Bibliography

Eberhard O. Voit
Books


Articles in Scientific Journals:


[14] Voit, E.O. and M.A. Savageau: Equivalence between S-systems and Volterra-


[55] Voit, E.O.: Canonical modeling: A review of concepts with emphasis on


Lee, Y. and E.O. Voit: Mathematical modeling of monolignol biosynthesis in


[150] Voit, E.O., Z. Qi, and S. Kikuchi: Mesoscopic models of biomedical systems as intermediates between disease simulators and tools for discovering design principles: Dopamine-related diseases as case study. Pharmacopsychiatry 45(S1), S22-S30, 2012.


[203] Olivença, D.V., E.O. Voit, and F.R. Pinto: Thickness of the airway surface liquid layer in the lung is affected in cystic fibrosis by compromised synergistic regulation of the ENaC ion channel. (submitted)

[204] Olivença, D.V., E.O. Voit, and F.R. Pinto: Moderation of ENaC by phospholipids and SPLUNC1 in cystic fibrosis explained through mathematical modeling. (submitted)


**Chapters in Books and Proceedings**


Other Publications:


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**Publications as a Member of the Malaria Host-Parasite Interaction Center (MaHPIC) Consortium:**


February 21-25, 2016, Lorne, Australia.


Tropical Medicine and Hygiene, Atlanta, GA, November 14-17, 2016.


**Book Reviews**


**Abstracts and Conference Presentations**


systems: Advantages of S-systems. 11th IMACS World Congress, Oslo,

[10] Voit, E.O. and M.A. Savageau: Accuracy of alternative nonlinear power-law
models for biochemical systems: Advantages of S-systems. 192nd National
Meeting of the American Chemical Society, Division of Microbial and


Meeting of the Mathematical Association of America, Southeastern Section,


[15] Rust, P.F. and E.O. Voit: Non-central chi-square distributions computed by S-
system differential equations. Annual Meeting of the American Statistical

systems. 1st IFAC Symposium on Modelling and Control in Biomedical


[63] Ferreira, A.E.N., and E.O. Voit: Buffer modules in integrated biochemical systems models. Annual Meeting of the Society for Mathematical Biology, Raleigh, NC,
August 2-6, 1997.


2000, Bar Harbor, ME.


October 26, 2002.


[107] Voit, E.O.: Biomedical Informatics, Computational Biology, Systems Biology — If we don’t know what it is, how can we teach it? Southern Regional Conference on Statistics, Jekyll Island, GA, June 8-11, 2003.


[147] Polisetty, P.K., E.O. Voit, E.P. Gatzke: Deterministic Global Optimization Techniques for Solution of NLP and MINLP Problems Using Piecewise Linear Relaxations with Applications in Metabolic Engineering. AIChE Annual Meeting, Computing and Systems Technology Division, Cincinnati, Ohio, USA,
October 30-November 4, 2005.


Alvarez-Vasquez, F., E. O. Voit, Y. A. Hannun: Sphingolipid Pathways in


[210] Voit, E.O.: Parameter estimation revisited (again!): Low SSE and speed are not enough. 11th International Conference on Molecular Systems Biology (ICMSB 2009), Max Planck Institute and Chinese Academy of Sciences, Shanghai, June 20-25, 2009.


[220] Kikuchi, S., Z. Qi, and E.O. Voit: Molecular mechanism of synaptic plasticity and


Conference on Cellular Information Processing, Los Alamos, NM, August 11-14, 2010.


[242] Lee, Y., F. Chen, R.A. Dixon, and E.O. Voit: Integrative analysis of transgenic...
alfalfa (*Medicago sativa* L.) data suggests novel mechanisms of metabolic regulation of monolignol biosynthesis. The XII International Congress on Molecular Systems Biology, Lleida, Spain, 8-12 May, 2011.


[258] Voit, E.O.: Pathway analysis. 2012 Winter School in Mathematical and Computational Biology, St. Lucia, Queensland, Australia, 2-6 July 2012.


[276] Yin, W., and E.O. Voit: Function and design of the Nox1 system in vascular smooth muscle cells. Frontiers in Systems and Synthetic Biology ’13, Atlanta


[280] Voit, E.O.: The challenge of infectious disease modeling. Workshop “From Within Host Dynamics to the Epidemiology of Infectious Disease.” Mathematical Biosciences Institute, Ohio State University, Columbus, OH, April 7-11, 2014.


December 15-17, 2014.


of molecular mechanisms from metabolic time series data. University of Kentucky Metabolomics Symposium, Lexington, KY, August 6, 2016.


[326] Fonseca, L., A, Gupta, and E.O. Voit: Dynamic models of malaria. Workshop "Multiscale Dynamics of Infections" Mathematical Biosciences Institute, Columbus, Ohio, April 22-27, 2018

[327] Fonseca, L., A, Gupta, and E.O. Voit: Dynamic models of malaria. 6th Annual Meeting of the Chinese Society for Mathematical Biology, Beijing, P.R. China, June 19-23, 2018


modeler II,” Chicago, IL, August 16-17, 2018.


**Media Coverage:**


Herr Voit sucht die Formels des Lebens. MIT Technology Review (Germany), April 2018, 76-77.

Invited Conference Speaker


[27] Three-day short course on power-law modeling for doctoral students. Gulbenkian Institute, Oeiras, Portugal, October 1-3, 1998.


[43] Biomedical Informatics, Computational Biology, Systems Biology —If we don’t know what it is, how can we teach it? Southern Regional Conference on Statistics, Jekyll Island, GA, June 8-11, 2003.

[44] Pathway Analysis and Identification with S-systems. First International Conference


[57] Metabolic Networks I: The Challenge of Complexity. Summer School on „NanoScience and Systems Biology,” LMU Gene Center, Grosshadern-


[59] Systems modeling. First International Conference of AB³C, the Brazilian Association for Bioinformatics and Computational Biology. Caxambu, Brazil, October 4-7, 2005.


[62] Teaching Interdisciplinary Courses in Integrative Biology, 2006 Systems Biology Symposium, National Taiwan University, Taipei, Taiwan, 18 January 2006.

[63] Key Note Address: Topics in Systems Biology, 2006 Systems Biology Symposium, National Taiwan University, Taipei, Taiwan, 18 January 2006.


[66] Biological Systems Large and Small, 20th Anniversary Symposium of the Institute for Systems Research, University of Maryland, College Park, Maryland, April 13-14, 2006.


[70] Introduction. Strategic Planning Workshop: Integrative BioSystems Institute, October 16-17, Chateau Élan, GA.


[80] Pathway modeling in ill-defined biochemical systems, BESC Workshop on Biofuel Related Modeling, Atlanta, GA, October 9, 2007.


Key Note Address.


[95] Model identification: A key challenge in computational systems biology. The 2nd International Symposium on Optimization and Systems Biology (OSB'08) Lijiang,
China, 31 October – 3 November 2008; Plenary Talk.


[102] The Georgia Research Alliance from the Viewpoint of Eminent Scholars. Meeting of the Georgia Research Alliance and the University of Texas at Dallas, November 2, 2009.


[105] The Role of Systems Modeling in Drug Discovery and Predictive Health. 5th Annual Computational and Theoretical Biology Symposium, Rice University, Houston, TX, December 4 – 6, 2009.


Systems analysis of the role of bone morphogenic protein 4 in endothelial inflammation. 9th International Conference on Complexity in Acute Illness, Atlanta, GA, September 10-12, 2010.


Mesoscopic disease modeling, exemplified with dopamine-related diseases. 7th International Workshop on Computational Neuropsychiatry / Systems Biology of Schizophrenia, Munich, May 6-7, 2011.


Computational systems biology: From simple models to system simulation and the discovery of design principles. German Conference on Bioinformatics, Weihenstephan, September 7-9, 2011.

Modeling cystic fibrosis. Workshop “The molecular and cellular biology of epithelia in health and disease.” Faculty of Sciences of the University of Lisbon, Portugal, November 21-25, 2011.

Modeling Parkinson’s Disease. Investigator Meeting of the Parkinson’s Disease Research Centers. NIEHS, Raleigh, NC, May 3-4, 2012.

Effects of pesticides on dopamine metabolism: Implications for sleep research.
8th International Workshop on Computational Neuropsychiatry, Munich, Germany, May 11-12, 2012.


[124] Introduction to systems biology. 2012 Winter School in Mathematical and Computational Biology, St. Lucia, Queensland, Australia, 2-6 July 2012.

[125] Pathway analysis. 2012 Winter School in Mathematical and Computational Biology, St. Lucia, Queensland, Australia, 2-6 July 2012.


[130] A Heuristic Neurochemical Mobile and Interaction Model of Brain Homeostasis and Addiction. 9th International Workshop on Computational Neuropsychiatry, Munich, Germany, May 5-6, 2013.


[134] The challenge of infectious disease modeling. Workshop “From Within Host Dynamics to the Epidemiology of Infectious Disease.” Mathematical Biosciences
Institute, Ohio State University, Columbus, OH, April 7-11, 2014.


[141] Computational Systems Biology, Disease Simulators, and Personalized Medicine, GRA Academy of Eminent Scholars, Atlanta, October 30, 2014.


[151] Dynamic Models in the Malaria Host Pathogen Interaction Center, DARPA Investigator Meeting, Atlanta, GA, April 18, 2016.


Workshops Taught


Seminars

1983 Cybernetics Program, Universität Köln
Department of Microbiology and Immunology, University of Michigan
Division of Theoretical Medicine, Universität Köln (Series of three seminars)

1984 Zoologisches Institut, Universität Köln
Landwirtschaftliches Institut, Universität Bonn
Department of Biometry, Medical University of South Carolina

1985 Department of Chemical Engineering, University of Michigan

1986 Department of Microbiology and Immunology, University of Michigan
Department of Mathematics, Pomona College
Department of Biometry, Medical University of South Carolina (two seminars)

1987 Department of Statistics and Biometry, Emory University, Atlanta, Georgia
Department of Statistics, University of Georgia, Athens, Georgia
South Carolina Youth Academy of Sciences (Workshop)
Department of Biometry, Medical University of South Carolina

1988 U.S. Department of Agriculture, Forest Service, Charleston, South Carolina
Sigma Xi Society, Charleston Chapter
National Seminar on Dynamical Systems, Akademie der Wissenschaften der DDR, Berlin, GDR
Fachhochschule für Medizinische Informatik, Heilbronn, Germany
Zoologisches Institut der Universität Köln, Köln, Germany
Department of Biometry, Medical University of South Carolina

1989 Division of Biometrics, Food and Drug Administration,
Washington, D.C.
Center for Drug Evaluation and Research, Food and Drug Administration, Washington, D.C.

1990 Department of Biometry, Medical University of South Carolina
Department of Biostatistics, University of South Carolina

1991 Department of Biostatistics, Epidemiology, and Systems Science,
Medical University of South Carolina
Board of Trustees, Medical University of South Carolina
Fachbereich Mathematik/Informatik, Universität Osnabrück, Germany
Office of Public Relations, Medical University of South Carolina

1992 Department of Biostatistics, Epidemiology, and Systems Science,
Medical University of South Carolina
Honeywell, Sensor and System Development Center
South Carolina High School Teacher Association

1993 Division of Modeling, Cooperative Research Center for Temperate Hardwood Forestry, Hobart, Tasmania

1994 CSIRO Forestry and Cooperative Research Center for Temperate Hardwood Forestry, Hobart, Tasmania
CSIRO Forestry, Headquarters, Canberra, Australia
Board of Trustees, Medical University of South Carolina
Department of Biometry and Epidemiology,
Medical University of South Carolina

1996 Mu Sigma Rho Student Career Development Seminar,
Medical University of South Carolina
Department of Environmental Health Sciences, School of Public Health,
University of South Carolina
Catalan Biological Society, Universitat de Lleida, Departament de Ciències
Mediques Bàsiques

1999  Department of Biometry and Epidemiology, 
       Medical University of South Carolina
       Department of Pharmacology,  
       Medical University of South Carolina

2000  Department of Biochemistry and Molecular Biology,  
       Medical University of South Carolina
       Department of Biometry and Epidemiology,  
       Medical University of South Carolina

2001  Department of Biochemistry and Molecular Biology,  
       Medical University of South Carolina
       Marine Biomedicine Program,  
       Medical University of South Carolina
       Metabolic Pathway Group
       Monsanto/Renessen, St. Louis
       Graduate School Exposure Program
       Medical University of South Carolina
       Departments of Pharmaceutical Sciences and Pharmacy Practice,  
       Medical University of South Carolina

2002  Department of Molecular Cell Biology
       Georgia Institute of Technology
       Department of Chemistry and Biochemistry
       University of Lisbon, Portugal
       BioTechnology Institute
       University of Minnesota
       Proteomics Group
       Medical University of South Carolina

2003  Department of Bioinformatics
       University of Michigan
       Department of Biomedical Engineering
       Georgia Institute of Technology
       Marine Biomedicine Program
       Medical University of South Carolina
       Computer and Computational Sciences & Bioscience
       Los Alamos National Laboratories

2004  Proteomics Group
       Medical University of South Carolina
       Department of Mathematics
       Clemson University
       Department of Biostatistics, Bioinformatics and Epidemiology
Medical University of South Carolina
Department of Biology, National Dong Hwa University, Hua Lien, Taiwan
Bioinformatics and Computational Biology Seminar
Georgia Institute of Technology
Bioinformatics Group
North Georgia Technical College
Computational Biology Center
University of Georgia
Agricultural University
Ås, Norway

2005 Resource Centers for Minority Aging Research
SC Cooperative for Healthy Aging in Minority Populations
Charleston, SC
Seminar for Problem-Based Learning Group
Georgia Institute of Technology
Department of Bioengineering
University of Illinois at Urbana-Champaign
School of Applied Physiology
Georgia Institute of Technology
Center for Nonlinear Science
Georgia Institute of Technology
Bioinformatics Program
Gulbenkian Institute, Oeiras, Portugal
Ludwig-Maximilian University
Munich, Germany

2006 School of Mathematics
Georgia Institute of Technology
Proteomics Center
Medical University of South Carolina
Bioinformatics and Computational Biology Program
Georgia Institute of Technology
Center for Nutrient Gene Interactions
University of Alabama, Birmingham, AL
Department of Biostatistics, Bioinformatics, and Epidemiology
Medical University of South Carolina
Bioinformatics Group
North Georgia Technical College

2007 Computational and Life Science Initiative
Emory University
Integrative BioSystems Institute
Georgia Institute of Technology
Department of Biostatistics
Texas A & M University
Presentation to King Abdullah University of Science and Technology
Delegation, Georgia Institute of Technology
Lehrstuhl für Physik
Ludwig Maximilians Universität München
Instituto de Tecnologia Química e Biológica
Oeiras, Portugal
Department of Chemistry
Appalachian State University
Instituto de Engenharia de Sistemas e Computadores Investigação e
Desenvolvimento, Lisbon, Portugal

2008 Center of the Study of Biological Systems
Georgia Institute of Technology
Department of Bioinformatics and Computational Biology
M.D. Anderson Cancer Center, Houston, TX
Department of Chemistry and Biochemistry,
Georgia Institute of Technology
Trinity Presbyterian Church Men’s Breakfast
Systems Biology Group, Life Science University,
Ås, Norway
Lehrstuhl für Genomorientierte Bioinformatik, Helmholtz Zentrum
München, Germany
Bioinformatics Colloquium, Lehrstuhl für Physik
Ludwig Maximilians Universität, München, Germany
Institute for Systems Biology,
Shanghai University, Shanghai, PRC
VHA Georgia Hospital Association
Department of Chemical and Biomolecular Engineering,
Georgia Institute of Technology

2009 Computational Science and Engineering Division
Georgia Institute of Technology
Center for Computational Biology, University of Georgia

2010 School of Industrial and Systems Engineering
Georgia Institute of Technology
Szent Györgyi Lecture, Mayo Clinic, Rochester, MN
Systems Biology Group, University of Coimbra, Portugal
Department of Mathematics, Christian College of Madras, Chennai, India
Division of Biostatistics, Moffitt Cancer Center, Tampa, FL

2011 Center for Computational Biology, University of Georgia
Directorate of Biological Sciences, National Science Foundation, Washington, DC
Distinguished Lecture, Department of Mathematics, Georgia State University
2012  Samuel Nobel Foundation, Aardmore, OK
       NIEHS PD-CERC Investigator Meeting, Atlanta, GA
       Center for Cystic Fibrosis, Emory University
       NIAID Malaria Investigator Meeting, Atlanta, GA
       Division of Individualized Medicine, Mayo Clinic, Rochester, MN
       Division of Bioinformatics, Medical University of South Carolina

2013  Biochemistry and Redoc Biology Center, University of Nebraska, Lincoln, NE
       Integrative BioSystems Institute, Georgia Tech, Atlanta, GA
       Biomathematics Seminar, Florida State University, Tallahassee, FL

2014  Department of Biostatistics, University of Louisville
       Universidad Nacional Autónoma de Mexico, Morelos, Mexico (Video-Seminar)
       BioSys Doctoral Program, Universidade de Lisboa, Lisboa, Portugal
       Department of Biological Engineering, Utah State University, Logan, UT

2015  Plant Research Laboratory, Michigan State University
       Department of Bioengineering, University of Texas at Dallas
       ETH Zürich, Switzerland
       Computational Systems Biology Group, Basel, Switzerland
       College of Pharmaceutical Science, Korea University
       Chung Nam University, Korea
       Korea Advanced Institute of Science and Technology
       Stony Brook University

2016  Department of Environmental Health Sciences, University of South Carolina
       Center for Innovative Engineering, University of Texas at Dallas
       Otsuka Pharmaceuticals, Atlanta
       Institute for Biodiscovery, University of North Texas

2018  Rensselaer Polytechnic Institute, Troy, NY
       Department of Mathematics, University of California, Irvine