Richard Skeirik (Sky' rick)

873 E Baltimore Pike #742
Kennett Square, PA 19348
877-780-0945
richardskeirik@richardskeirik.com

Chemical Process Consultant
Litigation Consultant/
Expert Witness

PUBLICATIONS

DuPont Technical Reports

(31) 2002 Optimizing Controls for Oxidation – Old Hickory TPA Plant – Expert system-based controls save $400,000/yr and increase plant capacity by adaptively moving oxidation state variables along the optimal edge of the operating space, Oct 2002.

(30) 2002 Feed Mix Metals Bromine Control – Old Hickory DMT Plant – New controls regulate the concentration of catalyst metals and bromine in the reactor feed mix, significantly reducing variability over the previous strategy, Oct 2002.

(8) 2000 State Estimation in TPA Plants – Addition of dynamics for vessel levels improved estimates during periods of large plant inventory changes, providing improved control during critical periods , June 2000.

(33) 1998 PACE/ASPECT Licensing Efforts – Licensing offers to Honeywell, AspenTech, Gensym, Pavilion, and Neuralware show mixed interest, with success likely over time, Fall 1996.

(29) 1996 Dehy Topping Column Control Study – SPEEDUP and Hysys simulations show optimal overheads purity with no cooling between column sections , Aug 1996.

(28) 1995 ASPECT Advanced Statistical Process Estimation Control Tool – Extracting data, building neural estimator models, and online control with the estimators using ASPECT software is documented, Oct 1995 with K. D. Jackson.

(7) 1992 State Estimation and Control – Old Hickory TPA Plant; Cape Fear TPA Plant– Online dynamic models of solvent recycle loop provide continuous estimates of reactor feed catalyst and promoter concentration, enabling improved control, July 1992.

(9) 1992 PACE Process Analysis and Control Expert – Developing expert system-based controls incorporating SPC techniques using PACE software is documented, April 1992.

(10) 1992 PACE System Manger's Guide – a Documents installation, startup, shutdown and troubleshooting of the PACE software.

(6) 1987 Online Dynamic Simulation of Catalyst Concentration for Closed Loop Control – Online dynamic models of catalyst and promoter concentrations in plant recycle loops reduce variability and cost at Old Hickory and enable similar improvements at Cape Fear, Aug 1987.

(5) 1985 Dynamic Simulation of Catalyst Concentration in TPA plant recycle – An online, dynamic simulation (estimator) effectively provides continuous composition values for control, without deadtime, enabling significant improvements in reactor control, Feb 1985.

(3) 1983 Semiworks Unit for Batch Rhodium Catalyzed Hydrocarboxylation for Adipic Acid – A high pressure batch reactor semiworks process was designed, built and operated to enable process chemistry studies, August 1983, with P. M. Burke.

(4) 1983 Butadiene-Based Adipic Acid Process Options-Immobilized Catalyst Process Evaluation – Simulation and economic evaluation of a hypothetical immobilized catalyst process shows significant saving in capital and operating costs vs. soluble catalyst , July 1983.

Patents – Richard D. Skeirik, sole inventor (except '217). All initially assigned to DuPont.

(11) U.S. Patent 4965742 *Process Control System with On-line Reconfigurable Module.*

(12) U.S. Patent 4,920,499 *Expert System with Natural Language Rule Updating.*

(13) U.S. Patent 4,910,691 *Process Control System with Multiple Module Sequence Options.*

(14) U.S. Patent 4,907,167 *Process Control System with Action Logging.*

(15) U.S. Patent 4,884,217 *Expert System with Three Classes of Rules*, jointly with Frank O. DeCaria.

(16) U.S. Patent 5,006,992 *Process Control System with Reconfigurable Rules and Control Modules.*

(17) U.S. Patent 5,058,043 *Batch Process Control using Expert Systems.*

(18) U.S. Patent 5,142,612 *Computer Neural Network Supervisory Process Control System and Method.*

(19) U.S. Patent 5,197,114 *Computer Neural Network Regulatory Process Control System and Method.*

(20) U.S. Patent 5,167,009 *On-line Process Control Neural Network using Data Pointers.*

(21) U.S. Patent 5,224,203 *On-line Process Control Neural Network using Data Pointers.*

(22) U.S. Patent 5,121,467 *Neural Network/Expert System Process Control System and Method.*

(23) U.S. Patent 5,826,249 *Historical Database Training Method for Neural Networks.*

(24) U.S. Patent 5,212,765 *On-line Training Neural Network Method for Process Control.*

(25) U.S. Patent 5,282,261 *Computer Neural Network Process Measurement and Control System and Method.*

(26) U.S. Patent, 5,408,586 *Historical Database Training Method for Neural Networks.*

(27) U.S. Patent, 5,640,493 *Historical Database Training Method for Neural Networks.*

Foreign Patents: Numerous worldwide counterparts to above US patents.

Journals and Presentations

(41) US Figure Skating Sports Medicine Society Congress, *Best Adult Interaction Styles for Enabling Teen Athlete Performance*, Jan 2005.

(42) US Figure Skating Sports Medicine Society Congress, *A Readiness Pyramid for Achieving Peak Performance*, Jan 2005.

American Control Conference, *ASPECT - A Tool for Inferential Sensing*, June 1999, with P. D. Schnelle.

(32) Hyprotech Dynamic Simulation Seminar, *Dynamic Simulation at DuPont*, Nov 1998.

Canad Soc ChE Fall Meeting, *ASPECT - A Tool for Inferential Sensing*, May 17, 1996, with P. D. Schnelle.

DuPont TechCon Conference, *Process Data Mining and Modeling*, 1995.

DuPont Applied Separations Symposium, *Expert Systems for Separations Control*, March, 1990.

Chemical Processing Magazine, *Integrating Expert Systems into Control*, Sept. 1989, p 93.

I.S.A. Spring Symposium, *Expert Systems for Closed Loop Process Control*, May 17, 1990.

A.I.Ch.E. Spring National Meeting, *Modular Rules for Building Process Control Expert Systems*, March, 1990.

INDA-Tec Conference, *Intelligent Control*, June 1990.

A.I.Ch.E. Spring National Meeting, *A Modular Architecture Integrating Expert Systems into Control*, April, 1989.

(2) Chemical Engg Sci, *A calculation scheme for rigorous treatment of free radical polymerization*, 1985 **40** 535, with Eric A. Grulke.

(1) Chemical Engg Sci, *Global and selectivity analysis of periodically operated chemical reactors: Square-wave and sine-wave control of feed concentration in an isothermal CSTR with van de Vusse kinetics* 1982 **37** 1015, with A. L. DeVera.

Books

(40) *Surviving the Storm, Strategies and Realities when Divorcing a Narcissist* (as Richard Skerritt), 2009, Dalkeith Press.
(39) *Tears and Healing Reflections, Insights on Abuse, the Relationships it Haunts, and the Diseases that Cause It* (as Richard Skerritt), 2007, Dalkeith Press.
(38) *Meaning from Madness, Understanding the Hidden Patterns that Motivate Abusers: Narcissists, Borderlines, and Sociopaths* (as Richard Skerritt), 2006, Dalkeith Press.
(37) *In Love and Loving It – Or Not!, a User's Guide to Love and Falling in Love* (as Richard Skerritt), 2005, Dalkeith Press.
(36) *The Way of Respect, Ancient Wisdom Adapted for Today* (as Richard Skerritt), 2005, Dalkeith Press.
(34) *Tears and Healing, The Journey to the Light After an Abusive Relationship* (as Richard, 21CP), 2004, Dalkeith Press.

AWARDS AND HONORS

Recognition for Invention and Implementation of ASPECT Neural Network Technology, DuPont Engineering, July 1995.

Recognition of Successful Realization of Business Value Through Expert Systems, Du Pont AI Task Force, 1992.

Recognition of Exceptional Contribution, for improved process control, DuPont Company, 1989.

National Merit Scholar, Michigan State University, 1974-78

MEMBERSHIPS

American Institute of Chemical Engineers, Sr. Member

Professional Skaters Association

United States Figure Skating Association