

**Curriculum Vitae**  
**OKYAY KAYNAK**  
**Fellow Member of IEEE**

Professor and UNESCO Chair on Mechatronics,  
Department of Electrical and Electronic Engineering,  
Bogazici University, 34342 Bebek, Istanbul, Turkey  
Tel: +90-212-287 2475, Fax: +90-212-287 2465  
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**A. PERSONAL DATA**

Name : Mustafa Okyay Kaynak  
Born : 19 April 1948, Afyon, Turkey  
Nationality : Turkish  
Marital Status : Married to Pervin and has a daughter, Ece.  
Home Address : Selamiçesme, Güzel Sok. No:4/15, Göztepe, 34730 Istanbul.  
Tel : ++90-216-368 6688

**B. HIGHER EDUCATION**

Advanced Level General Certificate of Education Courses at North Western Polytechnic, London, U.K., 1965-66.  
B.Sc. course at Electronic and Electrical Engineering Dept. of University of Birmingham, Birmingham, U.K., 1966-69 (Graduation : Honours, Class I).  
Courses and research program leading to Ph. D. degree in Electronic and Electrical Engineering at University of Birmingham, Birmingham, U.K., 1969-72.

**C. EMPLOYMENT HISTORY AND POSITIONS HELD**

Sept. 2003 – Sept.2008  
Consulting Professor to Harbin Institute of Technology, Harbin, China  
Sept. 2001 - .....  
Part-time Professor of Aeronautical and Space Technologies Institute, Air Force Academy, Turkey  
Nov. 1993 - .....  
Holder of UNESCO Chair on Mechatronics at Bogaziçi University.  
Jan. 1979 - .....  
Member of Electrical and Electronic Engineering Dept., Bogaziçi University, Bebek, Istanbul, Turkey (till Apr. 1983 Assistant Professor, till Aug. 1988 Associate Professor, since then Full Professor).  
Feb. 1975 - July 1978  
Electronics Engineer at General Directorate of Meteorology, Jeddah, Saudi Arabia.  
Sept. 1973 - Oct. 1974 (National Service)  
Sub-lieutenant Project Engineer at NATO Infrastructure Dept. (Air Force Section), Ankara, Turkey.  
Sept. 1972 - Apr. 1973 and Oct. 1974 - Feb. 1975  
Electronics Engineer at General Directory of SEKA Pulp and Paper Mills, Izmit, Turkey.

**D. ADMINISTRATIVE POSITIONS HELD**

Chairman of Electrical and Electronic Engng. Dept., Bogazici University (August 1998 – October 2000)  
Director of Mechatronics Research and Application Center of Bogaziçi University (Oct. 1998 - .....)  
Director of Mechatronics Research and Application Center of Bogaziçi University (Oct. 1995 - June 1997)  
Director of Biomedical Research Institute, Bogaziçi University (May 1985 - August 1986)  
Member of Senate of Bogaziçi University (May 1985 - August 1986)  
Member of Executive Council of Vocational School of Bogaziçi University (August 1985 – August 1986)  
Member of Executive Council of Research Fund of Bogaziçi University (May 1985 - August 1986)  
Chairman of Computer Engineering Department of Bogaziçi University (April 1983 - May 1985)  
Vice Chairman of Electrical and Electronics Eng. Dept. of Bogaziçi University (April 1981 - August 1986)

**E. FELLOWSHIPS**

Research Fellowship of Institute of Industrial Science, University of Tokyo (2 months).  
Research Fellowship of Alexander von Humboldt-Stiftung, West Germany (14 months including two months for studying German at a Goethe Institute).  
Research Fellowship of Matsumae International Foundation, Japan (6 months)  
Scholarship of SEKA Pulp and Paper Mills, Izmit, Turkey for higher education in England (7 years)

## F. PROJECTS DIRECTED/PARTICIPATED

EUMECHA-PRO European Mechatronics for a New Generation of Production Systems (Avrupa Birliđi FP6 – 13000EURO).  
Mechatronics Center (Turkish State Planning Organization, (PI, project total about US\$ 500.000)  
Application of VLSI based Soft Computing to Mechatronics (funded by NSF, USA).  
VSS Theory Based Learning Algorithms for Computationally Intelligent Systems (PI, funded by Bogaziçi University Research Fund).  
Intelligent Control of Mechatronic Systems (PI, Joint project with a team from Hungary, jointly funded by TÜBİTAK - Scientific and Technological Research Council of Turkey and Hungarian National Committee for Technological Development)  
Intelligent Control of Mechatronic Systems with Special Emphasis on the Application of Soft Computing Techniques (PI, Joint project with teams from Hungary and Tatarstan, funded by Foundation for Promotion of Advanced Automation Technology, Japan)  
Use of Soft Computing Methodologies for Control of Nonlinear Systems (PI, Joint Project with a team from Hungary, funded by TÜBİTAK - Scientific and Technological Research Council of Turkey)  
Design and Manufacture of an Industrial SCARA Type Direct Drive Manipulator (PI, funded by TÜBİTAK - Scientific and Technological Research Council of Turkey)  
A number of other projects funded by Bogaziçi University Research Fund.

## G. LONG TERM ACADEMIC VISITS ABROAD

August 2009: Visiting Professor at Dept. of Manufacturing Engineering and Engineering Management, City University of Hong Kong.  
August 2001: Visiting Professor at Technical University of Munich, Germany (Supported by Alexander von Humboldt Foundation).  
July 2000 - August 2000: Visiting Professor at Keio University, Japan (on invitation by the University).  
July 1997 - July 1998: Visiting Professor at National University of Singapore, Singapore (attached to the Dean's Office for M.Sc. in Mechatronics Programme).  
July 1993 - Aug. 1993: Visiting Scholar at Mechanical Engineering Department, University of California, Berkeley, U.S.A. (in connection with a NATO collaborative research project).  
Sept. 1990 - July 1991: Visiting Associate Professor at Michigan Technological University, Michigan, U.S.A.  
Jan. 1990 - Feb. 1990: Guest Researcher at Indiana University - Purdue University at Fort Wayne, Indiana, U.S.A. (in connection with a NATO collaborative research project).  
Jan. 1989 - Feb. 1989: Guest Professor at Institute of Industrial Science, University of Tokyo, Tokyo, Japan (on invitation by the Institute).  
Nov. 1986 - Oct. 1987: Guest Researcher at Institute of Robotic Research, University of Dortmund, F.R.G. (with a fellowship of Alexander von Humboldt-Stiftung).  
July 1984 - Aug. 1984: Guest Researcher at Université du Québec à Trois-Rivières, Québec, Canada (in connection with a NATO collaborative research project).  
Oct. 1981 - May 1982: Visiting Scholar at Institute of Industrial Science, University of Tokyo, Tokyo, Japan (with a fellowship of Matsumae International Foundation).

## H. RESEARCH INTERESTS

Intelligent Control, Advanced Motion Control, Soft Computing, Information Technology in Mechatronics

## I. AWARDS AND HONORS

- Research and Teaching Award of Bogazici University, 2008
- Research and Teaching Award of Bogazici University, 2007
- Research and Teaching Award of Bogazici University, 2006
- Research and Teaching Award of Bogazici University, 2005
- IEEE Fellow Grade, 2003 (*for contributions to variable structure systems theory and its applications in mechatronics*)
- Excellence in Research Award of Bogazici University, 2003
- Research and Teaching Award of Bogazici University, 2003
- 2003 APNNA (Asia-Pacific Neural Network Assembly) Leadership Award
- Research and Teaching Award of Bogazici University, 2002
- Research and Teaching Award of Bogazici University, 2001
- IEEE Third Millennium Medal, 2000
- Research and Teaching Award of Bogazici University, 2000
- Honorary Professorship of Banki Donat Polytechnic, 1999
- Research and Teaching Award of Bogazici University, 1999
- IFAC Japan Foundation Scholarship

## J. OTHER

### a. Activities in professional organizations

- Member of IEEE Periodicals Committee (2009-....)
- Member of IEEE TAB Nominations & Appointments Committee (2007-2008)
- Vice Chair of IEEE Membership Development Committee (2006)
- Member of IEEE RAB/TAB Section/Chapter Support Committee (2005)
- Member of Member of IEEE Teaching Award Committee (2004 – 2006)
- Member of IEEE Fellow Committee (2004 – 2006)
- Vice-President (Conferences of IEEE Computational Intelligence Society (2004 – 2005)
- President of IEEE Industrial Electronics Society (2002 – 2003)
- AdCom Member of IEEE Neural Networks Society (2002 – 2003)
- AdCom Member of IEEE Education Society (2000 – 2003)
- President Elect of IEEE Industrial Electronics Society (2000 – 2001)
- Vice President (Administration) of IEEE Industrial Electronics Society (1998 – 1999)
- Vice President (Technical Activities) of IEEE Industrial Electronics Society (1996 – 1997)
- Vice President (Publication) of IEEE Industrial Electronics Society (1994 – 1995)
- Administration Committee member of IEEE Industrial Electronics Society (1990 – .....).
- Chairman of Technical Committee on Emerging Technologies, IEEE Industrial Electronics Society (1991 – 1996)

***b. Activities related to recent international conferences***

- General Chair of the 2nd IFAC International Conference on Intelligent Control Systems and Signal Processing, ICONS 2009, Sept. 21-23, 2009 Istanbul, Turkey.
- General Chair of the International Symposium on Optomechatronic Technologies, ISOT 2009, Sept. 21-23, 2009 Istanbul, Turkey.
- General Chair of 10th International Workshop on Variable Structure Systems - VSS 2008, 8-10 June 2008, Antalya, Turkey.
- General Chair of IEEE International Electric Machines and Drives Conference - IEMDC 2007, 3-5 May 2007, Antalya, Turkey.
- General Chair of ICSC Congress on Computational Intelligence: Methods and Applications, Dec. 15-17, 2005, Istanbul, Turkey.
- Technical Program Co-Chair, IEEE International Conference on Industrial Electronics, Control and Instrumentation; IECON'2004, 6-9 Nov. 2004, Busan, Korea.
- General Chair of 12th Mediterranean Conference on Control and Automation: MED'04 (June 6-9, 2004, Kusadasi, Izmir, Turkey)
- General Chair of International Conference on Mechatronics:ICM'04 (June 3-5, 2004, Istanbul, Turkey)
- General Chair of 5th International Conference on Information Technology Based Higher Education and Training: ITHET 2004 (May 31-June 2, 2004, Istanbul, Turkey)
- Technical Program Co-Chair of IEEE International Symposium on Industrial Electronics- ISIE 2003 (June 9-12, 2003, Rio de Janeiro, Brazil)
- General Chair of International Fuzzy Systems Association Congress, IFSA 2003 (29 June - 2 July 2003, Istanbul, Turkey).
- General Chair of Joint 13<sup>th</sup> International Conference on Artificial Neural Networks and 10th International Conference on Neural Information Processing- ICANN/ICONIP 2003 (26-29 June 2003, Istanbul, Turkey).
- General Chair of IEEE Conference on Control Applications, CCA 2003 (23-25 June 2003, Istanbul, Turkey)
- Vice Co-Chair of 3<sup>rd</sup> Int. Conf. on Information Technology based Higher Education and Training - ITHET 2002 (Budapest, Hungary, July 4-6, 2002).
- General Chair of Int. Conf. on Information Technology in Mechatronics - ITM 2002 (Istanbul, Oct. 3-5, 2001).
- Vice Co-Chair of 2<sup>nd</sup> Int. Conf. on Information Technology based Higher Education and Training - ITHET 2001 (Kumamoto, Japan, July 4-6, 2001).
- General Chair of Int. Conf. on Information Technology based Higher Education and Training - ITHET 2000 (Istanbul, July 3-5, 2000).
- Has served on Advisory, Organizing and/or International Program Committees of numerous international meetings.

***c. Activities related to international journals***

- Co-Editor-in-Chief of IEEE Transactions on Industrial Electronics (2009 - .....).
- Associate Editor of IEEE/ASME Transactions on Mechatronics (2008 - .....)
- Associate Editor of IEEE Sensors Journal (2006 - .....).
- Guest Editor of IEEE Trans. Industrial Electronics, Industrial Applications of Sliding Mode Control, 2008.
- Member of Executive Scientific Board of International Journal on Interactive Design and Manufacturing (Springer), (2007 - .....)
- Member of Editorial Board of Applied Soft Computing (2007 - ....)
- Guest Editor of IEEE Transactions on Education, Special Issue on Plagiarism, 2007.
- Area (Robotics and Mechatronics) Editor of Springer-Verlag Int. Journal on Soft Computing (2006-2008).
- Editor-in-Chief of IEEE Transactions on Industrial Informatics (2005 - 2006).
- Associate Editor of IEEE Transactions on Neural Networks (2002 - 2005).
- Associate Editor of IEEE Transactions on Industrial Electronics (1995 - .....).
- Guest Editor of International Journal of Adaptive Control and Signal Processing, Special Issue on Learning in Intelligent Systems, 2003.

- Guest Editor (with Yavuz Akpınar) of *Industry & Higher Education*, Special Issue on ITHET 2000 – Information Technology Based Higher Education and Training, v. 15, no: 2, April 2001.
- Guest Editor of *IEEE Trans. Industrial Electronics*, Special Section on Computationally Intelligent Methodologies and Sliding-Mode Control, v. 48, no: 1, Feb. 2001
- Guest Editor of *Robotics and Autonomous Systems*, Special Issue on Mechatronics, vol. 19, no: 2, Dec. 1996.
- Guest Editor of *IEEE Transactions on Industrial Electronics*, Special Section on Mechatronics, vol. 43, no: 1, February 1996.
- Guest Editor (with Gunduz Ulusoy) of *Industry & Higher Education*, Special Issue on Technology Management: University-Industry-Government Collaboration, v. 10, no: 6, December 1996.
- Member of Management Committee of *IEEE-ASME Transactions on Mechatronics* (Jan.. 1995 – Dec. 1998, Jan. 2001-Jan. 2003).
- Member of Editorial Board of the *KAIST Press journal*; *Neural Information Processing – Letters and Reviews* (May 2003 - ....).
- Member of Editorial Board of the Elsevier journal; *International Journal of Computational Intelligence and Applications* (Oct.. 2001 - ....).
- Member of Editorial Board of the Elsevier journal; *Applied Soft Computing* (Jan. 2001 - ....).
- Member of Editorial Board of *Asian Journal of Control* (Jan. 2001 - ....).
- Member of Editorial Board of *International Journal of Advanced Computational Intelligence* (1997 -....).
- Member of Advisory Board of the *Journal on Industry & Higher Education* (1996 -....).
- Member of Editorial Board of *IEEE Spectrum* (Jan. 1996 - Dec. 1998).
- Occasionally referees papers for
  - *Automatica*
  - *IEEE Trans. on Fuzzy Systems*
  - *IEEE Trans. on Systems, Man and Cybernetics*
  - *Fuzzy Sets and Systems*
  - *Int. J. of Control*
  - *Journal of Intelligent and Fuzzy Systems*
  - *Computers & Electrical Engineering*
  - *Int. J. of Systems Science*
  - Many others

#### ***d. Invited Presentations/Tutorials***

- Will present a keynote during 3rd International Conference on Mechanical Engineering & Mechanics (3rd ICMEM), Beijing, P.R.China, October 21 –23, 2009.
- Will present a tutorial during IEEE Symposium in Industrial Electronics and Applications – ISIEA 2009, Kuala Lumpur, Malaysia, 4-6 October 2009.
- Presented a seminar at the Hong Kong Institution of Engineers (HKIE), Hong Kong, 25 August 2009.
- Presented a plenary talk during the Federation of International Robot-soccer Association (FIRA) Congress, Incheon, Korea, 16-18 August, 2009.
- Presented a plenary talk during the International Symposium on Innovations in Intelligent Systems and Applications, INISTA 2009, June 29-July 1, 2009.
- Presented a keynote talk at The 2nd Conference on Automotive Electronics Industry, Tehran, Iran, 4-5 February 2009.
- Presented a keynote talk at International Conference on Mechatronics, - ICOM 2008, Kuala Lumpur, Malaysia, 18-20 December 2008.
- Presented a keynote talk at 2nd Int. Symp. on Systems and Control in Aeronautics and Astronautics-ISSCAA 2008, Shenzhen, China, 10 -12 December 2008.
- Presented an invited talk at XV Congreso Internacional de Ingeniería Eléctrica, Electrónica y de Sistemas, “INTERCON 2008,” Trujillo-Peru, 4-8 August 2008.
- Conducted a mechatronics training course on mechatronics in Rabat, Morocco on invitation from Islamic Educational, Scientific and Cultural Organization (ISESCO), during Feb. 11-15, 2008.
- Conducted a mechatronics training course on mechatronics in Jakarta, Indonesia on invitation from Islamic Educational, Scientific and Cultural Organization (ISESCO), during Dec. 15-19, 2007.
- Presented a keynote talk during the International Conference on Mechanical Engineering and Mechanics, ICMEM2007, November 5-7, 2007 in Wuxi, P. R. China.
- Presented seminars on mechatronics at various universities in Malaysia within the Distinguished Lecturer Program of IEEE Industrial Electronics Society, 7-11 August 2007.
- Presented a plenary talk during the 2nd IEEE Conference on Industrial Electronics and Applications, ICIEA 2007, 23-25 May 2007, Harbin, China.
- Presented a plenary talk during 2nd Asia International Symposium on Mechatronics (AISM 2006), December, 11-14, 2006, Hong Kong, China.
- Presented a plenary talk during 2006 International Conference on Intelligent Computing, August 16–19, 2006, Kunming, China.
- Presented a plenary talk during IEEE 7<sup>th</sup> Int. Conf. On Information Technology Based Education and Training, ITHET 2006, 10-13 July 2006, Sydney, Australia.
- Presented an invited talk during National Instruments Academic Day, 6-7 July 2006, Beirut, Lebanon.
- Presented seminars on intelligent systems at Xian Jiaotong University and Shenyang Northeastern University China on invitation by the stated universities during June 28 - July 3, 2006.

- Presented a plenary talk at The First International Conference on Engineering of Intelligent Systems, Islamabad, Pakistan, April 22-23, 2006.
- Presented seminars on mechatronics at Pachuca, Mexico on invitation by Universidad Politénica de Pachuca during Feb. 13-14, 2006.
- Presented an invited seminar at Vanderbilt University, Nashville, Tennessee, USA titled “Intelligent Systems: An Assessment of the Past and the Prospects for the Future” on February 7, 2006.
- Presented a plenary talk at 1st International Symposium on Systems and Control in Aerospace and Astronautics: ISSCAA 2006, Jan. 19-21, 2006, Harbin, China.
- Presented a plenary talk at International Conference on Computational Intelligence for Modelling Control and Automation - CIMCA'2005, Nov. 28-30, 2005, Vienna - Austria.
- Presented an invited “research lecture” at the Singapore Institute of Manufacturing Technology (one of the research institutes of the Agency for Science, Technology and Research: A\*STAR), titled, “Industrial Informatics in 21<sup>st</sup> Century” on August 15, 2005.
- Presented a tutorial during the International Symposium on Neural networks (ISNN 2005), Chongqing, China, May 30-June 2, 2005.
- Presented a seminar as an ARRI Distinguished Lecturer at University of Texas at Arlington, USA titled “Mechatronics in 21<sup>st</sup> Century” on February 27, 2004.
- Presented an invited seminar at Auburn University, Alabama, USA titled “Mechatronics in 21<sup>st</sup> Century” on February 27, 2004.
- Presented two seminars on mechatronics and VSS theory based learning at Tebriz University, Iran during December 2-5, 2004.
- Presented a plenary talk during the Joint 2nd International Conference on Soft Computing and Intelligent Systems and 5th International Symposium on Advanced Intelligent Systems - SCIS & ISIS 2004, titled “Intelligent Systems: An Assessment of the Past and the Prospects for the Future,” September, 21-24, 2004, Yokohama, Japan.
- Presented a plenary talk during the 6th IASTED Conference on Intelligent Systems and Control – ISC 2004, titled “Evolution of Intelligent Systems,” August 23-25, 2004, Honolulu, Hawaii, USA.
- Presented a plenary talk during the First AUS (American University of Sharjah) International Symposium on Mechatronics, titled “Mechatronics in 21<sup>st</sup> Century,” May 25-27, 2004, Sharja, UAE.
- Presented a keynote speech during the opening session of IEEE International Symposium on Industrial Electronics: ISIE 2004, titled “Industrial Electronics in the 21st Century,” May 4-7, 2004, Ajaccio, France.
- Presented an invited lecture, titled “Mechatronics in 21<sup>st</sup> Century” at Pusan National University, Pusan, Rep. of Korea, on Sept. 24, 2003.
- Presented invited lectures and seminars on “Variable Structure Systems Theory and its Applications in Intelligent Systems” at Harbin Institute of Technology, Harbin, China, during Sept. 15-20, 2003.
- Presented a tutorial during 2003 IEEE International Symposium on Industrial Electronics, ISIE 2003; June 9-12, 2003, Rio de Janeiro, Brazil.
- Presented a keynote speech during 2002 IEEE Conference on Industrial Technology, titled “Mechatronics in the 21<sup>st</sup> Century” Dec. 11-14, 2002, Bangkok, Thailand.
- Presented invited lectures and seminars on “Responding to Issues and Trends in Mechatronics in the 21st Century” at AMA Computer University, Manila, Philippines, during Sept. 23-24, 2002.
- Presented a tutorial during the International Conference on Artificial Neural Networks – ICANN 2002, August 27-31 2002, Madrid, Spain.
- Presented a tutorial during The 27th Annual Conference of the IEEE Industrial Electronics Society: IECON'01, Nov. 29 - Dec. 2, 2001, Denver, USA.
- Presented an invited talk during the NATO Advanced Research Workshop on Limitations and Future Trends in Neural Computation, Oct. 22-24, 2001, Siena, Italy.
- Presented an invited talk during the 2nd International Conference on Information Technology Based Higher Education and Training 2001: ITHET 2001, July 4-6, 2001, Kumamoto City, Japan.
- Presented the keynote talk during the First International Conference on Mechatronics – ICOM'01; 11-12 February 2001, Kuala Lumpur Malaysia.
- Presented a tutorial during the IEEE 26th Int. Conf. on Industrial Electronics, Control and Instrumentation; IECON 2000, 22-28 October 2000, Nagoya, Japan.
- Presented a plenary talk during the 2000 International Symposium on Mechatronics and Intelligent Mechanical System for 21 Century (ISIM2000), 4-6 October 2000, KyongSangNam-Do, South Korea.
- Directed a workshop during the IEEE 25th Int. Conf. on Industrial Electronics, Control and Instrumentation; IECON'99, 29 Nov. – 3 December 1999, San Jose, U.S.A.
- Presented a plenary (opening) talk during the Jubilee Conference of Banki Donat Polytechnic, 1-3 September 1999, Budapest, Hungary.
- Presented a tutorial during the IEEE International Symposium on Industrial Electronics (ISIE'99), 12-16 July, 1999, Bled, Slovenia.
- Presented a tutorial during the IEEE 24th Int. Conf. on Industrial Electronics, Control and Instrumentation; IECON'98, Aug. 31 – Sept. 4, 1998, Aachen, Germany.
- Presented a public lecture on invitation from National University Singapore, during the Singapore Robotics Games '98, on 22 May 1998
- Presented the keynote address during the IEEE 23rd Int. Conf. on Industrial Electronics, Control and Instrumentation; IECON'97, Nov. 10-14, 1997, New Orleans, USA.
- Presented an invited talk during the Spring Conference of Korean Mechanical Engineers, Pusan National University, Pusan, Korea, April 18, 1996.
- Presented an invited paper during IEEE Int. Workshop on Neuro-Fuzzy Control, Muroran, Japan, March 22-23, 1993.

- Presented an invited paper during IEEE Int. Workshop on Advanced Motion Control, AMC '92, Nagoya, Japan, March 15-18, 1992.

**e. External Examinations (outside of Turkey)**

- Ph. D. Thesis, A Neuro-Fuzzy Equaliser for Channel Distorsion, by Tayseer A.M. Alsanableh, Near East University, Northern Cyprus Turkish Republic, 2007.
- Ph. D. Thesis, Fault Diagnostics and Vibration Control of Paper Winders by Timo Virtanen, Helsinki University of Technology, The Netherlands, 2006.
- M. Sc. Thesis, Design and Implementation of Real-time Neural Control Systems by Sarah Pule, University of Malta, Malta, 2005.
- Ph. D. Thesis, Development of Learning Control Algorithms by Zhao Shao, National University of Singapore, Singapore, 2005.
- M. Sc. Thesis, High Precision Optimum Control of a Linear Motor Drive Using Genetic Algorithm, by Keck Meng Teck, Nanyang Technological University, Singapore, 2000.
- Ph. D. Thesis, Control of Planar Flexible-Link Robots, by Yang Hong, National University of Singapore, 1999.
- M. Sc. Thesis, The Design and Building of a 4-Legged Walking Machine, by Cheong Choon Ghee, National University of Singapore, 1998
- M. Sc. Thesis, Trajectory Following of a Robotic Manipulator, by Ding Ming Zohn, National University of Singapore, 1998
- Ph. D. Thesis, Actuation Redundancy Control of 2 Co-operating Industrial Robots, by Dilek Bilgin Tukel, Katholieke Universiteit Leuven, 1997.
- Ph. D. Thesis, Unconventional Control of Industriavl Energetic Processes of Large Scale Heating Furnaces, by Milne Stankovski, Sts. Cyril and Methodius University, Rep. of Macedonia, 1997.

**K. RECENT SAMPLE PUBLICATIONS**

- S. Kurnaz, O. Cetin and O. Kaynak, "Fuzzy Logic Based Approach to Design Flight Control and Navigation Tasks for Autonomous UAVs", *Journal of Intelligent and Robotic Systems*, v.54, , pp. 229-244, 2009.
- R.H. Abiyev and O. Kaynak, "Fuzzy Wavelet Neural Networks for Identification and Control of Dynamic Plants, a Novel Structure and a Comparative Study," *IEEE Trans. Indust. Electron.*, v.55, no:8, pp. 3133-3140, 2008.
- O. Kaynak, R. Braun and I. Kennedy, "Guest Editorial: Plagiarism," *IEEE Trans. On Education*, v.51, pp. 149-151, 2008.
- A. V. Topalov, O. Kaynak and G. Aydin, "Neuro-Adaptive Sliding-Mode Tracking Control of Robot Manipulators," *Int. J. Adapt. Control Signal Processing*, v. 21, pp. 674–691, 2007.
- A. V. Topalov, G. L. Cascella, V. Giordano, F. Cupertino and O. Kaynak, "Sliding Mode Neuro-Adaptive Control of Electrical Drives," *IEEE Trans. Indust. Electron.*, v.54, no:1, pp. 671-679, 2007.
- Y. Li, S. Qiang, X. Zuhang and O. Kaynak, "Robust and Adaptive Backstepping Control for Nonlinear Systems Using RBF Neural Networks," *IEEE Trans. on Neural Networks*, v.15, no:3, pp. 693-701, 2004.
- A. Topalov and O. Kaynak, "Neural Network Modeling and Control of Cement Mills Using a Variable Structure Systems Theory Based On-Line Learning Mechanism," *Journal of Process Control*, v.14, pp.581-589, 2004.
- M.O. Efe, C. Ünsal, O. Kaynak and X. Yu, " Variable Structure Control of a Class of Uncertain Systems," *Automatica*, v.40, pp. 59-64, 2004.
- I. Batyrshin, O. Kaynak and I. Rudas, "Fuzzy Modelling Based on Generalized Conjunction Operations," *IEEE Trans. on Fuzzy Systems*, v.10, no:5, pp. 678-683, 2002.
- X. Yu, M.O. Efe and O. Kaynak, " A General Back-Propagation Algorithm for Feedforward Neural Network Learning," *IEEE Trans. on Neural Networks*, v.13, no:1, pp. 251-254, 2002.
- K. Erbatur and O. Kaynak, "Use of Adaptive Fuzzy Systems in Parameter Tuning of Sliding Mode Controllers", *IEEE/ASME Trans. on Mechatronics*, v.6, no:4, pp. 474-482, 2001
- M.O. Efe and O. Kaynak, "A Novel Optimization Procedure for Training of Fuzzy Inference Systems by Combining Variable Structure Systems Technique and Levenberg-Marquardt Algorithm," *Fuzzy Sets and Systems*, v.122, no.1, pp 153-165, 2001.

## LIST OF PUBLICATIONS

### a. Books (in Turkish):

3. M.O. Efe and O. Kaynak, Artificial Neural Networks and their Applications, pp. 141, Bogaziçi University Press, No: 696, 2000.
2. O. Kaynak, Programmable Controllers, pp. 106, Istanbul Water and Sewage Treatment General Directorate, 1989.
1. O. Kaynak, Power Electronics : Devices, Circuits and Systems, pp. 227, Bogaziçi University Press, No:446, 1988.

### b. Edited books :

7. T. Bilgiç, B. De Baets, and O. Kaynak (Eds.), Fuzzy Sets and Systems – IFSA 2003, vol. LNA I2715, Springer-Verlag Heidelberg, pp. 1188, 2003.
6. O. Kaynak, E. Alpaydin, E. Oja and L. Xu (Eds.), Artificial Neural Networks and Neural Information Processing – ICANN/ICONIP 2003, vol. LNCS 2714, Springer-Verlag Heidelberg, pp.735, 2003,
5. O. Kaynak, S. Tosunoglu and M. H. Ang (Eds), Recent Advances in Mechatronics, Springer-Verlag, Singapore, pp. 589, 1999.
4. O. Kaynak, L.A. Zadeh, B. Turksen and I.J. Rudas (Eds), Computational Intelligence: Soft Computing and Fuzzy-Neuro Integration with Applications, Springer-Verlag, NATO ASI Series, Series F, vol. 162, pp. 538, 1998.
3. O. Kaynak, M. Özkan, N. Bekiroglu and I. Tunay (Eds), Recent Advances in Mechatronics, v.1 and v.2, pp. 1172, Bogaziçi University Publications, No: 572, 1995.
2. O. Kaynak, G. Honderd and E. Grant (Eds), Intelligent Systems: Safety, Reliability and Maintainability Issues, Springer - Verlag (NATO ASI Series, Series F, vol. 114), pp. 340, 1993.
1. O. Kaynak et al (Eds), Proceedings of IEEE International Workshop on Intelligent Motion Control, 20-22 August 1990, v.1 and 2, IEEE Catalogue Number: 90CH20045, 1990.

### c. Journal Papers (appearing in publications that are indexed by SCI or SCIE or CompuMath):

62. E. Kayacan, B. Ulutas and O. Kaynak, "Grey System Theory-based Models in Time Series Prediction," accepted for publication in Expert Systems With Applications. doi: 10.1016/j.eswa.2009.07.064.
61. S. Kurnaz, O. Cetin and O. Kaynak, "Adaptive Neuro-Fuzzy Inference System Based Autonomous Flight Control of Unmanned Air Vehicles," accepted for publication in Expert Systems With Applications. doi: 10.1016/j.eswa.2009.06.009.
60. Yu X. and O. Kaynak, "Sliding Mode Control with Soft Computing: A Survey," IEEE Trans. Indust. Electronics, v. 56, no: 9, pp. 3275-3285, 2009.
59. O. Kaynak, A. Bartoszewicz and V.I. Utkin, "Guest Editorial: Industrial Applications of Sliding Mode Control – Part II," IEEE Trans. Indust. Electronics, v. 56, no: 9, pp. 3271-3274, 2009.
58. E. Kayacan, Y. Oniz, and O. Kaynak, "A Grey System Modeling Approach for Sliding Mode Control of Antilock Braking System," IEEE Trans. Indust. Electronics, v. 56, no: 8, pp. 3244-3252, 2009.
57. Y. Oniz, E. Kayacan and O. Kaynak, "A Dynamic Method to Forecast the Wheel Slip for Antilock Braking System and Its Experimental Evaluation," IEEE Trans. on Systems, Man and Cybernetics, Part B- Cybernetics, v.39, no:2, pp. 551-560, 2009.
56. E. Kayacan and O. Kaynak, "Adaptive Grey PID Type Fuzzy Controller Design for a Nonlinear Liquid Level System," Trans. of the Institute of Measurement and Control, v.31, no:1, pp. 33-49, 2009.
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