and biological insurance: A trait-based approach to understanding why rare species matter*. University of Michigan, Ann Arbor, USA
5. 14 February 2012. *Ecological capacity and biological insurance: A trait-based approach to understanding why rare species matter*. Huck Institutes' Distinguished Lecture in the Life Sciences, Penn State University, PA.
6. 27 September 2011. *Marine biodiversity, ecological capacity, and biological insurance: Why all those rare species matter*. Keynote speaker. World Conference on Marine Biodiversity. Aberdeen, Scotland .
7. 7 September 2011. *Biodiversity, Conservation and Climate Change: Mitigation and Adaptation*. Bowdoin College, Maine.
8. 24 August 2011. *Restoring Biodiversity and Ecosystem Functions with Ecological Restoration Projects*. Keynote speaker, Society for Ecological Restoration, Merida, Mexico.
9. 9 May 2011. *Is a planet servicing one species likely to function?* Speaker, Cary Conference, Institute of Ecosystem Studies, Milbrook, NY.
10. 15 May 2011. Columbia University, Convocation Speaker
11. 9 June 2010. *Biodiversity, climate change, and poverty alleviation*. USAID, Washington, DC.
12. 28 April 2010. *From Species to Traits: Understanding the Significance of Biodiversity Loss*. State University of New York, Stony Brook
13. 26 October 2009. *The Environmental Significance of Biodiversity*. Pysek Lecture, University of Iowa
14. 22 October 2009. *Sustainable Development in an Age of Mass Extinction and Climate Change*. Edward P. Bass Distinguished Lecture Yale University

15. 28 October 2009. *The Environmental Significance of Biodiversity*. Grinnell College, Iowa
16. 17 April 2009. *Functional Diversity: Quantifying the Undefinable*. University of Wisconsin, Madison
17. 16 April 2009. *The Environmental Consequences of Biodiversity Loss: Trait-Based Solutions to a Pervasive Problem* University of Wisconsin, Madison
18. 26 February 2009 The Ecotron: Fifteen years of Research, Imperial College of London, UK
19. 2 November 2008. Environmental consequences of biodiversity loss. Odum School of Ecology, University of Georgia, Athens (student invited speaker).
20. 29 February 2008. Is sustainable development feasible in an age of mass extinction? School of Forestry, Yale University, New Haven, CT.
21. 16 Feb 2008. Biodiversity: Essential for Stability? American Society for the Advancement of Science, Boston, MA.
22. 7 November 2007. The Paradox of Priestley's Bell Jar: The influence of biodiversity on global change and vice versa. Centre for Ecology and Evolution, Museum of Natural History, London, U. K.
23. 22 September. *Biodiversity and Climate Change*. Doris Duke/Woodrow Wilson Conservation Fellows, West Virginia, 2007.
24. 24 October 2007. Biodiversity, Ecology, and Global Change. Harvard University Center for the Environment, Harvard University, MA.
25. 7 August 2007 Ecological Society of America, San Jose, CA. *Is sustainable development feasible in an age of mass extinction?: Biodiversity conservation as the critical foundation for a sustainable future*.
26. 25 June 2007. Naeem, S., J. Sircely, C. Jouseau, E. Trimarco, T. Osmundson, D. Bunker, and M. Palmer, Columbia University, *Black Rock Forest: What are her roles in contemporary environmental research?*
27. 27 April 2007 Of Microbes and Macrobes: Are Microorganism Ecologically Different from their Plant and Animal Descendents?, American Museum of Natural History, NY.
28. 8 February 2007 The Ecosystem Consequences of Biodiversity Loss, Harvard Forest, Massachusetts
29. 25 May 2006. Plenary: Applications of Biodiversity Research to Human Well-Being, American Institute for the Biological Sciences, Washington, DC
30. 4 March 2006. What would happen if Nature sent us a bill? Urban Ecology Conference, Long Island University, Brooklyn, NY.
31. 26 January 2006. (Student invited lecture). Is a sustainable future possible in the face of mass extinction? The ecosystem consequences of biodiversity loss. Jenner Lecture. University of North Carolina, Raleigh, NC.
32. 11 August 2005. The role of biodiversity in ecosystem services. Symposium. Ecological Society of America, Montreal, Canada
33. 10 August 2005. Biodiversity as homeland defense: resisting invasion once borders have been breached. Symposium. Ecological Society of America, Montreal, Canada
34. 5 May 2005. Student-invited seminar. Local and Global Consequences of Biodiversity Loss: Scaling from Microbes to Biomes. University of California, Berkeley, CA.

35. 24 March 2005. Student-invited seminar. Local and Global Consequences of Biodiversity Loss: Scaling from Microbes to Biomes Michigan State University.
36. 2 March 2005. The ecosystem consequences of biodiversity loss: Recent theoretical and empirical developments. Yale University, New Haven, CT.
37. 8 February 2005. The Biodiversity Synthesis Report. SBSTTA meetings, U.N., Bangkok, Thailand.
38. 10 December 2004. The Broo-ha-ha over Biodiversity: Sam McNaughton as instigator and stabilizer. Festschrift for Sam McNaughton, Syracuse, NY .
39. 20 October 2004. The environmental consequences of declining biodiversity: Scientific evidence from a combinatorial perspective. Princeton University, NJ
40. 29 September 2004. Biodiversity and ecosystem functioning in grassland ecosystems. Institute of Botany. Beijing, China.
41. 12 May 2004. Student-invited speaker. Biodiversity as a local defense against invasion: Resolving the “Dangerous and premature paradigm. University of Kansas, KS
42. 31 March 2004. Biodiversity as a local defense against invasion: Resolving the “Dangerous and premature paradigm. SUNY, Stony Brook, NY
43. 26 March 2004. Biodiversity as a local defense against invasion: Resolving the “Dangerous and premature paradigm. Arizona State University, Phoenix, AZ.
44. 30 January 2004. Living an increasingly unreliable world: The ecosystem consequences of biodiversity loss. OBC/Okazaki Biology Conference, Japan.
45. 1 December 2003. Predicting the ecosystem consequences of biodiversity loss at the landscape level: Employing and developing the BioMERGE framework. GCTE, Morelia, Mexico.
46. 18 November 2003. The Ecosystem Consequences of Biodiversity Loss: The Role of Multiple Trophic Interactions. Pennsylvania State University, PA.
47. 4 November 2003. Insuring the reliability of ecosystems through biodiversity preservation: Empirical and theoretical studies of the ecological consequences of biodiversity loss in a prairie grassland assemblage. Weese Lecture, Zoology Department, University of Oklahoma.
48. 26 September 2003. The ecosystem consequences of biodiversity loss: The role of multiple trophic levels in a grassland ecosystem. Department of Biology, Indiana University, Bloomington, IN.
49. 5 December 2002. Biodiversity loss, ecosystem functioning, and the erosion of intrinsic defenses against invasion. University of Pittsburgh.
50. 21 November 2002. The Functional Significance of Biodiversity and the Ecological Consequences of its Decline: Insights from Theoretical and Empirical Studies. University of Calgary, Calgary, Canada.
51. 19 November 2002. Skyscraper earth: How reliable are increasingly depauperate ecosystems? University of Calgary, Calgary, Canada.
52. 8 November 2002. Biodiversity loss, ecosystem functioning, and the erosion of intrinsic defenses against invasion. Cornell University, Ithaca, NY.
53. 9 October 2002.(student-invited) "The Functional Significance of Biodiversity and Ecological Consequences of its Decline: Insights from Theoretical and Empirical Studies". University of Illinois, Champaign-Urbana.

54. 23 September 2002. Does biodiversity matter? Radical ecological experiments and theory for a seemingly absurd question. Columbia University, New York.
55. 25 September 2002. Biodiversity loss, ecosystem functioning, and the erosion of intrinsic defenses against invasion. Columbia University, New York.
56. 5 August 2002. Using biodiversity-functioning theory as a foundation for ecological restoration Symposium #3, Ecological Theory and Restoration Ecology, Ecological Society of America, Tuscon, Arizona.
57. 15 March 2002. Ecosystem reliability. School of Biological Sciences, University of Nebraska, Lincoln.
58. 14 March 2002. The ecosystem consequences of biodiversity loss. School of Biological Sciences, University of Nebraska, Lincoln.
59. 13 February 2002. The ecological consequences of biodiversity loss. Western Washington University.
60. 1 February 2002. Ecological consequences of biodiversity loss. Biological Research Laboratories. Syracuse University.
61. 30 December 2001. Ecosystem reliability. The University of California, Davis.
62. 29 December 2001. The ecosystem consequences of biodiversity loss. The University of California, Davis.
63. 7 August 2001. Functional versus species richness in ecosystem response to global change: Can they be disentangled? Ecological Society of America, Madison, WI.
64. 19 July 2001. Biodiversity and ecosystem functioning. Frontiers in Tropical Ecology, Bangalore, India.
65. 17 July 2001. The role of biodiversity in the functioning of tropical ecosystems. Association for Tropical Biology, Annual Meetings, Bangalore, India.
66. 13 June 2001. From bestiarries to BioCON: Disentangling functional from taxonomic diversity. Cedar Creek Natural History Area, Univ. Minnesota.
67. 30 November 2001. Ecosystem reliability. University of California, Davis.
68. 29 November 2001. The ecosystem consequences of biodiversity loss. University of California, Davis.
69. 17-22 March 2001. 4 papers delivered, Umeå University, Sweden.
 - a. The ecosystem consequences of biodiversity loss: a review of the issues.
 - b. Functional versus species diversity: the role of trophic versus intra-trophic groups in biodiversity studies.
 - c. Ecosystem reliability and biological insurance: new twists in the diversity-stability debate.
 - d. New frontiers in biodiversity and ecosystem functioning research.
70. 14 March 2001. Ecosystem impacts of biodiversity loss in a N and CO₂ -enriched environment: Complex consequences of coupled communities. University of British Columbia, Canada.
71. 13 March 2001. Economics and ecology – is growth always good? (J. Edwards and D. Huppert, Co-contributors to Colloquium). Sigma Xi and Washington Alpha Chapter of Phi Beta Kappa. University of Washington, Seattle.
72. 5 March 2001. Biodiversity and ecosystem reliability. Friedrich-Schiller Universität, Jena, Germany.
73. 9 Feb 2001. The ecosystem consequences of declining biodiversity: An emerging paradigm. University of Tennessee, Knoxville (selected by graduate students).

74. 6-9 Feb 2001. The ecological consequences of declining biodiversity. McMaster University, Hamilton, Ontario, Canada.
75. 26-27 October 2000. Ecosystem consequences of biodiversity loss. Distinguished Scientist's Seminar Series. Marine Biological Laboratories, Wood's Hole, MA.
76. 5-6 October 2000. Ecosystem consequences of biodiversity loss. Miami University, Oxford, Ohio.
77. 12 June 2000. Ecosystem consequences of biodiversity loss. CREAM, Majorca.
78. 8 June 2000. Ecosystem consequences of biodiversity loss. CREAM, Barcelona, Spain.
79. 24 Feb 2000. Ecosystem consequences of biodiversity loss. Knox College, Galesburg, Illinois.
80. 27 Jan 2000. Ecosystem consequences of biodiversity loss: the evolution of contemporary approaches. In symposium, "Fundamental principles in ecology and evolution: can paradigms stand the test of time?" Western Society of Naturalists. Monterey, California.
81. 28 October 1999. The ecological consequences of declining biodiversity. Victoria University, Victoria, Canada.
82. 28 October 1999. The ecological consequences of declining biodiversity. Simon Fraser University, Vancouver, Canada.
83. 5 October 1999. Ecosystem reliability: Getting out of the stability-complexity quagmire in valuing biodiversity. Griffith University, Brisbane, Australia.
84. 2 October 1999. The ecosystem consequences of biodiversity loss. Griffith University, Gold Coast, Australia.
85. 1 October 1999. The ecosystem consequences of biodiversity loss. Griffith University, Brisbane, Australia.
86. 28 September 1999. Functional versus taxonomic diversity in assessing the impact of biodiversity loss. Key Center for Biodiversity and Bioresources, Sydney Australia.
87. 11 February 1999. The ecological consequences of biodiversity loss: evaluating the results from grassland, greenhouse, and growth chamber experiments. Ecology Center, Utah State University, Logan, Utah.
88. 10 February 1999. Ecosystem reliability: An alternative to the diversity/stability debate. Ecology Center, Utah State University, Logan, Utah.
89. 2 December 1998. The ecological consequences of declining biodiversity: evaluating conflicting empirical assessments. Washington University, St. Louis, Missouri.
90. 1 December 1998. The critical role of redundant species: getting out of the stability-complexity quagmire. University of Missouri, St. Louis, Missouri.
91. 12 October 1998. Biodiversity and ecosystem reliability. Landouwuniversiteit, Wageningen, The Netherlands
92. 20 April 1998. The ecological consequences of declining biodiversity: the empirical evidence. Department of Ecology and Evolution, University of Chicago, Illinois.
93. 26 March 1998. How changes in biodiversity may affect the provisioning of ecosystem services. Missouri Botanical Gardens, St. Louis, Missouri.
94. 5 February 1998. Ecological consequences of declining biodiversity. Department of Zoology, University of Washington, Seattle.

95. 18 December 1997. Ecological consequences of declining biodiversity. Department of Ecology and Evolution, Rutgers University, NJ.
96. 7 November 1997. Biodiversity and ecological complexity. Kyoto University, Japan.
97. 9 November 1997. Biodiversity and ecological complexity. Ehime University, Japan.
98. 29 April 1997. Causes and consequences of variation in biodiversity: tests of prevailing theory. Stanford University, Stanford, California.
99. 21 March 1997. Ecosystem sensitivity to variation in species richness: lessons from a collapsing building. University of Sweden, Uppsala.
100. 6 January 1997. Ecological consequences of declining biodiversity. Institute Botanische, Basel Switzerland.
101. 21-23 November 1996. Two lectures: (1) Ecological consequences of declining biodiversity. (2) Non-density based impacts of species on communities and ecosystems. University of Texas at Austin.
102. 28 September - 2 October 1996. Ecological consequences of declining biodiversity. University of Arizona, Tucson.
103. 15 March 1995. Two invited lectures: (1) The ecological consequences of declining biodiversity: An experiment using the Ecotron. (2) The ecological consequences of declining biodiversity: microcosm experiments with plants and microbes. University of California, Davis.
104. July 88. Resource heterogeneity and the structure of arthropod assemblages in phytotelmata. International Congress of Entomology, Vancouver, Canada.
105. November 87. Advanced Education Projects Computing Fair, U. C. Berkeley. Instructional Programs for Ecology.

WORKSHOPS

1. 26-27 July 2016, Workshop and panelist, Teaching About Food Systems: Creating a Community of Practice, Institute of Human Nutrition, Columbia University
2. 14-17 January 2013 *Global Science Standards for Payment for Ecosystem Services (3d workshop)*. Organized by Naeem and Ingram, CERC and WCS, funded by Keck Foundation
3. 26-27 November 2012, *UN Sustainable Development Solutions Network*. Columbia University, NY
4. 20-23 May *Global Science Standards for Payment for Ecosystem Services*. Organized by Naeem and Ingram, CERC and WCS, funded by USAID,
5. 25-28 March 2012. *Scoping: Global Science Standards for Payment for Ecosystem Services*. Organized by Naeem and Ingram, CERC and WCS, funded by USAID,
6. 9-13 May 2011. Cary Conference, *Ecosystem Services: Is a planet servicing one species likely to function?* Institute of Ecosystem Studies, Milbrook, NY.
7. 6-8 June 2010. *Sustain What?* New York Botanical Garden, NY, USA.
8. 13-16 May 2010. *Biodiversity, Ecosystem Functioning, and Ecosystem Services: A Useful or Useless Construct for Wildlife Habitats?* Dumbarton Oaks, Washington, DC
9. 21-26 March 2010. COP 10, UN Convention on Biological Diversity, Nagoya, Japan.
10. 5-8 March 2010. ecoSERVICES, DIVERSITAS, New York, NY.

11. 15 February 2010. Organized and hosted sustainable energy conference for the Autonomous state of Navarra, Spain, CERC, Low Library, Columbia University, New York, NY
12. 4-5 February 2010. Biodiversity and Ecosystem Services, World Bank, Washington, DC
13. 1-3 February 2010. ICOMM workshop, University of Southern California
14. 3-4 December 2009. Health as an Ecosystem Service, Wildlife Conservation Society, New York, NY
15. 2-6 November 2009. Plant Ontology Workshop, Montpellier, France.
16. 23 October 2009. Bio-Sequestration and Climate Law and Policy, Columbia University, New York, NY
17. 30 September – 1 October 2009. Review Team, Deutsche Forschungsgemeinschaft (DGG), Kilimanjaro ecosystems under global change: Linking biodiversity, biotic interactions and biogeochemical ecosystem processes. Bonn, Germany
18. 26-31 July 2009. E. I. Millennium Village Meetings, Addis Ababa, Ethiopia
19. 21 – 22 April 2009. National Ecological Observatory Network Review Board
20. 26-29 September 2006 Human Well-being. UNDP Workshop. Bloomington, Indiana
21. 18-20 October 2006. 2010 Target Metrics, IUCN, Prague, Czech Republic
22. 19 March – 21 March 2005. Millennium Ecosystem Assessment. Synthesis Meeting. UNDP, New York, NY
23. 12 March – 15 March 2005. Biodiversity and climate change. New York Times Institute on the Environment and CERC. Journalism Workshop. Dominican Republic.
24. 3 December – 6 December. Millennium Ecosystem Assessment. Synthesis Meeting. London, UK.
25. 30 June – 2 July 2004. Millennium Ecosystem Assessment. Synthesis Meeting. Mexico City, Mexico.
26. 24 May – 5 June 2004. Joint Sino-USA Symposium on: Ecological Complexity and Ecosystem Services
27. 7-9 January 2004. Experimental Model Systems in Community Ecology, NSF, Washington, DC.
28. 12-15 December 2003. National Center for Ecological Analysis and Synthesis, Microbial Biodiversity Working Group (II). Santa Barbara, CA.
29. 15-16 November 2003. U. N. Millennium Development Goals, Task Force 6. Columbia University, New York.
30. 13-14 November 2003. The Endangered Species Act at 30 Years (II). University of California, Santa Barbara.
31. 27 – 29 May 2003. Bren School of the Environment and The Nature Conservancy, The Endangered Species Act at 30. Santa Barbara, CA.
32. 12 – 13 May 2003. National Science Foundation, Research Coordinating Network Meeting. Washington, DC.
33. 20 – 23 March 2003. National Center for Ecological Analysis and Synthesis, Microbial Biodiversity Working Group. Santa Barbara, CA.
34. 13 – 16 February 2003. Millennium Ecosystem Assessment, Cross Cutting Meeting. Gland, Switzerland.

35. 7-11 January 2003. DIVERSITAS. Core Project Two. Biodiversity and Ecosystem Functioning. Paris, France.
36. 13-17 December 2002. Millennium Ecosystem Assessment, Conceptual Framework. San Francisco, CA.
37. 15-17 November 2002. The Endangered Species Act at 30 Years. University of California, Santa Barbara.
38. 31 October 2002. U. S. National Academy of Sciences, DIVERSITAS workshop. Beckman Center, Irvine, California.
39. 28 July – 3 August 2002 . Climate Change Impacts and Integrated Assessment. Snowmass, Colorado.
40. 11 – 16 July 2002. Aldo Leopold Leadership Program, All Cohort Workshop, Tuscon, Arizona.
41. 6 – 11 June 2002. Biodiversity and Ecosystem Functioning, Healthy Ecosystems – Healthy People. Washington, DC.
42. 18 – 21 April 2002. Millennium Ecosystem Assessment, Port of Spain, Trinidad.
43. 5 – 6 April 2002. OTS Board Meetings, San Jose, Costa Rica.
44. 14-18 January 2002. Economic valuation of biodiversity. Royal Society for the Protection of Birds. Cambridge, UK.
45. 25-27 October 2001. Site Review. National Phytotron. Duke University, North Carolina.
46. 6-7 March 2001. International panel to evaluate a long-term biodiversity experiment proposal. German Science Foundation, Max-Planck-Institut für Biogeochemie, and University of Jena, Germany.
47. 23-25 February 2001. Microbial ecology and genomics: A crossroads of opportunity. American Academy of Microbiology, West Palm Beach, Florida.
48. 22-25 August 2000. Defying Nature's End. Conservation International, Pasadena, CA.
49. 7-10 November 1999. Biodiversity and Ecosystem Functioning, GCTE/NCEAS.
50. 26-29 March 1998. Managing human-dominated ecosystems. Missouri Botanical Gardens, St. Louis, Missouri.
51. 7-9 November 1997. Biodiversity and Ecological Complexity. Kyoto, Japan.
52. 1-3 October 1997. Managing forest stands in a changing landscape: by design or default? Cloquet Forestry Center, Minnesota.
53. 17-19 March 1997. Biodiversity and Ecosystem Functioning. Ekanäs, Sweden.
54. 4-6 September 1996. Biosphere 2 and Biodiversity, Oracle, Arizona.
55. 17 June 1996. Total value of the world's ecosystem services and natural capital. NCEAS, Santa Barbara, CA.
56. 8 April 1996. Climate change and biodiversity, Smithsonian Institute, Washington D.C.
57. 23 September 1995. Global change and ecological complexity workshop. GCTE, Cedar Creek, Minnesota.
58. 27 March 1994. SCOPE. Ecosystem function of biodiversity. Asilomar, California.

PAPERS DELIVERED

- 8/04 Ecological Society of America, annual meetings, Portland, Oregon. Naeem, S. C. Jouseau, J. P. Wright, J. Knops. Biodiversity and invasion: Resolving a dangerous and premature paradigm.
- 8/98 Ecological Society of America, annual meetings, Baltimore, Maryland. Naeem, S.,* J. Knops, D. Tilman, K. Howe, T. Kennedy, and S. Gale. University of Minnesota, St. Paul. Resident plant diversity and resistance to biological invasion at the level of the plant neighborhood.
- 8/97 Ecological Society of America, annual meetings, Albuquerque, New Mexico. "Non-abundance-based keystone species: Perturbation in a pitcher plant."
- 8/96 Ecological Society of America, annual meetings, Providence, Rhode Island. Naeem, S. and S. Li. "The critical role of species 'redundancy' in a species-rich world.
- 8/94 INTECOL, Manchester, U.K. Naeem, S. *et al.* Does biodiversity matter? A test of the association between diversity and ecosystem functioning.
- 8/94 Ecological Society of America, annual meetings, Knoxville, TN. Naeem, S. *et al.* Does biodiversity matter? A test of the association between diversity and ecosystem functioning.
- 8/93 Ecological Society of America, annual meetings, Madison, WI. Naeem, S. Population growth on a heterogeneous resource as described by the negative binomial distribution.
- 12/93 British Ecological Society, annual Winter meetings. Naeem, S. *et al.* Does biodiversity matter? A test of the association between diversity and ecosystem functioning.
- 8/90 Ecological Society of America, Snowbird, Utah. An examination of predator-prey limit cycles: how good is the evidence?
- 8/88 Ecological Society of America, Davis, California. Resource-mediated interactions can structure arthropod assemblages in *Heliconia wagneriana* microcosms.
- 8/88 Association for Tropical Biology, Davis, California. Resource heterogeneity and the structure of tropical arthropod assemblages: studies on the *Heliconia imbricata* microcosm.
- 6/88 Society for the Study of Evolution and American Society of Naturalists, Asilomar, Pacific Grove, California. Ecological consequences of dispersal in a heterogeneous environment.
- 12/87 Entomological Society of America, National Meeting, Boston, Ma. Culicids, chironomids, and copepods: Why *Trichoprosopon digitatum* (Diptera: Culicidae) doesn't colonize water-filled *Heliconia* (Musaceae) bracts.
- 8/87 Ecological Society of America, National Meeting, Columbus, Ohio. Resource heterogeneity fosters coexistence of a mite and a midge in pitcher plants.
- 3/87 Southwestern Regional Population Biology Conference, Riverside, California. "Abiotic and biotic processes and the structure of *Darlingtonia californica* communities.
- 6/84 Ecological Society of America, Western Division, San Francisco, California. "Resource and environmental heterogeneity and community structure in a small world: *Darlingtonia californica* and its community of arthropod associates."

- 8/84 Entomological Society of America, Pacific Division, San Francisco, California.
"Ontogenetic strategies and coevolution between *Darlingtonia californica* and its community of arthropod associates."

GRANTS

- 2007-2012. RCN: TraitNet - Coordinating Trait-Based Ecological and Revolutionary Research. (Co PI. Dan Bunker, Columbia U) NSF \$430,963.
- 2006-2011 COLLABORATIVE RESEARCH: Testing Biodiversity-Ecosystem Functioning Relationships in an Ecological Stoichiometry Framework in the World's Largest Natural Grassland. (Collaborators: Jingle Wu and Jim Elser, Arizona State U.) \$290,270
- 2003-2006. Interactions among biodiversity, CO₂, and N deposition in grasslands. N. S. F. (P. Reich et al.) NSF. Biocomplexity. \$1,500,000 (3 years).
- 2002 – 2007. Research Coordinating Networks: BioMERGE. NSF. \$500,000.
- 2000-2003. Renewal: Interactions among biodiversity, CO₂, and N deposition in grasslands. N. S. F. (*third PI* with P. Reich, D. Tilman, and J. Knops) \$1,500,000 (3 years).
- 2000 – 2006. LTER: Biodiversity, disturbance and ecosystem functioning at the prairie-forest border. D.Tilman, S.Hobbie, P.Reich, M.Davis, J.Knops, S.Naeem, M.Ritcie, D.Wedin, C.Lehman Univ. of Minnesota (NSF pass-through; \$20,000/yr to S.Naeem) Total award. 4,200,000
- 1999-2000. University of Washington, Seminar Series on Herbivory (J. Maron, lead PI) \$3,250.
- 1998-1999. Institute for Social and Economic Sustainability. (56 PIs) U. Minnesota. \$50,000.
- 1998-2001. National Science Foundation, Environmental Biology, CAREER (Naeem) \$210,000.
- 1997-1999. National Science Foundation, Environmental Biology, LTER. (D. Tilman, P. Reich, M. Ritchie, D. Wedin, J. Knops, S. Naeem). Succession, Biodiversity and Ecosystem Functioning at the Prairie-Forest Border added during 3d year of 5 year grant for \$2,225,000.00.
- 1997-1999. National Science Foundation, Environmental Biology, Ecology. Community composition and biomass distribution (Naeem) \$100,000 (2 years).
- 1997-2000. Interactions among biodiversity, CO₂, and N deposition in grasslands. N. S. F. (*third PI* with P. Reich, D. Tilman, and J. Knops) \$1,500,000 (3 years)
- 1996-1998. Center for Community Genetics. (*Co PI* with G. May, D. Alstad, R. Shaw, D. Andow, J. Groth, P. Morrow) University of Minnesota \$50,000 (2 years) to establish a center through externally funded sources.
- 1994-1996. McKnight Land-Grant Professorship. (Naeem). \$60,000 (2 years).

PUBLICATIONS (Peer reviewed)

1. Pan, Q., D. Tian, S. Naeem, K. Auerswald, J. J. Elser, Y. Bai, J. Huang, Q. Wang, H. Wang, and J. Wu. 2016. Effects of functional diversity loss on ecosystem functions are influenced by compensation. *Ecology* 97:2293-2302.
2. Seddon, N., Mace, G.M., Pigot, A. L., Naeem, S., Mouillot, D., Tobias, J.A., Walpole, M., Vause, J. . 2016. Biodiversity in the Anthropocene: prospects and policy. *Proceedings of the Royal Society B-Biological Sciences* 283.
3. Valencia, V., S. Naeem, L. García-Barrios, P. West, and E. J. Sterling. 2016. Conservation of tree species of late succession and conservation concern in coffee agroforestry systems. *Agriculture, Ecosystems & Environment* 219:32-41.
4. Weeks, B. C., N. Gregory, and S. Naeem. 2016. Bird assemblage vulnerability depends on the diversity and biogeographic histories of islands. *Proceedings of the National Academy of Sciences* 113:10109-10114.
5. Gersony, J. T., C. M. Prager, N. T. Boelman, J. U. H. Eitel, L. Gough, H. E. Greaves, K. L. Griffin, T. S. Magney, S. K. Sweet, L. A. Vierling, and S. Naeem. 2016. Scaling Thermal Properties from the Leaf to the Canopy in the Alaskan Arctic Tundra. *Arctic, Antarctic, and Alpine Research* 48:739-754.
6. Naeem, S., R. Chazdon, J. E. Duffy, C. Prager, and B. Worm. 2016. Biodiversity and human well-being: an essential link for sustainable development. *Proceedings of the Royal Society B: Biological Sciences* 283.
7. Naeem, S., C. Prager, B. Weeks, A. Varga, D. F. B. Flynn, K. Griffin, R. Muscarella, M. Palmer, S. Wood, and W. Schuster. 2016. Biodiversity as a multidimensional construct: a review, framework and case study of herbivory's impact on plant biodiversity. *Proceedings of the Royal Society B: Biological Sciences* 283.
8. Craven, D., F. Isbell, P. Manning, J. Connolly, H. Bruelheide, A. Ebeling, C. Roscher, J. van Ruijven, A. Weigelt, B. Wilsey, C. Beierkuhnlein, E. de Luca, J. N. Griffin, Y. Hautier, A. Hector, A. Jentsch, J. Kreyling, V. Lanta, M. Loreau, S. T. Meyer, A. S. Mori, S. Naeem, C. Palmberg, H. W. Polley, P. B. Reich, B. Schmid, A. Siebenkäs, E. Seabloom, M. P. Thakur, D. Tilman, A. Vogel, and N. Eisenhauer. 2016. Plant diversity effects on grassland productivity are robust to both nutrient enrichment and drought. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 371. <http://dx.doi.org/10.1098/rstb.2015.0277>
9. Nichols, E., C. A. Peres, J. E. Hawes, and S. Naeem. 2016. Multitrophic diversity effects of network degradation. *Ecology and Evolution*: n/a-n/a.
10. Prager, C. M., A. Varga, P. Olmsted, J. C. Ingram, M. Cattau, C. Freund, R. Wynn-Grant, and S. Naeem. 2015. An assessment of adherence to basic ecological principles by payments for ecosystem service projects. *Conservation Biology*:n/a-n/a.
11. Valencia, V., S. Naeem, L. García-Barrios, P. West, and E. J. Sterling. 2016. Conservation of tree species of late succession and conservation concern in coffee agroforestry systems. *Agriculture, Ecosystems & Environment* 219:32-41
12. Chen, D., Q. Pan, Y. Bai, S. Hu, J. Huang, Q. Wang, S. Naeem, J. J. Elser, J. Wu, and X. Han. 2016. Effects of plant functional group loss on soil biota and net ecosystem exchange: a plant removal experiment in the Mongolian grassland. *Journal of Ecology*:n/a-n/a. Naeem et al. Science Policy Forum

13. Naeem, S., J. C. Ingram, A. Varga, T. Agardy, P. Barten, G. Bennett, E. Bloomgarden, L. L. Bremer, P. Burkill, M. Cattau, C. Ching, M. Colby, D. C. Cook, R. Costanza, F. DeClerck, C. Freund, T. Gartner, R. Goldman-Benner, J. Gunderson, D. Jarrett, A. P. Kinzig, A. Kiss, A. Koontz, P. Kumar, J. R. Lasky, M. Masozera, D. Meyers, F. Milano, L. Naughton-Treves, E. Nichols, L. Olander, P. Olmsted, E. Perge, C. Perrings, S. Polasky, J. Potent, C. Prager, F. Quétier, K. Redford, K. Saterson, G. Thoumi, M. T. Vargas, S. Vickerman, W. Weisser, D. Wilkie, and S. Wunder. 2015. Get the science right when paying for nature's services. *Science* 347:1206-1207.
14. Isbell, F., D. Craven, J. Connolly, M. Loreau, B. Schmid, C. Beierkuhnlein, T. M. Bezemer, C. Bonin, H. Bruelheide, E. de Luca, A. Ebeling, J. N. Griffin, Q. Guo, Y. Hautier, A. Hector, A. Jentsch, J. Kreyling, V. Lanta, P. Manning, S. T. Meyer, A. S. Mori, S. Naeem, P. A. Niklaus, H. W. Polley, P. B. Reich, C. Roscher, E. W. Seabloom, M. D. Smith, M. P. Thakur, D. Tilman, B. F. Tracy, W. H. van der Putten, J. van Ruijven, A. Weigelt, W. W. Weisser, B. Wilsey, and N. Eisenhauer. 2015. Biodiversity increases the resistance of ecosystem productivity to climate extremes. *Nature* 526:574-577.
15. Jain, M., S. Naeem, B. Orlove, V. Modi, and R. S. DeFries. 2015. Understanding the causes and consequences of differential decision-making in adaptation research: Adapting to a delayed monsoon onset in Gujarat, India. *Global Environmental Change* 31:98-109.
16. Valencia, V., P. West, E. J. Sterling, L. García-Barrios, and S. Naeem. 2015. The use of farmers' knowledge in coffee agroforestry management: implications for the conservation of tree biodiversity. *Ecosphere* 6:1-17.
17. Wood, S. A., M. Almaraz, M. A. Bradford, K. L. McGuire, S. Naeem, C. Neill, C. A. Palm, K. L. Tully, and J. Zhou. 2015a. Farm management, not soil microbial diversity, controls nutrient loss from smallholder tropical agriculture. *Frontiers in Microbiology* 6.
18. Wood, S. A., M. A. Bradford, J. A. Gilbert, K. L. McGuire, C. A. Palm, K. L. Tully, J. Zhou, and S. Naeem. 2015b. Agricultural intensification and the functional capacity of soil microbes on smallholder African farms. *Journal of Applied Ecology* 52:744-752.
19. Wood, S. A., D. S. Karp, F. DeClerck, C. Kremen, S. Naeem, and C. A. Palm. 2015c. Functional traits in agriculture: agrobiodiversity and ecosystem services. *Trends in Ecology & Evolution* 30:531-539.
20. Wu, J., S. Naeem, J. Elser, Y. Bai, J. Huang, L. Kang, Q. Pan, Q. Wang, S. Hao, and X. Han. 2015. Testing biodiversity-ecosystem functioning relationship in the world's largest grassland: overview of the IMGRE project. *Landscape Ecology* 30:1723-1736.
21. Jain, M., D. F. B. Flynn, C. M. Prager, G. M. Hart, C. M. DeVan, F. S. Ahrestani, M. I. Palmer, D. E. Bunker, J. M. H. Knops, C. F. Jouseau, and S. Naeem. 2014. The importance of rare species: a trait-based assessment of rare species contributions to functional diversity and possible ecosystem function in tall-grass prairies. *Ecology and Evolution* 4:104-112.
22. Cardinale, B. J., J. E. Duffy, A. Gonzalez, D. U. Hooper, C. Perrings, P. Venail, A. Narwani, G. M. Mace, D. Tilman, D. A. Wardle, A. P. Kinzig, G. C. Daily, M.

- Loreau, J. B. Grace, A. Larigauderie, D. S. Srivastava, and S. Naeem. 2012. Biodiversity loss and its impact on humanity. *Nature* **486**:59-67.
23. Naeem, S., J. E. Duffy, and E. Zavaleta. 2012. The Functions of Biological Diversity in an Age of Extinction. *Science* **336**:1401-1406.
 24. Nichols, E., M. Uriarte, D. E. Bunker, M. E. Favila, E. M. Slade, K. Vulinec, T. Larsen, F. Z. Vaz-de-Mello, J. Louzada, S. Naeem, and S. H. Spector. 2012. Trait-dependent response of dung beetle populations to tropical forest conversion at local and regional scales. *Ecology* **94**:180-189.
 25. Wheeler, Q. D., S. Knapp, D. W. Stevenson, J. Stevenson, S. D. Blum, B. M. Boom, G. G. Borisy, J. L. Buizer, M. R. De Carvalho, A. Cibrian, M. J. Donoghue, V. Doyle, E. M. Gerson, C. H. Graham, P. Graves, S. J. Graves, R. P. Guralnick, A. L. Hamilton, J. Hanken, W. Law, D. L. Lipscomb, T. E. Lovejoy, H. Miller, J. S. Miller, S. Naeem, M. J. Novacek, L. M. Page, N. I. Platnick, H. Porter-Morgan, P. H. Raven, M. A. Solis, A. G. Valdecasas, S. Van Der Leeuw, A. Vasco, N. Vermeulen, J. Vogel, R. L. Walls, E. O. Wilson, and J. B. Woolley. 2012. Mapping the biosphere: exploring species to understand the origin, organization and sustainability of biodiversity. *Systematics and Biodiversity* 10:1-20.
 26. Sachs, J. D., R. Remans, S. M. Smukler, L. Winowiecki, S. J. Andelman, K. G. Cassman, D. Castle, R. DeFries, G. Denning, J. Fanzo, L. E. Jackson, R. Leemans, J. Lehmann, J. C. Milder, S. Naeem, G. Nziguheba, C. A. Palm, P. L. Pingali, J. P. Reganold, D. D. Richter, S. J. Scherr, J. Sircely, C. Sullivan, T. P. Tomich, and P. A. Sanchez. 2012. Effective monitoring of agriculture: a response. *Journal of Environmental Monitoring* **14**: 738-742.
 27. Perrings, C., S. Naeem, F. S. Ahrestani, D. E. Bunker, P. Burkill, G. Canziani, T. Elmqvist, J. A. Fuhrman, F. M. Jaksic, Z. i. Kawabata, A. Kinzig, G. M. Mace, H. Mooney, A.-H. Prieur-Richard, J. Tschirhart, and W. Weisser. 2011. Ecosystem services, targets, and indicators for the conservation and sustainable use of biodiversity. *Frontiers in Ecology and the Environment*. doi: 10.1890/100212
 28. Flynn, D., N Mirotchnick, M Jain, MI Palmer, S Naeem. 2011. Functional and phylogenetic diversity as predictors of biodiversity-ecosystem function relationships. *Ecology* 92:1573-1581.
 29. Kattge, J. et al. (Naeem in alphabetical order of 129 authors). 2011. TRY – a global database of plant traits. *Global Change Biology* 17:2905-2935.
 30. Lin, B. B., D. F. B. Flynn, D. E. Bunker, M. Uriarte, and S. Naeem. 2011. The effect of agricultural diversity and crop choice on functional capacity change in grassland conversions. *Journal of Applied Ecology* 48:609-618.
 31. Perrings, C., Naeem, S., Ahrestani, F., Bunker, D. E., Burkill, P., Canziani, G., Elmqvist, T., Ferrati, R., Fuhrman, J., Jasic, F., Kawabata, Z., Kinzig, A., Mace, G. M., Milano, F., Mooney, H., Richard, A.-H. P., Tschirhart, J. & Weisser, W. 2010. Biodiversity Transcends Services, Response. *Science*, 330, 1745.
 32. Perrings, C., S. Naeem, F. Ahrestani, D. E. Bunker, P. Burkill, G. Canziani, T. Elmqvist, R. Ferrati, J. Fuhrman, F. Jaksic, Z. Kawabata, A. Kinzig, G. M. Mace, F. Milano, H. Mooney, A.-H. Prieur-Richard, J. Tschirhart, and W. Weisser. 2010. Ecosystem Services for 2020. *Science* 330:323-324.
 33. Sachs, J., R. Remans, S. Smukler, L. Winowiecki, S. J. Andelman, K. G. Cassman, D. Castle (Naeem in alphabetical order of the 25 authors) et al. 2010. Monitoring the

- world's agriculture. *Nature* 466:558-560.
34. Bai, Yongfei; Wu, Jianguo; Clark, Christopher M; Naeem, Shahid; Pan, Qingming; Huang, Jianhui; Zhang, Lixia; Han, Xingguo. 2010 Tradeoffs and thresholds in the effects of nitrogen addition on biodiversity and ecosystem functioning: Evidence {Naeem, 2015 #9235} {Naeem, 2015 #9235} from Inner Mongolia Grassland. *Global Change Biology* 16:358-372.
 35. Knops, J. M. H., D. A. Wedin and S. Naeem. 2010. The role of litter quality feedbacks in terrestrial nitrogen and phosphorus cycling. *Open Ecology Journal* 3: 14-25.
 36. Michael E. Hochberg, J. M. C., Nicholas J. Gotelli, Alan Hastings, Shahid Naeem, 2009. The tragedy of the reviewer commons. *Ecology Letters* 12:2-4.
 37. Richardson, Nehemiah F., J. L Ruesink, S. Naeem, S. D. Hacker, H. M. Tallis, B. Dumbauld, L. M. Wisehart. 2008. Bacterial abundance and aerobic microbial activity across natural and oyster aquaculture habitats during summer conditions in a northeastern Pacific estuary *Hydrobiologia*. 596: 269-278.
 38. Knops, J.M.H., S. Naeem and P. Reich. 2007. The impact of elevated CO₂, increased nitrogen availability and biodiversity on plant tissue quality and decomposition. *Global Change Biology* 13, 1960-1971
 39. Fuhrman, J. A. I Hewson, M. S. Schwalbach, J. A. Steele, M. V. Brown, and S. Naeem. 2006. Annually reoccurring bacterial communities are predictable from ocean conditions. *Proceedings of the National Academy of Sciences* 103: 13104-13109
 40. Martiny, J. B. H., B. J. M. Bohannan, J. H. Brown, R. K. Colwell, J. A. Fuhrman, J. L. Green, M. C. Horner-Devine, M. Kane, J. A. Krumins, C. R. Kuske, P. J. Morin, S. Naeem, L. Ovreas, A.-L. Reysenbach, V. H. Smith, and J. T. Staley. 2006. Microbial biogeography: putting microorganisms on the map. *Nature Review Microbiology* 4:102-112.
 41. Fridley, J.D., Stachowicz, J.J., Naeem, S., Sax, D.F., Seabloom, E.W., Smith, M.D., Stohlgren, T.J., Tilman, D., and Von Holle, B. (in press) The invasion paradox: reconciling pattern and process in species invasions. *Ecology*
 42. Naeem, S. 2006. Expanding scales in biodiversity-based research: Challenges and solutions for marine systems. *Marine Ecology Progress Series*. 311:273-283
 43. Reich, P. B., S. E. Hobbie, T. Lee, D. S. Ellsworth, J. B. West, D. Tilman, J. M. H. Knops, and S. T. Naeem, J. 2006. Nitrogen limitation constrains sustainability of ecosystem response to CO₂. *Nature* 440:922-925.
 44. Wright, J. P., S. Naeem, A. Hector, C. Lehman, P. B. Reich, B. Schmid, and D. Tilman. 2006. Conventional functional classification schemes underestimate the relationship with ecosystem functioning. *Ecology Letters* 9:111-120.
 45. Bunker, D. E., F. DeClerck, J. C. Bradford, R. K. Colwell, I. Perfecto, O. L. Phillips, M. Sankaran, and S. Naeem. 2005. Species Loss and Aboveground Carbon Storage in a Tropical Forest. *Science* 310:1029-1031.
 46. Hooper, D. U., F. S. Chapin, III, J. J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J. H. Lawton, D. Lodge, M. Loreau, S. Naeem, B. Schmid, H. Setälä, A. J. Symstad, J. Vandermeer, and D. A. Wardle (2005) Effects of biodiversity on ecosystem functioning: a consensus of current knowledge and needs for future research. *Ecological Monographs* 75:3-35.

47. Reich, P. B., D. Tilman, S. Naeem, D. S. Ellsworth, J. Knops, J. Craine, D. Wedin, and J. Trost. 2004. Species and functional group diversity independently influence biomass accumulation and its response to CO₂ and N. *Proceedings of the National Academy of Sciences of the United States of America* 101:10101-10106.
48. Naeem, S. and J. P. Wright. 2003. Disentangling biodiversity effects on ecosystem functioning: Deriving solutions to a seemingly insurmountable problem. *Ecology Letters* 6: 567-579.
49. Craine, J. M., P. B. Reich, D. Tilman, D. Ellsworth, J. Fargione, J. Knops, S. Naeem. 2003. The role of plant species in biomass production and response to elevated CO₂ and N. *Ecology Letters* 6: 623-630.
50. Loreau, M., S. Naeem and P. Inchausti (eds.) 2002. *Biodiversity and Ecosystem Functioning: Synthesis and Perspectives*. Oxford University Press.
51. Balmford A., A. Bruner, P. Cooper, R. Costanza, S. Farber, R. E. Green, M. Jenkins, P. Jefferiss, V. Jessamy, J. Madden, K. Munro, N. Myers, S. Naeem, J. Paavola, M. Rayment, S. Rosendo, J. Roughgarden, K. Trumper, R. K. Turner. Economic reasons for conserving wild nature. *Science* 297: 950-953.
52. Naeem S. 2002. Disentangling the impacts of functional and taxonomic diversity on ecosystem functioning in synthetic-community experiments. *Ecology* 83: 2925-2935.
53. Kennedy, T., S. Naeem, K. Howe, J. M. H. Knops, D. Tilman, and P. B. Reich. 2002. Biodiversity as a barrier to ecological invasion. *Nature* 417:636-638.
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