

## Dariusz Uciński

# Curriculum Vitae

### Personal information

- **Present appointment:** Institute of Control  
and Computation Engineering  
University of Zielona Góra  
ul. Podgórska 50  
65–246 Zielona Góra  
Tel: +48 68 3282501  
Fax: +48 68 3284751  
E-mail: D.Ucinski@issi.uz.zgora.pl  
Web page: www.uz.zgora.pl/~ducinski
- **Nationality:** Polish
- **Date and place of birth:** 22 April 1965, Gliwice (Poland)
- **Marital status:** married
- **Languages:** English, French, Russian

### Academic degrees

- State professor      Technical sciences, 2007  
Awarded by  
President of the Republic of Poland Lech Kaczyński  
*Referees:*      Professor Krzysztof Gałkowski  
                        Professor Adam Kowalewski  
                        Professor Krzysztof Malinowski  
                        Professor Ewaryst Rafajłowicz
- D.Sc., habilitation      Automatic Control and Robotics, 2000  
Measurement optimization for parameter estimation  
of distributed systems  
*Referees:*      Professor Wojciech Mitkowski  
                        Professor Zbigniew Emirsajlow  
                        Professor Andrzej Królikowski  
Faculty of Electronics  
Wrocław University of Technology
- Ph.D.      Automatic Control and Robotics (with distinction), 1992  
Optimization of the measurement process for parameter  
estimation of distributed systems (in Polish)  
*Supervisor:* Professor Józef Korbicz  
*Referees:*      Professor Jerzy Klamka  
                        Professor Ewaryst Rafajłowicz  
Institute of Engineering Cybernetics  
Faculty of Electronics  
Wrocław University of Technology

- M.Sc.
 

Electrical Engineering (with distinction), 1989  
 Recursive least squares algorithm for parameter identification  
 of linear distributed systems (in Polish)  
*Supervisor:* Professor Józef Korbicz  
*Referee:* Dr. Andrzej Janczak  
 Institute of Electrical Engineering  
 Faculty of Electrical Engineering  
 Higher College of Engineering in Zielona Góra

## Appointments

- 2001–present Associate Professor  
 Institute of Control and Computation Engineering  
 University of Zielona Góra
- 1999–2001 Assistant Professor  
 Institute of Control and Computation Engineering  
 Technical University of Zielona Góra
- 1996–1999 Assistant Professor  
 Institute of Robotics and Software Engineering  
 Technical University of Zielona Góra
- 1992–1996 Assistant Professor  
 Institute of Robotics and Software Engineering  
 Higher College of Engineering in Zielona Góra
- 1988–1992 Assistant  
 Chair of Applied Mathematics and Computer Science  
 Higher College of Engineering in Zielona Góra

## Professional duties

- 2001–present Deputy Director of the Institute of Control  
 and Computation Engineering  
 University of Zielona Góra
- 2002–2005 Director of Postgraduate Studies  
 on the Faculty of Electrical Engineering,  
 Computer Science and Telecommunications  
 University of Zielona Góra
- 1999–2001 Deputy Director of the Institute of Control  
 and Computation Engineering  
 Technical University of Zielona Góra
- 1996–1999 Deputy Director of the Institute of Robotics  
 and Software Engineering  
 Technical University of Zielona Góra
- 1993–1996 Head of the Information Systems Division  
 Institute of Robotics and Software Engineering  
 Higher College of Engineering in Zielona Góra

## **Research interests**

- Optimal sensor location for parameter and state identification of distributed systems;
- Sensor networks: sensor scheduling – optimization and control;
- Parameter estimation and statistical inference for distributed parameter systems (using high-performance software such as SAS, Fortran 90/95 with IMSL Library, and Matlab);
- Identifiability of parameters in distributed systems and the related sensor location problem;
- Numerical methods for partial differential equations including finite element and finite difference methods;
- Computer simulation of real physical processes (e.g. air and groundwater pollution) with the use of modern computation tools such as Fastflo, Fortran 90/95 with IMSL Library, Matlab, and Maple;
- Exploiting cellular automata as a tool for modelling real systems and an alternative to the classical description by partial differential equations;
- Optimum experimental design for dynamic system identification (lumped and distributed parameter systems);
- Computational methods for optimal control of lumped and distributed parameter systems;
- Mobile robot localization and task planning;
- Fault detection and isolation for distributed parameter systems (analytical methods based on state and parameter estimation).

## **Research projects**

### **Grants:**

1. Grant of the Ministry od Science and Higher Education, No. N N519 2971 33, *Efficient large-scale computations in the design of optimum observation strategies for distributed parameter systems using sensor networks*, 2007–2010, leader
2. Grant of the Air Force Office of Scientific Research, Air Force Material Command, USAF, No. FA8655–08–1–3014, *Optimal scheduling of mobile sensor networks for detection and estimation of moving contamination sources*, 2007–2008, leader
3. Grant of the State Committee for Scientific Research, No. 3 T11C 035 27, *Parallel and distributed methods of optimum experimental design*, 2004–2006, leader
4. Bilateral project within the British-Polish Research Partnership Programme, *Optimum experimental design for multivariate nonlinear models* (with Queen Mary University of London and London School of Economics), 2002–2004, co-leader
5. Grant of the State Committee for Scientific Research, No. 7 T11A 023 20, *Optimum experimental design for parameter estimation of distributed processes*, 2001–2002, leader
6. Bilateral project of scientific collaboration between France and Poland POLONIUM, No. 03351XD, *Modelling and analysis of environmental systems using cellular automata* (with Laboratoire de Théorie des Systèmes, Université de Perpignan), 2001–2002, leader

7. Grant of the State Committee for Scientific Research, No. 8 T11A 026 18, *Model analysis and synthesis of complex physical processes using cellular automata*, 2000–2001, leader
8. Project of the European Union, Copernicus IQ2FD, *Integration of quantitative and qualitative fault diagnosis methods within the framework of industrial application*, 1997–1999, co-worker
9. Grant of the State Committee for Scientific Research, No. 7 T07D 014 14, *Application of dynamic optimization to time-optimal trajectory design of redundant robots subject to geometric constraints on the path of the end-effector*, 1998–1999, co-worker
10. Bilateral project of scientific collaboration between France and Poland POLONIUM, No. 7039, *Modelling and control in spreadable distributed parameter systems* (with Laboratoire de Théorie des Systèmes, Université de Perpignan), 1997–1998, co-leader
11. Grant of the State Committee for Scientific Research, No. 3 P 403 003 05, *Neural networks in signal processing and technical diagnostics*, 1993–1995, co-worker
12. Grant of the State Committee for Scientific Research, No. 7 1086 91 01, *Expert systems in technical diagnostics*, 1991–1993, co-worker
13. Grant of the Ministry of National Education, No. T/02/072/90–2, *State and parameter estimation of distributed systems*, 1991, co-worker
14. Governmental project RP I.02, *Theory of control and optimization of continuous dynamic systems and discrete processes*, subproject *Modelling and control of stochastic distributed parameter systems*, 1987–1990, co-worker

#### **University projects:**

1. *Large-scale computational methods for optimization of complex dynamic systems*, 2007–2008, leader
2. *Efficient computational methods for static and dynamic optimization*, 2005–2006, leader
3. *Intelligent computation systems and their applications*, 2002, 2001, 2000, co-worker
4. *Optimization and modelling of continuous and discrete processes*, 1999, co-worker
5. *Modern methods of computer science in modelling and optimization*, 1998, co-worker
6. *Methods and techniques of artificial intelligence—applications*, 1997, co-worker
7. *Artificial intelligence methods in control systems and technical diagnostics*, 1996, co-worker
8. *Modelling, identification and observation of physical processes*, 1995, co-worker
9. *Optimizing the measurement process of distributed parameter systems (stationary and moving sensors)*, 1994, leader

## **Long-term research visits**

- 1997 Institut de Science et de Génie des Matériaux et Procédés, Université de Perpignan, Perpignan, France, Invited Professor (two months), research fellowship of the University of Perpignan
- 1994 Institut de Science et de Génie des Matériaux et Procédés, Université de Perpignan, Perpignan, France (four months), research fellowship of the French Government
- 1993 Institut de Science et de Génie des Matériaux et Procédés, Université de Perpignan, Perpignan, France (three months), research fellowship of the Commission of the European Communities within the framework of the action “Cooperation in Science and Technology with Central and Eastern European Countries — Go West”

## **Editorial duties**

- 1992–present Scientific Secretary of the Editorial Board of the *International Journal of Applied Mathematics and Computer Science*.

## **Referee’s reports for**

- Automatica
- IEEE Transactions on Automatic Control
- Optimal Control—Applications and Methods
- IEE Proceedings—Control Theory and Applications
- International Journal of Control
- Journal of Global Optimization
- Annals of the Institute of Statistical Mathematics
- Smart Materials and Structures
- Wireless Communications and Mobile Computing
- International Journal of Systems Science
- Applied Stochastic Models in Business and Industry
- International Journal of Applied Mathematics and Computer Science
- International Journal of Applied Mechanics and Engineering

## **Organization of conferences**

1. 14-th *Polish Control Conference*, Zielona Góra, Poland, 24–27 June, 2002, Secretary of the Organizing Committee
2. 14-th International Symposium on *Mathematical Theory of Networks and Systems MTNS 2000*, Perpignan, France, 19–23 June, 2000, member of the Organizing Committee
3. 1-st International Workshop on *Robot Motion and Control RoMoCo 99*, Kiekrz, Poland, 28–29 June, 1999, member of the Organizing Committee

4. 2-nd International Workshop on *Analysis and Optimization of Complex Environmental Systems*, Zielona Góra, Poland, 21 November, 1998, co-organizer
5. 1-st International Workshop on *Analysis and Optimization of Complex Environmental Systems*, Zielona Góra, Poland, 19 November, 1997, co-organizer

### **Memberships in program committees of conferences**

1. 10th International Conference on *Control, Automation, Robotics and Vision (ICARCV)*, Hanoi, Vietnam, 2–5 December, 2008
2. *Chinese Control and Decision Conference*, Yantai, China, 2–4 July, 2008
3. 46th IEEE Conference on *Decision and Control*, New Orleans, LA, USA, 12–14 December, 2007
4. 8-th National Conference on *Diagnostics of Processes and Systems DPS '07*, Słubice, Poland, 10–12 September, 2007
5. 3-rd ASME/IEEE International Conference on *Mechatronic and Embedded Systems and Applications*, Las Vegas, NV, USA, 4–7 September, 2007
6. IEEE International Conference on *Mechatronics and Automation ICMA 2007*, Harbin, China, 5–8 August, 2006
7. International Conference for Young Researchers in *Computer Science, Control Electrical Engineering and Telecommunications*, Zielona Góra, 18–20 September, 2006
8. IEEE International Conference on *Mechatronics and Automation ICMA 2006*, Luoyang, China, 25–28 June, 2006
9. 7-th National Conference on *Diagnostics of Industrial Processes*, Rajgród, Poland, 12–14 September, 2005
10. 13-th Mediterranean Conference on *Control and Automation*, Limassol, Cyprus, 27-29 June, 2005
11. 7-th IASTED International Conference on *Intelligent Systems and Control*, Honolulu, USA, August 23-25, 2004
12. 6-th National Conference on *Diagnostics of Industrial Processes*, Władysławowo, Poland, 15–17 September, 2003
13. 6-th IASTED International Conference on *Intelligent Systems and Control*, Salzburg, Austria, June 25-27, 2003
14. 5-th IASTED International Conference on *Intelligent Systems and Control*, Tsukuba, Japan, October 2–4, 2002

### **Memberships in scientific associations and committees**

1. Committee of Automatic Control and Robotics, Polish Academy of Sciences, since 2007
2. IEEE Control Systems Society, secretary of the Technical Committee on Distributed Parameter Systems, since 2003
3. Commission of Engineering Cybernetics, Poznań Branch of the Polish Academy of Sciences, since 2003
4. Committee of Metrology and Scientific Equipment, Polish Academy of Sciences, member of the Section of Measurement Instruments and Systems, 2003–2006
5. SIAM, since 2006

## **Honours and awards**

- Minister of National Education individual award, 2005 (for the research monograph)
- Minister of National Education individual award, 2001 (for the habilitation thesis)
- One-year grant of the Foundation for Polish Science, 1993,
- Rector's research awards (University of Zielona Góra, Technical University of Zielona Góra, Higher College of Engineering in Zielona Góra:
  - individual: 1993,
  - group: 1994, 1995, 1997, 1998, 1999, 2000, 2002
- Rector's educational award (Technical University of Zielona Góra):
  - individual: 1996.

## **Ph.D. theses supervised**

- P. Jacewicz, *Model analysis and synthesis of complex physical systems using cellular automata*, Ph.D. in Automatic Control and Robotics, 2002, Institute of Engineering Cybernetics, Wrocław University of Technology
- M. Patan, *Optimum experimental design techniques for parameter estimation of distributed systems*, Ph.D. in Electrical Engineering, 2004, Faculty of Electrical Engineering, Computer Science and Telecommunications, University of Zielona Góra
- B. Kuczewski, *Computational aspects of structure identification of multiresponse dynamic models*, Ph.D. in Computer Science, 2006, Faculty of Electrical Engineering, Computer Science and Telecommunications, University of Zielona Góra

## **Reviews, evaluations, recommendations**

Evaluation of nine Ph.D. theses (four at the Wrocław University of Technology, Wrocław, Poland, 2002, 2003, 2006, 2007; one at the Academy of Mining and Metallurgy, Cracow, Poland, 2003; one at Szczecin University of Technology, Szczecin, Poland, 2007; three at the University of Zielona Góra, 2004, 2005, 2007) and two habilitation thesis (at the University of Zielona Góra, 2005, 2007).

## **Undergraduate courses**

1. Introduction to Computer Science
2. Programming in C
3. Data Analysis
4. Numerical Methods
5. Probabilistic Methods
6. Discrete Mathematics

## **Graduate courses**

1. Optimization Methods
2. Computer Algebra Systems
3. Mathematical Statistics
4. Adaptive Signal Processing
5. System Identification
6. Dynamic Optimization
7. Mathematical Methods in Computer Science

## **Postgraduate courses**

1. Statistical Methods for Engineers
2. Experimental Design
3. Numerical Methods and Algorithms for Partial Differential Equations

# **Publications**

## **Books**

1. Uciński D. (2005): *Optimal Measurement Methods for Distributed Parameter System Identification*. – CRC Press, Boca Raton, FL, 390 p.
2. Korbicz J., Obuchowicz A., Uciński D. (1994): *Artificial Neural Networks. Fundamentals and Applications*. – Academic Publishing House PLJ, Warsaw (in Polish).
3. Korbicz J., Zajda Z., Solnik W., Uciński D. (1991): *Selected Methods for Numerically Solving Partial Differential Equations*. – Higher College of Engineering Press, Zielona Góra (in Polish).

## **Theses**

1. Uciński D. (1999): *Measurement Optimization for Parameter Estimation in Distributed Systems*. – Habilitation thesis, Technical University Press, Zielona Góra
2. Uciński D. (1992): *Optimization of the measurement process in parameter identification of distributed systems*. – Ph.D. thesis, Supervisor: Professor Józef Korbicz, Wrocław University of Technology Press, Wrocław (in Polish)

## **Articles in international journals**

1. Uciński D., Bogacka B. (2007): A constrained optimum experimental design problem for model discrimination with a continuously varying factor. – *Journal of Statistical Planning and Inference*, Vol.137, pp.4048–4065.
2. Uciński D., Patan M. (2007): D-optimal design of a monitoring network for parameter estimation of distributed systems. – *Journal of Global Optimization*, Vol.39, pp.291–322.

3. Song Z., Chen Y. Q., Liang J., Uciński D. (2007): Optimal mobile sensor motion planning under nonholonomic constraints for parameter estimation of distributed systems. – *International Journal of Intelligent Systems Technology and Applications*, Vol.3, Nos.3/4, pp.277–295.
4. Uciński D., Bogacka B. (2005): T-optimum designs for discrimination between two multivariate dynamic models. – *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, Vol.67, Part 1, pp.3–18.
5. Uciński D., Atkinson A. C. (2004): Experimental design for time-dependent models with correlated observations. *Studies in Nonlinear Dynamics & Econometrics*, Vol.8, Issue 2, Article 13.
6. Uciński D., Korbicz J. (2001): Optimal sensor allocation for parameter estimation in distributed systems. – *Journal of Inverse and Ill-Posed Problems*, Vol.9, No.3, pp.301–317.
7. Uciński D. (2000): Optimal sensor location for parameter estimation of distributed processes. – *International Journal of Control*, Vol.73, No.13, pp.1235–1248.
8. Galicki M., Uciński D. (2000): Time-optimal motions of robotic manipulators. – *Robotica*, Vol.18, pp.659–667.
9. Uciński D. (2000): Optimization of sensors' allocation strategies for parameter estimation in distributed systems. – *Systems Analysis-Modelling-Simulation*, Vol.37, pp.243–260.
10. Uciński D. (2000): Optimal selection of measurement locations for parameter estimation in distributed processes. – *International Journal of Applied Mathematics and Computer Science*, Vol.10, No.2, pp.357–379.
11. Uciński D., El Jai A. (1997): On weak spreadability of distributed-parameter systems and its achievement via linear-quadratic control techniques. – *IMA Journal of Mathematical Control and Information*, Vol.14, pp.153–174.
12. Korbicz J., Uciński D., Pieczyński A., Marczevska G. (1993): Knowledge-based fault detection and isolation system for power plant. – *Applied Mathematics and Computer Science*, Vol.3, No.3, pp.613–630.
13. Uciński D. (1992): Optimal sensor location for parameter identification of distributed systems. – *Applied Mathematics and Computer Science*, Vol.2, No.1, pp.119–134.
14. Uciński D., Korbicz J. (1990): Parameter identification of two-dimensional distributed systems. – *International Journal of Systems Science*, Vol.12, No.12, pp.2441–2456.

### **Journal articles in Polish**

1. Patan M., Uciński D., Baranowski P. (2005): Optimal measurement strategies in fault detection of distributed parameter systems. – *Measurements – Automatics – Control*, No.9, pp.71–73.
2. Uciński D. (1999): Optimal selection of sensor locations in parameter estimation of distributed systems. – *Studies in Automatic Control and Computer Science*, Vol.24, pp.151–167.
3. Galicki M., Uciński D. (1998): Optimal control of robots subject to constraints on state variables. – *Studies in Automatic Control and Computer Science*, Vol.23, pp.95–111.

## **Book chapters**

1. Kuczewski B., Baranowski P., Uciński D. (2006): Parallel processing in discrimination between models of dynamic systems, In: Wyrzykowski R., Dongarra J., Meyer N., Waśniewski J. (Eds.): *Parallel Processing and Applied Mathematics*. Lecture Notes in Computer Science, Vol.3911, pp.340–348
2. Kuczewski B., Patan M. and Uciński D. (2004): Discrimination between models of distributed parameter systems using T-optimum experimental design, In: Wyrzykowski R., Dongarra J., Paprzycki M., Wasniewski, J. (Eds.): *Parallel Processing and Applied Mathematics*. Lecture Notes in Computer Science, Vol. 3019, 2004, pp.762–769.
3. Patan M., Uciński D. (2004): Robust activation strategy of scanning sensors via sequential design in parameter estimation of distributed systems, In: Wyrzykowski R., Dongarra J., Paprzycki M., Wasniewski, J. (Eds.): *Parallel Processing and Applied Mathematics*. Lecture Notes in Computer Science, Vol. 3019, 2004, pp.770–778
4. Uciński D., Bogacka B. (2004): T-optimum designs for multiresponse dynamic heteroscedastic models, In: Di Bucchianico A., Läuter H., Wynn H. (Eds.): *mODa 7*, Proc. 7-th Int. Workshop on Model-Oriented Design and Analysis, Kapellerput, Heeze, The Netherlands, 2004. — Heidelberg: Physica-Verlag, pp.191–199.
5. Uciński D., Bogacka B. (2002): Construction of T-optimum designs for multiresponse dynamic models, In: Härdle W., Rönz B. (Eds.): *Proceedings in Computational Statistics: 15th Symposium Held in Berlin*. – Heidelberg: Physica-Verlag, pp.267–272.
6. Patan M., Uciński D. (2002): Optimal location of sensors for parameter estimation of static distributed systems, In: Wyrzykowski R., Dongarra J., Paprzycki M., and Waśniewski J. (Eds.): *Parallel Processing and Applied Mathematics*. – Lecture Note in Computer Science, Vol.2328, Berlin: Springer, pp. 729–73.7
7. Uciński D. (2001): Sensor motion planning with design criteria in output space, In: Atkinson A.C., Hackl P., Müller W.G. (Eds.): *mODa 6*, Proc. 6-th Int. Workshop on Model-Oriented Data Analysis, Puchberg/Schneeberg, Austria, 2001. — Heidelberg: Physica-Verlag, pp.251–258.
8. Korbcz J., Uciński D. (1993): Sensors allocation for state and parameter estimation of distributed systems, In: Gutkowsky W. and Bauer J. (Eds.): *Discrete Structural Optimization*, Proc. IUTAM Symposium Zakopane, Poland, August 31–September 3, 1993. — Berlin: Springer-Verlag, pp.178–198.

## **Refereed proceedings of international conferences organized outside Poland**

1. Uciński D.: An algorithm to configure a large-scale monitoring network for parameter estimation of distributed systems. – *European Control Conference*, Kos, Greece, on CD-ROM.
2. Uciński D., Chen Y. Q. (2006): Sensor motion planning in distributed parameter systems using Turing's measure of conditioning. – Proc. 45-th IEEE Conf. *Decision and Control CDC*, San Diego, USA, on CD-ROM.
3. Uciński D., Kuczewski B. (2006): Sensor placement for discrimination between rival models of distributed parameter systems. – Proc. 45-th IEEE Conf. *Decision and Control CDC*, San Diego, USA, on CD-ROM.
4. Uciński D., Chen Y. Q. (2005): Time-optimal path planning of moving sensors for parameter estimation of distributed systems. – Proc. 44-th IEEE Conf. *Decision and Control CDC* and *European Control Conference ECC'05*, Seville, Spain, on CD-ROM.

5. Uciński D. (2005): Sensor network design for parameter estimation of distributed systems using nonsmooth optimality criteria. – Proc. 44-th IEEE Conf. *Decision and Control CDC and European Control Conference ECC'05*, Seville, Spain, on CD-ROM.
6. Patan M., Uciński D. (2005): Optimal activation strategy of discrete scanning sensors for fault detection in distributed-parameter systems. – Proc. 16-th *IFAC World Congress*, Prague, the Czech Republic, on CD-ROM.
7. Uciński D., Bogacka B. (2005): A functional experimental design factor for optimum discriminant between multiresponse models. – Proc. 5-th St. Petersburg Workshop *Simulation*, St. Petersburg, Russia, pp.703–708.
8. Uciński D., Demetriou M. (2004): An approach to the optimal scanning measurement problem using optimum experimental design. – Proc. *2004 American Control Conference*, Boston, Massachusetts, June 30 – July 2, on CD-ROM.
9. Uciński D. (2004): Determination of optimum measurement efforts for parameter estimation of distributed systems. – Proc. 16-th Int. Symp. *Mathematical Theory of Networks and Systems – MTNS 2004*, Leuven, Belgium, July 5–9, on CD-ROM.
10. Uciński D. (2003): On the determination of moving sensor policies for parameter estimation of distributed systems. – Proc. *11th Mediterranean Conference on Control and Automation – MED'03*, Rhodes, Greece, June 18–20, on CD-ROM.
11. Uciński D., Patan M. (2002): Optimal location of discrete scanning sensors for parameter estimation of distributed systems. – Proc. *15th Triennial World Congress of the International Federation of Automatic Control*, Barcelona, Spain, July 21–26, on CD-ROM.
12. Uciński D. (2000): Optimal sensor placement in parameter estimation of distributed systems. – Proc. 14-th Int. Conf. *Mathematical Theory of Networks and Systems*, Perpignan, France, June 19–23, on CD-ROM.
13. Uciński D., Korbicz J. (2000): Optimal sensor allocation for parameter estimation in distributed systems. – Proc. Int. Conf. *Distributed Systems: Optimization and Economic-Environmental Applications DSO'2000*, Ekaterinburg, Russia, May 30–June 2, pp.49–52.
14. Uciński D. (1999): A technique of robust sensor allocation for parameter estimation in distributed systems. – Proc. 5-th *European Control Conference*, Karlsruhe, Germany, August 31–September 3, on CD-ROM.
15. Uciński D., Galicki M. (1999): Path-constrained motion planning for multi-manipulator systems. – Proc. 5-th *European Control Conference*, Karlsruhe, Germany, August 31–September 3, on CD-ROM.
16. Uciński D., Korbicz J. (1999): On robust design of sensor trajectories for parameter estimation of distributed systems. – Proc. 14-th *IFAC World Congress*, Beijing, China, July 5–9, Vol.H: Modeling, Identification, Signal Processing, pp.73–78.
17. Kaczmarek J., Rybski R., Uciński D. (1998): A recursive DSP approach to impedance measurement. — Proc. IMECO TC-4 Symposium on *Development in Digital Measuring Instrumentation*, September 17–18, Naples, Italy, pp.690–693.
18. Uciński D. (1998): A robust approach to the design of optimal trajectories of moving sensors for distributed-parameter systems identification. – Proc. Int. Conf. *Mathematical Theory of Networks and Systems*, Padova, Italy, July 6–10, 1998, pp.551–554.
19. Uciński D., Korbicz J. (1998): Optimization of sensors' allocation strategies for parameter estimation in distributed systems. – Proc. Symp. *Modeling, Analysis and Control* of 2-nd IMACS International Multiconference CESA'98, Nabeul-Hammamet, Tunisia, April 1–4, 1998, Vol.1, pp.128–133.

20. Uciński D. (1997): Measurement optimization with moving sensors for parameter estimation of distributed systems. – Proc. 15-th IMACS World Congress on *Scientific Computation, Modelling and Applied Mathematics*, Berlin, Germany, August 24–29, 1997, Vol.5, pp.191–196.
21. Uciński D., Korbicz J. (1997): Measurement optimization with minimax criteria for parameter estimation in distributed systems. – Proc. 4-th *European Control Conference*, Brussels, Belgium, July 1–4, 1997, Vol.2, pp.1267–1272.
22. Uciński D., Korbicz J. (1996): Optimal location of movable sensors for distributed-parameter system identification. – Proc. Symp. *Control, Optimization and Supervision* of 1-st IMACS International Multiconference CESA'96, Lille, France, July 9–12, 1996, Vol.2, pp.1004–1009.
23. Uciński D., Korbicz J. (1995): An algorithm for the computation of optimal measurement trajectories in distributed parameter systems identification. – Proc. 3-rd *European Control Conference*, Rome, Italy, September 5–8, Vol.2, pp.1267–1272.
24. Korbicz J., Uciński D., Pieczyński A., Marczevska G. (1994): An integrated approach to fault detection and diagnosis in power plant. – Prep. IFAC Symp. *SAFEPROCESS'94*, Helsinki, Finland, June, pp.140–146.
25. Uciński D., Korbicz J., Zaremba M. (1993): On optimization of sensors motions in parameter identification of two-dimensional distributed systems. – Proc. 2-nd *European Control Conference*, Groningen, The Netherlands, June 28–July 1, Vol.3, pp.1359–1364.
26. Uciński D., Korbicz J. (1990): Some sensor location problems in identification of distributed parameter systems. – Proc. 4-th *International Conference for Scientists and Engineers*, Kiev, Ukraine, pp.101–107, (in Russian).

#### **Refereed proceedings of international conferences organized in Poland**

1. Nieradzik K., Uciński D. (2006): A dynamic programming approach to sensor network design for parameter estimation of distributed systems. – Proc. 12-th IEEE Int. Conf. *Methods and Models in Automation and Robotics MMAR 2006*, Międzyzdroje, Poland, August 28–31, pp.131–138, on CD-ROM.
2. Baranowski P., Zięba T., Uciński D. (2006): A parallel sensor selection technique for optimal observation of distributed parameter systems. – Proc. 12-th IEEE Int. Conf. *Methods and Models in Automation and Robotics MMAR 2006*, Międzyzdroje, Poland, August 28–31, pp.157–164, on CD-ROM.
3. Patan M., Uciński D. (2004): Optimal sensor location for parameter estimation of distributed systems in the presence of correlated measurement errors. – Proc. 10-th IEEE Int. Conf. *Methods and Models in Automation and Robotics*, Międzyzdroje, Poland, August 30 – September 2, Vol. 1, pp. 51–56.
4. Kuczewski B., Uciński D. (2003): Optimal measurement policies for discrimination between models of dynamic systems. – Proc. 9-th IEEE Int. Conf. *Methods and Models in Automation and Robotics*, Międzyzdroje, Poland, August 25–28, Vol.2, pp.1239–1244.
5. Patan M., Uciński D. (2003): Optimal strategies of scanning sensors for parameter estimation of distributed systems. – Proc. 9-th IEEE Int. Conf. *Methods and Models in Automation and Robotics*, Międzyzdroje, Poland, August 25–28, Vol.1, pp.115–120.
6. Kuczewski B., Uciński D. (2002): Optimal design of measurement strategies for discrimination between multiresponse dynamic models. – Proc. 8-th IEEE Int. Conf. *Methods and Models in Automation and Robotics*, Szczecin, September 2–5, Vol.1, pp.593–598.

7. Uciński D., Patan M. (2002): Optimization of the measurement effort in parameter estimation of distributed systems. – Proc. 8-th IEEE Int. Conf. *Methods and Models in Automation and Robotics*, Szczecin, September 2–5, Vol.1, pp.195–200.
8. Uciński D. (2001): Activation policy of multiple scanning sensors for parameter estimation of distributed systems. – Proc. 7-th IEEE Int. Conf. *Methods and Models in Automation and Robotics*, Międzyzdroje, August 28–31, Vol.1, pp.99–104.
9. Patan M., Sulikowski B., Uciński D. (2001): Optimum experimental design for parameter estimation in continuous ecosystem models. – Proc. 10-th Int. Conf. *System–Modelling–Control*, Zakopane, Vol.2, pp.115–120.
10. Kuczewski B., Uciński D. (2001): Structure identification of cellular automata using genetic programming. – Proc. 10-th Int. Conf. *System–Modelling–Control*, Zakopane, Vol.1, pp.413–418.
11. Uciński D. (2000): Clusterization-free sensor location for parameter estimation of distributed systems. – Proc. 6-th Int. Conf. *Methods and Models in Automation and Robotics*, Międzyzdroje, August 28–31, Vol.1, pp.83–88.
12. Uciński D., El Yacoubi S. (1999): Parameter estimation of cellular automata models. – Proc. 3-rd Int. Conf. *Parallel Processing and Applied Mathematics*, Kazimierz Dolny, September 14–17, pp.168–176.
13. Uciński D., Korbicz J. (1999): Path planning for moving sensors in parameter estimation of distributed systems. – Proc. 1-st Int. Workshop *Robot Motion and Control RoMoCo 99*, Kiekrz, June 28–29, pp.273–278.
14. Uciński D. (1999): Some remarks on the theory and applications of cellular automata. – Prep. 3-rd Int. Workshop *Multidimensional (ND) Systems, Control and Mathematics*, Zielona Góra, May 7, pp.1–4.
15. Uciński D.: On reformulation of sensor location problems with minimax criteria in parameter estimation of distributed systems. — Prep. 2-nd Int. Workshop *Analysis and Optimization of Complex Environmental Systems*, Zielona Góra, November 27, 1998, pp.51–56.
16. Uciński D. (1998): Towards a robust-design approach to optimal location of moving sensors in parameter identification of DPS. – Proc. 5-th Int. Symp. *Methods and Models in Automation and Robotics*, Międzyzdroje, August 25–29, 1998, Vol.1, pp.85–90.
17. El Yacoubi S., Uciński D. (1998): Modelling and simulation of an ecological problem by means of cellular automata. – Proc. 5-th Int. Symp. *Methods and Models in Automation and Robotics*, Międzyzdroje, August 25–29, 1998, Vol.1, pp.289–293.
18. Uciński D. (1998): Optimal location of scanning sensors for parameter identification of distributed systems from noisy experimental data. – Proc. 9-th Int. Symp. *System Modelling Control*, Zakopane, April 27–May 1, 1998, opublikowano na CD-ROM.
19. Uciński D. (1996): Optimal planning of sensor movements along given paths for distributed parameter systems identification. – Proc. 3-rd Int. Symp. *Methods and Models in Automation and Robotics*, Międzyzdroje, September 10–13, 1996, Vol.1, pp.187–192.
20. Uciński D. (1995): Optimal selection of measurement locations for identification of parameters in distributed systems. – Proc. 2nd Int. Symp. *Methods and Models in Automation and Robotics*, Międzyzdroje, August 30–September 2, Vol.1, pp.175–180.
21. Uciński D., Kaźmierczak T. (1995): Application of a neural network to an inverted pendulum control. – Proc. 8-th Int. Symp. *System-Modelling-Control*, Zakopane, May 1–5, Vol.3, pp.144–148.

22. Uciński D. (1994): Optimal design of moving sensors trajectories for identification of distributed parameter systems. – Proc. 1-st Int. Symp. *Mathematical Models in Automation and Robotics*, Międzyzdroje, September 1–3, pp.304–309.

#### **Refereed proceedings of national conferences (in Polish)**

1. Uciński D. (2005): Measurement strategy design for nonlinear inverse problems using nonsmooth optimality criteria. – Proc. *15-th Polish Control Conference*, Warsaw, June 27–30, Vol.2, pp.11–16.
2. Kuczewski B., Patan M., Uciński D. (2003): Optimal sensor location in technical diagnostics of distributed parameter systems. – Proc. 6-th Nat. Conf. *Diagnostics of Industrial Processes DPP'03*, Władysławowo, Poland, pp.213–218.
3. Uciński D. (2003): On optimum experimental design in technical diagnostics. – Proc. 6-th Nat. Conf. *Diagnostics of Industrial Processes DPP'03*, Władysławowo, Poland, pp.207–212.
4. Uciński D., Patan M. (2002): Optimal observation strategies for parameter estimation of distributed systems. – Proc. *14-th Polish Control Conference*, Zielona Góra, June 24–17, Vol.1, pp.331–336.
5. Kuczewski B., Uciński D. (2002): T-optimum experimental design for discrimination between multiresponse models of dynamic systems. – Proc. *14-th Polish Control Conference*, Zielona Góra, June 24–17, Vol.1, pp.583–588.
6. Uciński D. (2001): Optimal trajectory design of moving sensors in nonlinear inverse problems using the sensitivity criterion, Proc. *7-th Polish Robotics Conference*, Łądek Zdrój, 5–8 September, Vol.1, pp.241–250.
7. Uciński D. (1999): Robust design of sensor locations for parameter estimation of distributed systems. – Proc. *13-th Polish Control Conference*, Opole, 21–24 September, Vol.1, pp.289–292.
8. Galicki M., Uciński D. (1998): Optimal trajectory design of multiple redundant manipulators. – Proc. *6-th Polish Robotics Conference*, Świeradów-Zdrój, 9–12 September, Vol.1, pp.171–178.
9. Uciński D., Korbicz J. (1998): Optimal sensor location for parameter estimation of distributed systems. – Proc. 5-th Conf. *Computer Applications in Metal Processing Plants*, Bukowina Tatrzańska, 11–14 January, pp.139–148.
10. Jacewicz P., Uciński D. (1997): Implementation of nonlinear programming algorithms using Maple V. – Proc. 1-st Nat. Conf. *Computer Methods and Systems in Scientific Research and Engineering Design*, Cracow, 25–26 November, pp.381–388.
11. Uciński D. (1996): Optimal trajectory design of moving sensors for parameter estimation of distributed systems. – Proc. *5-th Polish Robotics Conference*, Świeradów-Zdrój, 24–26 September, Vol.1, pp.225–233.
12. Korbicz J., Uciński D., Pieczyński A., Golińczak R. (1993): A knowledge-based diagnostic system for a power plant simulator. – Proc. 2-nd Nat. Conf. *Knowledge Engineering and Expert Systems*, Wrocław, 15–18 June, Vol.II, pp.534–543.
13. Uciński D., Korbicz J. (1991): Some aspects of optimal sensor location in problems of parameter identification of distributed systems. – Proc. *11-th Polish Control Conference*, Białystok-Białowieża, pp.469–476.
14. Uciński D., Korbicz J. (1990): Recursive least squares algorithm for parameter identification of linear distributed systems. – Proc. 4-th National Conf. Programme RP. I.02, Kozubnik, pp.64–69.