

## **BIOGRAPHICAL SKETCH - LOUIS J. GROSS**

### **(a) Professional Preparation**

Drexel University, Philadelphia PA	Mathematics with honors	BS 1974
Cornell University, Ithaca, NY	Applied Mathematics	Ph.D. 1979

### **(b) Professional Appointments:**

2010- present, Alvin and Sally Beaman Professor, University of Tennessee  
2009- present, James R. Cox Distinguished Professor, University of Tennessee  
2015- present, Director Emeritus, National Institute for Mathematical and Biological Synthesis  
2008- 2015, Director, National Institute for Mathematical and Biological Synthesis  
1997- present, Professor, Departments of Ecology and Evolutionary Biology and Mathematics, University of Tennessee, Knoxville, TN  
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, Knoxville, Tennessee  
1985-1992, Associate Professor, Department of Mathematics and Graduate Program in Ecology, University of Tennessee, Knoxville, Tennessee  
1987, Distinguished Visitor (Summer), Mathematics and Botany Departments, University of California, Davis, California

### **(c) (i) Five Publications Related to the Project:**

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.

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.

Beckage, B., L. J. Gross, W. J. Platt, W. Godsoe and D. Simberloff. 2012. Individual variation and weak neutrality as determinants of forest diversity. *Frontiers of Biogeography* **3**:145-154.

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.

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.

### **(ii) Five Additional Publications:**

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

Yin, L., S-L. Shaw, D. Wang, E. A. Carr, M. W. Berry, L. J. Gross and E. J. Comiskey. 2012. A framework of integrating GIS and parallel computing for spatial control problems – a case study of wildfire control. *Int. J. Geographical Information Sci.* **26**:621-641.

Gross, L. J. 2013. Use of Computer Systems and Models. In: Levin S.A. (ed.) *Encyclopedia of Biodiversity*, Second Edition, Volume 2, pp. 213-220. Academic Press, Waltham, MA.

**(d) Synergistic Activities:**

**Society for Mathematical Biology.** President (2003-2005). Scientific Committee member for Annual Meetings (1999, 2000), Annual Meeting Chair (2002). Education Committee member (1999-2008). President-Elect (2002), Nominating Committee Chair (2010), Okubo Prize Chair (2011), Annual Meeting Chair (2012)

**MAA Committee on Undergraduate Preparation in Mathematics.** Math Biology 2012-2014.

**American Institute for Biological Sciences,** 2006 Distinguished Scientist Awardee. Elected at-Large Member of Board of Directors, 2008-2010; Elected Treasurer, 2010-2013.

**Ecological Society of America,** Annual Meeting Program Chair, 2008; Meetings Committee co-Chair, 2008-2009; Theoretical Ecology Section: Vice Chair, 2000-2001; Chair, 2001-2002.

**National Research Council.** Chair, Committee on Integrating Education with Biocomplexity Research. 2001-2003. Member, Mathematics and Computer Science Panel for Bio2010: Transforming Undergraduate Education for Future Research Biologists, 2001-2002. Member, Committee on the Selection and Use of Models in Regulatory Decision Making, 2004-2005. Member, Board on Life Sciences, 2008-2014; BLS Liaison to Standing Committee on Emerging Science for Environmental Health Decisions, 2010-2013.

**(e) Collaborators and Other Affiliations:**

**(i) Collaborators, co-editors, and current affiliations:**

E. Asano (U South FL), B. Beckage (U VT), M. Berry (UTK), E. Bodine (Rhodes), J. Brown (UIC), N. Buchanan (ESRI), E. Carr (UTK), E. Comiskey (UTK), V. Dale (ORNL), D. DeAngelis (USGS), W. Ding (Mid. TN St.) S. Duke-Sylvester (U. Louisiana), P. Federico (Capital U.), H. Gaff (Old Domin.), W. Godsoe (Canterbury), A. Hastings (UC Davis), B. Johnson (UTK), H. Joshi (Xavier), S. Kauffman (SFI/U VT), K. Klemow (Wilkes), K. Langston (UTK), S. Lenhart (UTK), B. McGill (U Maine), M. Palmer (UTK), W. Platt (LSU), A. Potochnik (U Cinn), L. Real (Emory), D. Ryan (UTK), R. Salinas (App. St.), D. Simberloff (UTK), R. Stephenson (U. Mass-Boston), C. Travis (UTK), D. Wang (ORNL), A. Whittle (Kennesaw St), A. Zia (U VT).

Total collaborators over career: 98.

**(ii) Graduate Advisors:** Simon A. Levin (Princeton), Brian F. Chabot (Cornell)

**(iii) Ph.D. Students and Post-doctoral Associates Directed:** Brian Beckage (U VT), Mark Bevelhimer (ORNL), Erin Bodine (Rhodes), John Curnutt (USGS), Wandi Ding (MTSU), Scott Duke-Sylvester (U. Louisiana), Paula Federico (Capital U.), Michael Fuller (U New Mexico), Holly Gaff (Old Domin.), O. Gaoue (U. Hawaii), Will Godsoe (Lincoln U, NZ), Milena Holmgren (Wageningen), Joe Hughes (Boston U.), Hem Raj Joshi (Xavier), Andrew Kanarek (EPA), Hang-Kwang Luh (Oregon St.), Gesham Magomedze (KwaZulu-Natal), Emily Moran (UC Merced), Seema Nanda (Bangalore), Calistus Ngonghala (Harvard), M. Philip Nott (Inst. Bird Pop.), Larry Pounds (ORNL), Chris Remien (U Idaho), Rene' Salinas (Appal. St.), Dali Wang (ORNL), Paul Wetzel (Mt. Holyoke), Andrew Whittle (Kennesaw St.), Yegang Wu (S FL. Water Manage. District).

Total graduate students directed: 16. Total Post-doctoral associates: 23.