

naši autori



Tarek Ahmed (Ph.D. Student), received his M.Sc. in Electrical Engineering from the Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt in 1998. He is working a staff member as an assistant lecturer in the Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt. He is currently a Ph. D. candidate student with the Power

Electronic System and Control Engineering Laboratory, The Division of Electrical and Electronic Systems Engineering, The Graduate School of Science and Engineering, Yamaguchi University, Yamaguchi, Japan. He received the student paper award in IEE-Japan 2004. His research interests are in the area of the control systems and new applications of the advanced high frequency resonant circuits and systems with the renewable energy related soft switching PWM rectifier and sinewave PWM inverter power conditioner for wind turbine coupled induction generator. He is a student-member of IEEE-USA, the Institute of Electrical Engineering and Installation of Engineers (IEIE-Japan), the Institute of Electrical Engineers (IEE-Japan) and Japan Institute of Power Electronics (JIPE).



Emiliano Aldabas Rubira was born in Teruel, Spain, in 1964. He received the engineering degree and Ph.D. degree from Universitat Politècnica de Catalunya (UPC), in 1992 and 2002, respectively. He joined the Electronic Engineering Department (DEE) of the UPC in 1993, where he first was an Assistant Professor. In 2000 he became Lecturer of the DEE, and Research member of the Motion and Industrial Control

Group. His research interests are power electronics, modulation, current controllers, adjustable – speed drives and high-performance drive systems. He is specially interested in the area of hysteresis current controllers for power inverters, where he has authored several technical papers. Mr. Aldabas is a Associate Member of the IEEE Industrial Electronics and IEEE Power Electronics Societies.



Peter M. Barbosa received the B.S. degree in electrical engineering from the Federal University of Uberlândia, Brazil, in 1992, the M.S. degree from the Federal University of Santa Catarina, Florianópolis, Brazil, in 1993, and the Ph.D. degree from the Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, in 2002. Between 1993 and 1995, he was research assistant at the Power Electronics Institute

(INEP) of the Federal University of Santa Catarina, Florianópolis,

polis, Brazil. Prior to joining Virginia Tech in 1997, he was assistant professor at the Department of Electrical Engineering of the Federal University of Paraná, Curitiba, Brazil. From 2001 to 2003, he was technical director for the NSF Engineering Research Center for Power Electronics Systems – CPES. Since March 2003, he has been with ABB Corporate Research Center in Switzerland where he has led projects in the field of multilevel power conversion. His research interests include converters for drives and distributed power generation, power factor correction, integrated power electronics, and modeling of power converters. Dr. Barbosa is a member of the IEEE, Power Electronics Society, Industrial Applications Society, and Associate Editor for the IEEE Transactions on Power Electronics.



Armando Bellini was born in Civitella di Romagna, Italy, on October 2, 1941. He received the Doctor degree in Electronic Engineering from Polytechnic Institute of Milan, Italy, in 1966. In 1971 he became Assistant Professor of Automatic Control and in 1980 Full Professor of Industrial Electronics. Since twenty years, he has been working at University of Rome »Tor Vergata«. His major fields of interest are power

electronics, speed control of ac motors and industrial drives.



Dr. Stefano Bifaretti was born in Rome, Italy, on January 3, 1974. In 1999 he received the Doctor degree in Electronic Engineering and, then, the Ph.D degree in Microelectronics Engineering from University of Rome »Tor Vergata«, Italy, in 2003. He is actually a researcher at the same University. His research interests include DSP based control systems for AC drives, power electronics applications and process control.



Mario Bilić was born in Zagreb, Croatia, in 1965. He received his B.S. degree in electrical engineering from Faculty of Electrical Engineering and Computing, University of Zagreb, in 1990. From 1997 he is senior software engineer in *Končar* – Electrical Engineering Institute. He is responsible for embedded systems software development. He is involved in projects that cover traction and power engineering applications.

He is particularly involved in development and implementation of industrial communication systems.



Dr. Frede Blaabjerg received the M.Sc.EE. (1987) and the Ph.D. degree (1995) from the Institute of Energy Technology, Aalborg University, Denmark. He became an Assistant Professor (1992), Associate Professor (1996) and Full Professor (1998) in Power Electronics and Drives at Aalborg University. In 2000 he was Visiting Professor in University of Padova, Italy as well as he became part-time programme re-

search leader at Research Center Risoe in wind turbines. In 2002 he was visiting professor at Curtin University of Technology, Perth, Australia. His research areas are in power electronics, static power converters, ac drives, switched reluctance drives, modelling, characterization of semiconductor devices and simulation, wind turbines and green power inverter. He is involved in more than ten research projects with the industry. Among them is the Danfoss Professor Programme in Power Electronics and Drives. He is the author or co-author of more than 250 publications in his research fields including the book *Control in Power Electronics* (Eds. M. P. Kazmierkowski, R. Krishnan, F. Blaabjerg), Academic Press, 2002. He is associated editor of the IEEE Trans. on Ind. Appl., IEEE Trans. on Power Electronics, Journal of Power Electronics and of the Danish journal *Elektronik*. He has received a number of international awards and he is Fellow of the IEEE.



Zoran Blažević born in 1968 at Split, Croatia, received the B.Sc. and M.Sc. (1993. and 2000.) in Electrical Engineering from the University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture (FESB), Split, Croatia. From 1994 to 2001 he worked for Croatian Railways as telecommunication engineer, and since 2001. is a research assistant on Dept. of Electronic, FESB. His main occupa-

tions are tied with issues in radio communication, particularly in urban areas. He's also involved as an assistant in teaching undergraduate students on the same faculty. As an author or coauthor his name appears in 16 technical papers of various parts of electronic and telecommunications.



Dr. Dushan Boroyevich received his Dipl. Ing. degree from the University of Belgrade in 1976 and his M.S. degree from the University of Novi Sad in 1982, both in Yugoslavia. He received his Ph.D. degree from Virginia Tech in 1986. Between 1986 and 1990 he was an assistant professor and director of the Power and Industrial Electronics Research Program in the Institute for Power and Electronic Engineering, at the University of Novi Sad, and later, acting head of the Institute.

In 1990 he joined The Bradley Department of Electrical and Computer Engineering at Virginia Tech, Blacksburg, Virginia,

as associate professor. From 1996 to 1998 he was associate director of Virginia Power Electronics Center, and since 1998 he has been the deputy director of the NSF Engineering Research Center for Power Electronics Systems and professor at the department. Dr. Boroyevich's research interests include multi-phase power conversion, high-power PWM converters, modeling and control of power converters, applied digital control, and multidisciplinary modeling and design of integrated power modules. He has published over 100 technical papers, has three patents, and has been involved in numerous government and industry-sponsored projects in the areas of power and industrial electronics.



Dr. B. K. Bose (Life Fellow, IEEE) holds the Condra Chair of Excellence in Power Electronics in the University of Tennessee for the last 16 years. Prior to that, he was a research engineer in General Electric Corporate Research and Development for 11 years (1976-1987), and Associate Professor of Electrical Engineering in Rensselaer Polytechnic Institute for 5 years (1971-1976). His field of expertise is power electronics,

motor drives, and application of artificial intelligence in power electronics systems. He has published more than 180 papers, has authored/edited 6 books in Power Electronics and holds 21 U.S. patents. Dr. Bose is a recipient of many honors and awards that include IEEE Millennium Medal (2000), IEEE Meritorius Achievement Award (1997), IEEE Lamme Gold Medal (1996), IEEE Industrial Electronic Society's Mittlemann Award (for lifetime achievement) (1994), IEEE Region 3 Outstanding Engineer Award (1994), IEEE Industry Application Society's Outstanding Achievement Award (1993) and Mouat Gold Medal from Calcutta University, India. He is widely known as Father of Power Electronics. He received the B.E. degree from Calcutta University, India, the M.S. degree from the University of Wisconsin, Madison and the Ph.D. degree from Calcutta University in 1956, 1960 and 1966, respectively.



Stefan Laurentiu Capitaneanu, born in 1976 in Bucharest, received the Diploma Degree in Electrical Engineering from Ecole Nationale Supérieure d'Electrotechnique d'Electronique d'Informatique et d'Hydraulique de Toulouse, France (1999) and the Diploma Degree in Electrical Engineering from the Polytechnic University of Bucharest, Romania (1999). He obtained in 2002 the PhD degree from the National Polytech-

nic Institute of Toulouse (Laboratoire d'Electrotechnique et d'Electronique Industrielle, Toulouse, France in collaboration with Schneider Toshiba Inverter Europe, Pacy sur Eure, France). He is now a member of the motor control group in Schneider Toshiba Inverters Europe. His work deals with AC motor control, PMSM control and with PWM. (tel. +33 2 32 78 19 47, fax. +33 2 32 78 18 89 e-mail stefan_capitaneanu@mail.schneider.fr)



Jordi Catala i López was born in Barcelona, Catalonia, in 1973. He received his electrical engineering degree and the Ph. D. degree from the Technical University of Catalonia (UPC) in 2000 and 2003 respectively. He was researcher of the Motion and Industrial Control Group at the Electronic Engineering Department of the Technical University of Catalonia from 2000 to 2003 and teacher of the same university. His research

interests included electric machines, power electronics converters, including its modulation strategies, variable-speed drive systems (specially sensor-less speed systems for induction motor drives) and motion control algorithms. His activities were mainly related to the field of the induction motor control. Presently, he works as an application engineer and he is involved in software development for motion control in industrial applications.



Srawouth Chandhaket (Ph.D. Student) was born in Surin, Thailand. He received his B. Eng. degree in Electronics Department from Kobe University, Hyogo, Japan in 1995 and also his M. S. degree in Electrical Engineering from Virginia Tech. in 1998. He is currently a Ph. D. candidate in the Graduate School of Engineering and Science, Yamaguchi University, Yamaguchi, Japan since 2001. His research interests

include the soft-switching technology in power electronics and power systems, the stability of power system network and the applications of soft computing in power electronics and power systems. He is a student member of IEEE, the Institute of Electrical Engineers of Japan, Japan Institute of Power Electronics and the Japan Society of the Solar Energy.



Eduard M. Chekhet received Ph.D. degree and doctor of technical sciences degree in 1972 and 1987 respectively from Institute of Electrodynamics of the National Academy of Sciences of Ukraine, Kyiv. He is currently a Head of Energy Conversion Department of mentioned Institute, professor. His fields of interests are power electronics and electrical drives. He is author of about 170 scientific publications and two books.

He is member of IEEE Industry Electronics Society.



Mohamed Rachid Chekkouri was born in Rissana, Morocco, in 1973. He received his degree in physical science, specialism in physics, from the Abdelmalek Essaïdi University of Tetuan, Morocco, in 1998. In 1999 he joined the Electronic Engineering Department of the Technical University of Catalonia, where is currently working towards the Ph.D. degree in adaptive control at the Motion and

Industrial Control Group. His research interests are in electric machines, variable-speed drive systems (specially adaptive speed control systems for motor drives) and motion control algorithms. His activities are mainly related to the study of the adaptive control stability.



T. Paul Chow received his B.A. degree in mathematics and physics (summa cum laude) from Augustana College, Sioux Falls, S. Dakota, in 1975, M.S. degree in Materials Science from Columbia University, New York City, New York, in 1977 and Ph.D. degree in electrical engineering from Rensselaer Polytechnic Institute, Troy, New York, in 1982. From 1977-1989, he worked at General Electric Corporate Research

and Development, Schenectady, NY. He was first involved with developing CVD processes and characterization of doped tin oxide and indium oxide thin films for transparent electrode applications in solid-state imagers, and, then studied refractory metals and metal silicides for Si MOS VLSI applications. From 1982 to 1989, he participated in the design and process development of new discrete and integrable MOS-gated unipolar and bipolar devices (such as the MOSFET, IGBT and MCT), and, with process architecture and integration of high-voltage integrated circuits. Since 1989, he has been on the faculty of the Electrical, Systems and Computer Engineering Department of Rensselaer Polytechnic Institute, Troy, NY, where he is now Professor. His present research interests are in developing new device concepts, integrated processes and circuit models for high-voltage power devices and integrated circuits of silicon and wide bandgap compound semiconductors. Since 1998, Prof. Chow is leading the Advanced Power Semiconductor Devices subthrust for Center for Power Electronics Systems – an NSF sponsored Engineering Research Center consortium headed by Virginia Tech., with University of Wisconsin at Madison, RPI, N. Carolina A & T and University of Puerto Rico at Mayaguez as participating universities. Dr. Chow has published over 80 papers in refereed scientific journals, presented over 100 conference talks, contributed five chapters in technical textbooks and has over ten patents. He received the Solid State Science and Technology Young Author Award of the Electrochemical Society in 1982 and the Horizon Award from Augustana College in 1986. He is a member of the Electrochemical Society and IEEE. In 1990-1997, he was the Editor for Solid State Power in the IEEE Transactions on Electron Devices.



Dr. Stefano Costantini was born in Rome, Italy, on June 19, 1974. He received Doctor degree in Electronic Engineering from University of Rome »Tor Vergata«, Italy, in 2000. He is achieving Ph.D degree in Microelectronics Engineering at the same University. He research interests are in the fields of control techniques and parameters estimation on induction motor.



Vinko Česić, Graduated on Faculty of Electrical Engineering of University of Zagreb, in May 1986, majoring in Electric machinery and automatic control engineering. Since June 1986 he has been employed in KONČAR – Electrotechnical institute, Zagreb, in the Automatic Control Department. He works on development of excitation systems and automatic voltage regulators. Also, works on design putting into operation, commissioning and maintenance of excitation systems in hydro and thermal power plants. Participated in design, testing and commissioning of electronic systems in traction.

commissioning and maintenance of excitation systems in hydro and thermal power plants. Participated in design, testing and commissioning of electronic systems in traction.



Prof. Antonio Dell'Aquila was born in Bari, Italy, on October 28, 1943. He received the M.Sc. degree in Electrical Engineering from the Università di Bari in 1970. Since 1970, he has been working with the Converters, Electrical Machines and Drives Research Team at the Università di Bari. He is currently a Full Professor of Electrical Machines at the Politecnico di Bari, Italy, where he is also in charge of courses on power electronics and electrical drives. He has published over 120 technical papers in the fields of electrical machines models, transient analysis of rotating machines, inverter-fed induction machine performance, digital signal processing for non-sinusoidal waveforms, Kalman filtering for real-time estimation of induction motor parameters, control, monitoring and diagnostic of ac drives. His research current interests include harmonic pollution produced by electronic power systems, PWM techniques for power converters, power converters in renewable energy conversion systems, active power filters, multi-level inverters and intelligent control of power electronics equipment with fuzzy logic controllers. Prof. A. Dell'Aquila is a member of the IEEE Power Engineering Society and of the Italian Electrotechnical and Electronic Association (A.E.I.).

electronics and electrical drives. He has published over 120 technical papers in the fields of electrical machines models, transient analysis of rotating machines, inverter-fed induction machine performance, digital signal processing for non-sinusoidal waveforms, Kalman filtering for real-time estimation of induction motor parameters, control, monitoring and diagnostic of ac drives. His research current interests include harmonic pollution produced by electronic power systems, PWM techniques for power converters, power converters in renewable energy conversion systems, active power filters, multi-level inverters and intelligent control of power electronics equipment with fuzzy logic controllers. Prof. A. Dell'Aquila is a member of the IEEE Power Engineering Society and of the Italian Electrotechnical and Electronic Association (A.E.I.).



Maurice Fadel received the Ph.D. degree in electrical engineering from the Institut National Polytechnique de Toulouse in 1988 (France). He works in the control of electrical systems group of the Laboratoire d'Electrotechnique et d'Electronique Industrielle since 1985. He is currently Professor in the Ecole Nationale Supérieure d'Electronique, d'Electrotechnique, d'Informatique, d'Hydraulique et des Télécommunications de

Toulouse, his teaching covers control theory and design of control laws in electrical systems (static converter and electrical machine). Since 1998, he is the leader of the Control of Electrical Systems group. His owns researches concerns modelisation and control of static converters, power electronics machines and drives.

(tel. +33 5 61 58 83 36, fax. +33 5 61 63 88 95, e-mail Maurice.Fadel@leei.enseeiht.fr)



Bernard de Fornel was born in 1942 in Bordeaux. He obtained the diploma of engineer from ENSEEIHT in 1965 and the Doctorat es Sciences in 1976. He is full professor (1980) at Institut National Polytechnique of Toulouse. His teaching and research fields are in the control of electrical drives. He is responsible for the Doctorat formation in Electrical Engineering, member of several ISC of international Conferences. He

has published more than 150 international publications and directed more than 50 PhDs.

(tel. +33 5 61 58 82 55, fax. +33 5 61 63 88 95, e-mail Bernard.de.Fornel@leei.enseeiht.fr)



Boris Furčić was born in Sisak, Croatia, in 1950. He received the B.S. degree in 1974 at the University of Zagreb, Croatia. From 1975 to 1984 he worked in RIZ – Institute as senior development engineer where he was involved in projects ultrasonic devices, pressure sensors and measuring devices in well-drilling oil industry. Since 1984 he works in Končar – Electrical Engineering Institute in Electronics and Rotating Machines Department. His research interests include measuring devices for FS6 LV, MV and HV networks, inductor-heating devices, measuring and control in frequency converters for traction and power applications.

chines Department. His research interests include measuring devices for FS6 LV, MV and HV networks, inductor-heating devices, measuring and control in frequency converters for traction and power applications.



H. Grotstollen was born in 1938 in Mannheim, Germany. He received the Ph.D. degree at Berlin University of Technology in 1972. From 1965 to 1973 he worked in AEG. From 1973 to 1981 he was a senior engineer at the Institute of Electrical Drives and Control, University of Erlangen-Nürnberg, where he was qualified as a university lecturer (habilitation). From 1981 to August 2003 he has been a professor at the Institute of Power

Electronics and Electrical Drives, University of Paderborn. His Fields of interest include control of electrical drives with conventional and piezo-motors, switchmode power supply and optimized design of magnetic components.



Dr. Ronald J. Gutmann has been on the faculty at Rensselaer Polytechnic Institute since 1970, where he is currently a Professor in the Electrical, Computer, and Systems Engineering Department with teaching and research activities in the areas of semiconductor devices, monolithic microwave integrated circuit (MMIC) technology, and thin-film interconnection technology. He has authored over three hundred techni-

cal papers in these and related fields and is a Fellow of the IEEE for contributions in microwave semiconductor technology. He has coauthored three books on IC interconnect technology – *Chemical-Mechanical Planarization of Microelectronics Materials* (Wiley 1997), *Copper-Fundamentals for Microelectronic Applications* (Wiley, 2000), and *Chemical-Mechanical Polishing of Low Dielectric Constant Polymers and Organosilicate Glasses* (Kluwer 2002). His current research activities are in three-dimensional (3D) IC technology platforms, multilevel interconnect technology, thermophotovoltaic devices, thin-film packaging, SiC and GaN devices, and wireless communications technology.



Markus Henke, born in 1968, studied Electrical Engineering at the University of Paderborn, where in 2003 he received his Dr.-Ing. degree in the field of electrical drives. Since 1996 he has been working at the Institute for Power Electronics and Electrical Drives at the University of Paderborn. His major fields of research were design and control of linear motor applications. He actively participated in the development of

the NBP/RailCab-System. Since 2003 he is with the Volkswagen AG, Wolfsburg.



Fabrice Jadot received the engineering degree in Applied Maths from Université Catholique de Louvain, Belgique, 1992. He got his PhD degree in NonLinear Automatic Control from Université Catholique de Louvain, Belgique, 1996. He joined in 1997 the industrial control strategic business unit from Schneider Electric S.A., Rueil Malmaison, France as a R&D engineer in the activity of Variable Speed Drives. He

is now in charge of motor control group in Schneider Toshiba Inverters Europe, Pacy sur Eure, France. His main fields of interest are non-linear control theory, AC motor control and drives.

(tel. +33 2 32 78 14 95, fax +33 2 32 78 18 89, e-mail: fabrice_jadot@mail.schneider.fr)

Thomas M. Jahns received the S.B. and S.M. degrees in 1974 and the Ph.D. degree in 1978 from Massachusetts Institute of Technology, Cambridge, MA, all in electrical engineering.

Dr. Jahns joined the faculty of the University of Wisconsin-Madison in 1998 as a Professor in the Department of Electrical and Computer Engineering, where he is also and Associate Director of the Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC). Prior to coming to UW-Madison, he was with GE Corporate Research and Development in Schenectady, NY, for 15 years, where he pursued new power electronics and motor drive technology in a variety of research and management positions.

Dr. Jahns is a Fellow of IEEE and was awarded the William E. Newell Award by the IEEE Power Electronics Society (PELS) in 1999. He has been recognized as a Distinguished

Lecturer by the IEEE Industry Applications Society (IAS) during 1994–1995 and by IEEE-PELS during 1998–1999. He has served as President of PELS (1995–1996) and as a member of the IAS Executive Board from 1992 to 2001.



Prof. Karel Jezernik received B.S. (1968), M.S. (1974) and Dr.Eng. (1976) degrees in electrical engineering from the University of Ljubljana. He was a Visiting Research Fellow in Institute of Control, TU Braunschweig (1974–1975). In 1976 he joined the University of Maribor and in 1985 he became a Full Professor and Head of the Institute of Robotics. His research and teaching interests include automatic control, robotics, power electronics and electrical drives. Current projects in these areas are high precision tracking control in machine tools and DD robots and robust torque control in EV's. He consults in industrial servo control systems and other control and computer applications. Dr. Jezernik is an active member of the IEEE IES.



Zvonimir Jurin, graduated on Faculty of Electric Machinery and Naval Building Engineering of University of Split, in July 1989, majoring in automatic control engineering. Since October 1989, employed in company KONČAR – Electronics and Informatics, Zagreb in Excitation Systems Department. Works on designing, commissioning and putting into operation and maintenance of excitation systems in hydro, termo and

nuclear power plants. Since 1998 head of Excitation Systems Department.



Mladen Kajari, graduated on Faculty of Electrical Engineering of University of Zagreb in 1962. Since October 1962, he has been employed in KONČAR – Electrotechnical institute, Zagreb, in the Automatic control Department. In November 1970 he became the chief of the Excitation Systems Department and in November 1976 he became the head of Automatic Control Department. Works on development of

excitation systems and automatic voltage regulators, design putting into operation, commissioning and maintenance of excitation systems in hydro, thermal power plants. Also works on design of plant control systems. Since 1994 has worked as a consultant and adviser in power plant control systems design and development. He has published 20 technical and/or scientific papers, more than 35 studies. Member of the Croatian Committee CIGRÉ A1 – *Rotating Machines*, member of the Croatian Standardization Committee IEC TO 2, member of the Croatian Standardization Committee IEC TO 65.



Marin Kolić, Graduated on Polytechnic of Zagreb, majoring in Electrical Engineering Department in April 1999. Since April 1999, employed in company KONČAR, Zagreb, in Excitation Systems Department. Works on designing, commissioning and putting into operation and maintenance of excitation systems in hydro and termo power plants.



Sergei N. Kovbasa received Diploma of electro-mechanical engineer from National Technical University of Ukraine »Kyiv Polytechnic Institute«, Kyiv in 1999. He has been a PhD student in the National Technical University of Ukraine since 1999. Direction of his research activity is induction motor control.



Dubravko Krušelj was born in Zagreb, Croatia, in 1972. He received the B. Sc. E. E. and the M. Sc. E. E. degrees from University of Zagreb, Croatia, in 1995 and 1998, respectively. He has been working in *Končar* – Electrical Engineering Institute since 1994. He works in Electronics and Rotating Machines Department. His research interests are electromotor drives with induction motors (especially traction drives),

vector control and modulation techniques.



Agostino Lecci was born in Tricarico (Matera), Italy, on January 25, 1975. He received the M.Sc. degree in Electronics Engineering from the Politecnico of Bari, Bari, Italy, in 1999. In March 2000 he joined the Converters, Electrical Machines and Drives research group of the same university. Since January 2001 he is a candidate for PhD degree in Electrical Engineering at Politecnico of Bari. His main research interests

regard intelligent control of power electronics equipment and active filters. Particularly he is involved in modelling and simulation of power converters, innovative control of PWM inverters, PWM rectifiers and active filters with fuzzy logic, and genetic algorithms. Agostino Lecci is a member of the following IEEE societies: Industry Applications Society, Industrial Electronics Society, Power Electronics Society, Power Engineering Society, and Computer Society.



Fred C. Lee received his B.S. degree in electrical engineering from the National Cheng Kung University in Taiwan in 1968. He went on to receive M.S. and Ph.D. degrees in electrical engineering from Duke University in 1972 and 1974, respectively. Dr. Lee is a University Distinguished Professor at Virginia Tech, Blacksburg. He directs the Center for Power Electronics Systems (CPES), a National Science Foundation

engineering research center. His research interests include high-frequency power conversion, distributed power systems, electronics packaging, and modeling and control. Dr. Lee holds 30 U.S. patents, and has published over 175 journal articles in refereed journals and more than 400 technical papers in conference proceedings.



Robert D. Lorenz, Fellow-IEEE, received the B.S., M.S., and Ph.D. from the University of Wisconsin, Madison and M.B.A. from the University of Rochester, Rochester, NY. He worked 12 years in industry and in 1984, joined the faculty of the University of Wisconsin, Madison, where he is the Mead Witter Foundation Consolidated Papers Professor of Controls Engineering in both the Dept. of Mechanical Engineering

and the Dept. of Electrical and Computer Engineering. He is Co-Director of the Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC). It is the largest industrial research consortium on motor drives and power electronics in the world. He is also the thrust leader for control and sensor integration in CPES. His current research interests include sensorless electromagnetic motor/actuator technologies, real time signal processing and estimation techniques, precision multi-axis motion control, and ac/dc drive and high precision machine control technologies. He has authored more than 160 published technical papers and is the holder of 16 patents with two more pending. He has won 15 prize paper awards. Dr. Lorenz was the IEEE IAS President for 2001, a Distinguished Lecturer of the IEEE IAS for 2000/2001. He is a member of the IEEE Sensor Council AdCom. He was awarded the 2003 IEEE IAS Outstanding Achievement award, which honors his outstanding contributions and technological developments in the application of electricity to industry.



Siniša Marijan was born in Croatia, in 1960. He received his B.S. degree in electrical engineering from Faculty of Electrical Engineering and Computing, University of Zagreb. For almost 20 years he is an employee of KONČAR Electrical Engineering Institute. He was involved in development of different industrial, traction and power engineering control systems, mostly designed around VMEbus. While in the past particularly

involved in the design of real time operating systems, application programming graphical tools and application soft-

ware, nowadays the scope of his responsibility is development of embedded central processing units and peripherals. Presently he is the head of Control and Communications Department.



Ivan Marinović was born 1966. in Split, Croatia. He received B.S. degree 1989. and M.S. degree 1997. at University of Split. He is presently an assistant at Electronic Department of the same University. His fields of interest are electronic circuits, microwave electronics and radio-communications, where he published about twenty scientific papers until now.

Vojko Matko was born in Celje, Slovenia, in 1959. He received his M.Sc. and Ph.D. degrees in electrical engineering from the Faculty of Electrical Engineering and Computer Science, University of Maribor, Slovenia in 1990 and 1994, respectively. From 1978 to 1985 he carried out the research work at the Slovenia's leading home appliances producer Gorenje Research Laboratory in Velenje, Slovenia. He joined the University of Maribor in 1985 as a research assistant in Electrical Engineering. Presently, he is Associate Professor for measuring systems. He is involved in the research of new accurate measuring methods related to high sensitive resonant methods using quartz crystals. His other fields of interest are Internet-based measurements and comparative measurement of position, speed, height, accelerations using satellite signals and various databases.



Jadranko Matuško was born in Metković on May 6, 1975. He received the B.Sc. and M.Sc. degree from University of Zagreb in 1999 and 2003, respectively. Upon graduation he joined the Department of Control and Computer Engineering in Automation, University of Zagreb, where he is currently working toward his PhD degree. He is co-author of 5 scientific papers published in the proceedings of international conferences. His scientific interests are in the fields of intelligent control and estimation.



Valeriy M. Mikhalsky received Ph.D. degree in 2003 from Institute of Electrodynamics of the National Academy of Sciences of Ukraine. He is currently Senior Scientist of mentioned Institute. His activity is in areas of power electronics and control systems. He is author of about 65 scientific publications.



Mutsuo Nakaoka (Prof. Dr.-Eng.) received his Dr-Eng. degree in Electrical Engineering from Osaka University, Osaka, Japan in 1981. He joined the Electrical and Electronics Engineering Department of Kobe University, Kobe, Japan in 1981 and served as a professor of Department of Electrical and Electronics Engineering, The Graduate School of Engineering, Kobe University, Kobe, Japan. Since 1995, he has been a professor of the Electrical and Electronics Engineering Department, the Graduate School of Science and Engineering, Yamaguchi University, Yamaguchi, Japan. His research interests include application developments of power electronics circuits and systems. He received the 2001 premium prize paper award from IEE-UK, 2001/2003 IEEE-IECON Best Paper Award, the third paper award in 2000 IEEE-PEDS, 2003 IEEE-IAS James Melcher Prize Paper award and so on. He is now a chairman of IEEE Industrial Electronics Society Japan Chapter. Prof. Dr.-Eng.: Nakaoka is a member of the Institute of Electrical Engineering Engineers of Japan, Institute of Electronics, Information and Communication Engineers of Japan, Institute of Illumination Engineering of Japan, European Power Electronics Association, Japan Institute of Power Electronics, Japan Society of the Solar Energy, Korean Institute of Power Electronics, IEE-Korea and IEEE.



Koki Ogura (Ph.D. Student) was born in Shimane, Japan. He received his B. Eng. and M. Eng. degrees in Electrical and Electronics Engineering department from Yamaguchi University, Yamaguchi, Japan in 2000 and 2002, respectively. He is currently doing research in Division of Electrical Systems Engineering, the Graduate School of Science and Engineering, Yamaguchi University, Japan towards his Ph. D. degree. His research interests include the development of high frequency soft-switched resonant power conversion circuits and systems applied to new energy utilization system such as photovoltaic generation and fuel cell generation systems. He is a student member of IEEE-USA, the Institute of Electrical Engineers of Japan (IEE-J), the Institute of Electronics, Information and Communication Engineers (IEICE-J), the Japan Institute of Power Electronics and the Japan Society of the Solar Energy.



Dr. Valentin Oleschuk is Director of the Research Laboratory of Power Engineering Institute of the Academy of Sciences of Moldova. He received M.Sc. degree from Kishinev Polytechnic Institute at 1969, Kand.Sc. (Ph.D) degree from Leningrad Institute of Fine Mechanics and Optics at 1980, D.Sc. degree from Institute of Electrodynamics of the Academy of Sc. of Ukraine at 1999, and Dr. Habilitat of Sc. degree from the Scientific Qualification Board of Moldova at 2000 (all degrees – in Electrical Engineering). V. Oleschuk is specialist in con-

trol and modulation for power conversion systems. He has authored and co-authored of two books and more than 130 publications in the field of Power Electronics and Electrical Drives. He has also 89 patents on inventions in this area. Dr. V. Oleschuk served as Principal Investigator of three NATO International Research Projects (1994–1996, 1997–1999, 2000–2002), and of two Research Projects supported by the National Research Council of USA (1997–1998) and the US Civilian Research and Development Association (2001–2003). During last years he was Visiting Research Scientist at University of Quebec in Trois-Rivieres, Canada (1994, 1995), Visiting Research Professor at the University of Tennessee in Knoxville, USA (1997, 1998, 2002), Guest Professor at Aalborg University, Denmark (2001–2002).



Sergei M. Peresada received Ph.D. degree from the Kiev Polytechnic Institute in 1983. He is with the Department of Electrical Engineering and Automation of the National Technical University of Ukraine »Kyiv Polytechnic Institute« since 1977. His research interests include nonlinear and adaptive control electromechanical systems and power converters. He is author of about 140 scientific publications and co-author of the volume Theory and Control of Electrical Drives.



Andreas Pottharst was born in 1973 in Herford, Germany. He studied Electrical Engineering at the University of Paderborn. Since 2000 he has been working at the Institute for Power Electronics and Electrical Drives at the University of Paderborn. His special fields of research are control technology of linear motor driven vehicles and power supply of electrical drives.



Luis Romeral Martínez was born in Asturias, Spain, in 1958. He received his electrical engineering degree and the Ph.D degree from the Technical University of Catalonia (UPC) in 1985 and 1995 respectively. In 1988 he joined the Electronic Engineering Department of the UPC, where he is currently Associate Professor. His research interests include electric machines, power electronics converters and modulation strategies, variable-speed drive systems and microprocessor-based real-time control algorithms. He has authored more than 30 papers published in technical journals and conference proceedings and he has also supervised several Doctoral Thesis in these fields. His current activities include teaching,

research, and consulting in electric drives and programmable electronics systems. He belongs to the Motion and Industrial Control Group at the Electronic Engineering Department of the UPC, which has in recent years established itself as one of the more active motor drives research group in the Technical Universities of Spain. The Group's major research activities concern the induction motor drive, enhanced efficiency drives, intelligent self-commissioning drives, direct torque controllers and sensorless vector drives. The Group is also active in current control of the VSI, EMC in drives, and fuzzy based adaptive control. Dr. Romeral is a Member of the European Power Electronics and Drives Association and the IEEE Industrial Electronics Society and the International Federation of Automatic Control (IFAC).



Vladimir Siladi was born in Čakovec, Croatia, in 1956. He received the B.S.E.E. and M.S.E.E. degrees at the University of Zagreb, Croatia, in 1979 and 1990 respectively. Since 1979 he works in Končar – Electrical Engineering Institute where he is currently head of Electronics and Rotating Machines Department. His research interests include frequency converters for auxiliary drives on locomotives and power supply on passenger coaches. He is part time lecturer at Polytechnic of Zagreb and University of Osijek.



Vladimir N. Sobolev received Ph.D. degree in 1986 from Institute of Electrodynamics of the National Academy of Sciences of Ukraine. He is currently Senior Scientist of mentioned Institute. His activity is in areas of power electronics and control systems. He is author of about 90 scientific publications.



Prof. Asif Šabanović received B.S. (1970), M.Sc. (1975) and Dr. Eng. degree (1979) from University of Sarajevo. Since 1970 till 1991 he has been with Energoinvest-Institute for Control and Computer Sciences, Sarajevo. From 1991 he has been with University of Sarajevo, Department of Electrical Engineering. He has been Visiting Researcher at Institute of Control Science – Moscow (1975–1976). Visiting Professor at: California Institute of Technology, Pasadena (1984–1985), Keio University, Yokohama, Japan (1991–1992), Yamaguchi University, Ube (1992–1993), Head of CAD/CAM and Robotics Department at TÜBITAK – MRC, Istanbul (1993–1995), Head of Engineering Department of B.H. Engineering and Consulting (1995–1999). His fields of interest include Control Systems, Motion Control Systems, Robotics, Mechatronics and Power electronics.



Dr. Nadira Šabanović received B.Sc. (1972), M.Sc. (1984) from California Institute of Technology – Pasadena, USA and Dr. Eng. degree (1991) from University of Sarajevo. Since 1972 till 1991 she has been with Energoinvest-Institute for Control and Computer Sciences, Sarajevo. 1991– 1993 she has been with University of Sarajevo. She has been Visiting Researcher at Institute of Control Science – Moscow (1975–1976), California Institute of Technology – Pasadena (1984–1985), Kyushu University, Fukuoka, Japan (1992–1993), as researcher in TÜBITAK – Marmora Research Center, Istanbul (1993–1995), researcher in B.H. Engineering and Consulting (1995–1999). Her fields of interest include Power Electronics and Motion Control Systems.



Miroslav Vučetić was born in Karlovac, Croatia, in 1940. He received the B.Sc. degree in 1965 at the University of Zagreb, Croatia. From 1964 till 1990 he worked in Končar – Electrical Engineering Institute, from 1991 till 2000 in Končar – Special Devices and Systems, and from 2001 till 2003 he is again with Končar – Electrical Engineering Institute. He is interested in measuring and control devices in frequency converters for traction and power applications.



Jacobus Daniel van Wyk received the M.Sc.Eng.-degree from the University of Pretoria, South Africa in 1966, the degree of Doctor Dr. Sc. Tech. from the University of Technology, Eindhoven Netherlands in 1969 and the degree D.Sc. (Eng) (honoris causa) from the University of Natal, South Africa in 1996. He has worked with the S.A. Iron and Steel Corporation, the University of Pretoria, and the technical and scientific staff

of the University in Eindhoven, between 1961 and 1971. From 1971 to 1995 he was a chaired Professor of Electrical and Electronic Engineering at the Rand Afrikaans University, Johannesburg, holding Chairs in Electronics and in Power Electronics till 1992. He founded the Industrial Electronics

Technology Research Group in the Faculty of Engineering in 1978 and directed this unit until 1999. Since July 1995 he has held a special University Council Research Chair in Industrial Electronics at the Rand Afrikaans University. He joined the Bradley Department of Electrical and Computer Engineering at the Virginia Polytechnic Institute and State University, Blacksburg, VA, USA in January 2000, where he is the J. Byron Maupin Professor of Engineering, working in the National Science Foundation Engineering Research Center for Power Electronics Systems. Dr. van Wyk is a Fellow of the IEEE, a Fellow of the South African Institute of Electrical Engineers. He has been recipient and co-recipient of 20 prize papers awards including more than 10 IEEE prize paper awards for some of this work, and was the recipient of the prestigious IEEE William E. Newell Power Electronics Award in 1995 and an IEEE Third Millennium Medal in 2000. He is active in several capacities within the IEEE and its Societies. He has received a range of other awards from IEEE Societies as well as from the South African Institute of Electrical Engineers.



Igor Zanchi was born at Split, Croatia in 1938. He received his B.Sc. degree on Faculty of Electrical Engineering Zagreb in 1962 and M.Sc. and PhD on Faculty of Electrical Engineering and Computer Sciences Zagreb, Croatia. He is a full professor on Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture Split, Croatia and currently a Vice Rector of University of Split. Priority science interest is areas of Microwave Electronic and Radio Propagation.



Bo Yang was born in 1972 in Sichuan, China. She received the B.Sc. and M.Sc. degrees in Power Electronics and Electrical Drives from Beijing University of Aeronautics and Astronautics (BUAA) in 1993 and 1996 respectively. From 1996 to 1999 she was a research assistant with the Department of Automation, BUAA, Beijing. From July, 1999 to Dec. 2003 she worked toward the Ph.D. degree at the University of Pader-

born. Expected oral will be at the beginning of 2004. Her research interests include motor design, control of electrical drives, optimization of control and sliding mode control.