

Jeroen Struben

Desautels Faculty of Management,
McGill University
1001 Sherbrooke West,
Montreal QC H3A 1G5

Tel: (514) 796-6467
Fax: (514) 398-3876
E-mail: jeroen.struben@mcgill.ca
<http://web.mit.edu/jjrs/www>

Academic Positions

Desautels Faculty of Management, McGill University, Montreal, QC

- Assistant Professor, Strategy and Organization Area (July 2009 – Present)

Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA

- Research Affiliate (September 2008 – Present), Co-Project Leader “Market Transitions for Alternative Energy and Transportation Systems”

Current Research and Teaching

Research

My research examines processes of industry transformation. Specifically, I study the diffusion of alternative fuel vehicles, and how their markets are shaped through the co-evolution of organizational capabilities, consumer choice, complementarities, and the institutional environment. Integrating empirical cases (successful and failed introductions), theory building, and dynamic modeling, this research contributes to the fields of technology strategy, technology and operations management, and of social perspectives on technological systems. In addition, my work offers guidance to strategic decision makers in corporations and governments.

Teaching

International Business (MGCR 382, undergraduate program), Simulation of Management Systems (MGSC 578, graduate program)

Previous Positions

Desautels Faculty of Management, McGill University, Montreal, QC

- Visiting Assistant Professor (July 2008 – June 2009)

Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA

- Post-Doctoral Associate, System Dynamics Group (2006 - 2008)
- Initiator and lead of research project “Market Transitions for Alternative Energy and Transportation Systems”

Education

Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA

- Ph.D in Management, Operations Management and System Dynamics Program (2001-2006)
- Thesis Title: Essays on transition challenges for alternative propulsion vehicles and transportation systems
- Thesis Committee: Charles H. Fine, Ernest J. Moniz, John D. Sterman (Chair)

Faculty of Applied Physics, Delft University of Technology, Delft, The Netherlands

- Master of Science in Physics, Theoretical Physics Group (1990-1996)

Publications

Published Papers – Current Research

- Struben, Jeroen and Sterman, John (2008). "Transition Challenges for Alternative Fuel Vehicle and Transportation Systems". *Environment and Planning B*. **35**(6) 1070-1097

Publications Continued

Selected Working Papers

- Struben, Jeroen (October 2008). "Technological Coevolution: Critical Dynamics in Industry Transformation." Under preparation for submission
- Struben, Jeroen (September 2008). "To Flounder or to Flourish: Exploring Fragility in Alternative Fuel Vehicle Market Formation." Industry Studies Conference Paper. Available at SSRN: <http://ssrn.com/abstract=1135732> Under Review
- Struben, Jeroen (May 2009). "Multiple Sided Market Formation: The Role of Inertia and Complementarity Interactions"
- Struben, Jeroen (August 2007). "Network Externalities in Vehicle Markets: Coevolutionary Dynamics between Fuel Demand and Infrastructure."
- Struben, Jeroen, "Identifying Challenges for Sustained Adoption of Alternative Fuel Vehicles and Infrastructure" (August 2006). *MIT Sloan Research Paper No. 4625-06* Available at SSRN: <http://ssrn.com/abstract=927012>

Published Papers - Other

- Otto, Peter and Jeroen Struben (2004). "Gloucester Fishery: Insights from a Group Modeling Intervention." *System Dynamics Review* **20**(4): 287-312.
- Nazarov, Yuli and Jeroen Struben (1996). "Universal Excess Noise in Resonant Tunneling via Strongly Localized States." *Physical Review B* **53**(23): 15466-15468. (among top ranked journals in its field)

Research Grants and Awards

- 25th DRUID Conference on Entrepreneurship and Innovation (2008)– Best Paper Award Nominee
- Ford Motor Company \$150,000, research on alternative fuel vehicles transition dynamics (2008,2009)
- Shell Hydrogen \$375,000 (extended), research on alternative fuel vehicles transition dynamics (2006; 2007; 2009)
- System Dynamics Society (2006), Dana Meadows Student Prize – Honorable Mention for paper "Identifying challenges for sustained adoption of alternative fuel vehicles and infrastructure"
- System Dynamics Society (2004), Dana Meadows Student Prize – Honorable Mention for paper "Technology Transitions: Identifying Challenges for Hydrogen Vehicles"
- DuPont Presidential Fellow (2001- 2002)

Presentations

Refereed Academic Presentations

- 25th EGOS Colloquium (Barcelona, Spain 2009)
- Sumantra Ghoshal Conference – London Business School (London, UK, 2009)
- Energizing Markets Conference – Making and Breaking Regimes of Value (Copenhagen, Denmark 2008)
- DRUID Industrial Dynamics Conference (Copenhagen, Denmark 2008)
- Industry Studies Conference, Alfred P. Sloan Foundation (Boston, MA 2008, 2009)
- 26th and 28th United States Association for Energy Economics (USAEE) Conference (Ann Arbor, MI 2006; New Orleans, LA 2008)
- Academy of Management (AOM) Annual Meeting, (Philadelphia, PA 2007)
- International Conference on Complex Systems (Boston, MA 2004, 2006, 2007)
- 22nd to 26th International System Dynamics Conference (Palermo, Italy 2003; New York City, NY 2004; Boston, MA 2005; Nijmegen, The Netherlands 2006; Boston, MA 2007)
- The Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting, (Pittsburgh, PA 2006; Washington, DC 2008)
- System Dynamics Winter camp (Austin, TX 2006; 2009)
- North American Association for Complex Social Systems and Organization (NAACSOS) (Pittsburgh, PA 2004)

Invited Presentations at Academic Workshops and Seminars

- Desautels Faculty of Management, McGill University, Strategy and Organization Area Seminar (Montreal, QC, 2008)
- Tongji University, School of Automotive Studies (Shanghai, China 2008)
- Copenhagen Business School (Copenhagen, Denmark 2008)
- MIT Sloan School of Management, Operations Management and System Dynamics seminar (Cambridge, MA 2004, 2007, 2008)
- Delft University of Technology, Faculty of Technology, Policy and Management (Delft, The Netherlands 2007)

Invited Presentations at Academic Workshops and Seminars Continued

- “Frontiers in Transportation: social and spatial interactions” (Amsterdam, The Netherlands 2007, 2005)
- “Computational and Mathematical Approaches to Societal Transitions”, Lorentz Center (Leiden, The Netherlands, 2007)
- Santa Fe Institute/UM-complexity group “The Foundations of Robustness” (Ann Arbor, MI 2006)
- State University New York, Rockefeller College of Public Affairs and Policy (Albany, NY 2006)
- MIT Industrial Performance Centre (Cambridge, MA 2005)

Academic Teaching Experience

Teaching

Business Policy and Innovation

- Course lecturer: “Simulation for Management Systems”, graduate course, Desautels Faculty of Management (2009)
- Workshop lecturer and designer: “Strategy for Transitions to Alternative Fuel Vehicles”, two day research workshops for executives in automotive and energy industry, and policy makers, involving ongoing research (2007, 2008, 2009), see <http://web.mit.edu/jjrs/www/3rdMITFordShellWorkshop.htm>
- Module lecturer: “Tools for solving complex business problems”, module in management seminar for MBAs from Universidad Gabriela Mistral in Santiago, Chile, Sloan School of Management (2007)
- Management flight simulator designer and developer: “Industry Learning”, MBA Strategy course, w/ Daniel T. Byrd, Stanford Graduate School of Business and Sloan School of Management (2005)
- Module lecturer: “Decision making and learning in complex environments”, module in Executive MBA Course “Leading the Innovative Enterprise”, Sloan School of Management (2005)
- Teaching assistant: “System Dynamics for Business Policy”, MBA, 220 students, Sloan School of Management (2003)

System Dynamics

- Guest lecturer: Dynamic Systems, MBA Course, 50 students, Ross School of Business, University of Michigan (2007)
- Course teaching assistant: “Applications of System Dynamics”, MBA Course, 20 students, Sloan School of Management (2003, 2004)
- Workshop organizer, designer, and lecturer: “Introduction to System Dynamics”, five day workshop, Sloan School of Management, (2002)

Operations Management

- Course lecturer: “Operations Management”, MGCR 472, undergraduate core, Desautels Faculty of Management (2008)
- Module designer: “Introduction to System Dynamics”, MIT Zaragoza logistics program, w/ Jim Hines, Sloan School of Management (2005)

Student Supervision

- Mentoring of multiple research assistants and supervision of graduate theses (2006 - 2009)

Professional Service Activities

Ad Hoc Refereeing

- Journal of Economic Behavior & Organization
- System Dynamics Review
- International System Dynamics Conference

Professional Associations and Organizations, Member

- Academy of Management (AOM)
- Sloan Industry Studies, Affiliate Member
- The American Association for the Advancement of Science (AAAS)
- American Economic Association (AEA)
- International Association for Energy Economics (IAEE)
- Groupe d'études et de recherche en analyse des décisions (GERAD), Visiting Member
- The Institute for Operations Research and the Management Sciences (INFORMS)
- System Dynamics Society (SDS)
- New England Complex Systems Institute (NECSI)

Research Related Outreach

News Release

- Alternative fuel vehicle transition research, <http://web.mit.edu/newsoffice/2007/alt-fuel-0530.html>, MIT (2007)

Media coverage

- Written news reports: various, including in the New Scientist, Science Daily, Boston Globe (multiple times), MIT Tech Talk Newspaper, MIT Energy Initiative, and in diverse science and environment interest websites (2007-2008)
- Radio and pod-casts: Radio Austria, Earth & Sky (2007)
- Coverage: Stauffer, Nancy (2007), “Alternative Fuel Vehicles: Enabling the Transition”, *Energy and Environment Newsletter*, external distribution, MIT Laboratory for Energy and Environment, p8-10, Cambridge, MA

Invited Practitioner Workshops, Presentations and Panels

- Industry Consortium Meeting on Advanced Electronic Automotive Systems (Shanghai, China 2008)
- Ford Motor Company, Executive Meeting MIT-Ford Alliance (Cambridge, MA 2007)
- Energy collaborative – improving energy models (ECAI) (Washington DC, 2007)
- International Energy Agency (IEA) “Building the Hydrogen Economy” (Detroit, MI 2007)
- DOE “2010-2025 Scenario Analysis for Hydrogen Fuel Cell Vehicles and Infrastructure” (Washington DC, 2006, 2007)
- General Motors (Detroit, MI 2006)
- National Renewable Energy Laboratory (NREL) (Golden, CO 2004, 2005)
- Plugpower (Albany, NY 2006)
- Laboratory For Energy and the Environment (LFEE), MIT (Cambridge, MA 2005)
- Shell Hydrogen (Houston, TX 2005, 2007)

Professional experience

Accenture, Amsterdam, The Netherlands

- Management Consultant (1997-2001)

Professional Teaching

- “Process Excellence” for consultants (Amsterdam, The Netherlands, 2000)

Professional training/certificates

- NECSI Certification: Complex Physical, Biological and Social Systems (2003)
- Business Process Simulation (2001)
- Supply Chain Value Assessment course (Cornell university), APICS Certified, several SAP Modules (1997-2000)
- Financial Analysis course, University of Chicago (2000)

Language proficiencies

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| • Native | Dutch |
| • Full professional | English |
| • Limited working - elementary | French, German, Norwegian |
| • Reading knowledge | Latin and Ancient Greek |