

## MAXIMILIAN M. ETSCHMAIER

College of Business  
Florida State University  
Tallahassee, Florida 32306-1110

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### EXECUTIVE PROFILE

Analysis, design, development and management of complex systems.

High-energy leadership; creativity; ability to develop and project vision, build and energize teams, and rapidly produce high-impact results.

### EDUCATION

Ph.D. and MS in Wirtschaftsingenieurwesen (Mechanical/Industrial/Manufacturing/Enterprise Engineering), Technical University Graz, Austria (Dissertation: Priority Queues for Production Scheduling).

MS in Operations Research, Case Western Reserve University, Fulbright Scholar.

Corporate Executive Training Programs at United Technologies and Lufthansa.

Training programs in venture capital funding, start-up processes, Federal grants processes, Fairfax County Economic Development Authority, and Virginia Center for Innovative Technology.

### PROFESSIONAL EXPERIENCE

**Florida State University, College of Business, Senior Research Scholar** **since 2018**

- Research on transdisciplinary approaches to design and operation of systems that keep humans in control
- Development of solutions to global environmental, cultural, economic, and social sustainability

**San Diego State University**

**2011 - 2018**

Visiting Professor and Adjunct Professor, Colleges of Engineering, Business, and Science.

- Development of the paradigm of purposeful systems that views a system as a process; integrates the human element with human-made artifacts (machines, algorithms, information, laws, and ethical and belief systems) and the environment; provides a holistic approach to analysis, design, and operation of systems; and is applicable to systems in any domain.
- Interpretation of my past work in terms of this paradigm and development of new applications, including aircraft landing gear controls; protection of aircraft against failures of the human elements and terrorist acts; secure systems, regulation of product security; a system of global environmental taxation that can assure global sustainability for an indefinite future.
- Analysis of possibilities of humans losing control over "machines" and development of preventive measures in mechanical systems, massive on-line information systems, artificial intelligence algorithms, and social media.
- Courses: Systems Approach to Maintenance, Engineering Economics, Statistics

**Independent Consultant**

**since 1970**

System development, process improvement, organizational change, policy and strategy development; technology transfer.

- Reengineered engineering, maintenance and supply chain management of Austrian Air Force: >50% increase of aircraft mission availability AND significant cost reduction AND improved safety.
- Formulated and applied Mission Oriented Maintenance: Austrian Air Force, US DOT, VOEST-Alpine.
- Fuzzy controls for autonomous decision-making for aircraft maintenance: US AIRWAYS.
- System for planning local air service: Austrian State of Styria.
- Strategies and policies on climate change, energy conservation and deregulation; regional air pollution modeling: Federal Government of Austria.
- Facilitation of international collaboration Austria-US: Negotiation of an MoU for collaboration between Austrian Department of the Environment and the US Department of Energy on energy conservation policy; organization of an Austrian-US conference on cooperation to mitigate greenhouse gas emissions with formerly Communist countries in Eastern Europe; contacts for technology transfer: Austrian federal and state government entities.

**National Institute of Standards and Technology (NIST): Guest Researcher**

**2006 - 2007**

- Sustainment concepts for "Smart Machining Systems;"
- Performance standards for voting machines

**United Technologies Research Center: Principal Scientist**

**2000 - 2002**

- Identified, analyzed and developed high yield innovation in corporate and customer sustainment supply chains (civilian helicopters, aircraft engines and other aircraft systems, fuel cell systems).
- Managed a \$9M NIST sponsored project in partnership with I2 Technologies to model operations and sustainment decision-making across a networked air transportation system.
- Defined multimedia collaboration for e-business venture for aviation parts and services.

**Joanneum Research Ges.m.b.H., Graz, Austria**

**1987 - 1989**

Chairman of the Management Board and Director of Research (1987-1988), and Representative for Austrian Science and Technology (1988-1989).

- Transformed a struggling research association into a viable 300-person, non-profit corporation for contract research; restructured and provided direction to research units.
- Introduced Austrian research capabilities to appropriate US entities.

**University of Massachusetts at Lowell,****1984-1987**

Professor, College of Engineering

- Established and led the Institute for Engineering Leadership
- Research contracts: US DOT: optimization of system reliability for transit vehicles.
- Courses: Transportation Systems Engineering; Systems Approach to Maintenance; Doctoral Seminar on Engineering Leadership.

**Bricmont Associates** (now Andritz Bricmont Inc), Canonsburg, PA**1982-1983**

Vice President of Systems and Control

- Designed and developed an integrated computer system for autonomous control of the reheat area of a steel mill to realize significant energy savings. The system was installed at most US steel mills.

**University of Pittsburgh,****1970-1984**

Assistant and Associate Professor, Department of Industrial Engineering, Systems Management Engineering and Operations Research.

- Research contracts: Alcoa (Forecasting systems), General Electric (Optimization of aircraft engine system reliability), US Airways (Simulation and control of aircraft system reliability), US Department of Transportation (Simulation of emergency medical services).
- Courses: Simulation; Optimization; Stochastic Processes; Queueing Theory; Theory of Scheduling; Planning and Management of Public Transportation Fleets; Systems Approach to Maintenance.

**Deutsche Lufthansa A.G., Germany,****1966-1970**

Head of Operations Research. Defined and developed the corporate strategic and operational planning processes as self-organizing system that is focused on the flight schedule development and evaluation process, and considers all airline functions, including maintenance.

**OTHER PROFESSIONAL ACTIVITIES**

Participated in national and international scientific and professional organizations, served in leadership positions, organized and hosted meetings and conference sessions, and presented and published numerous papers and short courses.

Subjects include: Operations Research Methods and Modeling, Systems Science, Operations Management, Maintenance Program Development, Environmental and Energy Regulation, and Environmental, Social and Economic Sustainability.

Organizations include: Austrian National Science Foundation (Alternate Board Member); Universities of Graz and Innsbruck, Austria (Visiting Professor); Volpe Transportation Systems Center (Faculty Fellow); INFORMS (President of the Transportation Science Section); Air Transportation International Forum (Founding Member); ISCA (International Society for Computers and their Application, Keynote Speaker, Program Committee Member, Organizer of Special Sessions on the Design of Systems that Integrate Humans and Machines); Transportation Research Board (Chair of the Committee on Air Transport Operations and Maintenance, Speaker and Organizer of Sessions at Annual Conferences, Publisher of Several Volumes of the Transportation Research Record); AGIFORS (International Society for Airline Operations Research, Chair of Study Group on Maintenance and Inventory Control, Speaker and session organizer at Annual Conferences); South African National Science Foundation (Reviewer of Grant Applications); Universities of Pretoria, Durban, and Stellenbosch, South Africa (external reviewer of dissertations, evaluation of candidates for faculty and administrative positions), University of Southern California (Review of Grant Applications), IIE, IFAC, International Center for Transportation Studies (ICTS), International Civil Airports Association, International Institute for Applied System Analysis (IIASA).

Associate editor and reviewer: The International Journal of Environmental, Cultural, Economic and Social Sustainability; The International Journal of Sustainability Policy and Practice; Journal of the International Society of Computers and their Applications; IEEE Systems Journal; Autosoft Journal; Encyclopedia of Business Analytics and Optimization; Annals of Operations Research; METTRANS, National Center for Metropolitan Transportation Research; Communications in Statistics, Simulation and Computation; South African Journal of Economics and Management Science; SAJMM (Southern African Institute of Mining and Metallurgy) Journal; Int. J. of Uncertainty, Fuzziness & Knowledge-Based Systems.

**PERSONAL**

US Citizenship

Private Pilot Certificate with Rating for Instrument Flight