

**BIOGRAPHICAL SKETCH**

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NAME		POSITION TITLE		
Skliar, Mikhail		Associate Professor		
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR	FIELD OF STUDY	
Odessa Technical University, Odessa, Ukraine	MS	1986	EE/Control	
National Technical University (KPI), Kiev, Ukraine	Candidate of Science	1991	Control in Technical Systems	
University of Colorado, Boulder, CO	PhD	1996	Chemical Engineering/Control	

**A. Positions and Honors****RESEARCH AND PROFESSIONAL EXPERIENCE**

1984-1985 Research Engr, Dept. Rule-Based Control, Institute of Economics, Ukrainian Academy Science  
 1984-1986 Research Assistant, Dept. of Industrial and Remote Control, Odessa Technical University  
 1986-1888 Junior Scientific Fellow, Dept. of Industrial & Remote Control, Odessa Technical University  
 1990-1991 Lecturer, Dept. of Mathematical Methods of System Analysis, Kiev Polytechnic Institute (KPI)  
 1988-1991 Senior Researcher, Dept. Math. Methods of System Analysis, Kiev Polytechnic Institute (KPI)  
 1992-1996 Research Assistant, NASA Specialized Center for Research & Training, University of Colorado  
 1996-present Assistant/Associate (2002) Professor, Department of Chemical Engineering, University of Utah

**HONORS, AWARDS, RECOGNITION**

Utah: (a) Editorial Board, Open Biomed. Eng. J.; (b) Paper [26] was recognized for "[outstanding new research](#)" published in *Phys. Med. Biol.* in 2005; (c) Associate Editor, *IEEE Trans. Control Systems Tech.* (2002-2004); (d) Advisor, Student Best Paper Award Finalist, 2003 American Control Conf; (e) Established Investigator Award, American Heart Association, 2002; (f) 2002 Best Paper, American Control Conference, Modeling & Control of Biological Systems; (g) NSF CAREER Award, 1999. (h) Best Paper, 1997 American Control Conf., On-line Monitoring & Fault Detection; (i) Guest Editor, J. App. Mathematics & Computer Science, 1998.

Colorado: 13th World Congress of International Federation of Automatic Control NSF student's award, 1996.

Kiev: (a) Outstanding Young Researcher, Kiev Polytechnic Institute, 1991; (b) Member of the Program Committee of the IV International Industrial Control Conference, 1990.

Odessa: M.S.E.E. with Highest Honors, Odessa Technical University, 1986.

**B. Selected peer-reviewed publications (in chronological order; out of 70+)**

1. M. Z. Zgurovskiy and M. V. Skliar, "Multiscale Expansion of the Solution of a Singularly-Perturbed System of Evolutional Operator Equations. Part 1," J. Automation and Information Sciences, 24(5):61-71, 1993.
2. *ibid.* Part 2 J. Automation and Information Sciences, 24(6):18-29, 1993.
3. P. Todd, M. Skliar, F. Ramirez, G. Smith, G. Morgenthaler, G. Oberdoerster, "Physics, Chemistry & Pulmonary Sequelae of Thermodegradation Events in Long-Mission Space Flight," S.A.E. Trans., 102:962-974, 1993.
4. P. Todd, M. Skliar, F. Ramirez, G. Smith, G. Morgenthaler, J. Mckinon, G. Oberdoerster, J. Schulz, "Inhalation Risk in Low-gravity Spacecraft," Acta Astronautica, 33:304-315, 1994.
5. M. Skliar and W. F. Ramirez, "Square Root Implicit Kalman Filtering," 13th IFAC World Congress, Vol. J, 251-256, 1996.
6. M. Skliar and W. F. Ramirez "Implicit Kalman Filtering," Int. J. Control, 66:393-412, 1997.
7. M. Skliar and W. F. Ramirez, "Air Quality Monitoring and Early Detection of the Air Contamination Events in Enclosed Environment," J. Spacecraft & Rockets, 34:522-532, 1997.
8. M. Skliar and W. F. Ramirez, "Source Identification in the Distributed Parameter Processes," App. Math. & Comp. Science, 8:733-754, 1998.
9. M. Skliar, J. Price, C. Tyler, T. Ring and G. Silcox, "Integration of Laboratory Experiments in the Chemical Engineering Curriculum Using a Distributed Control System," Comp. App. Eng. Educat., 6:157-167, 1998.
10. M. Skliar, J. W. Price, and C. A. Tyler, "Experimental Projects in Teaching Graduate Process Control,"

Chemical Engineering Education, 32(4):254-260, 1998.

11. M. Skliar and W. F. Ramirez, "Editorial," Applied Mathematics & Computer Science, Special Issue on Data Processing and Process Control, 8:No. 4, 1998.
12. G. Giridharan and M. Skliar, "Non-Linear Controller for Ventricular Assist Devices," Artificial Organs, 26:980-984, 2002.
13. D. Arora, M. Skliar, R. B. Roemer, "Model Predictive Control of Hyperthermia Treatments," IEEE Trans. Biomed. Eng., 49:629-639, 2002.
14. M. Basin and M. Skliar, "Optimal Estimation & Control of Continuous Systems with Time-Varying Delays," K. Gu, C. Abdullah & S.-I. Niculescu (Eds.) *Time Delay Systems*, pp. 255-260, Pergamon Press, 2002.
15. G. Giridharan, M. Skliar, D. B. Olsen and G. M. Pantalos, Modeling and Control of Brushless DC Axial Flow Ventricular Assist Device," ASAIO J., 48:272-289, 2002.
16. M. Skliar and P. Tathireddy, "Approximation of Evolutional System Using Singular Forcing," Comp. & Chem. Engineering, 26:1013-1021, 2002.
17. M. V. Basin, L. Fridman and M. Skliar, "Optimal and Robust Sliding Mode Filter for Systems with Continuous and Delayed Measurements," Proc. IEEE CDC 2594-2599, 2002.
18. G. Giridharan and M. Skliar, "Non-Linear Controller for Ventricular Assist Devices," Artificial Organs, 26:980-984, 2002.
19. D. Arora, M. Skliar, R. B. Roemer, "Model Predictive Control of Hyperthermia Treatments," IEEE Trans. Biomed. Eng., 49:629-639, 2002.
20. G. Giridharan and M. Skliar, "Control Strategy for Maintaining Physiological Perfusion with Implantable Rotary Blood Pumps," Artificial Organs, 27:639-648, 2003.
21. Y.-H. Choi and M. Skliar, "Quantitative Measurements of Dielectric Spectra with Microdielectric Fringe-Effect Sensors," Anal. Chem., 76:4143-4149, 2004.
22. G.A. Giridharan, G.M. Pantalos, S.C. Koenig, K.J. Gillars and M. Skliar, "Physiologic Control of Rotary Blood Pumps: An In-Vitro Study," ASAIO J., 50:403-409, 2004.
23. H. Zhang, M. Basin and M. Skliar, "Optimal State Estimation with Continuous, Multirate and Randomly Sampled Measurements," Proc. 2004 American Control Conference, Boston, MA, 3808-3813, 2004.
24. D. Arora, M. Skliar, and R. B. Roemer, "Minimum-Time Thermal Dose Control of Thermal Therapies," IEEE Trans. Biomed. Eng., 52:191-200, 2005.
25. Y.-H. Choi, and M. Skliar, "Standard-Independent Estimation of Dielectric Permittivity with Microdielectric Fringe-Effect Sensors," Anal. Chem., 77:871-877, 2005.
26. D. Arora, D. Cooley, T. Perry, M. Skliar and R. B. Roemer, "Direct Thermal Dose Control of Focused Ultrasound Treatments: Phantom and *In-Vivo* Evaluation," Phys. Med. Biol., 50:1919-1935, 2005.
27. D. Arora, D. Cooley, T. Perry, J. Guo, A. Richardson, J. Moellmer, R. Hadley, D. Parker, M. Skliar and R. B. Roemer, "MR Thermometry-Based Feedback Control of Efficacy and Safety in Minimum-Time Thermal Therapies: Phantom and In-Vivo Evaluations," Int. J. Hyperthermia, 22:29-42, 2006.
28. G. Giridharan and M. Skliar, "Physiological control of blood pumps using intrinsic pump parameters: A computer simulation study," Artificial Organs, 30:301-307, 2006.
29. M. Basin, J. Perez, and M. Skliar, "Optimal Filtering for Polynomial System States with Polynomial Multiplicative Noise," Int. J. Robust Nonlinear Control, 16: 303-314, 2006.
30. D. Arora, M. A. Minor, M. Skliar and R. B. Roemer, "Control of thermal therapies with moving power deposition field," Phys. Med. Biol., 51:1201-1219, 2006.
31. Y.-H. Choi, P. Tathireddy and M. Skliar, "Method for Measuring Thickness of Dielectric Films Using Microdielectric Fringe-Effect Sensors," Anal. Chem., 78:3242-3248, 2006.
32. H. Zhang, M. Basin and M. Skliar, "Optimal State Estimation for Continuous, Stochastic, State-Space System with Hybrid Measurements," IJICIC, 2:357-370, 2006.
33. Y. Lee, M. Skliar, and M. Lee, "Analytical method of PID controller design for parallel cascade control," J. Process Control, 16:773-886, 2006.
34. H. Zhang, M. Basin and M. Skliar, "Itô-Volterra Optimal State Estimation with Continuous, Multirate, Randomly Sampled, and Delayed Measurements," IEEE Trans. Automat. Control, 52:401-416, 2007.
35. D. Arora, M. Skliar, D. Cooley and R. Roemer, "Constrained Predictive Control of Thermal Therapies for Minimum-Time Delivery of Thermal Dose," IEEE Trans. Control Systems Technology, 15: in press, 2007.
36. A. Butterfield, R. Stewart, C. Schmidt, and M. Skliar, "Evidence of Bidirectional Displacements by NCD Microtubule Motor Protein," submitted to Biophys. J., 2007.