

BIOGRAPHICAL SKETCH - LOUIS J. GROSS

Department of Ecology and Evolutionary Biology

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(a) Professional Preparation

Drexel University, Philadelphia PA Mathematics with honors BS 1974

Cornell University, Ithaca, NY Applied Mathematics Ph.D. 1979

(b) Professional Appointments:

2018-present, Chancellor's Professor, University of Tennessee

2010- present, Alvin and Sally Beaman Distinguished Professor, University of Tennessee

2009- 2012, James R. Cox Professor, University of Tennessee

2008-2015, 2017- present, Director, National Institute for Mathematical and Biological Synthesis

1997- present, Professor, Departments of Ecology and Evolutionary Biology and Mathematics,
University of Tennessee

1998 – present, Director, The Institute for Environmental Modeling, University of Tennessee

1992- 1997, Professor, Department of Mathematics and Graduate Program in Ecology, University
of Tennessee

1985-1992, Associate Professor, Department of Mathematics and Graduate Program in Ecology,
University of Tennessee

1987, Distinguished Visitor (Summer), Mathematics and Botany Departments, University of
California, Davis

(c) (i) Five Products Related to the Project:

Beckage, B., L. J. Gross, K. Lacasse, E. Carr, S. S. Metcalf, J. M. Winter, P. D. Howe, N. Fefferman, T. Franck, A. Zia, A. Kinzig and F. M. Hoffman. 2018. Linking models of human behavior and climate alters projected climate change. *Nature Climate Change* **8**, 79–85.

Bodine E.N., S. Lenhart and L. J. Gross. 2014. *Mathematics for the Life Sciences*. Princeton University Press, Princeton, NJ.

Gross, L. J. 2013. Selective ignorance and multiple scales in biology: deciding on criteria for model utility. *Biological Theory* **8**:74-79.

Hastings, A. and L.J. Gross (eds.). 2012. *The Encyclopedia of Theoretical Ecology*. University of California Press, Riverside, CA.

Beckage, B., L. J. Gross, and S. Kauffman. 2011. The limits to prediction in ecological systems. *Ecosphere* **2**(11):125. doi:10.1890/ES11-00211.1.

(ii) Five Additional Products:

Bucini, G., B. Beckage, and L. J. Gross. 2017. Climate seasonality, fire and global patterns of tree cover. *Frontiers of Biogeography* **9**(2): 1-15.

Kultz, D., D. F. Clayton, G. E. Robinson, C. Albertson, H. V. Carey, M. E. Cummings, K. Dewar, S. V. Edwards, H. A. Hofmann, L. J. Gross, J. G. Kingsolver, M. J. Meaney, B. A. Schlinger, A. W. Shingleton, M. B. Sokolowski, G. N. Somero, D. C. Stanzione and A. E. Todgham. 2013. New frontiers for organismal biology. *Bioscience* **63**: 464-471.

Federico, P., L. J. Gross, S. Lenhart, and D. Ryan. 2013. Optimal control in individual-based models: implications from aggregated methods. *American Naturalist* **181**: 64-77.

Gross, L. J. and B. Beckage. 2012. Toward a metabolic scaling theory of crop systems. *Proceedings of the National Academy of Sciences* **109**:15535-15536.

Bodine E.N., L. J. Gross and S. Lenhart. 2012. Order of events matter: comparing discrete models for optimal control of species augmentation. *Journal of Biological Dynamics* **6**:31-49.

(d) Synergistic Activities:

Society for Mathematical Biology. This is the main international professional society encouraging research and education at the interface of mathematics and biology. I have been involved in numerous ways in the leadership of this organization over the past several decades including serving as President from 2003-2005.

Society for Industrial and Applied Mathematics. This is the major international professional society supporting research and education across the range of applied mathematics. I have been involved in several activities for this society including serving as a member of the Committee on Science Policy since 2016.

American Institute for Biological Sciences. This is a professional society that brings together over 200 member societies and organizations to support biological science research and education. I have served in several roles for this organization including being elected as Treasurer from 2010-2013.

Ecological Society of America. This is a major international society supporting research and education in the ecological sciences. I have served in numerous roles for the society over the past decades including serving as Program Chair for the 2008 annual meeting.

National Research Council. This is the main independent scientific organization that carries out research projects requested by US government agencies. I have served on a wide array of activities carried out by this organization, including as a member of the Committee on Envisioning the Data Science Discipline: the Undergraduate Perspective from 2016-2018.