

JAMES B. GRACE

Affiliate Professor, Department of Biology,
Concordia University, Montreal, QC H4B 1R6, Canada.

Email: james.grace@concordia.ca

†Present Address: 610 Colonial Drive, Lafayette, Louisiana, 70506 USA

Areas of Specialization

Causal Methods, Ecosystems, Scientific Methodology

Professional History

Senior Research Scientist, U.S. Geological Survey, ST (1992-2025); Adjunct Professor, Department of Biology, University of Louisiana (1993-2016); Temporary Member of Graduate Faculty, University of Alabama (2015-2016); Affiliate Faculty, School of Renewable Natural Resources, LSU (2002-2004); Professor and Associate Professor, Department of Biology, Louisiana State University; (1990-1985); Associate and Assistant Professor, University of Arkansas (198-1985); Visiting Professor, Louisiana Universities Marine Consortium (1989); Visiting Scientist, Div. Wildlife & Rangelands, CSIRO, Darwin, Australia (1986); Assistant Professor, Kellogg Biological Station, Michigan State University (1980).

Education

Ph.D., Botany and Plant Pathology, Michigan State University, and W.K. Kellogg Biological Station (1976-1980); M.S., Botany, Clemson University (1973-1976); B.S., Biology, Presbyterian College (1969-1973)

Awards, Honors, Acknowledgments

Presidential Research Award given by the President of the United States for career contributions to the nation in a ceremony held at the White House (2021). This award is the highest honor given to career senior scientists or other executives for the conduct of their duties.

Highly-Cited Researcher, Web of Science Award. Listed as being in the top 0.1% of cited researchers in the world over a decade or more.

Fellow of the Ecological Society of America (2014).

Meritorious Research Award – Society of Wetland Scientists. (2000) This award is the Society's highest honor for an individual research accomplishment by a senior scientist in the field of wetland ecology.

Distinguished Ecologist, Colorado State University, Graduate Program in Ecology. Designation received through nomination-based competitive process voted on by the faculty. (2019).

Additional Awards: Editor's Choice Award – Landscape and Urban Planning. Senior Scientist Award, Promotion to Senior Scientist, the highest rank a federal research scientist can achieve; *Faculty of 1000 Honors (six times)*; *Science Direct Top 25 Hottest Articles* (2009); *Science Excellence Award - USGS*, 2003.

Publications (over 200 articles, books, and reviews)

Books:

Grace, J.B. and D. Tilman. (eds.) (1990) *Perspectives on Plant Competition*, Academic Press, New York. 484 pages.

McCune, B. and J.B. Grace. (2002) *Analysis of Ecological Communities*. MJM Press, 302 pages.

Grace, J.B. (2006) *Structural Equation Modeling and Natural Systems*. Cambridge University Press, 365 pages.

Grace, J.B. (in progress) *A Multi-Evidence Approach to Causal Investigations*.

Select Recent Publications:

Grace, J.B. 2026. Call for a paradigm shift from statistical causal inference to multi-evidence causal investigation. (in review) <https://doi.org/10.32942/X2G95Z>

Grace, J.B. 2026. Problematic practices in the study of causation using correlations. (in review)

Grace, J.B. 2025. New paradigm expands the evidence that can be used for drawing explicitly causal interpretations to include mechanistic knowledge. *Bull. Ecological Society of America* 106(1):e02195. <https://doi.org/10.1002/bes2.2195>.

Grace, J.B., Huntington-Klein, N., Schweiger, Martinez, M., Osland, M.J., et al. 2025. Causal effects vs causal mechanisms: Two traditions with different requirements and outcomes: *Ecology Letters* 00(0):e00000. <https://doi.org/10.1111/ELE.70029>.

Grace, J.B., 2024, An integrative paradigm for building causal knowledge. *Ecological Monographs* 94(4) art. e1628, <https://doi.org/10.1002/ecm.1628>.

Lectures and Presentations

125 Invited Seminars, Lectures, and Keynote Speeches

60 Multi-day Workshops taught in 9 Countries.

Special Activities (select)

Coastal Ecosystems Climate Research Task Force (2021 – 2022); Senior Scientist RGE Review Panel (2021); Climate R&D Program Council (2016 – 2022); Second-Level RGE Review Panel (2017); Senior Scientist RGE Review Panel (2016); NEON Terrestrial Observatory System Plant Diversity Technical Working Group (2015 – 2019); Board of Editors, Ecology Letters (2004-2010); DOI Strategic Science Working Group (2010-2011); USGS Oil Spill Response Strategic Science Planning Panel (2010); Joint Fire Science Board Review Panel (Winter 2009); National Center for Ecological Analysis and Synthesis Investigator (Fall 2003- 2007); External Science Advisory Committee, Manchac Environmental Studies and Outreach Program, Southeastern Louisiana University (Spring 2003- 2006); Government Interagency Fire Monitoring Task Force (Spring 2003); National Science Foundation Review Panel Chair, National Center for Ecological Analysis and Synthesis (fall 2002); Knowledge Network for Biocomplexity Team Leader (spring 2002); USGS Fire Science Coordination Team (2001-2002); University of Louisiana, Center for Ecology and Environmental Technology (2001-2006); USGS Invasive Species Future Science Direction Committee (2001); Board of Directors, Lafayette Natural

History Museum and Planetarium (2000-2005); Federal Interagency Committee Workshop to Develop an Early Warning and Rapid Response System for Invasive Plants in the United States (2000); USGS Central Region Invasive Species Science Committee (1999-2000); Board of Editors, The American Naturalist (1996-1999); Board of Editors, Plant Ecology (1996-1999); Moderator, Conference on Noxious Weeds and Invasive Plant Problems of the Eastern and Tropical United States, Fort Lauderdale, Florida (1995); Board of Editors, Ecology (1992-1995); Department of the Interior National Biological Survey Organizing Committee (1993); Scientific Advisory Committee for Restoration of the Florida Everglades (1990-1995); Chair and Vice-Chair of the Ecological Section of the Botanical Society of America (1986-1990); Governor's Wetland Task Force for the State of Louisiana (1990-1991); Organizer, Colloquium on Plants and the Biosphere at Louisiana State University (1989-1990); Associate Editor, Aquatic Botany (1987-1990); Associate Editor, Wetlands (1987-1990); University of Arkansas Committee on Creation and Evolution (1982); Chair of the Environmental Sciences Program, University of Arkansas (1980-1985).