

CURRICULUM VITAE

FRANÇOIS E. CELLIER

Department of Computer Science
Swiss Federal Institute of Technology
ETH-Zentrum
CH-8092 Zurich
Switzerland

Tel: +41 (44) 632-7474 Office
+41 (44) 632-6496 Secretary
+41 (55) 412-5011 Home
Fax: +41 (44) 632-1562 Office
Email: FCellier@Inf.ETHZ.CH
Web: <http://www.inf.ethz.ch/~fcellier/>

Date of Birth: July 30, 1948
Place of Birth: Zurich, Switzerland
Marital Status: Married, no children
Citizenship: Swiss

EDUCATION:

1979 Ph.D., Technical Sciences, ETH Zurich, Switzerland
1973 M.S., Automatic Control, ETH Zurich, Switzerland
1972 B.S., Electrical Engineering, ETH Zurich, Switzerland

RESEARCH INTERESTS:

Methodologies of modeling and simulation, modeling and simulation software design, software engineering, compiler generators, artificial intelligence, object-oriented modeling, bond graphs, inductive reasoning, fuzzy logic, neural networks, numerical ordinary differential equation and differential algebraic equation solvers, knowledge-based design of high-autonomy systems, intelligent control, computer-aided control system design.

TEACHING INTERESTS:

Any from the above (courses taught include: continuous system modeling, continuous system simulation, discrete event simulation, analog control systems, digital control systems, linear system theory, numerical linear algebra, digital logic, analog circuits, signals and systems).

ACADEMIC/SCIENTIFIC POSITIONS:

- 2005 - Senior Researcher, ETH Zurich, Switzerland
2005 - Emeritus Professor, University of Arizona, Tucson, AZ
2002 - 2004 Director of Undergraduate Studies, ECE Dept., Univ. of Arizona
1997 - 2000 Group Chair of Computer Engineering Program, Univ. of Arizona
1997 - 2005 Full Professor, University of Arizona, Tucson, AZ
1984 - 1997 Associate Professor, University of Arizona, Tucson, AZ
1983 Chief Assistant, ETH Zurich, Switzerland
1977 - 1983 Lecturer in Simulation, ETH Zurich, Switzerland
1977 - 1982 Research Assistant, ETH Zurich, Switzerland
1976 - 1977 Teaching Assistant, ETH Zurich, Switzerland
1972 - 1976 Research Associate, ETH Zurich, Switzerland
1969 - 1972 Supporting Assistant, ETH Zurich, Switzerland
- 2004 (Fall) Visiting Professor, ETH Zurich, Switzerland
2001 (Fall) Visiting Professor, ETH Zurich, Switzerland (Sabbatical)
1993 (Fall) Visiting Professor, Columbia University, New York (Sabbatical)
1993 - 2001 Visiting Professor, Technical University of Catalonia, Spain
1999 (Sum.) Visiting Professor, University of Rosario, Argentina
1992 (Sum.) Visiting Professor, Air- and Space Research Center, Germany
1991 (Sum.) Visiting Professor, University of Ghent, Belgium
1987 (Sum.) Visiting Professor, ETH Zurich, Switzerland
1982 (Sept.) Visiting Professor, Delft Technical University, Netherlands

PUBLICATIONS:

Books:

1. Granda, J.J. and F.E. Cellier, Eds. (2012), *Bond Graph Modeling and Simulation*, Proc. of the 2012 SCS Summer Simulation Multi-conference, Genoa, Italy, July 9-11, 2012, The Society for Computer Simulation, Simulation Series, Vol. 44, No. 13, ISBN: 978-1-61839-985-4, 264 p.
2. Cellier, F.E., D. Broman, P. Fritzson, and E.A. Lee, Eds. (2011), *EOOLT 2011*, Proc. of the 4th Intl. Workshop on Equation-based Object-oriented Modeling Languages and Tools, Zurich, Switzerland, September 5, 2011, ISSN: 1650-3686, 120 p.
3. Fritzson, P., E.A. Lee, F.E. Cellier, and D. Broman, Eds. (2010), *EOOLT 2010*, Proc. of the 3rd Intl. Workshop on Equation-based Object-oriented Modeling Languages and Tools, Oslo, Norway, October 3, 2010, ISSN: 1650-3686, 120 p.
4. Cellier, F.E. and J.J. Granda, Eds. (2010), *Bond Graph Modeling and Simulation*, Proc. of the 2010 SCS Spring Simulation Multi-conference, Orlando, FL, April 11-15, 2010,

The Society for Computer Simulation, Simulation Series, Vol. 42, No. 2, ISBN: 978-1-61738-209-3, 230 p.

5. Fritzson, P., F.E. Cellier, and D. Broman, Eds. (2008), *EOOLT 2008*, Proc. of the 2nd Intl. Workshop on Equation-based Object-oriented Languages and Tools, Paphos, Cyprus, July 8, 2008, ISSN: 1650-3686, 140 p.
6. Fritzson, P., F.E. Cellier, C. Nytsch-Geusen, D. Broman, and M. Cebulla, Eds. (2007), *EOOLT 2007*, Proc. of the 1st Intl. Workshop on Equation-based Object-oriented Languages and Tools, Berlin, Germany, July 30, 2007, Technische Universität Berlin, Forschungsberichte der Fakultät IV – Elektrotechnik und Informatik, Vol. 2007-11, ISSN: 1436-9915, 163 p.
7. Granda, J.J. and F.E. Cellier, Eds. (2007), *Bond Graph Modeling and Simulation*, Proc. of the 2007 SCS Western Multi-conference, San Diego, CA, January 15-17, 2007, The Society for Computer Simulation, Simulation Series, Vol. 39, No. 1, ISBN: 1-56555-310-1, 263 p.
8. Cellier, F.E. and E. Kofman (2006), *Continuous System Simulation*, Springer-Verlag, New York.
9. Granda, J.J. and F.E. Cellier, Eds. (2005), *Bond Graph Modeling and Simulation*, Proc. of the 2005 SCS Western Multi-conference, New Orleans, LA, January 23-25, 2005, The Society for Computer Simulation, Simulation Series, Vol. 37, No. 1, ISBN: 1-56555-287-3, 315 p.
10. Cellier, F.E. and J.J. Granda, Eds. (2003), *Bond Graph Modeling and Simulation*, Proc. of the 2003 SCS Western Multi-conference, Orlando, FL, January 20-22, 2003, The Society for Computer Simulation, Simulation Series, Vol. 35, No. 2, ISBN: 1-56555-257-1, 323 p.
11. Sarjoughian, H.S. and F.E. Cellier, Eds. (2001), *Discrete Event Modeling and Simulation Technologies: A Tapestry of Systems and AI-based Theories and Methodologies – A Tribute to the 60th Birthday of Bernard P. Zeigler*, Springer-Verlag, New York, ISBN: 0-387-95065-6, 397 p.
12. Sarjoughian, H.S., F.E. Cellier, M.M. Marefat, and J.W. Rozenblit, Eds. (2000), *AI, Simulation and Planning in High Autonomy Systems*, Tucson, AZ, March 6-8, 2000, The Society for Computer Simulation, ISBN: 1-56555-194-X, 372 p.
13. Granda, J.J. and F.E. Cellier, Eds. (1999), *Bond Graph Modeling and Simulation*, Proc. of the 1999 SCS Western Multi-conference, San Francisco, CA, January 18-20, 1999, The Society for Computer Simulation, Simulation Series, Vol. 31, No. 1, ISBN: 1-56555-155-9, 393 p.

14. Cellier, F.E. and J.J. Granda, Eds. (1995), *Bond Graph Modeling and Simulation*, Proc. of the 1995 SCS Western Multi-conference, Las Vegas, NV, January 15-18, 1995, The Society for Computer Simulation, Simulation Series, Vol. 27, No. 1, ISBN: 1-56555-037-4, 310 p.
15. Cellier, F.E., S.E. Mattsson, and J.O. Gray, Eds. (1994), *Computer-Aided Control System Design*, Proc. of the 1994 IEEE/IFAC Joint Conference, Tucson, AZ, March 7-9, 1994, IEEE #94TH0619-7, ISBN: 0-7803-1800-5, 609 p.
16. Granda, J.J. and F.E. Cellier, Eds. (1993), *Bond Graph Modeling and Simulation*, Proc. of the 1993 SCS Western Multi-conference, San Diego, CA, January 17-20, 1993, The Society for Computer Simulation, Simulation Series, Vol. 25, No. 2, ISBN: 1-56555-019-6, 341 p.
17. Cellier, F.E. (1991), *Continuous System Modeling*, Springer-Verlag, New York, ISBN: 0-387-97502-0, 755p.
18. Cellier, F.E., Ed. (1986), *Languages for Continuous System Simulation*, Proc. of the 1986 SCS Western Multi-conference, San Diego, CA, January 23-25, 1986, The Society for Computer Simulation, ISBN: 0-911801-08-1, 145 p.
19. Cellier, F.E., Ed. (1982), *Progress in Modeling and Simulation*, Academic Press, London, ISBN: 0-12-164780-3, 466 p.

Chapters in Refereed Books:

1. Fritzson, P., E.A. Lee, F.E. Cellier, and D. Broman (2011), "Equation-based Object-oriented Modeling Languages and Tools: Report on the Workshop EOOLT'2010 at MODELS'2010," in: *Models in Software Engineering*, (J. Dingel and A. Solberg, eds.), Springer-Verlag, pp. 140-144.
2. Kofman, E., F.E. Cellier, and G. Migoni (2011), "Continuous System Simulation and Control," *Discrete-event Modeling and Simulation: Theory and Applications*, (G.A. Wainer and P.J. Mosterman, eds.), CRC Press, Boca Raton, FL, pp. 75-107.
3. Fritzson, P., D. Broman, F.E. Cellier, and C. Nytsch-Geusen (2008), "Equation-based Object-oriented Languages and Tools: Report on the Workshop EOOLT'2007 at ECOOP'2007," *Object-oriented Technology: ECOOP'2007 Workshop Reader*, (D. Clarke and S. Ducasse, eds.), Lecture Notes in Computer Science, Vol. 4906, Springer-Verlag, Berlin, pp. 27-39.
4. Sarjoughian, H.S. and F.E. Cellier (2001), "Toward a Unified Foundation for Simulation-based Acquisition," *Discrete Event Modeling and Simulation Technologies: A Tapestry of Systems and AI-based Theories and Methodologies – A Tribute to the 60th Birthday of*

Bernard P. Zeigler, (H.S. Sarjoughian and F.E. Cellier, eds.), Springer-Verlag, New York, pp. 1-14.

5. F.E. Cellier (2000), "Simulation und Vorhersage: Sind Simulationstechniker die Propheten der Neuzeit?" *Gedanken zur Zeit – Festschrift anlässlich des 60sten Geburtstags von Herrn Prof. Dr. Bernd Schmidt*, (R. Rimane, Ed.), SCS Publishing, Erlangen, Germany, pp. 1-28.
6. Cellier, F.E., H. Elmqvist, and M. Otter (2000), "Modeling from Physical Principles," *Control System Fundamentals*, (W.S. Levine, ed.), CRC Press, Boca Raton, FL, pp. 99-108.
7. Otter, M. and F.E. Cellier (2000), "Software for Modeling and Simulating Control Systems," *Control System Fundamentals*, (W.S. Levine, ed.), CRC Press, Boca Raton, FL, pp. 419-432.
8. Cellier, F.E., H. Elmqvist, and M. Otter (1995), "Modeling from Physical Principles," *The Control Handbook*, (W.S. Levine, ed.), CRC Press, Boca Raton, FL, pp. 99-108.
9. Otter, M. and F.E. Cellier (1995), "Software for Modeling and Simulating Control Systems," *The Control Handbook*, (W.S. Levine, ed.), CRC Press, Boca Raton, FL, pp. 415-428.
10. Cellier, F.E. and C.M. Rinvall (1995), "Computer-Aided Control System Design: Techniques and Tools," *Systems Modeling and Computer Simulation*, (N. Kheir, ed.), second edition, Marcel Dekker, New York, pp. 413-453.
11. Cellier, F.E. (1993), "Integrated Continuous-System Modeling and Simulation Environments," *CAD for Control Systems*, (D. Linkens, ed.), Marcel Dekker, New York, pp. 1-29.
12. Cellier, F.E. (1992), "Ordinary Differential Equation Models: Numerical Integration of Initial Value Problems," *Concise Encyclopedia of Modeling and Simulation*, (D.P. Atherton and P. Borne, eds.), Pergamon Press, Oxford, pp. 313-317.
13. Cellier, F.E. (1992), "Simulation Modeling Formalism: Ordinary Differential Equations," *Concise Encyclopedia of Modeling and Simulation*, (D.P. Atherton and P. Borne, eds.), Pergamon Press, Oxford, pp. 420-423.
14. Cellier, F.E., L.C. Schooley, M.K. Sundareshan and B.P. Zeigler (1992), "Computer-Aided Design of Intelligent Controllers: Challenge of the Nineties," *Recent Advances in Computer Aided Control Systems Engineering* (M. Jamshidi and C.J. Herget, eds.), Elsevier Science Publishers, Amsterdam, the Netherlands, pp. 53-80.
15. Zeigler B.P., S.D. Chi, and F.E. Cellier (1991), "Model-based Architecture for High Autonomy Systems," *Engineering Systems with Intelligence – Concepts, Tools and*

Applications, (S.G. Tzafestas, ed.), Kluwer Academic Publishers, Dordrecht, Netherlands, pp. 3-22.

16. Cellier, F.E. (1991), "General System Problem Solving Paradigm for Qualitative Modeling," *Qualitative Simulation, Modeling, and Analysis*, (P.A. Fishwick and P.A. Luker, eds.), Springer-Verlag, New York, pp. 51-71.
17. Cellier, F.E. (1990), "Rechnerunterstützter Entwurf von Regelungssystemen – Verfahren und Werkzeuge," *Simulation in der Regelungstechnik*, (K.H. Fasol, ed.), Springer-Verlag, Berlin, pp. 57-73.
18. Cellier, F.E. (1987), "Ordinary Differential Equation Models: Numerical Integration of Initial Value Problems," *Encyclopedia of Control*, (M. Singh, ed., topic: Simulation, B.P. Zeigler, topic-ed.), Pergamon Press, Oxford, Vol. 5, pp. 3555-3559.
19. Cellier, F.E. (1987), "Simulation Modeling Formalism: Ordinary Differential Equations," *Encyclopedia of Control*, (M. Singh, ed., topic: Simulation, B.P. Zeigler, topic-ed.), Pergamon Press, Oxford, Vol. 6, pp. 4356-4360.
20. Cellier, F.E. and C.M. Rimvall (1987), "Computer-Aided Control System Design: Techniques and Tools," *Systems Modeling and Computer Simulation*, (N. Kheir, ed.), Marcel Dekker, New York, pp. 631-679.
21. Cellier, F.E. (1985), "Stiff Computation: Where to Go?" *Progress in Stiff Computation*, (R.C. Aiken, ed.), Oxford Academic Press, Oxford, pp. 386-392.
22. Rimvall, C.M. and F.E. Cellier (1985), "A Structural Approach to CACSD," *Computer-Aided Control Systems Engineering*, (M. Jamshidi and C.J. Herget, eds.), North-Holland Publishing, Amsterdam, pp. 149-158.
23. Cellier, F.E. (1984), "How to Enhance the Robustness of Simulation Software," *Simulation and Model-Based Methodologies: An Integrative View*, (T.I. Ören, M.S. Elzas, and B.P. Zeigler, eds.), Springer-Verlag, New York, pp. 519-536.
24. Cellier, F.E. and A. Fischlin (1982), "Computer-Assisted Modeling of Ill-Defined Systems," *Progress in Cybernetics and Systems Research – Vol. 8: General Systems Methodology, Mathematical Systems Theory, Fuzzy Sets*, (R. Trappl, G.J. Klir, and F.R. Pichler, eds.), Hemisphere Publishing, McGraw-Hill, Washington, pp. 417-429.
25. Cellier, F.E. (1979), "Combined Continuous Discrete System Simulation Languages - Usefulness, Experiences, and Future Development," *Methodology in Systems Modeling and Simulation*, (B.P. Zeigler, M.S. Elzas, G.J. Klir, and T.I. Oren, eds.), North-Holland Publishing, Amsterdam, pp. 201-220.

Refereed Journals:

1. Cellier, F.E. and R. Castro (2013), "Energy as a Metric for Sustainability," *The Oil Drum*, August 27, 2013, <http://www.theoil Drum.com/node/10193/>.
2. Sanz, V., A. Urquía, F.E. Cellier, and S. Dormido (2013), "Hybrid System Modeling Using the SIMANLib and ARENALib Modelica Library," *Simulation Modeling Practice and Theory*, **37**(1), pp. 1-17.
3. Migoni, G., M. Bartolotto, E. Kofman, and F.E. Cellier (2013), "Linearly Implicit Quantization-based Integration Methods for Stiff Ordinary Differential Equations," *Simulation Modeling Practice and Theory*, **35**(3), pp. 118-136.
4. Bergero, F., E. Kofman, and F.E. Cellier (2013), "A Novel Parallelization Technique for DEVS Simulation of Continuous and Hybrid Systems," *Simulation*, **89**(6), pp. 663-683.
5. Migoni, G., E. Kofman, and F.E. Cellier (2012), "Quantization-based New Integration Methods for Stiff ODEs," *Simulation*, **88**(4), pp. 387-407.
6. Sanz, V., A. Urquía, F.E. Cellier, and S. Dormido (2012), "Modeling of Hybrid Control Systems Using the DEVSLib Modelica Library," *Control Engineering Practice*, **20**(1), pp. 24-34.
7. Cellier, F.E. (2011), "The Future of Energy and the Interconnected Challenges of the 21st Century," *Cassandra's Legacy*, October 30, 2011, <http://cassandralegacy.blogspot.com/2011/10/future-of-energy-and-interconnected.html>.
8. Escobet, A., À. Nebot, and F.E. Cellier (2011), "Fault Diagnosis System Based on Fuzzy Logic: Application to a Valve Actuator Benchmark," *J. Intelligent Fuzzy Systems*, **22**(4), pp. 155-171.
9. López, J., F.E. Cellier, and G. Cembrano (2011), "Estimating the Horizon of Predictability in Time Series Predictions Using Inductive Modeling Tools," *Intl. J. General Systems*, **40**(3), pp. 263-282.
10. Castro, R., E. Kofman, and F.E. Cellier (2011), "Quantization-based Integration Methods for Delay-differential Equations," *Simulation Modeling Practice and Theory*, **19**(1), pp. 314-336.
11. Cellier, F.E., J. López, A. Nebot and G. Cembrano (2010), "Confidence Measures for Predictions in Fuzzy Inductive Reasoning," *Intl. J. General Systems*, **39**(8), pp. 839-853.
12. Sanz, V., A. Urquía, F.E. Cellier, and S. Dormido (2010), "System Modeling Using the Parallel DEVS Formalism and the Modelica Language," *Simulation Modeling Practice and Theory*, **18**(7), pp. 998-1018.

13. Nebot, A., F.E. Cellier, R. Carvajal, and F. Mugica (2009), "Fuzzy Inductive Reasoning for Variable Selection Analysis and Modelling of Biological Systems," *Intl. J. General Systems*, **38**(8), pp. 793-811.
14. Cellier, F.E. (2009), "Is the 2000 Watt Society Sustainable in Switzerland?" *The Oil Drum*, April 20, 2009, <http://www.theoil Drum.com/node/5316/>.
15. Cellier, F.E. (2008), "Energy Strategy for ETH Zurich: A Critical Review," *The Oil Drum*, April 23, 2008, <http://www.theoil Drum.com/node/3871/>.
16. Escobet, A., A. Nebot, and F.E. Cellier (2008), "Visual-FIR: A Tool for Model Identification and Prediction of Dynamical Complex Systems," *Simulation Modeling Practice and Theory*, **16**(1), pp. 76-92.
17. Zimmer, D. and F.E. Cellier (2007), "The Modelica Multi-bond Graph Library," *Simulation News Europe*, **17**(3/4), pp. 5-13.
18. Migoni, G., E. Kofman, and F.E. Cellier (2007), "Integración por Cuantificación de Sistemas Stiff," *Revista Iberoamericana de Automática e Informática Industrial*, **4**(3), pp. 97-106.
19. Cellier, F.E. (2007), "Ecological footprint, energy consumption, and the looming collapse," *The Oil Drum*, May 16, 2007, <http://www.theoil Drum.com/node/2534/>.
20. Escobet, A., A. Nebot, and F.E. Cellier (2007), "Fault detection and identification using FIRFMS," *Intl. J. General Systems*, **36**(3), pp. 347-374.
21. Beltrame, T. and F.E. Cellier (2006), "The Quantised State System Simulation in Dymola/Modelica Using the DEVS Formalism," *Simulation News Europe*, **16**(3), pp. 3-12.
22. Cellier, F.E., A. Nebot, and J. Greifeneder (2006), "Bond graph modeling of heat and humidity budgets of Biosphere 2," *Environmental Modeling & Software*, **21**(11), pp. 1598-1606.
23. Mirats, J.M., F.E. Cellier, and R.M. Huber (2004), "Reconstruction analysis based algorithm to decompose a complex system into subsystems," *Intl. J. General Systems*, **33**(5), pp. 527-551.
24. Nebot, A., F. Mugica, F.E. Cellier, and M. Vallverdú (2003), "Modeling and simulation of the central nervous system control with generic fuzzy models," *Simulation*, **79**(5), pp. 648-669.
25. Mirats, J.M., F.E. Cellier, R.M. Huber, and S.J. Qin (2002), "On the selection of variables for qualitative modelling of dynamical systems," *Intl. J. General Systems*, **31**(5), pp. 435-467.

26. Mirats, J.M., F.E. Cellier, and R.M. Huber (2002), "Variable selection procedures and efficient suboptimal mask search algorithms in fuzzy inductive reasoning," *Intl. J. General Systems*, **31**(5), pp. 469-498.
27. Nebot, A., F.E. Cellier, and F. Mugica (1999), "Simulation of Heat and Humidity Budget of Biosphere 2 without its Air Conditioning," *Ecological Engineering*, **13**, pp. 333-356.
28. Cellier, F.E. and A. de Albornoz (1998), "The Problem of Distortions in Reconstruction Analysis," *Systems Analysis, Modeling, Simulation*, **33**(1), pp. 1-19.
29. Nebot, A., F.E. Cellier, and M. Vallverdú (1998), "Mixed Quantitative/Qualitative Modeling and Simulation of the Cardiovascular System," *Computer Methods and Programs in Biomedicine*, **55**(2), pp. 127-155.
30. Uhrmacher, A.M., F.E. Cellier, and R.J. Frye (1997), "Applying Fuzzy-Based Inductive Reasoning to Analyze Qualitatively the Dynamic Behavior of an Ecological System," *International Journal on Applied Artificial Intelligence in Natural Resource Management*, **11**(2), pp. 1-10.
31. Cellier, F.E., A. Nebot, F. Mugica, and A. de Albornoz (1996), "Combined Qualitative/Quantitative Simulation Models of Continuous-Time Processes Using Fuzzy Inductive Reasoning Techniques," *Intl. J. General Systems*, **24**(1-2), pp. 95-116.
32. Borutzky, W. and F.E. Cellier (1996), "Tearing Algebraic Loops in Bond Graphs," *Trans. of SCS*, **13**(2), pp. 102-115.
33. Nebot, A., F.E. Cellier, and D.A. Linkens (1996), "Synthesis of an Anesthetic Agent Administration System Using Fuzzy Inductive Reasoning," *Artificial Intelligence in Medicine*, **8**(3), pp. 147-166.
34. Otter, M., H. Elmqvist, and F.E. Cellier (1996), "Modeling of Multi-body Systems with the Object-Oriented Modeling Language Dymola," *J. Nonlinear Dynamics*, **9**(1), pp. 91-112.
35. Cellier, F.E. (1995), "Bond Graphs: The Right Choice for Educating Students in Modeling Continuous-Time Physical Systems," *Simulation*, **64**(3), pp. 154-159.
36. Cellier, F.E. and J. López (1995), "Causal Inductive Reasoning: A New Paradigm for Data-Driven Qualitative Simulation of Continuous-Time Dynamical Systems," *Systems Analysis Modeling Simulation*, **18**(1), pp. 27-43.
37. Cellier, F.E. and F. Mugica (1995), "Inductive Reasoning Supports the Design of Fuzzy Controllers," *J. Intelligent & Fuzzy Systems*, **3**(1), pp. 71-85.
38. Cellier, F.E. and Y.D. Pan (1995), "Fuzzy Adaptive Recurrent Counter-propagation

Neural Networks: A Tool for Efficient Implementation of Qualitative Models of Dynamic Processes,” *J. Systems Engineering*, **5**(4), pp. 207-222.

39. James, J., G. Pang, F.E. Cellier, J. Gray, and S.E. Mattsson (1995), “The State of Computer-aided Control System Design (CACSD),” *IEEE Control Systems*, **15**(2), pp. 6-7 and pp. 98-99.
40. Cellier, F.E. (1994), “Teaching Physical System Modeling at the University of Arizona,” *Simulation News Europe*, **10**, pp. p5-p7.
41. de Alborno, A. and F.E. Cellier (1994), “Building Intelligence into an Autopilot – Using Qualitative Simulation to Support Global Decision Making,” *Simulation*, **62**(6), pp. 354-363.
42. Cellier, F.E. and H. Elmqvist (1993), “Automated Formula Manipulation Supports Object-oriented Continuous System Modeling,” *IEEE Control Systems*, **13**(2), pp. 28-38.
43. Schooley, L.C., B.P. Zeigler, F.E. Cellier, and F.Y. Wang (1993), “High-Autonomy Control of Space Resource Processing Plants,” *IEEE Control Systems*, **13**(3), pp. 29-39.
44. Cellier, F.E. (1992), “Hierarchical Non-Linear Bond Graphs: A Unified Methodology for Modeling Complex Physical Systems,” *Simulation*, **58**(4), pp. 230-248.
45. Kosier, S.L., R.D. Schrimpf, K.F. Galloway, and F.E. Cellier (1991), “Predicting Worst-Case Charge Buildup in Power-Device Field Oxides,” *IEEE Trans. Nuclear Science*, **38**(6), pp. 1383-1390.
46. Wang, Q., and F.E. Cellier (1991), “Time Windows: An Approach to Automated Abstraction of Continuous-Time Models into Discrete-Event Models,” *Intl. J. General Systems*, **19**(3), pp. 241-262.
47. Kosier, S.L., R.D. Schrimpf, F.E. Cellier, and K.F. Galloway (1990), “The Effects of Ionizing Radiation on the Breakdown Voltage of P-Channel Power MOSFETs,” *IEEE Trans. Nuclear Science*, **37**(6), pp. 2076-2082.
48. Cellier, F.E. and C.M. Rinvall (1989), “Matrix Environments for Continuous System Modeling and Simulation,” *Simulation*, **52**(4), pp. 141-149.
49. Davis, K.R., R.D. Schrimpf, F.E. Cellier, K.F. Galloway, D.I. Burton, and C.F. Wheatley, Jr. (1989), “The Effects of Ionizing Radiation on Power-MOSFET Termination Structures,” *IEEE Trans. Nuclear Science*, **36**(6), pp. 2104-2109.
50. Vesanterä, P.J. and F.E. Cellier (1989), “Building Intelligence into an Autopilot Using Qualitative Simulation to Support Global Decision Making,” *Simulation*, **52**(3), pp. 111-121.

51. Wu, Q.M., C.M. Yen, and F.E. Cellier (1989), "Analysis of Breakdown Phenomena in High-Voltage Bipolar Devices," *Transactions of SCS*, **6**(1), pp. 43-60.
52. Zeigler, B.P., F.E. Cellier, and J.W. Rozenblit (1988), "Design of a Simulation Environment for Laboratory Management by Robot Organizations," *J. of Intelligent and Robotic Systems*, **1**, pp. 299-309.
53. Cellier, F.E. and D.W. Yandell (1987), "SAPS-II: A New Implementation of the Systems Approach Problem Solver," *Intl. J. General Systems*, **13**(4), pp. 307-322.
54. Cellier, F.E. (1987), "Prisoner's Dilemma Revisited – A New Strategy Based on the General System Problem Solving Framework," *Intl. J. General Systems*, **13**(4), pp. 323-332.
55. Cellier, F.E. (1987), "Qualitative Simulation of Technical Systems by Means of the General System Problem Solving Framework," *Intl. J. General Systems*, **13**(4), pp. 333-344.
56. Rimvall, C.M. and F.E. Cellier (1986), "Evolution and Perspectives of Simulation Languages Following the CSSL-Standard," *Modeling, Identification, and Control*, **6**, pp. 181-199.
57. Wu, Q.M. and F.E. Cellier (1986), "Simulation of High-Voltage Bipolar Devices in the Neighborhood of Breakdown," *Mathematics and Computers in Simulation*, **28**, pp. 271-284.
58. Cellier, F.E. (1984), "How to Enhance the Robustness of Simulation Software," *Systems Analysis, Modeling and Simulation*, **1**(1), pp. 55-61.
59. Cellier, F.E. (1984), "Simulation Software: Today and Tomorrow," *SGA Bulletin*, **1**, pp. 7-22.
60. Mansour, M.A., W. Schaufelberger, F.E. Cellier, G. Maier, and C.M. Rimvall (1984), "The Use of Computers in the Education of Control Engineers at ETH Zürich," *European J. Engineering Education*, **9**, pp. 135-151.
61. Cellier, F.E. (1983), "New Problems in Software Complexity," *Simulation*, **41**(3), pp. 118-119.
62. Cellier, F.E. and A.A.B. Pritsker (1980), "Teaching Continuous Simulation Using GASP," *Simulation*, **34**(4), pp. 137-139.
63. Bongulielmi, A.P. and F.E. Cellier (1979), "On the Usefulness of Deterministic Grammars for Simulation Languages," *Simuletter*, **15**(1), pp. 14-36.

Keynote Presentations, Plenary Presentations, Invited Presentations:

1. Cellier, F.E. (2013), "Teaching Physics by Modeling," *Proc. MPTL 2013, 18th International Workshop on Multimedia in Physics Teaching and Learning*, Madrid, Spain, September 11-13, 2013, no publication.
2. Cellier, F.E., X. Floros, and E. Kofman (2013), "The Complexity Crisis: Using Modeling and Simulation for System Level Analysis and Design," *Proc. SimulTech 2013, 3rd International Conference on Simulation and Modeling Methodologies, Technologies, and Applications*, Reykjavik, Island, July 29-31, 2013, 9 pgs.
3. Cellier, F.E. (2011), "Simulation kontinuierlicher Systeme unter Verwendung diskreter ereignisorientierter Algorithmen: ein Paradigmenwandel," *Proc. ASIM 2011, 21st Symposium Simulationstechnik*, Winterthur, Switzerland, September 7-9, 2011, pp. 15-18.
4. Cellier, F.E. (2011), "Objektorientierte Modellierung im Dienste der Medizin," *Modellbildung und Simulation: Herausforderung und Gewinn*, Zurich, Switzerland, February 2, 2011, no publication.
5. Cellier, F.E. (2011), "Was uns Weltmodelle über unsere Zukunft lehren können," *Karlstagsvortrag*, Gelehrte Gesellschaft, Zurich, Switzerland, January 28, 2011, no publication.
6. Cellier, F.E. (2009), "Object-oriented Modeling of Mechatronic Systems in Modelica Using Wrapped Bond Graphs," *Proc. IEEE International Conference on Mechatronics*, Malaga, Spain, April 14-17, 2009, pp. 1-4.
7. Cellier, F.E., E. Kofman, G. Migoni, and M. Botrolo (2008), "Quantized State System Simulation," *Proc. GCMS'08, Grand Challenges in Modeling and Simulation*, part of: *SCSC'08, Summer Computer Simulation Conference*, Edinburgh, Scotland, June 16-19, 2008, pp. 504-510.
8. Cellier, F.E., C. Clauß, and A. Urquía (2007), "Electronic Circuit Modeling and Simulation in Modelica," *Proc. 6th Eurosim Congress on Modelling and Simulation*, Ljubljana, Slovenia, September 9-13, 2007, pp. 1-10.
9. Cellier, F.E. and D. Zimmer (2006), "Wrapping Multi-bond Graphs: A Structured Approach to Modeling Complex Multi-body Dynamics," *Proc. 20th European Conference on Modeling and Simulation*, Bonn, Germany, May 28-31, 2006, pp. 7-13.
10. Cellier, F.E. and A. Nebot (2005), "Object-oriented Modeling in the Service of Medicine," *Proc. 6th Asia Simulation Conference*, Beijing, China, October 24-27, 2005, pp. 33-40.
11. Cellier, F.E. (2004), "Smart Product Modeling: Dealing with the Issues of System

Complexity,” SCS Advanced Simulation Technologies Conference, Arlington, Virginia, April 18-22, 2004, no publication.

12. Cellier, F.E. (2001), “Die Vorhersage makroökonomischer Prozesse: Wissenschaft, Kunst oder Hochstapelei?” *Proc. 15th ASIM Symposium*, Paderborn, Germany, September 11-14, 2001, pp. 1-10.
13. Cellier, F.E. (2000), “Simulation und Vorhersage: Sind Simulationstechniker die Propheten der Neuzeit?” *Gedanken zur Zeit – Festschrift anlässlich des 60sten Geburtstags von Herrn Prof. Dr. Bernd Schmidt*, (R. Rimane, Ed.), SCS Publishing, Erlangen, Germany, pp. 1-28.
14. Cellier, F.E. (2000), “Inlining Step-size Controlled Fully Implicit Runge-Kutta Algorithms for the Semi-analytical and Semi-numerical Solution of Stiff ODEs and DAEs,” *Proc. Vth Conference on Computer Simulation*, Mexico City, Mexico, February 16-18, 2000, pp. 259-262.
15. Cellier, F.E. (1999), “A Mixed Quantitative and Qualitative Model Architecture for the Prediction of Macroeconomic Processes,” *IASTED Modeling and Simulation Conference*, Chapel Hill, New Jersey, May 5-8, 1999, no publication.
16. Cellier, F.E. (1998), “Fuzzy Inductive Reasoning: A Qualitative Inductive Modeling Methodology Geared for Optimally Dealing with Plant and Input Uncertainty in Systems and Signal Modeling,” *IVth Conference on Computer Simulation and Artificial Intelligence*, Mexico City, Mexico, February 18-20, 1998, no publication.
17. Cellier, F.E. (1996), “Object-oriented Modeling: Means for Dealing with System Complexity,” *Proc. 15th Benelux Meeting on Systems and Control*, Mierlo, The Netherlands, pp. 53-64.
18. Cellier, F.E. (1996), “Mixed Quantitative and Qualitative Modeling: Means for Dealing With System Uncertainty,” *Proc. 15th Benelux Meeting on Systems and Control*, Mierlo, The Netherlands, pp. 111-123.
19. Otter, M., H. Elmqvist, and F.E. Cellier (1996), “ ‘Relaxing’ - A Symbolic Sparse Matrix Method Exploiting the Model Structure in Generating Efficient Simulation Code,” *Proc. Symposium on Modeling, Analysis, and Simulation, CESA'96, IMACS Multi-Conference on Computational Engineering in Systems Applications*, Lille, France, vol. 1, pp. 1-12.
20. Cellier, F.E. and J. López (1995), “Causal Inductive Reasoning: A New Paradigm for Data-driven Qualitative Simulation of Continuous-Time Dynamical Systems,” *Proc. Systems Analysis Modeling Simulation*, Berlin, Germany, pp. 27-43.
21. Elmqvist, H., M. Otter, and F.E. Cellier (1995), “Inline Integration: A New Mixed Symbolic/Numeric Approach for Solving Differential-Algebraic Equation Systems,” *Proc. ESM'95, SCS European Simulation Multi-Conference*, Prague, Czech Republic, pp.

22. Elmqvist, H., F.E. Cellier, and M. Otter (1993), "Object-oriented Modeling of Hybrid Systems," *Proc. ESS'93, SCS European Simulation Symposium*, Delft, The Netherlands, pp. xxxi-xli.
23. Cellier, F.E., and H. Elmqvist (1992), "The Need for Automated Formula Manipulation in Object-Oriented Continuous-System Modeling," *Proc. CACSD'92, IEEE Computer-Aided Control System Design Conference*, Napa, CA, pp. 1-8.
24. Cellier, F.E., B.P. Zeigler, and A.H. Cutler (1991), "Object-Oriented Modeling: Tools and Techniques for Capturing Properties of Physical Systems in Computer Code," *Proc. CADCS'91 - IFAC Symposium on Computer-Aided Design in Control Systems*, Swansea, Wales, U.K., pp. 1-10.
25. Zeigler, B.P., S.D. Chi, and F.E. Cellier (1991), "Model-Based Architecture for High Autonomy Systems," *Proc. EURISCON'91 - European Robotics and Intelligent Systems Conference*, Corfu, Greece, pp. 3-22.
26. Cellier, F.E. (1990), "Hierarchical Non-linear Bond Graphs: A Unified Methodology for Modeling Complex Physical Systems," *Proc. SCS European Simulation Multi-Conference*, Nuremberg, Germany, pp. 1-13.
27. Cellier, F.E. (1987), "Computer-Aided Control System Design: Techniques and Tools," *Proc. 4th Intl. Symposium on Modeling and Simulation Methodology*, (B.P. Zeigler, ed.), Tucson, AZ, January 19-23, 1987.
28. Cellier, F.E. and B.P. Zeigler (1987), "AI's Role in Control of Systems: Structural and Behavioral Knowledge," *Proc. ESM'87: European Simulation Conf.*, (K.E. Wichmann and J. Retti, eds.), Vienna, Austria, July 8-10, 1987, The Society for Computer Simulation, pp. 165-171.
29. Cellier, F.E. (1984), "Simulation Software: Today and Tomorrow," *IFORS World Congress*, Washington, DC, no publication.
30. Cellier, F.E. (1984), "How to Enhance the Robustness of Simulation Software," *NATO Advanced Study Institute on Simulation and Model-Based Methodologies: An Integrative View*, Ottawa, Canada, July 26 - August 6, 1982, in: *Simulation and Model-Based Methodologies: An Integrative View*, (T.I. Ören, M.S. Elzas, and B.P. Zeigler, eds.), Springer-Verlag, New York, pp. 519-536.
31. Cellier, F.E. and C.M. Rimvall (1983), "Computer Aided Control Systems Design," *Proc. 1st European Simulation Congress ESC'83*, (W. Ameling, ed.), Aachen, Germany, Sept. 12-16, 1983, Springer-Verlag, Berlin, Informatik-Fachberichte, pp. 1-21.
32. Cellier, F.E. (1983), "Simulation Software: Today and Tomorrow," *Proc. of the IMACS*

Symposium on Simulation in Engineering Sciences, (J. Burger and Y. Varny, eds.), Nantes, France, May 9-11, 1983, North-Holland Publishing, pp. 3-19.

33. Cellier, F.E. (1983), "Simulation Software: Today and Tomorrow," *25th Anniversary Meeting of SIMS Scandinavian Simulation Soc.*, Odense, Denmark, May 30 - June 2, 1983, no printed proceedings.
34. Cellier, F.E. (1982), "Combined Continuous and Discrete System Simulation," *NATO Advanced Study Institute on Simulation and Model-Based Methodologies: An Integrative View*, Ottawa, Canada, July 26 - August 6, 1982, no publication.
35. Cellier, F.E. and A. Fischlin (1982), "Computer-Assisted Modeling of Ill-Defined Systems," *5th European Meeting on Cybernetics and Systems Research*, Vienna, Austria, April 8-11, 1980, in: *Progress in Cybernetics and Systems Research – Vol. 8, General Systems Methodology, Mathematical Systems Theory, Fuzzy Sets*, (R. Trappl, G.J. Klir, and F.R. Pichler, eds.), Hemisphere Publishing, McGraw-Hill, Washington, pp. 417-429.
36. Cellier, F.E. (1981), "How to Enhance the Robustness of Simulation Software," *18th MEDA Conf.*, Prague, CSSR, March 17-19, 1981, no printed proceedings.
37. Cellier, F.E. (1981), "Combined Continuous/Discrete Real-Time Simulation," *United Kingdom Simulation Conf. (UKSC) on Computer Simulation*, Harrogate, Yorkshire, United Kingdom, May 13-15, 1981, no publication.
38. Cellier, F.E. (1980), "Numerical Integration of Differential Equations across Discontinuities – Simulation and Real-time Applications," *Intl. Workshop on Numerical Tech. in Control*, Lund, Sweden, September 23-25, 1980, no printed proceedings.
39. Cellier, F.E. (1980), "How to Enhance the Robustness of Simulation Software," *Proc. IFAC/IMACS Symposium Systems Analysis and Simulation*, Berlin, Germany, pp. 55-61.
40. Cellier, F.E. (1979), "Combined Continuous/Discrete System Simulation Languages – Usefulness, Experiences and Future Development," *Proc. Modeling and Simulation Methodology*, (B.P. Zeigler, M.S. Elzas, G.J. Klir, T.I. Oren, eds.), Rehovot Israel, August 14-18, 1978, in: *Methodology in Systems Modeling and Simulation*, North-Holland Publishing, Amsterdam, pp. 201-220.
41. Cellier, F.E. (1975), "Continuous-System Simulation by Use of Digital Computer – A State-of-the-Art Survey and Perspectives for Development," *Proc. Simulation'75*, (M.H. Hamza, ed.), Zurich, Switzerland, June 23-26, 1975, ACTA Press Publishers, pp. 18-25.

Contributed Conference Papers:

1. Cellier, F.E., (2013), "Emergy Tracking: Safe Transition from a World of Exponential Growth to One of Sustainability," *Proc. SESDE 2013, International Workshop on*

Simulation for Energy, Sustainable Development, and Environment, Athens, Greece, pp. 55-59.

2. Castro, R., F.E. Cellier, and A. Fischlin (2013), "Eco-bond Graphs: An Energy-based Modeling Framework for Complex Dynamic Systems with a Focus on Sustainability and Embodied Energy Flows," *Proc. SESDE 2013, International Workshop on Simulation for Energy, Sustainable Development, and Environment*, Athens, Greece, pp. 33-45.
3. de la Calle, A., F.E. Cellier, L.J. Yebra, and S. Dormido (2013), "Improvements in Bondlib, the Modelica Bond Graph Library," *Proc. 8th EUROSIM Congress on Modeling and Simulation*, Cardiff, Wales, United Kingdom, 6 pgs.
4. Bonilla, J., L.J. Yebra, S. Dormido, and F.E. Cellier (2012), "Object-oriented Library of Switching Moving Boundary Models for Two-phase Flow Evaporators and Condensers," *Proc. 9th International Modelica Conference*, Fürstfeldbruck, Germany, pp. 71-80.
5. Bergero, F., X. Floros, J. Fernández, E. Kofman, and F.E. Cellier (2012), "Simulating Modelica Models with a Stand-alone Quantized State Systems Solver," *Proc. 9th International Modelica Conference*, Fürstfeldbruck, Germany, pp. 237-246.
6. Greifeneder, J. and F.E. Cellier (2012), "Modeling Chemical Reactions Using Bond Graphs," *Proc. 10th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Genoa, Italy, pp. 110-121.
7. Floros, X., F. Bergero, F.E. Cellier, and E. Kofman (2011), "Automated Simulation of Modelica Models with QSS Methods – The Discontinuous Case," *Proc. 8th International Modelica Conference*, Dresden, Germany.
8. Floros, X., F.E. Cellier, and E. Kofman (2010), "Discretizing Time or States? A Comparative Study Between DASSL and QSS," *Proc. 3rd International Workshop on Equation-based Object-oriented Modeling Languages and Tools*, Oslo, Norway, pp. 107-115.
9. Cellier, F.E. and J. Greifeneder (2009), "Modeling Chemical Reactions in Modelica by Use of Chemo-bonds," *Proc. 7th International Modelica Conference*, Como, Italy, pp. 142-150.
10. Cellier, F.E. and V. Sanz (2009), "Mixed Quantitative and Qualitative Simulation in Modelica," *Proc. 7th International Modelica Conference*, Como, Italy, pp. 86-95.
11. Andres, M., D. Zimmer, and F.E. Cellier (2009), "Object-oriented Decomposition of Tire Characteristics based on Semi-empirical Models," *Proc. 7th International Modelica Conference*, Como, Italy, pp. 9-18.

12. Schmitt, T., D. Zimmer, and F.E. Cellier (2009), "A Virtual Motorcycle Rider Based on Automatic Control Design," *Proc. 7th International Modelica Conference*, Como, Italy, pp. 19-28.
13. Sanz, V., F.E. Cellier, A. Urquía, and S. Dormido (2009), "Modeling of the ARGESIM 'Crane and Embedded Controller' System Using the DEVSLib Modelica Library," *Proc. ADHS'09: 3rd IFAC Conference on Analysis and Design of Hybrid Systems*, Zaragoza, Spain, 6 pgs.
14. Dshabarow, F., F.E. Cellier, and D. Zimmer (2008), "Support for Dymola in the Modeling and Simulation of Physical Systems with Distributed Parameters," *Proc. 6th International Modelica Conference*, Bielefeld, Germany, Vol.2, pp. 683-690.
15. Cellier, F.E. (2008), "World3 in Modelica: Creating System Dynamics Models in the Modelica Framework," *Proc. 6th International Modelica Conference*, Bielefeld, Germany, Vol.2, pp. 393-400.
16. Cellier, F.E. and J. Greifeneder (2008), "ThermoBondLib - A New Modelica Library for Modeling Convective Flows," *Proc. 6th International Modelica Conference*, Bielefeld, Germany, Vol.1, pp. 163-172.
17. Escobet, A., A. Nebot, and F.E. Cellier (2007), "VisualBlock-FIR for Fault Detection and Identification: Application to the DAMADICS Benchmark Problem," *Proc. MICAI'07, 6th Mexican Intl. Conf. on Artificial Intelligence*, Aguascalientes, Mexico, in: Springer-Verlag, Lecture Notes on Artificial Intelligence, LNAI 4827, pp. 1173-1183.
18. Cellier, F.E. and M. Krebs (2007), "Analysis and Simulation of Variable Structure Systems Using Bond Graphs and Inline Integration," *Proc. ICBGM'07, 8th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, San Diego, California, pp. 29-34.
19. Zimmer, D. and F.E. Cellier (2007), "Impulse-bond Graphs," *Proc. ICBGM'07, 8th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, San Diego, California, pp. 3-11.
20. Zimmer, D. and F.E. Cellier (2006), "The Modelica Multi-bond Graph Library," *Proc. 5th International Modelica Conference*, Vienna, Austria, Vol.2, pp. 559-568.
21. Beltrame, T. and F.E. Cellier (2006), "The Quantised State System Simulation in Dymola/Modelica Using the DEVS Formalism," *Proc. 5th International Modelica Conference*, Vienna, Austria, Vol.1, pp. 73-82.
22. Migoni, G., E. Kofman, and F.E. Cellier (2006), "Integración por Cuantificación de Sistemas Stiff. Parte II: Implementación," *Proc. AADECA'06, XX Congreso Argentino de Control Automático*, Buenos Aires, Argentina, pp. 499-504.
23. Kofman, E., G. Migoni, and F.E. Cellier (2006), "Integración por Cuantificación de Sistemas Stiff. Parte I: Teoría," *Proc. AADECA'06, XX Congreso Argentino de Control*

Automático, Buenos Aires, Argentina, pp. 477-482.

24. Cellier, F.E., A. Nebot, and J. Greifeneder (2005), "Object-oriented Modeling of Heat and Humidity Budgets of Biosphere 2 Using Bond Graphs," *Proc. 19th International Conference on Informatics for Environmental Protection*, Brno, Czech Republic, Vol.2, pp. 651-660.
25. Cellier, F.E. and A. Nebot (2005), "The Modelica Bond Graph Library," *Proc. 4th International Modelica Conference*, Hamburg, Germany, Vol.1, pp. 57-65.
26. McBride, R.T. and F.E. Cellier (2005), "Optimal Control Gain Selection Using the Power Flow Information of Bond Graph Modeling," *Proc. ICBGM'05, 7th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, New Orleans, Louisiana, pp. 228-232.
27. McBride, R.T. and F.E. Cellier (2005), "System Efficiency Measurement Through Bond Graph Modeling," *Proc. ICBGM'05, 7th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, New Orleans, Louisiana, pp. 221-227.
28. Cellier, F.E. and A. Nebot (2004), "Multi-resolution Time-Series Prediction Using Fuzzy Inductive Reasoning," *Proc. IJCNN'04, IEEE Intl. Joint Conf. on Neural Networks*, Budapest, Hungary, vol. 2, pp. 1621-1624.
29. Escobet, A., A. Nebot, and F.E. Cellier (2004), "Visual-FIR: A new platform for modeling and prediction of dynamical Systems," *Proc. SCSC'04, Summer Computer Simulation Conference*, San Jose, California, pp. 229-234.
30. Cellier, F.E. and R.T. McBride (2003), "Object-oriented Modeling of Complex Physical Systems Using the Dymola Bond-graph Library," *Proc. ICBGM'03, 6th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Orlando, Florida, pp. 157-162.
31. Cellier, F.E. and J. Greifeneder (2003), "Object-oriented Modeling of Convective Flows Using the Dymola Thermo-bond-graph Library," *Proc. ICBGM'03, 6th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Orlando, Florida, pp. 198-204.
32. McBride, R.T. and F.E. Cellier (2003), "Object-oriented Bond Graph Modeling of a Gyroscopically Stabilized Camera Platform," *Proc. ICBGM'03, 6th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Orlando, Florida, pp. 223-230.
33. Greifeneder, J. and F.E. Cellier (2001), "Modeling Convective Flows Using Bond Graphs," *Proc. ICBGM'01, 5th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Phoenix, Arizona, pp. 276-284.
34. Greifeneder, J. and F.E. Cellier (2001), "Modeling Multi-Phase Systems Using Bond Graphs," *Proc. ICBGM'01, 5th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Phoenix, Arizona, pp. 285-291.

35. McBride, R.T. and F.E. Cellier (2001), "A Bond-graph Representation of a Two-gimbal Gyroscope," *Proc. ICBGM'01, 5th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Phoenix, Arizona, pp. 305-312.
36. Greifeneder, J. and F.E. Cellier (2001), "Modeling Multi-element Systems Using Bond Graphs," *Proc. 13th European Simulation Symposium*, Marseille, France, pp. 758-766.
37. Escobet, A., R.M. Huber, A. Nebot, and F.E. Cellier (2000), "Enhanced Equal Frequency Partition Method for the Identification of a Water Demand System," *Proc. AI, Simulation and Planning in High Autonomy Systems*, Tucson, Arizona, pp. 209-215.
38. Escobet, A., A. Nebot, and F.E. Cellier (1999), "Model Acceptability Measure for the Identification of Failures in Qualitative Fault Monitoring Systems," *Proc. ESM'99, European Simulation Multi-Conference*, Warsaw, Poland, pp. 339-347.
39. López, J. and F.E. Cellier (1999), "Improving the Forecasting Capability of Fuzzy Inductive Reasoning by Means of Dynamic Mask Allocation," *Proc. ESM'99, European Simulation Multi-Conference*, Warsaw, Poland, pp. 355-362.
40. Moorthy, M. and F.E. Cellier (1999), "Virtual Classrooms - A Reality," *Proc. ICSEE'99, SCS Intl. Conf. on Simulation in Engineering Education*, San Francisco, CA, pp. 161-166.
41. Schweisguth, M.C., and F.E. Cellier (1999), "A Bond Graph Model of the Bipolar Junction Transistor," *Proc. ICBGM'99, 4th SCS Intl. Conf. on Bond Graph Modeling and Simulation*, San Francisco, CA, pp. 344-349.
42. Sarjoughian, H.S., B.P. Zeigler, and F.E. Cellier (1998), "Evaluating Model Abstractions: A Quantitative Approach," *Proc. SPIE Conference 3369: Enabling Technology for Simulation Science II*, part of: *AeroSense'98*, Orlando, Florida, pp. 59-70.
43. Moorthy, M., F.E. Cellier, and J.T. LaFrance (1998), "Predicting U.S. Food Demand in the 20th Century: A New Look at System Dynamics," *Proc. SPIE Conference 3369: Enabling Technology for Simulation Science II*, part of: *AeroSense'98*, Orlando, Florida, pp. 343-354.
44. Cellier, F.E. and A. de Albornoz (1997), "The Problem of Distortions in Reconstruction Analysis," *Proc. IIGSS'97, 2nd Workshop of the Intl. Institute for General System Studies*, San Marcos, TX.
45. Cellier, F.E. (1997), "World Wide Web - The Global Library: A Compendium of Knowledge About Bond Graph Research," *Proc. ICBGM'97, 3rd SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Phoenix, AZ, pp.187-191.
46. Cellier, F.E. (1996), "Object-oriented Modeling: A Tool Supporting Flexible Automation," *Proc. WAC'96, 2nd World Automation Congress, vol. 4, Intelligent*

Automation and Control: Recent Trends in Development and Applications, Montpellier, France, pp. 107-112.

47. Borutzky, W. and F.E. Cellier (1996), "Tearing in Bond Graphs With Dependent Storage Elements," *Proc. Symposium on Modelling, Analysis, and Simulation, CESA'96, IMACS Multi-Conference on Computational Engineering in Systems Applications*, Lille, France, vol. 2, pp. 1113-1119.
48. Cellier, F.E. (1996), "Object-oriented Modeling of Physical Systems: Promises and Expectations," *Proc. Symposium on Modelling, Analysis, and Simulation, CESA'96, IMACS Multi-Conference on Computational Engineering in Systems Applications*, Lille, France, vol. 2, pp. 1126-1127.
49. Cellier, F.E., J. López, A. Nebot, and G. Cembrano (1996), "Means for Estimating the Forecasting Error in Fuzzy Inductive Reasoning," *Proc. ESM'96, European Simulation Multi-Conference*, Budapest, Hungary, pp. 654-660.
50. López, J., G. Cembrano, and F.E. Cellier (1996), "Time Series Prediction Using Fuzzy Inductive Reasoning: A Case Study," *Proc. ESM'96, European Simulation Multi-Conference*, Budapest, Hungary, pp. 765-770.
51. Nebot, A., F.E. Cellier, and F. Mugica (1996), "Modeling the Thermal Behavior of Biosphere 2 in a Non-Controlled Environment Using Bond Graphs," *Proc. AIS'96, Artificial Intelligence, Simulation, and Planning in High Autonomy Systems*, San Diego, California, pp. 189-196.
52. Gussn, N.M.N. and F.E. Cellier (1995), "On the Extension of the Bond-graphic Power Postulate to Some Relativistic Phenomena," *Proc. ICBGM'95, 2nd SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Las Vegas, NV, pp. 35-40.
53. Cellier, F.E., M. Otter, and H. Elmqvist (1995), "Bond Graph Modeling of Variable Structure Systems," *Proc. ICBGM'95, 2nd SCS Intl. Conf. on Bond Graph Modeling and Simulation*, Las Vegas, NV, pp. 49-55.
54. Glaser, J.S., F.E. Cellier, and A.F. Witulski (1995), "Object-oriented Switching Power Converter Modeling Using Dymola With Event-Handling," *Proc. OOS'95, SCS Object-Oriented Simulation Conference*, Las Vegas, NV, pp. 141-146.
55. Glaser, J.S., F.E. Cellier, and A.F. Witulski (1995), "Object-oriented Power System Modeling Using the Dymola Modeling Language," *Proc. Power Electronics Specialists Conference*, Atlanta, GA, Vol. II, pp. 837-843.
56. de Albornoz, A., J. Sardá, and F.E. Cellier (1994), "Structure Identification in Variable Structure Systems by Means of Qualitative Simulation," *Proc. ESM'94, European Simulation Multi-Conference*, Barcelona, Spain, pp. 486-491.

57. Nebot, A., S. Medina, and F.E. Cellier (1994), "The Causality Horizon: Limitations to Predictability of Behavior Using Fuzzy Inductive Reasoning," *Proc. ESM'94, European Simulation Multi-Conference*, Barcelona, Spain, pp. 492-496.
58. Mugica, F. and F.E. Cellier (1994), "Automated Synthesis of a Fuzzy Controller for a Cargo Ship Steering by Means of Qualitative Simulation," *Proc. ESM'94, European Simulation Multi-Conference*, Barcelona, Spain, pp. 523-528.
59. Elmqvist, H., F.E. Cellier, and M. Otter (1994), "Object-oriented Modeling of Power-electronic Circuits Using Dymola," *Proc. CISS'94, 1st Joint Conference of International Simulation Societies*, Zurich, Switzerland, pp. 156-161.
60. Nebot, A., and F.E. Cellier (1994), "Preconditioning of Measurement Data for the Elimination of Patient-specific Behavior in Qualitative Modeling of Medical Systems," *Proc. CISS'94, 1st Joint Conf. of Intl. Simulation Societies*, Zurich, Switzerland, pp. 584-588.
61. Nebot A., and F.E. Cellier (1994), "Dealing With Incomplete Data Records in Qualitative Modeling and Simulation of Biomedical Systems," *Proc. CISS'94, 1st Joint Conf. of Intl. Simulation Societies*, Zurich, Switzerland, pp. 605-610.
62. Hild, D.R., and F.E. Cellier (1994), "Object-oriented Electronic Circuit Modeling Using Dymola," *Proc. OOS'94, SCS Object Oriented Simulation Conference*, Tempe, AZ, pp. 68-75.
63. Pan, Y.D., and F.E. Cellier (1994), "Analytical Controller Design Strategy for Remotely Operated Systems with Long Time Delays," *Proc. CACSD'94, IEEE/IFAC Joint Symposium Computer-Aided Control System Design*, Tucson, AZ, pp. 601-602.
64. Weiner, M. and F.E. Cellier (1993), "Modeling and Simulation of a Solar Energy System by Use of Bond Graphs," *Proc. ICBGM'93, 1st SCS Intl. Conf. on Bond Graph Modeling and Simulation*, San Diego, CA, pp. 301-306.
65. Brooks, B.A. and F.E. Cellier (1993), "Modeling of a Distillation Column Using Bond Graphs," *Proc. ICBGM'93, 1st SCS Intl. Conf. on Bond Graph Modeling and Simulation*, San Diego, CA, pp. 315-320.
66. de Alborno, A. and F.E. Cellier (1993), "Qualitative Simulation Applied to Reason Inductively About the Behavior of a Quantitatively Simulated Aircraft Model," *Proc. QUARDET'93, IMACS Intl. Workshop on Qualitative Reasoning and Decision Technologies*, Barcelona, Spain, pp. 711-721.
67. de Alborno, A. and F.E. Cellier (1993), "Variable Selection and Sensor Fusion in Automatic Hierarchical Fault Monitoring of Large Scale Systems," *Proc. QUARDET'93, IMACS Intl. Workshop on Qualitative Reasoning and Decision Technologies*, Barcelona, Spain, pp. 722-734.

68. Nebot, A., F.E. Cellier, and D.A. Linkens (1993), "Controlling an Anesthetic Agent by Means of Fuzzy Inductive Reasoning," *Proc. QUARDET'93, IMACS Intl. Workshop on Qualitative Reasoning and Decision Technologies*, Barcelona, Spain, pp. 345-356.
69. Cellier, F.E. (1993), "Mixed Quantitative and Qualitative Modeling and Simulation," *Proc. ESS'93, European Simulation Symposium*, Delft, The Netherlands, pp. 761-762.
70. Cellier, F.E., H. Elmqvist, M. Otter, and J.H. Taylor (1993), "Guidelines for Modeling and Simulation of Hybrid Systems," *Proc. IFAC World Congress*, Sydney, Australia, vol. 8, pp. 391-397.
71. Mugica, F. and F.E. Cellier (1993), "A New Fuzzy Inferencing Method for Inductive Reasoning," *Proc. Intl. Symposium Artificial Intelligence*, Monterrey, Mexico, pp. 372-379.
72. Otter, M., H. Elmqvist, and F.E. Cellier (1993), "Modeling of Multibody Systems With the Object-Oriented Modeling Language Dymola," *Proc. NATO/ASI, Computer-Aided Analysis of Rigid and Flexible Mechanical Systems*, Troia, Portugal, vol. 2, pp. 91-110.
73. Schooley, L.C., F.E. Cellier, F.-Y. Wang, and B.P. Zeigler (1993), "Intelligent Control and Communication Systems," *Proc. AIS'93, Smaller, Cheaper, Faster Missions to the Moon and Mars*, Tucson, AZ, pp. 50-70.
74. Cellier, F.E. (1992), "Bond Graphs - The Right Choice for Educating Students in Modeling Continuous-Time Physical Systems," *Proc. ICSEE'92, SCS Intl. Conf. on Simulation in Engineering Education*, Newport Beach, CA, pp. 123-127.
75. Cellier, F.E. and F. Mugica (1992), "Systematic Design of Fuzzy Controllers Using Inductive Reasoning," *Proc. IEEE Intelligent Control Conference*, Glasgow, Scotland, pp. 198-203.
76. Cellier, F.E., A. Nebot, F. Mugica, and A. de Albornoz (1992), "Combined Qualitative/Quantitative Simulation Models of Continuous-time Processes Using Fuzzy Inductive Reasoning Techniques," *Proc. SICICA'92, IFAC Symposium on Intelligent Components and Instruments for Control Applications*, Malaga, Spain, pp. 589-593.
77. Cellier, F.E., L.C. Schooley, B.P. Zeigler, A. Doser, G. Farrenkopf, J.W. Kim, Y.D. Pan, and B. Williams (1992), "Watchdog Monitor Prevents Martian Oxygen Production Plant from Shutting Itself Down During Storm," *Proc. ISRAM'92, Intl. Symposium on Robotics and Manufacturing*, Santa Fe, NM, pp. 697-704.
78. Cellier, F.E. (1991), "Qualitative Modeling and Simulation - Promise or Illusion?," panel discussion with R. Doyle, Y. Iwasaki, and E. Scarl, *Proc. Winter Simulation Conference*, Phoenix, AZ, pp. 1086-1090.

79. Cellier, F.E. and S.D. Chi (1991), "Numerical Properties of Trajectory Representations of Polynomial Matrices," *Proc. CADCS'91, Computer-Aided Design in Control Systems*, Swansea, Wales, U.K., pp. 173-177.
80. Cellier, F.E. and N. Roddier (1991), "Qualitative State Spaces: A Formalization of the Naïve Physics Approach to Knowledge-based Reasoning," *Proc. AIS'91, AI, Planning, and Simulation in High Autonomy Systems*, Cocoa Beach, FL, pp. 40-49.
81. Cellier, F.E., Q. Wang, and B.P. Zeigler (1990), "Model Management - A Five Level Hierarchy for the Management of Simulation Models," *Proc. Winter Simulation Conference*, New Orleans, LA, pp. 55-64.
82. Li, D., and F.E. Cellier (1990), "Fuzzy Measures in Inductive Reasoning," *Proc. Winter Simulation Conference*, New Orleans, LA, pp. 527-538.
83. Chi, S.D., B.P. Zeigler, and F.E. Cellier (1991), "Model-Based Task Planning System for a Space Laboratory Environment," *Proc. SPIE Symp. on Cooperative Intelligent Robots in Space*, Boston, MA, Vol. 1387, pp. 182-193.
84. Kosier, S.L., R.D. Schrimpf, F.E. Cellier, and K.F. Galloway (1990), "The Effects of Ionizing Radiation on the Breakdown Voltage of P-Channel Power MOSFETs," *Proc. IEEE Nuclear and Space Radiation Effects Conference*, Reno, NV.
85. Kosier, S.L., D. Zupac, R.D. Schrimpf, F.E. Cellier, K.F. Galloway, M.N. Darwish, C.A. Goodwin, and M.C. Dolly (1990), "Optimization of a Two-level Field-plate Termination Structure for Integrated-power Applications in Ionizing Radiation Environments," *Proc. GOMAC'90, Government Microcircuit Applications Conference*, Las Vegas, NV.
86. Marner, W.J., J.W. Sutor, L.C. Schooley, and F.E. Cellier (1990), "Automation and Control of Off-Planet Oxygen Production Processes," *Proc. Space'90, Engineering, Construction, and Operation in Space*, New York, Vol. 1, pp. 226-235.
87. Sarjoughian, H.S., F.E. Cellier, and B.P. Zeigler (1990), "Distributed Intelligent Agents and Hierarchical Diagnostic Units for Semi-Autonomous Tele-operation of a Fluid Handling Laboratory," *Proc. Phoenix Conf. Computer and Communication*, Scottsdale, AZ, pp. 795-802.
88. Wang, Q., and F.E. Cellier (1990), "Time Windows: An Approach to Automated Abstraction of Continuous-time Models into Discrete-event Models," *Proc. IEEE Conf. AI, Simulation and Planning in High Autonomy Systems*, Tucson, AZ, pp. 204-211.
89. Davis, K.R., R.D. Schrimpf, F.E. Cellier, K.F. Galloway, D.I. Burton, and C.F. Wheatley, Jr. (1989), "The Effects of Ionizing Radiation on Power-MOSFET Termination Structures," *Proc. IEEE Nuclear and Space Radiation Effects Conference*, Marco Island, FL.

90. Schooley, L.C. and F.E. Cellier (1989), "Telescience: Remote Interaction with Scientific Experiments," *Proc. TRI-89, Canadian Information Processing Society Conference on Telepresence and Remote Interaction*, Edmonton, Alberta, Canada.
91. Schooley, L.C. and F.E. Cellier (1989), "Automation and Control Philosophy," *Proc. AESOP-89, Workshop on Automation of Extraterrestrial Systems for Oxygen Production*, La Jolla, CA, pp. 7-17.
92. Schooley, L.C. and F.E. Cellier (1989), "Monitoring and Control Systems for Automated Process Plants," *Proc. AIS-89, SERC Space Mining and Manufacturing Symposium*, Tucson, AZ, pp. IV:7-20.
93. Cellier, F.E. (1988), "Qualitative Simulation of Biomedical Processes: An Aid in Decision Making," *Proc. World Congress on Medical Physics and Biomedical Engineering*, San Antonio, TX, p. 228.
94. Schooley, L.C., F.E. Cellier, and D.G. Schultz (1988), Remote Tele-operation of an Astro-metrical Telescope Facility and a Fluid Handling Laboratory for Space Station, *Proc. TTPP-II, Tele-science Test-bed Pilot Program Conf.*, Boulder, CO.
95. Cellier, F.E. (1987), "Computer-aided Control System Design Software: Standardization vs. Diversification," *Proc. 10th IFAC World Congress on Automatic Control*, Munich, Germany, Vol. 11, p. 54.
96. Cellier, F.E. and C.M. Rinvall (1987), "Computer-Aided Control System Design: Techniques and Tools," *Proc. 4th Intl. Symposium Modeling and Simulation Methodology*, Tucson, AZ.
97. Wu, Q.M., and F.E. Cellier (1987), "A Device Simulation Tool for High-voltage Bipolar Devices," *Proc. IEEE Symposium Circuits and Systems*, Philadelphia, PA, Vol. 2, pp. 612-616.
98. Cellier, F.E. (1986), "Combined Continuous/Discrete Simulation - Applications, Techniques and Tools," *Proc. Winter Simulation Conference*, Washington, DC, pp. 24-33.
99. Cellier, F.E. (1986), "Enhanced Run-time Experiments for Continuous System Simulation Languages," *Proc. SCS Conference on Languages for Continuous System Simulation*, San Diego, CA, pp. 78-83.
100. Rinvall, C.M., F. Schmid, and F.E. Cellier (1986), "The Different Modeling Capabilities of IMPACT," *Proc. IEEE Symposium Computer-Aided Control System Design*, Arlington, VA.
101. Cellier, F.E. and C.M. Rinvall (1985), "Distributed Modeling and Data Base Management in Simulation," *Proc. SCS Multi-conference on Distributed Simulation*, San

Diego, CA, pp. 21-24.

102. Rimvall, C.M. and F.E. Cellier (1985), "The Matrix Environment as Enhancement to Modeling and Simulation," *Proc. 11th IMACS World Congress*, Oslo, Norway.
103. Rimvall, C.M. and F.E. Cellier (1984), "IMPACT: Interactive Mathematical Program for Automatic Control Theory," *Proc. 6th Intl. Conf. Analysis and Optimization of Systems*, Nice, France, pp. 578-597.
104. Rimvall, C.M. and F.E. Cellier (1984), "MIDGET: Ein Flexibles Simulationstechnisches Entwicklungssystem," *Proc. ASIM'84, 2. Symposium Simulationstechnik*, Vienna, Austria, pp. 470-474.
105. Cellier, F.E. (1982), "Stiff Computation: Where to Go?" *Proc. Intl. Conf. Stiff Computation*, Park City, Utah, pp. 386-392.
106. Rimvall, C.M. and F.E. Cellier (1982), "GASP-VI: Ein Simulationspaket für prozessorientierte gemischt kontinuierliche und diskrete Simulation," *Proc. ASIM'82, 1. Symposium Simulationstechnik*, Erlangen, Germany, pp. 155-165.
107. Graber, A. and F.E. Cellier (1982), "Eignung der Simulationssprache SLAM-II zur Modellierung und Simulation großer Transportsysteme," *Proc. ASIM'82, 1. Symposium Simulationstechnik*, Erlangen, Germany, pp. 441-451.
108. Crosbie, R.E. and F.E. Cellier (1982), "Progress in Simulation Language Standards," *Proc. 10th IMACS World Congress on Simulation and Scientific Computation*, Montreal, Canada, pp. 411-412.
109. Rimvall, C.M. and F.E. Cellier (1982), "The GASP-VI Simulation Package for Process-oriented Combined Continuous and Discrete System Simulation," *Proc. 10th IMACS World Congress on Simulation and Scientific Computation*, Montreal, Canada, pp. 413-416.
110. Graber, A. and F.E. Cellier (1982), "On the Usefulness of SLAM-II for the Modeling and Simulation of Large Transport Systems," *Proc. 10th IMACS World Congress on Simulation and Scientific Computation*, Montreal, Canada, pp. 417-420.
111. Cellier, F.E. and J. Vogel (1981), "Teaching the Art of Modeling and Simulation at a Technical University," *Proc. WCCE'81, IFIP World Conf. on Computer Education*, Lausanne, Switzerland, Vol. 2, pp. 745-752.
112. Cellier, F.E. and A.P. Bongulielmi (1979), "The COSY Simulation Language," *Proc. 9th IMACS Congress on Simulation of Systems*, Sorrento, Italy, pp. 271-281.
113. Cellier, F.E. and P.J. Moebius (1979), "Towards Robust General Purpose Simulation Software," *Proc. ACM/SIGNUM Symposium on Numerical Ordinary Differential*

Equations, Urbana-Champaign, IL.

114. Agathoklis, P., F.E. Cellier, M. Djordjevic, P.O. Grepper, and F.J. Kraus (1979), "Educational Aspects of Using Computer-Aided Design in Automatic Control," *Proc. IFAC Symposium Computer-Aided Design in Control Systems*, Zurich, Switzerland, pp. 441-446.
115. Cellier, F.E. (1977), "On the Solution of Parabolic and Hyperbolic PDE's by the Method-of-Lines Approach," *Proc. Simulation'77*, Montreux, Switzerland, pp. 144-148.
116. Cellier, F.E., P.G. Grepper, D.F. Rufer, and J. Tödtli (1977), "Educational Aspects of Development and Application of a Subprogram-Package for Control," *Proc. IFAC Symposium Trends in Automatic Control Education*, Barcelona, Spain, pp. 151-159.
117. Cellier, F.E. and A.E. Blitz (1976), "GASP-V: A Universal Simulation Package," *Proc. 8th AICA Congress on Simulation of Systems*, Delft, The Netherlands, pp. 391-402.
118. Cellier, F.E. (1976), "Macro-Handler for Simulation Packages Using MLI," *Proc. 8th AICA Congress on Simulation of Systems*, Delft, The Netherlands, pp. 515-521.
119. Cellier, F.E. and D.F. Rufer (1975), "Algorithm Suited for the Solution of Initial Value Problems in Engineering Applications," *Proc. Simulation'75*, Zurich, Switzerland, pp. 160-165.
120. Cellier, F.E. and B.A. Ferroni (1974), "Modular Digital Simulation of Electro/Hydraulic Drives Using CSMP," *Proc. 1974 Summer Computer Simulation Conf., Vol. 1*, Houston, TX, pp. 510-514.

Summer Schools:

1. Cellier, F.E. (2008), "Modelado matemático de sistemas físicos," Universidad Nacional de Rosario, Argentina, February 4-15, 2008.
2. Cellier, F.E. (2007), "Simulación de sistemas continuos y a tramos," Universidad de Valladolid, Spain, June 25-28, 2007.
3. Cellier, F.E. (2007), "Modelado matemático de sistemas físicos," Universidad Politécnica de Madrid, Spain, March 11-14, 2007.
4. Cellier, F.E. (2006), "Simulación de modelos híbridos," Universidad Nacional de Educación a Distancia, Madrid, Spain, September 11-15, 2006.
5. Cellier, F.E. (2001), "Modelado orientado a objetos de sistemas físicos," IFAC, La Manga del Mar Menor, Spain, June 11-15, 2001.

6. Cellier, F.E. (1996), “Metodología para el Desarrollo de Modelos Dinámicos Complejos,” Universidad Nacional de Educación a Distancia, Ávila, Spain, July 17, 1996.
7. Cellier, F.E. (1996), “Sistemas de Gran Tamaño: Desarrollo, Depuración y Mantenimiento,” Universidad Nacional de Educación a Distancia, Ávila, Spain, July 18, 1996.
8. Cellier, F.E. (1993), “Una Metodología Unificada para el Modelado de Sistemas Físicos: Gráficos de Ligaduras no Lineales y Jerárquicos,” Universidad Nacional de Educación a Distancia, Ávila, Spain, July 7, 1993.
9. Cellier, F.E. (1993), “Modelado y Simulación de Sistemas Continuos a Tramos,” Universidad Nacional de Educación a Distancia, Ávila, Spain, July 9, 1993.

PHD DISSERTATIONS:

Dissertation Advisor or Co-advisor:

1. Escobet, À. (2012), *Generació de Decisions davant d’Incerteses*, Disseny i Programació de Sistemes, Universitat Politècnica de Catalunya, Manresa, Spain.
2. Soto, M. (2010), *Building an Artificial Cerebellum Using a System of Distributed Q-Learning Agents*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
3. Zimmer, D. (2010), *Equation-based Modeling of Variable Structure Systems*, Dept. of Computer Science, ETH Zurich, Switzerland.
4. McBride, R.T. (2005), *System Analysis Through Bond Graph Modeling*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
5. Mirats, J. (2001), *Qualitative Modeling of Complex Systems by Means of Fuzzy Inductive Reasoning: Variable Selection and Search Space Reduction*, Tecnologies Avançades de la Producció, Universitat Politècnica de Catalunya, Barcelona, Spain.
6. Hild, D. (2000), *Discrete Event System Specification (DEVS) Distributed Object Computing (DOC) Modeling and Simulation*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
7. López, J. (1999), *Time Series Prediction Using Inductive Reasoning Techniques*, Organització i Control de Sistemes Industrials, Universitat Politècnica de Catalunya, Barcelona, Spain.

8. de Alborno, A. (1996), *Inductive Reasoning and Reconstruction Analysis: Two Complementary Tools for Qualitative Fault Monitoring of Large-Scale Systems*, Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya, Barcelona, Spain.
9. Sarjoughian, H.S. (1995), *Inductive Modeling of Discrete-Event Systems: A TMS-Based Non-Monotonic Reasoning Approach*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
10. Mugica, F. (1995), *Diseño Sistemático de Controladores Difusos Usando Razonamiento Inductivo*, Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya, Barcelona, Spain.
11. Pan, Y.D. (1994), *Fuzzy Adaptive Recurrent Counter-propagation Neural Networks: A Tool for Efficient Implementation of Qualitative Models of Dynamic Processes*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
12. Roddier, N. (1994), *Global Optimization via Neural Networks and D.C. Programming*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
13. Nebot, A. (1994), *Qualitative Modeling and Simulation of Biomedical Systems Using Fuzzy Inductive Reasoning*, Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya, Barcelona, Spain.
14. Chi, S.D. (1991), *Modeling and Simulation for High Autonomy Systems*, Dept. of Electrical & Computer Engineering, University of Arizona, Tucson, AZ.
15. Rimvall, C.M. (1986), *Man-Machine Interfaces and Implementational Issues in Computer-Aided Control System Design*, Swiss Federal Institute of Technology, ETH Zurich, Switzerland.

External Dissertation Committees:

1. Proß, S. (2013), *Hybrid Modeling and Optimization of Biological Processes*, Universität Bielefeld, Bielefeld, Germany.
2. Bruun, K. (2009), *Bond Graph Modelling of Fuel Cells for Marine Power Plants*, Norwegian Institute of Technology, Trondheim, Norway.
3. Schweiger, C. (2008), *Objektorientierte Modellierung und Echtzeitsimulation von Kraftfahrzeug-Antriebssträngen*, Universität der Bundeswehr, München, Germany.
4. Richard, P.-Y. (2008), *Approches fondées sur des modèles énergétiques pour l'analyse formelle et la commande des systèmes non linéaires hybrides (Habilitation)*, Université de Rennes I, Rennes, France.

5. Martín, C. (2007), *Modelado Orientado a Objetos de Laboratorios Virtuales para la Educación en Control Automático*, Universidad Nacional de Educación a Distancia, Madrid, Spain.
6. Hinojosa, V. H. (2007), *Pronóstico de Demanda de Corto Plazo en Sistemas de Suministro de Energía Eléctrica Utilizando Inteligencia Artificial*, Universidad Nacional de San Juan, San Juan, Argentina.
7. Acosta, J. (2006), *Aprendizaje de Particiones Difusas para Razonamiento Inductivo*, Universitat Politècnica de Catalunya, Barcelona, Spain.
8. Yebra, L. (2006), *Modelado Orientado a Objetos de Colectores Cilindro-Parabólicos con Modelica*, Universidad Nacional de Educación a Distancia, Madrid, Spain.
9. Aguiló, I. (2001), *Contribució a l'Estudi del Coneixement Qualitatiu d'una Base de Regles*, Universitat de les Illes Balears, Las Palmas, Spain.
10. Diaz, A. (2000), *A Composable Simulation Environment to Support the Design of Mechatronic Systems*, Carnegie-Mellon University, Pittsburgh, PA.
11. van Welden, D. (1999), *Induction of Predictive Models for Dynamical Systems via Data Mining*, Rijksuniversiteit Gent, Belgium.
12. Hüllermeier, E. (1996), *Reasoning About Systems Based on Incomplete and Uncertain Models*, Universität Paderborn, Germany.
13. Reger, K. (1996), *Konzeption und Realisierung der Konfigurierbarkeit universeller Simulationssysteme*, Universität Passau, Germany.
14. Sørli, J.A. (1996), *On Grey-box Model Definition and Symbolic Derivation of Extended Kalman Filters*, Kungliga Tekniska Högskolan, Stockholm, Sweden.
15. Suda, M. (1995), *Computersimulation und graphische Darstellung physikalischer Vorgänge: Klassische und quantenmechanische Vorgänge (Habilitation)*, Technische Universität Wien, Austria.
16. Hamäidi, L. (1995), *Application de la simulation hybride à la commande de procédés batch*, Université Pierre et Marie Curie Paris 6, France.
17. Edibe, B. (1995), *Modélisation et simulation des systèmes dynamiques par les bond graphs : application aux systèmes mécaniques poly-articulés*, Université de Rennes 1, France.
18. Kettenis, D.L. (1994), *Issues of Parallelization in Implementation of the Combined Simulation Language COSMOS*, Technische Universiteit Delft, The Netherlands.

19. Bujakiewicz, P. (1994), *Maximum Weighted Matching for High Index Differential Algebraic Equations*, Technische Universiteit Delft, The Netherlands.
20. Uhrmacher, A. (1992), *EMSY – Ein Modellierungskonzept für ökologische und biologische Systeme unter besonderer Berücksichtigung ihrer dynamischen Veränderung*, Universität Koblenz-Landau, Germany.

GRANTS:

1. Cellier, F.E., J. Buhmann, W. Hammer, and J. Allmeling (2011), *Real-time Simulation and Control of Physical Systems Based on State Quantization*, CTI Project, Swiss National Science Foundation, CHF 255.000, 3 years.
2. Cellier, F.E. (2009), *OpenProd: Open Model-driven Whole-product Development and Simulation Environment*, ITEA-2 Project, European Union, CHF 210.000, 3 years.
3. Cellier, F.E. and W. Gander (2007), *Development of a General Modeling Methodology for Variable Structure Systems*, Swiss National Science Foundation, CHF 89.075, 2 years.
4. Gander, W., F.E. Cellier, and J. Waldvogel (2005), *New Methods for Quadrature*, Scopes, Swiss National Science Foundation, CHF 53.620, 3 years.
5. Cellier, F.E. (2003), *Quality Metric for Controller Design*, fixed-price contract, Raytheon, \$24.000, 1 year.
6. Cellier, F.E. (2001), *On the Use of Virtual Instruments in the Animation of Simulation Results*, consulting contract, MathWorks, \$10.500, 6 months.
7. Cellier, F.E. (2000), *Smart Product Modeling for Physical System Design*, fixed-price contract, Raytheon, \$25.000, 1 year.
8. Cellier, F.E. (1999), *Modeling and Simulation Methodologies*, consulting contract, Programa de Reforma de la Educación Superior, Argentina, \$6.000, 6 weeks.
9. Cellier, F.E. (1997), *Control Cognitivo de Sistemas de Ingeniería a Gran Tamaño*, research contract, Ministerio de Educación y Cultura, Spain, \$8.500, 4 months.
10. Wilburn, B., L. Taylor, J. de France, E. Zajac, F.E. Cellier, and L.C. Schooley (1997), *Predicting Future Technological Developments in Telecommunication*, research contract, Dept. of Defense, Maryland Procurement Office, \$80.000, 1.5 years.
11. Tharp, H.S., F.E. Cellier, B. Moore, and T. Valente (1996), *Gyroscopic Camera Control*

- for Shooting Movies from a Helicopter*, fixed-price contract, Flying Pictures, \$120.000, 6 months.
12. Wilburn, B., L. Taylor, J. de France, E. Zajac, F.E. Cellier, and L.C. Schooley (1995), *Predicting Future Technological Developments in Telecommunication*, research contract, Dept. of Defense, Maryland Procurement Office, \$56.500, 1.5 years.
 13. Cellier, F.E. (1995), *Fusing Symbolic and Numerical Algorithms for Intelligent Control of Dynamic Processes – A Simulation Approach*, research contract, Ministerio de Educación y Cultura, Spain, \$11.000, 4 months.
 14. Cellier, F.E. (1993), *Fuzzy Inductive Reasoning*, research contract, Generalitat de Catalunya, Spain, \$20.000, 4 months.
 15. Schooley, L.C., F.E. Cellier, B.P. Zeigler, and F.Y. Wang (1992), *High Autonomy Control of a Martian Oxygen Extraction Plant*, research contract, NASA, \$210.000, 2 years.
 16. Schooley, L.C., F.E. Cellier, and B.P. Zeigler (1991), *Automation and Control of an Oxygen Extraction Plant*, research contract, NASA, \$120.000, 1.5 years.
 17. Schooley, L.C. and F.E. Cellier (1990), *Simulation of an Oxygen Production Plant*, research contract, NASA, \$61.500, 1 year.
 18. Cellier, F.E. (1989), *Simulation of Marginally Stable Circuits Using BBSPICE*, research contract, Burr Brown, \$20.000, 1 year.
 19. Cellier, F.E. (1989), *Curvature Sensing and Adaptive Control of an Active Telescope Mirror*, research contract, Kaman Aerospace, \$10.500, 6 months.
 20. Galloway K.F. and F.E. Cellier (1989), *Simulation of Total Dose Radiation Effects for Power-Integrated-Circuit High Voltage Power Device Breakdown*, research contract, AT&T, \$122.000, 3 years.
 21. Cellier, F.E. (1988), *Curvature Sensing*, research contract, Kaman Aerospace, \$17.000, 1 year.
 22. Sundareshan, M.K., F.E. Cellier, and T.L. Williams (1988), *Design of an Undergraduate Control Laboratory*, teaching contract, Hughes, \$75.000, 3 years.
 23. Zeigler, B.P., J.W. Rozenblit, and F.E. Cellier (1988), *Design of a Simulation Environment for Laboratory Management by Robot Organizations*, NASA, \$394.000, 3 years.
 24. Galloway, K.F., F.E. Cellier, R.D. Schrimpf, and J. Hohl (1987), *Simulation of the Effects of Ionizing Radiation on Power MOSFET Breakdown*, research contract, Defense Nuclear

Agency, \$450.000, 4 years.

25. Schooley, L.C., F.E. Cellier, and D. Schultz (1987), *Tele-science Test Bed Pilot Program for the Forthcoming US Space Station*, research contract, NASA, \$281.000, 2 years.
26. Cellier, F.E. (1985), *Development of a High-Voltage Bipolar Device Simulator*, research contract, Burr Brown, \$107.000, 4 years.
27. Cellier, F.E. (1985), *Maintenance and Enhancement of Burr Brown's Spice Simulator*, consulting contract, Burr Brown, \$45.000, 7 years.

HONORS AND AWARDS:

1. Cellier, F.E. (2011), SCS McLeod Founder's Award for Distinguished Service to the Profession.
2. Cellier, F.E. (2011), Elected Life-time Member of SATW, the Swiss Academy of Technical Sciences.
3. Cellier, F.E. (2006), Elected Life-time Member of the Gelehrte Gesellschaft von Zürich.
4. Cellier, F.E. (2005), Award for best free Modelica library, received for Modelica Bond Graph Library at 4th International Modelica Conference, Hamburg, Germany.
5. Cellier, F.E. (2004), Elected Fellow of SCS, the Society for Modeling and Simulation International.
6. Cellier, F.E. (1996), Silver Medal of the City of Lille, France, for Contributions to Modeling and Simulation Methodologies.
7. Cellier, F.E. (1979), Silver Medal of ETH Zurich, Switzerland, for PhD Dissertation: *Combined Continuous/Discrete Continuous System Simulation by Means of Digital Computers: Techniques and Tools*.
8. Cellier, F.E. (1967), 4th Price Mathematics, Schweizer Jugend forscht, Basel, Switzerland, for submission: *Zerlegung von Rechtecken in inkongruente Quadrate*.

CONFERENCE ORGANIZATIONS:

1. *SCS 10th Intl. Conf. on Bond Graph Modeling and Simulation*, Genoa, Italy, July 2012, Program Chair.
2. *EOOLT, 4th Intl. Workshop on Equation-based Object-oriented Modeling Languages and Tools*, Zurich, Switzerland, September 2011, Conference Chair.

3. *EOOLT, 3rd Intl. Workshop on Equation-based Object-oriented Modeling Languages and Tools*, Oslo, Norway, October 2010, Conference Co-Chair.
4. *SCS 9th Intl. Conf. on Bond Graph Modeling and Simulation*, Orlando, FL, April 2010, General Chair.
5. *AGSME, Mission Earth – Modeling and Simulation for a Sustainable Future*, Zurich, Switzerland, January 2009, Conference Co-Chair.
6. *EOOLT, 2nd Intl. Workshop on Equation-based Object-oriented Languages and Tools*, Paphos, Cyprus, July 2008, Conference Co-Chair.
7. *EOOLT, 1st Intl. Workshop on Equation-based Object-oriented Languages and Tools*, Berlin, Germany, July 2007, Conference Co-Chair.
8. *SCS 8th Intl. Conf. on Bond Graph Modeling and Simulation*, San Diego, CA, January 2007, Program Chair.
9. *SCS 7th Intl. Conf. on Bond Graph Modeling and Simulation*, New Orleans, LA, January 2005, Program Chair.
10. *SCS Western Simulation Multi-conference*, New Orleans, LA, January 2005, Executive Chair.
11. *SCS Western Simulation Multi-conference*, San Diego, CA, January 2004, Exhibition Chair.
12. *SCS 6th Intl. Conf. on Bond Graph Modeling and Simulation*, Orlando, FL, January 2003, General Chair.
13. *SCS Western Simulation Multi-conference*, Orlando, FL, January 2003, Executive Chair.
14. *SCS Western Simulation Multi-conference*, San Antonio, TX, January 2002, Executive Chair.
15. *SCS Western Simulation Multi-conference*, Phoenix, AZ, January 2001, General Chair.
16. *AI, Simulation, and Planning in High Autonomy Systems*, Tucson, AZ, March 2000, Co-general Chair.
17. *SCS Western Simulation Multi-conference*, San Diego, CA, January 2000, Executive Chair.
18. *SCS 3rd Intl. Conf. on Qualitative Information, Fuzzy Systems, and Neural Networks in Simulation*, Warsaw, Poland, June 1999, General Chair.

19. *SCS 4th Intl. Conf. on Bond Graph Modeling and Simulation*, San Francisco, CA, January 1999, Program Chair.
20. *SCS Western Simulation Multi-conference*, San Francisco, CA, January 1999, Executive Chair.
21. *SCS Western Simulation Multi-conference*, San Diego, CA, January 1998, Program Chair.
22. *SCS Western Simulation Multi-conference*, Phoenix, AZ, January 1997, General Chair.
23. *SCS 2nd Intl. Conf. on Qualitative Information, Fuzzy Systems, and Neural Networks in Simulation*, Budapest, Hungary, June 1996, General Chair.
24. *SCS Western Simulation Multi-conference*, San Diego, CA, January 1996, Program Chair.
25. *SCS 2nd Intl. Conf. on Bond Graph Modeling and Simulation*, Las Vegas, NV, January 1995, General Chair.
26. *SCS 1st Intl. Conf. on Qualitative Information, Fuzzy Systems, and Neural Networks in Simulation*, Barcelona, Spain, June 1994, General Chair.
27. *IEEE/IFAC Joint Symposium on Computer-aided Control System Design*, Tucson, AZ, March 1994, General Chair.
28. *SCS 1st Intl. Conf. on Bond Graph Modeling and Simulation*, San Diego, CA, January 1993, Program Chair.
29. *SCS Conf. on Languages for Continuous System Simulation*, San Diego, CA, January 1986, General Chair.
30. *Advanced Information Processing in Simulation*, Zurich, Switzerland, December 1983, Organizing Chair.
31. *IASTED Simulation'80 Conference*, Interlaken, Switzerland, June 1980, Program Chair.
32. *9th IMACS Congress on Simulation of Systems*, Sorrento, Italy, September 1979, Editorial Committee.
33. *IASTED Simulation'77 Conf.*, Montreux, Switzerland, June 1977, Program Chair.
34. *IASTED Simulation'75 Conf.*, Zurich, Switzerland, June 1975, Organizational Chair.

EDITORIAL BOARDS:

- 2008 - current *The OilDrum*, International web forum on resource depletion
2002 - current *Simulation: Transactions of the Society for Modeling and Simulation International*, Sage Publishing, Editorial Advisory Board
2002 - current *Systems Analysis, Modeling, Simulation*, Taylor & Francis, Editorial Board
2002 - current *J. of General Systems*, Taylor & Francis, Editorial Board
1999 - 2001 *Systems Analysis, Modeling, Simulation*, Gordon & Breach, Editorial Board
1998 - 1999 *Transactions of the Society for Computer Simulation International*, SCS Publishing, Editorial Advisory Board
1997 - current *Computación y Sistemas*, Revista Iberoamericana de Computación, Assoc. Editor
1996 - 1997 *Transactions of the Society for Computer Simulation International*, SCS Publishing, Associate Editor
1995 - current *Mathematical & Computer Modeling of Dynamical Systems*, Swets & Zeitlinger, Editorial Board
1991 - 1997 *J. of Systems Engineering*, Springer-Verlag London, Editorial Board
1991 - 1996 *Simulation*, SCS Publishing, Assoc. Editor for Qualitative Simulation
1985 - 1990 *Simulation*, SCS Publishing, Assoc. Editor for Comp.-aided Design Software
1984 - 1989 *Systems Analysis, Modeling, Simulation*, Akademie-Verlag Berlin, Editorial Board
1981 - 1984 *Simulation*, SCS Publishing, Assoc. Editor for Comp.-assisted Modeling
1980 - current *Intl. J. of Modeling and Simulation*, IASTED Publishing, Assoc. Editor.
1979 - 1985 *IMACS TC3 Newsletter*, Editor-in-Chief

ADMINISTRATIVE EXPERIENCE:

- 2004 - 2006 Society for Modeling and Simulation International, President
2003 - 2004 Computer Engineering Program, University of Arizona, ABET Liaison
2002 - 2004 ECE Department, University of Arizona, Director of Undergraduate Studies
2002 - 2004 Society for Modeling and Simulation International, Senior Vice President
1998 - 2002 Society for Computer Simulation International, Vice President of Conferences
1997 - 2000 Computer Engineering Program, University of Arizona, Computer Group Chair
1997 - 1998 Computer Engineering Program, University of Arizona, ABET Liaison
1992 - 1998 Society for Computer Simulation International, Member of the Board of Directors
1982 - 1983 Electrical Engineering Dept., ETH Zurich, Switzerland, Responsible for Departmental Computer Center (VAX 11/780)
1981 - 1983 Electrical Engineering Dept., ETH Zurich, Switzerland, Computer Committee Chair
1981 - 1982 Computer Science Dept., ETH Zurich, Switzerland, Member of Steering Committee

[PDF version](#) for printing

This file was last modified January 22, 2014 - © François Cellier

