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**Expertise**

Modeling macroeconomics, monetary policy and public policy design & implementation.

**Education**

Doctor of Philosophy in System Dynamics, University of Bergen, 2007

Master in Public Policy, Kennedy School of Government, Harvard University, 1972

Bachelor of Arts in Government and Mathematics, Texas Tech University, 1970

**Academic Appointments**

Professor Emeritus, Social Sciences Faculty, University of Bergen, Norway

Professor, Financial Economics Faculty, ISM University of Management & Economics, Lithuania

Professor, Economic Sciences Faculty, National University of Kyiv-Mohyla Academy, Ukraine

Professor of Economics, Virginia Western Community College, United States

**Non-Academic Positions**

President, Praktika (2018 - present)

President, Wheat Resources Inc., U.S.A. (1981-2005)

President, Wheat Luke & Hahn, U.S.A. (1979-81)

Vice President, Charles Owens & Associates, U.S.A. (1976-79)

Director of Federal Relations, University of Houston, U.S.A. (1975-76)

Staff Assistant to the President, The White House, U.S.A. (1972-75)

**Grant-Funded Projects**

*Learning Economics with Dynamic Modeling* (Four grants: 2012-19). Funded by the Norwegian Centre for International Cooperation in Education. This is a collaborative teaching and research project involving the System Dynamics Group at the University of Bergen, the Finance Department at the National University of Kyiv-Mohyla Academy, the Mathematical Economics Department at Ivan Franko National University of Lviv, and the National Bank of Ukraine.

*Model-based Public Health Education* (2016-2020). Funding provided by the Norwegian Centre for International Cooperation in Education. This four-year project is a collaborative interdisciplinary effort by the System Dynamics Group at the University of Bergen and the Public Health Program at the University of North Dakota to improve public health research and teaching capacity at both universities.

*Erasmus+ Student and Faculty Mobility Project* (Three grants: 2015-19). Funded by the European Commission, the Norwegian Centre for International Cooperation in Education, and the University of Bergen. This collaborative educational project generates two-way mobility of students and staff between the University of Bergen and the National University of Kyiv-Mohyla Academy.

*Model-based Teaching, Research, and Policy Analysis in North Dakota* (2015-16). Funded by the Norwegian Centre for International Cooperation in Education. This was a collaborative research and teaching project involving the System Dynamics Group at the University of Bergen and the Energy Institute at the University of North Dakota.

*Demographics & Economics of Lithuania* (2011-17). Funded by the Department of Geography at the University of Bergen, this project has evolved over time. The initial task involved modeling Lithuania's problematic labor market trends due to demographics: low fertility, high emigration, and an aging population. The next phase is a multi-industry macroeconomic model.

**Works-in-Progress**

*Modeling Economic Dynamics*. This two-volume book will serve as the primary textbook for courses taught at the National University of Kyiv-Mohyla Academy and Ivan Franko National University of Lviv, in Ukraine.

*Country-Specific Economic Modeling with a MacroLab Template*, with M. Oliskevych and A. Novik. An instructional guide for adapting the SD-based macroeconomics model, *MacroLab*, to the economy of a specific country for policy analysis.

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**Peer-Reviewed Publications**

- Teaching Endogenous Money with Systems Thinking and Simulation Tools. *International Journal of Pluralism and Economics Education*, 8(3) (2017).
- Disappointing Outcomes: Can Implementation Modeling Help? with E. Bardach, in *Outcome-Based Performance Management in the Public Sector*, eds. E. Borgonovi, E.A. Pessina, and C. Bianchi. New York: Springer (2017).
- The Classical Cobweb Theorem and Real Commodity Market Behavior: Modeling Delayed Adjustment of Supply in Industrial Metals' Markets, with S. Glöser, J. Hartwig, and M. Faulstich. *System Dynamics Review*, 32 (3-4), 2016.
- Model-based Policy Design that Takes Implementation Seriously, in E. Johnston (ed.), *Governance in the Information Era*. New York: Routledge (2015).
- The Danger of Float: the Case of Ukraine*, with O. Faryna. Proceedings, International System Dynamics Conference; Cambridge, USA, 2015.
- Public Policy Implementation Modeling: the Classic Case of EDA in Oakland*, with E. Bardach. International System Dynamics Conference; Cambridge, USA, 2015.
- Learning Economics with Dynamic Modeling. A Norwegian-Ukrainian Collaboration Project*, with I. Stelmashenko and I. Lukianenko. International System Dynamics Conference; Cambridge, USA, 2015.
- A Systems Education at Bergen, with P. Davidsen, B. Kopainsky, E. Moxnes, and M. Pedercini. *Systems* 2(2), 2014.
- Dynamic Regional Economic Modeling: a Systems Approach, with Andrzej Pawluczuk. *Economics and Management* 4, 2014.
- Low Probability of Initiating nirS Transcription Explains Observed Gas Kinetics and Growth of Bacteria Switching from Aerobic Respiration to Denitrification, with J. Hassan, L. Bergaust, and L. Bakken. *PloS Computational Biology* 10(11), 2014.
- A System Dynamics Approach to Sea Lice Control in Norway, with K. Hamza and K. Rich. *Aquaculture Economics & Management* 18(4), 2014.
- Teaching Policy Design, Using a Case Study of Unintended Consequences when the EU Regulates Hospital Doctors' Hours*. International System Dynamics Conference; Cambridge, USA, 2013.
- Modeling Fertility in Lithuania: A Preliminary Report*. International System Dynamics Conference; St. Gallen, Switzerland, 2012.
- Exploratory Policy Modeling*. International System Dynamics Conference; Washington, USA, 2011.
- A Note on the Bathtub Analogy*. With E. Moxnes, P. Davidsen, and M. Sánchez. International System Dynamics Conference; Washington, USA, 2011.
- What Can System Dynamics Learn from the Public Policy Implementation Literature? *Systems Research and Behavioral Science* 27(4), 2010.
- Do Stock-and-Flow Feedback Diagrams Promote Learning in Macroeconomics? *International Journal of Pluralism and Economics Education* 1(4), 2010.
- Empowering Students to Compare Ways Economists Think: The Case of the Housing Bubble. *International Journal of Pluralism and Economics Education* 1(1), 2009.
- Teaching Economics as if Time Mattered, in J. Reardon (ed.), *Handbook of Pluralist Economics Education*. London: Routledge, 2009.
- Capturing the Dynamics of a Psychiatric Illness*, with J. Hassan. International System Dynamics Conference; Albuquerque, USA, 2009.
- The Feedback Method of Teaching Macroeconomics: Is It Effective? *System Dynamics Review*, 23

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(4), 2007.

*The Feedback Method: A System Dynamics Approach to Teaching Macroeconomics*. PhD dissertation, University of Bergen; Bergen, Norway, 2007. University of Bergen Open Research Archive (<https://bora.uib.no/handle/1956/2239>).

*MacroLab: A Simulation Model & Interactive Learning Environment for Teaching Undergraduate Macroeconomics*. Conference of the International Confederation of Associations for Pluralism in Economics; Salt Lake City, USA, 2007.

*Feedback Loops in the Macro Instructor's Toolkit*. Allied Social Sciences Association Conference; Chicago, USA, 2007.

The Problem of Heroin. With J.Q. Wilson and M.H. Moore. *The Public Interest*, Fall 1972.

### Invited Papers and Presentations

*First Steps to a System Dynamics-based Multi-Industry Model of Ukraine*. Research Seminar, National Bank of Ukraine. 2017.

*Endogenous Feedback Perspective on Money in a Stock-Flow Consistent Model*. Research Seminar, National Bank of Ukraine. 2016.

*Modeling Mortality in Lithuania*. European System Dynamics Workshop; Istanbul, Turkey, 2013.

*MacroLab: An Interactive Stock-and-Flow Macroeconomic Model*. Stock-and-Flow-Consistent Workshop; Dijon, France, 2013.

*Colombia's Demographic Transition: Causes and Consequences*. Plenary session, Colombian System Dynamics Conference; Cali, Colombia, 2012.

*A Simulation Model of Demography & Economy in Lithuania*. European Conference on Operational Research; Vilnius, Lithuania, 2012.

*What Can System Dynamics Learn from the Public Policy Implementation Literature?* European System Dynamics Workshop; Palermo, Italy, 2010.

*Will Latin America Grow Old Before It Grows Rich?* Latin American System Dynamics Conference; Medellin, Colombia, 2010.

*Dynamic Strategic Planning*. International Week Conference, Centrum Business School of the Catholic University of Peru; Lima, Peru, 2010.

*Learning Macroeconomics with MacroLab*. Latin American System Dynamics Conference, Buenos Aires, Argentina, 2007.

*The Feedback Method: Model-Based Learning in Macroeconomics*. Conference of the Faculty of Computers and Information, Cairo University; Cairo, Egypt, 2007.

### Other Presentations

*The Canonical New Keynesian Monetary Policy Model: A System Dynamics Translation*. International System Dynamics Conference; Reykjavik, Iceland, 2018.

*Endogenous Money*. International System Dynamics Conference; Delft, the Netherlands, 2016.

*Dynamic Input-Output Modeling of North Dakota's Economy: A System Dynamics Approach*. European Conference on Operational Research; Poznan, Poland, 2016.

*Outlook for Price Dynamics in Europe: Inflation or Deflation?* Business Systems Laboratory International Symposium; Vilnius, Lithuania, 2016.

*Teaching Monetary Policy with Contrasting Methods*, with M. Crook. Developments in Economics Education Conference; Birmingham, UK, 2015.

*Learning Economics with Dynamic Modeling: an International Collaboration*, with Iryna Lukianenko. Developments in Economics Education Conference; Exeter, UK, 2013.

