2013

CURRICULUM VITAE

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EDUCATION

Ph.D. EE	1986	Virginia Tech, Blacksburg, VA
M.S. EE	1982	University of Novi Sad, Yugoslavia
Dipl. Ing. EE	1976	University of Belgrade, Yugoslavia

EMPLOYMENT

2006 – present	American Electric Power Professor, Bradley Department of Electrical and Computer Engineering, Virginia Tech, Blacksburg, VA (***VT***)
2006	Fall semester sabbatical at Massachusetts Institute of Technology, Cambridge, MA
2004	Summer sabbatical at Università degli Studi Roma Tre, Rome, Italy
1998 – present	Co-Director, NSF Engineering Research Center for Power Electronics Systems (***CPES***)
1998	Fall semester sabbatical at Universitat Politècnica de Catalunya, Barcelona, Spain
1999 – 2005	Professor, ***VT***
1996 – 1998	Associate Director of Virginia Power Electronics Center, ***VT***
1990 – 1999	Associate Professor, ***VT***
1989 – 1990	Acting Head of the Institute for Power and Electronic Engineering (*EE Department*), Faculty of Technical Sciences (*College of Engineering*), University of Novi Sad, Yugoslavia (***UNS***)
1986 – 1990	Assistant Professor, ***UNS***
1982 – 1986	On educational leave from ***UNS*** for doctoral studies at ***VT***
1982	Assistant Head of the Institute for Power and Electronic Engineering, ***UNS***
1976 – 1982	Instructor, ***UNS***

HONORS AND AWARDS

2011 – 2012	President, IEEE Power Electronics Society
2010	Best Paper Award at *Grand Challenges in Modeling and Simulation Conference (GCMS)*
2009	Outstanding Paper Award at *IEEE Electric Ship Technologies Symposium (ESTS)*
2007	IEEE William E. Newell Power Electronics Technical Field Award
2006	IEEE Fellow
2004	European PE-PEMC Council Award for Outstanding Achievements and Service
2004	*2003 Transactions* Prize Paper Award, IEEE Power Electronics Society
2004	Dean's Award for Research Excellence, College of Engineering, ***VT***

2003	*2002 Transactions* Prize Paper Award, IEEE Power Electronics Society
2002	*2001 Transactions* Prize Paper Award, IEEE Power Electronics Society
1999	Dean's Award for Teaching Excellence, College of Engineering, ***VT***
1993	Outstanding Teacher Award, Virginia Tech Student Chapter of HKN
1990	First Prize Paper Award at 34th Yugoslav Conf. on Elec., Comm., Autom., and Nuc. Eng.
1983 – 1985	General Electric Co. Fellowship
1985 –	Member of ΦΚΦ Honor Society

TEACHING

Courses developed or improved

1. *Power Electronics*, a senior level, one semester, 3 credit hour, elective, capstone design course. Changed the course designation to "capstone design" by increasing open-endedness of the design projects, and by introducing technical writing and public presentation as learning objectives. Expanded the use of simulation and design validation tools from PSpice to Matlab/Simulink Control Toolbox (since 2002), and Simulink *PLECS* (from *Plexim GmbH*) toolbox for power electronics (since 2008). ***VT***, 2002-2008.
2. *Modeling and Control of Three-Phase PWM Converters*, a graduate level, 3 credit hour course. The course content is based on the latest research developments in the subject area over the last 20 years. Conceptualized the course, developed the syllabus and the course content, and continued updating it. ***VT***, 2000-2010.
3. *Power Electronics System Integration*, a graduate level, 1-credit hour, team-taught course for distance delivery. Participated in conceptualizing the course and development of the course content, ***VT***, 2000.
4. *Power Electronics*, a senior level, one semester, 3 credit hour, elective design course. Changed the concept of teaching the course by presenting the material along the lines that are normally taken in the design of a complete dc-dc converter, from specifications and device selection to efficiency and transient performance optimization. Introduced individual, simulation-based, open-ended design projects as the main learning, evaluation, motivation and reward tool in the course. Three projects progress through power-stage design, control design, inductor and transformer design, to the complete converter design in the final project, and use PSpice as simulation and design validation tool. ***VT***, 1994.
5. *Electronic Circuit Design*, a senior level, one semester, 3 credit hour, elective, capstone design course. Changed the concept of teaching the course into a team design project. The whole class works as a design and production team in order to produce a complete electronic system assembled as a finished product prototype. ***VT***, 1993.
6. *Electronics II*, a junior level, one semester, 3 credit hour, core, design course. Introduced an independent design project requiring between 25 and 35 hours of student work. The project consists of designing an electronic amplifier for given specifications, where the students are free to choose topology, components and design method, and have to verify their design with extensive simulations using PSpice. ***VT***, 1993.
7. *Industrial Electronics Laboratory*, a junior level, one semester, 1 credit hour course for non-EE majors. Revised several experiments and updated Laboratory Instructions. ***VT***, 1993.
8. *Electronics Fundamentals*, a sophomore level, two-semester, core course, with 3 + 3 hours per week in the first semester, and 4 + 4 hours per week in the second semester of lectures + laboratory, respectively. Conceptualized the course and developed the syllabus. ***UNS***, 1988.
9. *Industrial Control Electronics*, a senior level, one semester, elective course, with 2 hours of lectures and 3 hours of laboratory per week. Conceptualized the course and developed the syllabus. ***UNS***, 1988.
10. *Digital Electronics Components*, a junior level, one semester course for electronics majors, with 2 hours of lectures and 2 hours of laboratory per week. Conceptualized the course and developed the syllabus. ***UNS***, 1988.

11. *VLSI Digital Electronics*, a senior level, one semester course for electronics majors, with 2 hours of lectures and 2 hours of laboratory per week. Conceptualized the course and developed the syllabus. ***UNS***, 1981.
12. *Electronics Fundamentals Laboratory*, a sophomore level laboratory course, with 15 hours per semester. Conceptualized the course, designed and developed majority of experiments. ***UNS***, 1977.

Courses taught

At ***VT***:

2000 – 2012	graduate	*Modeling and Control of Three-Phase PWM Converters*
1994 – 2010	senior	*Power Electronics*
2000 – 2008	graduate	*Power Electronics System Integration*
1991 – 2005	junior	*Electronics II*
2004	graduate	*DC-DC Power Converter Modeling and Control*
1993 – 2003	senior	*Electronic Circuit Design II*
1999	graduate	*Resonant Power Conversion*
1992 – 1996	senior	*Electronic Circuit Design I*
1991 – 1995	sophomore	*Electronics I*
1990, 1993	junior	*Industrial Electronics*
1991	sophomore	*Electronics/Networks Laboratory*
1990	junior	*Industrial Electronics Laboratory*
1982	junior	*Electric Machinery Laboratory*

At ***UNS***:

1986 – 1990	junior	*Introduction to Digital Electronics*
1986 – 1990	senior	*Digital Electronics*
1986 – 1990	senior	*VLSI Digital Electronics*
1981, 1982	junior	*Pulse Electronics Laboratory*
1980 – 1982	sophomore	*Electronic Elements Laboratory*
1980 – 1982	sophomore	*Linear Electronics Laboratory*
1980 – 1982	senior	*Digital Electronics Laboratory*
1977 – 1979	sophomore	*Electronics Fundamentals Laboratory*

Short courses developed, organized, and taught

1991-2012 (21 times)	*Modeling and Control Design of DC-DC Converters*, Power Electronics Professional Seminar, one-week short course with 50% lectures and 50% laboratory. Co-authored and taught the laboratory. ***VT***
1993-2003 (10 times)	*Analysis and Design of Power Factor Correction Circuits*, Power Electronics Professional Seminar, three-day short course. Co-authored the course and taught 4 lecture hours and 4 laboratory hours. ***VT***
1979	*Microprocessor Family M6800*, a five-day course with practical training for the university faculty and for engineers from local industry. ***UNS***
1979	*Microprocessor Basics*, a two-day course for the university faculty and for engineers from

local industry. ***UNS***

1979 *Applied Digital Electronics*, a ten-week course with 4 hours of lectures and 2 hours of laboratory, for the engineers of Radio Novi Sad, Novi Sad.

1978 *Applied Industrial Electronics*, a six-week course with 6 hours of lectures and 3 hours of laboratory per week, for the engineers of "Novkabel," Novi Sad.

1977 *Applied Industrial Electronics*, a six-week course with 6 hours of lectures and 1 hour of laboratory per week, for the engineers of "Jugodent," Novi Sad.

Academic Advising

Current advisees:

1.	Hemant Bishnoi	Ph.D.	
2.	Zheng Chen	Ph.D.	
3.	Xuning Zhang	Ph.D.	
4.	Bo Wen	Ph.D.	*Co-advised with R. P. Burgos*
5.	Marko Jakšić	Ph.D.	
6.	Lingxiao Xue	Ph.D.	*Co-advised with P. Mattavelli*
7.	Igor Cvetković	Ph.D.	
8.	Jun Wang	Ph.D.	*Co-advised with R. P. Burgos*
9.	Fang Chen	Ph.D.	*Co-advised with R. P. Burgos*
10.	Christina DiMarino	M.S.	*Co-advised with R. P. Burgos*
11.	Nicholas Dahlin	M.S.	*Co-advised with R. P. Burgos*

Ph.D. dissertations:

1. Zhiyu Shen, "Online Measurement of Three-phase AC Power System Impedance in Synchronous Coordinates," February 2013.
2. Dong Dong, "AC-DC Bus-interface Bi-directional Converters in Renewable Energy Systems," July 2012.
3. Ruxi Wang, "High Power Density and High Temperature Converter Design for Transportation Applications," June 2012.
4. Montiê Vitorino, "Optimization of the power processing in photovoltaic pumping systems and single-phase conversion," (*Member of advisory committee; extensively involved in research and dissertation advising; 2 co-authored papers.*), August 2012.
5. Jin Li, "Three-level Active Neutral-Point-Clamped Zero-Current-Transition Converter for Sustainable Energy Systems," (*Member of advisory committee; extensively involved in research and dissertation advising; 9 co-authored papers.*), October 2011.
6. Sara Ahmed, "Modeling of power electronics distribution systems with low-frequency, large-signal (LFLS) models," April 2011.
7. Di Zhang, "Analysis and design of paralleled three-phase voltage source converters with interleaving," (*Co-chair with F. Wang*), April 2010.
8. Fang Luo, "Investigations in High Power Density EMI Filter Solutions for DC-Fed Three Phase Motor Drive Systems," (*Member of advisory committee; extensively involved in research and dissertation advising; 27 co-authored papers.*), March 2010.

9. Puqi Ning, “Design and development of high density high temperature power module with cooling system,” (*Member of advisory committee; extensively involved in research and dissertation advising; 15 co-authored papers.*), May 2010.
10. Gerald Francis, “An algorithm and system for measuring impedance in D-Q Coordinates,” January 2010.
11. A. Carson Baisden, “Generalized terminal modeling of electro-magnetic interference,” November 2009.
12. Timothy N. Thacker, “Phase-locked loops, islanding detection and microgrid operation of single-phase converter systems,” September 2009.
13. Luis Arnedo-Martinez, “System level black-box models for DC-DC converters,” September 2008.
14. Sebastian P. Rosado, “Voltage stability and control in autonomous electric power systems with variable frequency,” September 2007.
15. Wei Shen, “Design of high-density transformers for high-frequency high-power converters,” (*Co-chair with F. Wang*), July 2006.
16. Qian Liu, “Modular approach for characterizing and modeling conducted EMI emissions in power converters,” (*Co-chair with F. Wang*), November 2005.
17. Jinghong Guo, “Distributed, modular, open control architecture for power conversion systems,” May 2005.
18. Jonah Zhou Chen, “Integrated electrical and thermal modeling, analysis and design for IPEM,” February 2004.
19. Josep Pou, “Modulation and control of three-phase PWM multilevel converters,” (*Member of advisory committee; extensively involved in research and dissertation advising; 25 co-authored papers.*), November 2003.
20. Carlos Cuadros, “On the circuit oriented average large signal modeling of power converters and its applications,” August 2003.
21. Yong Li, “Unified zero-current-transition techniques for high-power three-phase PWM inverters,” (*Member of advisory committee; extensively involved in research and dissertation advising; 11 co-authored papers.*), March 2002.
22. Sudip K. Mazumder, “Nonlinear analysis and control of standalone, parallel DC-DC, and parallel multiphase PWM converters,” (*Co-chair with A. H. Nayfeh*), July 2001.
23. Jae-Young Choi, “Analysis of inductor-coupled zero-voltage-transition converters,” July 2001.
24. Nikola Ćelanović, “Space vector modulation and control of three-level converters,” September 2000.
25. Sam Ye, “Modeling and control of parallel three-phase PWM converters,” September 2000.
26. Sriram Chandrasekaran, “Subsystem design in aircraft power distribution systems using optimization,” (*Member of advisory committee; extensively involved in research and dissertation advising; 8 co-authored papers.*), May 2000.
27. Kun Xing, “Modeling, analysis, and design of distributed power electronics system based on building block concept,” (*Member of advisory committee; extensively involved in research and dissertation advising; 25 co-authored papers.*), May 1999.
28. Richard Zhang, “High-performance power converter systems for unbalanced load/source and nonlinear load,” (*Member of advisory committee; extensively involved in research and dissertation advising; 18 co-authored papers.*), November 1998.
29. Kunrong Wang, “High-frequency quasi-single-stage isolated AC-DC and DC-AC power conversion,” (*Co-chair with F. C. Lee*), November 1998.
30. Hengchun Mao, “Soft-switching techniques for high-power PWM converters,” (*Member of advisory committee; extensively involved in research and dissertation advising; 21 co-authored papers.*), December 1996.
31. Silva Hiti, “Modeling and control of three-phase PWM converters,” August 1995.

32. Vlatko Vlatković, "Three-phase power conversion using soft-switching techniques," (*Co-chair with F. C. Lee*), October 1994.
33. Yimin Jiang, "Development of advanced power factor correction techniques," (*Member of advisory committee; extensively involved in research and dissertation advising; 6 co-authored papers.*), September 1994.
34. László Huber, "Space vector modulator for forced commutated cycloconverters," June 1992.

M.S. theses:

1. Justin Walraven, "Design of an arbitrary waveform generator for power system perturbation," August 2011.
2. Bo Wen, "Weight Estimation of Electronic Power Conversion Systems," May 2011.
3. Marko Vulovic, "Digital control of a high-frequency parallel resonant DC-DC converter," November 2010.
4. Igor Cvetković, "Modeling, analysis and design of renewable energy nanogrid systems," July 2010.
5. Zheng Chen, "Characterization and modeling of high-switching-speed behavior of SiC active devices," December 2009.
6. Dong Dong, "Modeling and control design of a bidirectional PWM converter for single-phase energy systems," May 2009.
7. Sara Mohamed Ahmed, "Computer modeling and simulation of power electronics systems for stability analysis," December 2007.
8. David R. Lugo-Nunez, "High power density and over-current protection challenges in the design of a three-phase voltage source inverter," September 2007.
9. Arman Roshan, "A DQ rotating frame controller for single phase full-bridge inverters used in small distributed generation systems," June 2007.
10. Callaway Cass, "A SiC JFET-based three-phase AC PWM buck rectifier," February 2007.
11. Timothy Thacker, "Control of power conversion systems for the intentional islanding of distributed generation units," September 2005.
12. Bryan Charboneau, "Double-sided liquid cooling for power semiconductor devices using embedded power technology," July 2005.
13. Andrew Carson Baisden, "Modeling and characterization of power electronic converters with an integrated transmission-line filter," May 2005
14. Xiangfei Ma, "Digital generator control unit for synchronous brushless generator," December 2004.
15. Jerry Francis, "A synchronous distributed digital control architecture for high power converters," March 2004.
16. Carl Tinsley, "Modeling of multi-pulse transformer/rectifier units in power distribution systems," August 2003.
17. Brandon Witcher, "Methodology for switching characterization of power devices and modules," January 2003.
18. Erik M. Hertz, "Thermal and EMI modeling and analysis of a boost PFC circuit designed using a genetic-based optimization algorithm," July 2001.
19. Robert A. Gannett, "Control strategies for high power four-leg voltage source inverters," July 2001.
20. Sergio Busquets-Monge, "Application of optimization techniques to the design of a boost power factor correction converter," July 2001.
21. Matthew Superczynski, "Analysis of the power conditioning system for a superconducting magnetic energy storage unit," July 2000.

22. Ivan Ćelanović, “A distributed digital control architecture for power electronics systems,” July 2000.
23. Kalyan Siddabattula, “Electromagnetic modeling of packaging layout in power electronic modules,” December 1999.
24. Konstantin Louganski, “Modeling and analysis of a DC power distribution system in 21st century airlifters,” October 1999.
25. Marc Herwald, “Control design and analysis of an advanced induction motor electric vehicle drive,” April 1999.
26. Ivana Milosavljević, “Power electronics system communications,” January 1999.
27. Mohammed Al-Fayyoumi, “Nonlinear dynamics and interactions in power electronics systems,” (*Co-chair with A. Nayfeh*), December 1998.
28. Zoran Mihailović, “Modeling and control design of VSI-fed PMSM drive systems with active load,” July 1998.
29. Ivan Jadrić, “Modeling and control of a synchronous generator with electronic load,” January 1998.
30. Muhammet Çosan, “Analysis, simulation and modeling of three-level VSI's,” November 1997.
31. Himamshu Prasad, “Analysis and comparison of space vector modulation schemes for three-leg and four-leg voltage source inverters,” May 1997.
32. Ravindra Ambatipudi, “Modeling and control of zero-voltage-transition three-phase PWM boost rectifier,” June 1995.
33. Carlos Cuadros, “Modified space vector modulation for three-phase PWM ZVT inverter/rectifier,” March 1994.
34. Slobodan Gatarić, “Single-switch three-phase zero-current-transition rectifier with power factor correction,” July 1994.

M.S. project and report:

1. Jeannet Albarracin, “Sensorless vector control of permanent magnet synchronous machine,” May 2007.
2. Scott C. Frame, “A three-phase zero-voltage-transition inverter with inductor feedback,” June 2001.
3. Xiukuan Jing, “Testing and electrical characterization of power electronics modules,” June 2000.
4. Bing Wang, “A comparative study of several IGBT gate driver topologies in half-bridge applications,” May 1996.
5. Tung-Kuang Lin, “The switching losses of MCTs under hard-switching and soft-switching at room and high temperature conditions,” August 1995.

Undergraduate project and report:

1. John Lewis, “Liquid cooled 150 kW load-bank design,” December 1996.
2. Scott C. Frame, “ADSPINT PCB design,” December 1993.
3. Robert Freitag, “Buck converter design and implementation for hybrid electric vehicle,” May 1998.
4. Nathan N. Spivey, “Fuel-cell humidifier control for hybrid electric vehicle,” May 1998.

Undergraduate diploma projects at *UNS* (in Serbo-Croatian**):**

1. Boruš J., “Static Signal Tracing Module for Microprocessor Systems,” 1989.
2. Krnjajić Ž., “Serial Communications Interface Module for Microcomputer Systems and Supporting Software,” 1989.

3. Šimović J., “Multi-Channel Analog-to-Digital Converter Module for Microcomputer Systems,” 1989.
4. Seleš Z., “Microprocessor Controller for Radio Transmitter Stations,” 1988.
5. Pešikan T., “Z-80A CPU Board for Universal Industrial Computer,” 1988.
6. Potić Z., “Microcomputer Control of Cages with Experimental Animals,” 1988.
7. Kupreški V., “Digitizing of TV Picture,” 1988.
8. Vlatković V., “Software for the Universal Programmable Controller of Confecting Machine in Tire Industry,” 1987.
9. Zovko R., “Description and Use of the Industrial Programmable Controller IK-419,” 1987.
10. Gatarić S., “Microprocessor Based Control of Confecting Machine in Tire Industry,” 1987.
11. Josić A., “Microprocessor Controller for DC Drives,” 1987.
12. Ramač B., “Microcomputer Controlled Semiconductor Curve Tracer,” 1987.
13. Lazić M., “Microprocessor Implementation of Adaptive Proportional Plus Integral Regulator,” 1987.
14. Kostić Z., “Software Support for the Optical Scanner for Answering Sheets,” 1987.
15. Hiti S., “Microprocessor Implementation of Variable Limit Proportional Plus Integral Regulator,” 1987.
16. Marić S., “Electronic Realization of Optical Scanner for Answering Sheets,” 1986.
17. Nikolić M., “Realization of Microprocessor Controlled A-to-D and D-to-A Converter,” 1981.
18. Tomašević V., “Realization of Electronic Analog Computing Device for Simulation of Pharmacokinetic Models,” 1980.
19. Peić E., “Application of INTEL 8080 Microprocessor for DC Motor Current Regulation,” 1978.

International exchange students:

1. Sharmila Sumsurooah, University of Nottingham, Nottingham, United Kingdom, 2013
2. Tine Konjedic, University of Maribor, Maribor, Slovenia, 2012/13
3. Jani Hiltunen, Lappeenranta University of Technology, Lappeenranta, Finland, 2012/13
4. Ewan Farr, University of Nottingham, Nottingham, United Kingdom, 2012/13
5. Hamed Nademi, Norwegian University of Science and Technology, Trondheim, Norway, 2012/13
6. Geneviève Frantz, Institut National Polytechnique de Grenoble, France, 2012
7. Montiê Alves Vitorino, Federal University of Campina Grande, Brazil, 2011-2012
8. Remi Robutel, Ampere Laboratory, University of Lyon Insa, Lyon, France, 2010
9. Jin Li, Xi'an Jiaotong University, Xi'an, China, 2009-11
10. Fang Luo, Wuhan University of Science and Technology, Wuhan, China, 2007-2010
11. Oscar Lucia, Universidad de Zaragoza, Zaragoza, Spain, 2009
12. Bo Wen, Xi'an Jiaotong University, Xi'an, China, 2008/2009
13. Xibo Yuan, Tsinghua University, Beijing, China, 2007-2008
14. Alessandro Lidozzi, Università degli Studi Roma Tre, Rome, Italy, 2005-2006
15. Roman Huber, University of Applied Science, Rapperswil, Switzerland, 2005
16. Luisa Coppola, Università di Padova, Italy, 2004-05
17. Kruno Jurlina, University of Osijek, Croatia, 2004
18. Ji-Hoon Jang, Seoul National University, Korea, 2003-04
19. Marcelo Cavalcanti, Universidade Federal de Paraiba, Brazil , 2002
20. Martin Rentzch, Dresden University, Germany, 2002
21. Josep Pou, Polytechnic University of Catalonia, Barcelona, Spain, 2001/02

22. Renaud Feutren, Institut National Polytechnique de Grenoble, France, 2001.
23. Raphaël Caire, Institut National Polytechnique de Grenoble, France, 2000.
24. Christelle Gence, Institut National Polytechnique de Grenoble, France, 2000.
25. Hendrik Mueller, Dresden University, Germany, 1997-98.
26. Christopher Armstrong, Queen's University, Belfast, Northern Ireland, UK, 1996.
27. Trond Torvund, Norwegian Institute of Technology, Trondheim, Norway, 1995.
28. Patrick Ribardiere, Institut National Polytechnique de Grenoble, France, 1995.
29. Anke Lücking, Technische Universität München, Germany, 1994.

International exchange visitors:

1. Prof. Qing-Chang Zhong, University of Sheffield, Sheffield, United Kingdom, 2012/13
2. Dr. Milijana Odavić, University of Nottingham, Nottingham, United Kingdom, 2012/13
3. Dr. Oscar Lucia, University of Zaragoza, Spain, 2012
4. Fabien Duboise, SAFRAN – Hispano-Suiza, Paris, France, 2011
5. Handy Fortin-Blanchette, University of Quebec – ETS, Canada, 2010/11
6. Fang Luo, Wuhan University of Science and Technology, Wuhan, China, 2011-2012
7. Prof. Sergio Busquets-Monge, Polytechnic University of Catalonia, Barcelona, Spain, 2009
8. Igor Cvetković, University of Belgrade, Serbia, 2007/08
9. Remi Robutel, SAFRAN – Hispano-Suiza, Paris, France, 2008
10. Prof. Dr. Yongdong Li, Tsinghua University, Beijing, China, 2007
11. Dr. Luisa Coppola, Università di Padova, Italy, 2005-06
12. Prof. Josep Pou, Polytechnic University of Catalonia, Terrassa, Spain, 2005
13. Prof. Pedro Rodriguez, Polytechnic University of Catalonia, Terrassa, Spain, 2005
14. Dr. Gang Chen, Zhejiang University, China, 2002-2004
15. Frederic Lacaux, Thales Aircraft Electric Systems, Paris, France, 2003-2004
16. Dr. Rolando Burgos, University of Concepcion, Chile, 2003
17. Solero Luca, Università degli Studi Roma Tre, Italy, 2002-2003
18. Dr. Jean-Cristophe Crebier, Institut National Polytechnique de Grenoble, France, 1999/00.
19. Dr. Žarko Čučej, University of Maribor, Slovenia, 1996.
20. Dr. Josep Bordonau, Polytechnic University of Catalonia, Barcelona, Spain, 1996.

SCHOLARSHIP

Papers listed below were cited over 1250 times by other authors in archival publications according to *Thomson Reuters ISI Science Citation Index*, and over 9000 times according to *Google Scholar*.

Editorships:

1. J. D. Van Wyk, F. C. Lee, and D. Boroyevich (guest editors), "Power electronics technology: present trends and future developments," *Proc. of IEEE*, vol. 89, no. 6, June 2001.
2. R. De Doncker and D. Borojević (associate editors) "High-Power Converters," Chapter 2 in *Power Electronics Technology and Applications II*, edited by F. C. Lee, IEEE Technology Update Series, Piscataway, NJ: IEEE Press, 1997.
3. F. C. Lee and D. Borojević (editors), *Advanced Power Conversion Techniques*, Blacksburg, Va.: Virginia Power Electronics Center, 1995.
4. F. C. Lee and D. Borojević (editors), *Switching Rectifiers for Power Factor Correction*, Blacksburg, Va.: Virginia Power Electronics Center, 1994.

Invited state-of-the-art or review papers and/or presentations:

1. D. Boroyevich, "Role of Power Electronics in the Future Electric Power Grid," invited panel discussion, *PICONF 2012 – 5th POWER INDIA Conference*, Murthal, India, Dec. 21, 2012.
2. D. Boroyevich, "Research and Education Needs for Future Electronic Energy Network Innovations," *NSF-Sponsored Workshop on Energy Education and Research: Addressing the need of industry*, The Petroleum Institute, Abu Dhabi, United Arab Emirates, Nov. 25-28, 2012.
3. D. Boroyevich, "Advanced High-Megawatt Converters for New Grid Architectures," *High Megawatt Power Conditioning System Workshop*, NIST, Gaithersburg, MD, May 24, 2012.
4. D. Boroyevich, "Intergrid: A Future Electronic Energy Network?," keynote address, *PEDSTC 2012 – 3rd Power Electronics, Drive Systems and Technologies Conf.*, Tehran, Iran, Feb. 16, 2012.
5. D. Boroyevich, "Importance of Reform in Electric Energy System Education: How to Incentivize & Institutionalize," invited panel discussion, *ONR/NSF-Sponsored Faculty/Industry Workshop on Electric Energy Systems Curriculum for Sustainability*, Napa, CA, Feb. 4, 2012.
6. D. Boroyevich, "High-Power-Density Systems: Requirements on Future Devices and Integration Concepts," keynote presentation, *ECPE Workshop: Future Trends for Power Semiconductors*, Zurich, Switzerland, Jan. 26-27, 2012.
7. D. Boroyevich, I. Cvetkovic, Dong Dong, "Intergrid: A Future Electronic Energy Network?," invited paper and plenary presentation, *Ee 2011 – 16th International Symposium on Power Electronics*, Novi Sad, Serbia, Oct. 26, 2011. Available: http://www.cpes.vt.edu/download.php?id=10935; accessed 2012.12.12.
8. D. Boroyevich, "Intergrid: A Future Electronic Energy Network?," plenary presentation, *APEC '11 – IEEE Appl. Power Elec. Conf.*, Fort Worth, TX, March 6-11, 2011.
9. D. Boroyevich, "Intergrid: A Future Electronic Energy Network?," keynote presentation, *IEEE PECI '11 – Power and Energy Conf. at Illinois*, University of Illinois, Urbana-Champaign, IL, Feb. 25-26, 2011.
10. D. Boroyevich, "Future electronic power distribution systems – A contemplative view," plenary presentation, *IEEE INTELEC 2010 – 32nd International Telecommunications Energy Conference*, Orlando, FL, June 6-10, 2010.
11. D. Boroyevich, I. Cvetkovic, Dong Dong, R. Burgos, Fei Wang, F. Lee, "Future electronic power distribution systems – A contemplative view," keynote presentation, *OPTIM 2010 – 12th Int. Conf. on Optimization of Electrical and Electronic Equip.*, pp. 1369-1380, Brasov, Romania, May 20-22, 2010. Available: http://ieee xplore.ieee.org/stamp/stamp.jsp?arnumber=5510477; accessed 2012.12.12.

12. D. Boroyevich, Zheng Chen, Fang Luo, Khai Ngo, Puqi Ning, Ruxi Wang, Di Zhang, F. Wang, R. Burgos, Rixin Lai, Shuo Wang, "High-density system integration for medium power applications," *CIPS 2010 – 6th Int. Conf. on Integrated Power Electronics Systems*, pp. 1-10, Nuremberg, Germany, 16-18 March 2010. Available: http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=5730629; accessed 2012.12.12.
13. D. Boroyevich, "Future electronic power distribution systems – A contemplative view," keynote address, IEEE Power Electronics Society Distinguished Lecture, *COBEP 2009 – 10th Brazilian Power Electronics Conference*, Bonito MS, Brazil, Sep. 2009.
14. D. Boroyevich, "Integrated Power Conversion Systems," invited presentation, *Vestas Power Program, 2nd Annual Symposium on Grid Integration of Wind Energy*, Terrassa-Barcelona, Spain, Sep. 2009.
15. D. Boroyevich, F. Wang, F. Lee, I. Cvetkovic, D. Jiang, T. Thacker, D. Dong, "DC Nanogrid for Sustainable Buildings," invited presentation, *Green Building Power Forum*, Anaheim, CA, June 2009.
16. D. Boroyevich, "Introduction to the topic: Technology push by system developments," *FEPPCON VI – 6th Int. Workshop on the Future of Electronic Power Processing and Conversion*, Ragusa, Sicily, Italy, June 2009.
17. D. Boroyevich, "Future electronic power distribution systems – A contemplative view," keynote address, IEEE Power Electronics Society Distinguished Lecture, *PECon 2008 – 2nd IEEE International Power & Energy Conference*, Johor Bahru, Malaysia, Dec. 2008.
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170. D. K. Lindner, G. A. Zvonar, and D. Borojević, " Limit cycle analysis of a nonlinear controller for a proof-mass actuator," *AIAA Dynamics Specialists Conference*, Dallas, Apr. 1992.

171. S. Hiti, D. Borojević, F. C. Lee, B. Choi, and S. Lee, "Small-signal modeling of three-phase PWM buck rectifier with input filter," *9th Ann. VPEC Power Elec. Seminar*, pp. 229-237, Blacksburg, VA, Sep. 1991.
172. D. Borojević, V. Vlatković, and F. C. Lee, "A zero-voltage switched, three-phase PWM switching rectifier with power factor correction," *HFPC '91 - 6th Int. High Frequency Power Conversion Conf.*, pp. 252-264, Toronto, Canada, June 1991.
173. L. Huber and D. Borojević, "Space vector modulator for AC-AC matrix converter with unity input power factor," (in Serbo-Croatian), *XXXV ETAN - Proc. of the 35th Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, vol. VIII, pp. 75-82, Ohrid, Yugoslavia, June 1991.
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177. L. Huber and D. Borojević, "Analysis and design of AC-AC matrix converter input filter," (in Serbo-Croatian), *36th JUREMA - Ann. Meet. of Yug. Assoc. for Regul., Electr. Meas. and Autom.*, vol. 2, pp. 2.25-2.28, Zagreb, Yugoslavia, April 1991.
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180. D. Borojević, "Variable limit PI control for drive applications", *8th Ann. VPEC Power Elec. Seminar*, pp. 188-192, Blacksburg, VA, Sep. 1990.
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182. L. Huber and D. Borojević, "Implementation of the space vector modulator for forced commutated cycloconverters," (in Serbo-Croatian), *XXXIV ETAN - Proc. of the 34th Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, vol. II-III, pp. 3-10, Zagreb, Yugoslavia, June 1990.
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185. L. Huber, and D. Borojević, "On-Line Control of Direct Frequency Changers," (in Serbo-Croatian), *XXXIII ETAN - Proc. of the 33rd Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, pp. II.91-II.98, Novi Sad, Yugoslavia, 1989.
186. D. Borojević, M. Nikolić, and S. Gatarić, "Concept and Hardware of the Universal Microcomputer Industrial Controller," (in Serbo-Croatian), *MIPRO '89 - 8th Yug. Conf. on Microprocessor Systems*, vol. PU, pp. 5-67 - 5-72, Rijeka, Yugoslavia, 1989.
187. S. Gatarić, J. Šimović, and D. Borojević, "Sixteen Channel A/D Conversion Card for Universal Industrial Computer INCOS-8," (in Serbo-Croatian), *34th JUREMA - 34th Ann. Meet. of Yug. Assoc. for Regul., Electr. Meas. and Autom.*, Part 2, pp. 83-86, Zagreb - Plitvička Jezera, Yugoslavia, 1989.

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189. L. Huber, and D. Borojević, "A Modified Venturini Converter with Improved Input Voltage Utilization Factor," (in Serbo-Croatian), *34th JUREMA - 34th Ann. Meet. of Yug. Assoc. for Regul., Electr. Meas. and Autom.*, Part 2, pp. 299-302, Zagreb - Plitvička Jezera, Yugoslavia,1989.
190. K. Jezernik, R. Šafarič, L. Nyakudya, and D. Borojević, "Avoiding Integrator Wind-up in Systems with PI-Regulator and Plant Input Saturation," *Int. AMSE Conf. on Modeling and Simulation*, vol. 1B, pp. 91-102, Istanbul, Turkey, 1988.
191. M. Nikolić, and D. Borojević, "DC Power Supply with Stabilized Output Power," (in Serbo-Croatian), *XXXII ETAN - Proc. of the 32nd Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, pp. II.167-II.174, Sarajevo, Yugoslavia, 1988.
192. L. Huber, and D. Borojević, "Spectral Analysis of Forced Commutated Cycloconverter Structures with Direct and Indirect Transfer Function," (in Serbo-Croatian), *XXXII ETAN - Proc. of the 32nd Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, pp. II.95-II.102, Sarajevo, Yugoslavia, 1988.
193. R. Šafarič, D. Borojević, J. Reberšak, K. Jezernik, and M. Milanović, "Microprocessor Position Cascade Control of a DC-Motor," (in Slovene), *VII Yug. Symp. on Power Electronics*, pp. 183-190, Beograd, Yugoslavia, 1988.
194. V. Vlatković, D. Borojević, S. Opsenica, and M. Nikolić, "Software of the Universal Programmable Controller," (in Serbo-Croatian), *MIPRO '88 - 7th Yug. Conf. on Microprocessor Systems*, vol. PU, pp. 5-215 - 5-219, Rijeka, Yugoslavia, 1988.
195. S. Hiti, N. Burány, M. Nikolić, and D. Borojević, "Microprocessor Multichannel Regulator for Operation in Multiprocessor Systems," (in Serbo-Croatian), *MIPRO '88 - 7th Yug. Conf. on Microprocessor Systems*, vol. PU, pp. 5-126 - 5-130, Rijeka, Yugoslavia, 1988.
196. R. Šafarič, M. Milanović, K. Jezernik, M. Globevnik, and D. Borojević, "Digital Cascade Position Control of a DC-Motor in the Field-Weakening Region," (in Slovene), *33rd JUREMA - 33rd Ann. Meet. of Yug. Assoc. for Regul., Electr. Meas. and Autom.*, Part 1, pp. 121-124, Zagreb - Plitvička Jezera, Yugoslavia, 1988.
197. D. Borojević, "Avoiding Integrator Wind-up in Systems with PI Regulator and Input Saturation," (in Serbo-Croatian), *VII Yug. Symp. on Power Electronics*, pp. 128-137, Subotica, Yugoslavia, 1986.
198. D. Borojević, L. Garces, and F. C. Lee, "Soft Variable Structure Control for DC Motor Control," *First Conf. on Applied Motion Control*, Minneapolis, Mn., 1985.
199. L. Novak, M. Jovanović, and D. Borojević, "Computer Model for Simulation of Thyristor-Converter Fed, Separately Excited DC Motor," (in Serbo-Croatian), *XXVI ETAN - Proc. of the 26th Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, pp. III.175-III.182, Subotica, Yugoslavia, 1982.
200. D. Borojević, M. Temerinac, and A. Marković, "Microprocessor Aided Calibration of the Traffic Doppler Radars," (in Serbo-Croatian), *X JUKEM - 10th Yug. Simp. on Measurements and Meas. Equip.*, pp. 767-774, Budva, Yugoslavia, 1982.
201. D. Borojević, M. Temerinac, and A. Marković, "Contribution to the Maximal Efficiency of the Varactor Doubler," (in Serbo-Croatian), *XXIV ETAN - Proc. of the 24th Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, pp. II.261-II.266, Priština, Yugoslavia, 1980.
202. D. Borojević, V. Milošević, M. Temerinac, and D. Lazić, "Microprocessor Application in the Electronic Realization of the Telephone Exchange Traffic Intensity Data Acquisition Unit," (in Serbo-Croatian), *XXII ETAN - Proc. of the 22th Yug. Conf. on Electron., Telecomm., Autom. and Nuclear Eng.*, pp. II.187-II.194, Zadar, Yugoslavia, 1978.
203. D. Borojević, M. Temerinac, V. Milošević, D. Lazić, and I. Đipanov, "Equipment for Simultaneous Evaluation of Traffic Intensity on 2000 Lines in Telephone Exchanges," (in Serbo-Croatian), *VIII JUKEM - 8th Yug. Simp. on Measurements and Meas. Equip.*, pp. 547-557, Maribor, Yugoslavia, 1978.

RESEARCH

Sponsored Research Projects

At *VT*

(Most of the projects have had multiple PIs; my total share of sponsored research funding was around $16 million in 23 years.)

1. Impedance Measurement Unit (IMU) for 4160 V AC Networks, Office of Naval Research, 2013-2014, $496,860.
2. *28 V DC Local Converter*, United Technologies Aerospace Systems, 2013-2014, $260,000.
3. *Filter Study and Optimization – Phase IV*, Groupe SAFRAN – Hispano-Suiza, 2012-2014, $380,000.
4. System Stability and Analysis – Phase V, The Boeing Company, 2013, $100,000.
5. *Renewable Energy and Nanogrids*, miniconsortium supported by $50,000 annual membership from: ABB, GE, Siemens, Agilent Technologies, CEI, Delta, Boeing, Huawei, NETL/RUA, 2011-2013, $1,250,000.
6. *High Density Integration*, miniconsortium supported by $50,000 annual membership from: Alstom, GE, Rolls-Royce, Safran, United Technologies, Delta, Toyota, Samsung, Nissan, Mitsubishi Electric, Crane, 2011-2013, $1,500,000.
7. Gallium-Nitride Switch Technology for Bi-directional Battery-to-Grid Charger Applications, ARPA-E, 2011-2013, $450,000.
8. High Temperature, High Power Density Power Converter for Embedded Generators, Rolls-Royce Co. + Virginia State match, 2009-2013, $662,000.
9. Development of High Density Integrated AC-Fed Motor Controller – Phase III, The Boeing Company, 2010-2013, $671,709.
10. Optimizations of AC/AC Motor Controller Power Quality & EMI Filter Topology, Hamilton Sundstrand, 2012, $130,000.
11. *Filter Study and Optimization – Phase III*, Groupe SAFRAN – Hispano-Suiza, 2011-2012, $260,064.
12. Evaluation of Very High Frequency GaN Converters, The Boeing Company, 2010-2011, $110,180.
13. *System Stability and Analysis – Phase IV*, The Boeing Company, 2010-2012, $255,695.
14. Characterization of SiC MOSFETs for High-power High-frequency Power Converters, GE Co. Fellowship, 2010-2011, $100,000.
15. *Comparative Study of GaN and SiC Power Devices*, Rolls Royce Co. Fellowship, 2010-2011, $100,000.
16. Study and Development of AC/DC Impedance Tester for Medium-Voltage High-Power Systems, Newport News Shipbuilding, 2009-2012, $370,146
17. *SiC Integration Technologies*, Alstom Fellowship, 2009-2011, $150,000.
18. *Sustainable Building Design Initiative*, Institute for Critical Technologies and Applied Science (ICTAS), Virginia Tech, 2009-2011, $186,577.
19. *Packaging of High Temperature SiC 3-Phase AC-DC Converter*, Rolls-Royce Co. + Virginia State match, 2009-2010, $118,836.
20. *System Stability and Analysis – Phase III*, The Boeing Company, 2009-2010, $342,148.
21. Support for VPT-ES NSF SBIR, VPT-ES, 2009, $32,536.
22. Advanced Power Electronics for Pulsed Power Applications, Rolls-Royce Co., 2009, $82,022.
23. Modeling, Simulation, and Analysis in Support of DARPA / ONR WBGST-HPE Phase III ‘Solid State Power Substation’ Program, GE Co., 2007-2009, $285,000.
24. *Filter Study and Optimization – Phase II*, Groupe SAFRAN – Hispano-Suiza, 2008-2010, $319,932.

25. Optimization Strategy for Architecture & Packaging for High Power PEBB Based on Wide-Band-Gap Semiconductors, Office of Naval Research, 2007-2010, $991,052.
26. Development of a High-Density H-Bridge Converter, Rolls-Royce Co., 2007-2009, $201,892.
27. *Drives Integration Technologies*, ABB Fellowship, 2007-2009, $150,000.
28. *Filter Study and Optimization*, Groupe SAFRAN – Hispano-Suiza, 2006-2008, $248,232.
29. Investigation of High Frequency, High Efficiency, and High Temperature Power Converter Technologies Using Advance Power Semiconductor Devices, MKS Instruments Inc. Fellowship, 2006-2009, $200,000.
30. Development of High Density Integrated AC-Fed Motor Controller – Phase II, The Boeing Company, 2008-2010, $515,000.
31. *System Stability and Analysis – Phase II*, The Boeing Company, 2007-2009, $229,458.
32. Vehicle-to-Grid Single-Phase Interface Converter Control, VPT Fellowship, 2008-2009, $100,000.
33. A Multiport Grid-Interactive Universal Energy Processing Station, VPT-ES, Inc., 2008, $48,179.
34. *Sustainable Building Initiative*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2007-2008, $240,000.
35. Development of AC Impedance Tester for Aircraft Three-Phase Power Systems, The Boeing Company, 2007-2009, $339,000.
36. Integration of Advanced Power Electronics through the Packaging of High-Temperature SiC Devices in Multichip Power Modules, SBIR Phase II supplement with APEI, Inc., National Science Foundation, 2007/08, $199,915.
37. *Reactive Power Supply*, SBIR Phase I with VPT-ES, Department of Energy, 2007/08, $64,944.
38. *Investigation of AC Converter Paralleling*, GE Co. Fellowship, 2006-2009, $200,000.
39. Investigation of Semiconductor Packaging Technologies for Aircraft Applications, Rolls Royce Co. Fellowship, 2006-2009, $200,000.
40. Characterization of SiC Power Devices for High-Temperature Motor Controller, Boeing Company Fellowship, 2006-2008, $150,000.
41. Development of High Density Integrated AC-Fed Motor Controller, The Boeing Company, 2005-2009, $834,000.
42. *IPEM-Based Power Conversion System Testbed*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2005-2008, $377,450.
43. Study of Electrical Transmission & Distribution System for Subsea Applications, Aker Kvaerner Subsea, 2007, $50,000.
44. *Three-phase PWM Converter Modeling and Control*, United Technologies Research Center student internship, 2006, $20,000.
45. Feasibility Assessment of a Planar Bonding/Interconnect (PBI) Technology for High Power Electronic Switches (HPES), Office of Naval Research, 2006/07, $99,679.
46. *System Stability and Analysis*, The Boeing Company, 2004-2007, $291,906.
47. *Implementation and System-Level Evaluation of Standard-Cell Active IPEMs*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2004-2007, $203,000.
48. A Study of DC-DC Converters for Pulse Power Applications, Army Research Laboratory, 2003-07, $1,434,989.
49. *Final Thalipem Demonstration and Technology Transfer*, Thales Avionics Electrical Systems, 2006, $18,000.
50. Integrated Power Electronics for Future Electric Energy Processing (VT-ERC Outreach), National Science Foundation, 2005/06, $200,000.

51. *Universal Controller for Adaptive Reconfiguration of Shipboard Power and Support Systems*, Electric Ship Research and Development Consortium, Florida State University, Office of Naval Research, 2004-2006, $273,017.
52. Study of Advanced Power Conversion Systems, The Boeing Company, 2004/05, $69,581.
53. *IPEM-Based Power Conversion Systems*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2003-05, $290,000.
54. Standard-Cell, Open-Architecture Power Conversion Systems, Office of Naval Research, 2003-05, $782,813.
55. *Switching Module Functional Integration, Thermal Characterization, and EMI Containment*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2003/04, $180,000.
56. *Modeling and Simulation of Aircraft Power Systems*, Thales Avionics Electrical Systems, 2002-2004, $599,217.
57. *Thalipem Development*, Thales Avionics Electrical Systems, 2002-2004, $510,094.
58. *Equipment Upgrade for High Power Electronics Research*, Office of Naval Research (DURIP) + CPES match, 2002-04, $989,337.
59. Power Electronics Application Opportunity Study for High Power Silicon Carbide Devices, Office of Naval Research, 2002/03, $233,280.
60. *Digital Generator Controller Development*, Thales Avionics Electrical Systems, 2001-2004, $167,927.
61. Advanced High Power Conversion Systems for EMALS, Office of Naval Research, 2001/02, $950,339.
62. *Design and Implementation of DPS Active and Passive IPEMs*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2001-2003, $236,403.
63. An ETO-Based High-Power Three-Phase Inverter for STATCOM Application, Tennessee Valley Authority, 2000-2004, $996,600.
64. *Integrated Design Methodology and Software Integration*, National Science Foundation Engineering Research Center for Power Electronics Systems, 2000-2003, $519,545.
65. *Advanced Accessory Power Supply*, General Motors Advanced Technology Vehicles, 2000/01, $120,000.
66. Power Electronics Building Blocks “Plug and Play” Hardware and Software Architectures, Office of Naval Research, 2001-2003, $687,999.
67. Design and Optimization of General Purpose Industrial Drives Power Section, Schneider Toshiba Inverter Europe, 2001-2003, $398,275.
68. Plug-and-Play Control Architecture of PEBB-Based Systems, Office of Naval Research, 2000/01, $182,602.
69. Modeling and Control of PEBB Based Aircraft Electrical Services Stations, Office of Naval Research, 2000-2002, $250,000.
70. Power Electronics Building Blocks “Plug and Play” Control Software and Communications, Office of Naval Research, 2000-2001, $140,000.
71. Control and Optimization of Regenerative Power Flow in 21st Century Air Lifters, Air Force Office of Scientific Research, 1999-2001, $391,230.
72. *High-Power Multi-Level Converters*, Newport News Shipbuilding Fellowship, 1999-2001, $50,000.
73. Equipment upgrade for Megawatt Power Electronic Research, Virginia Tech (ASPIRES), 1999-2000, $107,500.
74. Single Phase Power Factor Correction for General Purpose AC Drives, Schneider Electric, 1999-2000, $174,158.
75. Testing of the New Power Conditioning System with SMES Coil, Office of Naval Research, 1999/2000, $115,000.

76. *System Integration*, National Science Foundation Engineering Research Center for Power Electronics Systems, 1998-2000, ~$200,000.
77. Soft-Switching Inverters for AC Adjustable Speed Drives, General Motors Corporation, 1998-2000, $615,552.
78. Laser Instrumentation to Develop Advanced Processing Techniques for Electronic Circuit and Packaging Fabrication, Office of Naval Research (DURIP), 1998, $300.000.
79. Optical Fiber Interconnects and Sensors for Power Electronic Building Blocks, Office of Naval Research (AASERT), 1997-2000, $64,660.
80. Device and Topology Evaluation for 15 kW Inverter for Hybrid Electric Vehicle Applications, GM Delphi, 1997/98, $50,000.
81. Subsystem Integration for Efficient Power Flow in 21st Century Air Lifters, Air Force Office of Scientific Research, 1997-1999, $273,393.
82. *Nonlinear Active Control of Dynamical Systems*, Office of Naval Research, 1996-2001, $675,000.
83. *Packaging of Power Electronics Building Blocks*, Office of Naval Research, 1996-2001, $1,273,440.
84. Evaluation and Development of New Power Electronic Technologies for SMES, Office of Naval Research, 1997-1999, $260,000.
85. Optical Fiber Interconnects and Sensors for Power Electronic Building Blocks, Office of Naval Research, 1996-1999, $100,745.
86. Power Electronic Building Blocks and System Integration, Office of Naval Research, 1995-2000, $1,037,332.
87. *Power Electronics Packaging Lab*, Virginia Tech (ASPIRES), 1997, $62,300.
88. Improved Cost and Performance of Electric Vehicle Powertrains, GE Drive Systems, 1997, $118,743.
89. Evaluation and Development of New Power Electronic Technologies for SMES, Westinghouse Co., 1995-1997, $560,027.
90. High-Power Converter for Generator Sets, Kohler Co., 1995/96, $250,000.
91. Development of Soft-Switching Inverter for Electric Hybrid Vehicle, Hughes Power Control Systems, 1995, $90,833.
92. Variable Frequency AC Motor Controller Using MCTs, VPT / ARPA / CIT, 1995, $66,000.
93. *Electric Vehicle Propulsion Systems*, General Electric Fellowship, 1994-1996, $50,000.
94. Development of Power Converter for Electric Hybrid Vehicle, General Electric / ARPA / CIT, 1994-1997, $467,007.
95. Design of Flywheel Energy Storage Motor Generator, VPT / NASA / CIT, 1994/95, $46,660.
96. Isolated Three-Phase Soft-Switching Rectifier/Regulator, Ericsson Components, 1994-96, $100,000.
97. 5 kW Off-Line PFC and Front-End DC/DC Converter, Delta Electronics / CIT, 1994/95, $115,000.
98. Aircraft Power Supply System for APU or Engine AC Starter, Kollmorgen Industrial Drives, 1994/95, $140,000.
99. *Three-Phase AC-DC Converter*, Inland Motors / CIT, 1994/95, $254,000.
100. Design and Prototype Development of DC/DC Converter for Electric Vehicles, General Electric / CIT, 1993/94, $70,000.
101. Feasibility Study of Soft-Switching Inverter Techniques for Electric Vehicle Drive, General Electric / CIT, 1993, $29,981.
102. Investigation of High-Voltage Power Distribution System for Solid State Active Array Radar Systems, Battele – Army Research Laboratory, 1993, $23,800.
103. *Three-Phase Power Supply for MRI Amplifiers*, Techron – Crown International Fellowship, 1992-1998, $155,000.
104. *Three-Phase Boost PFC Circuit with ZVS*, IBM Corp. Fellowship, 1992-1995, $75,000.

105. Analysis and Design of Computer Power Systems - Phase III, IBM Corp., 1992/93, $147,778.
106. *Digital Adaptive Control of Power Supplies*, Hewlett – Packard Fellowship, 1991-1994, $75,000.
107. Analysis and Design of Computer Power Systems - Phase II, IBM Corp., 1991/92, $143,000.
108. Analysis and Design of Computer Power Systems - Phase I, IBM Corp., 1990/91, $145,869.

At *UNS*

(Most of the projects had multiple PIs; my total share of funding was around $200,000 in 4 years.)

1. Development of the Microcomputer Controlled, Electronically Commutated Synchronous Motor Servo Drive, SEVER - Electrical Drives Industry, Subotica, 1989-90, ~$130,000.
2. *Development of Switching Power Supply Unit for Electronic Telephone Exchange (PBX)*, Electron-INOMAG - Power and Industrial Electronics Industry, Bačka Topola, 1989, ~$15,000.
3. Design and Installation of the Industrial Acquisition Unit, Soyaprotein - Food Industry, Bečej, 1989, ~$8,000.
4. Development and Design of the Microcomputer Control for a Rubber Vulcanization Process, Rumaguma - Rubber Industry, Ruma, 1988-90, ~$38,000.
5. Research in Industrial Electronics, SIZ NRV, 1987-1990, ~$180,000.
6. Development, Design and Implementation of a Microcomputer Based Control for the Confecting Machine in Rubber Industry, Rumaguma - Rubber Industry, Ruma, 1987, ~$37,000.
7. Microprocessor Control in Industrial Electronics and Electromechanical Systems, SIZ NRV, 1986, ~$17,000.
8. Development of Control Design Methods for Electrical Servo Drives, SIZ NRV, 1986, ~$20,000.
9. Design and Small-Scale Production of DC Power Supply with Regulated Output Power, various sources, 1986 – 1990, ~$13,000.
10. Development of a Microcomputer Based RDS/ARI Encoder Pilot System, Bosch-Blaupunkt, Hildesheim, Germany, 1987, ~$30,000.

Project Reports

1. Puqi Ning, F. Wang, K. D. T. Ngo, R. Burgos, D. Boroyevich, *Investigation of Semiconductor Packaging Technologies for Aircraft Application*, Rolls-Royce Fellowship Report, Aug. 2010.
2. D. Boroyevich, F. Wang, R. Wang, X. Zhang, M. Jaksic, Jin Li, Di Zhang, *Advanced Power Electronics for Pulsed Power Applications*, final report, prepared for Rolls-Royce, Jan. 2010.
3. J. Xue, Z. Chen, A. Abedini, F. Wang, D. Boroyevich, and T. Lipo, *DARPA / ONR High Power Electronics – Phase III Program*, final report, prepared for GE, Nov. 2009.
4. *CPES - Final Report 2009*, prepared for National Science Foundation, Oct. 2009.
5. D. Boroyevich, R. Burgos, F. Wang, K. Ngo, G. Q. Lu, Z. Chen, T. Liu, Z. Shen, J. Xue, and Y. Yao, *Optimization Strategy for Architecture and Packaging for High Power PEBB based on Wide-Band-Gap Semiconductor Devices*, end of 2009 fiscal year progress report, prepared for Office of Naval Research, Aug. 2009.
6. S. Ahmed, G. Francis, R. Burgos, I. Cvetkovic, B. Wen, D. Boroyevich, and F. Wang, System Stability and Analysis—Phase II: Vol. I. Small Signal Stability and System Architecture, Vol. II. Impedance Measurement, Vol. III. Modeling, Phase II final report, prepared for The Boeing Co., June 2009.
7. R. Burgos, F. Wang, D. Boroyevich, Integration of Advanced Power Electronics through the Packaging of High-Temperature Silicon-Carbide (SiC) Devices in Multichip Power Modules," APEI-CPES project, ERC-SBIR Translational Research Supplement, final report, prepared for National Science Foundation, May 2009.

8. T. Thacker, I. Cvetkovic, D. Dong, D. Boroyevich, R. Burgos and F. Wang, *Microgrid Energy Processing Station for Renewable and Plug-in Hybrid Electric Resources*, project final report, prepared for VPT-Energy Systems, Dec. 2008.
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SERVICE

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2007 – present	AdCom Member of IEEE Power Electronics Society
2007 – 2010	Membership and Publicity Chair of IEEE Power Electronics Society
2006 – 2009	Standard P1709 Working Group on Medium Voltage DC Distribution
2005 – 2010	Standard P1676 Working Group on Control Architecture for High Power Electronics
2008 – present	IEEE Power and Energy Society
2004 – 2008	Standard P1662 Working Group on Power Electronics in Electrical Power Systems on Ships
2001 – 2010	Member Working Group I8: Power Electronics Building Blocks, of the Power Electronics Subcommittee of the Substations Committee of IEEE Power and Energy Society
1999 – 2000	Elected Member-at-large of IEEE Power Electronics Society AdCom
1995 – 1998	AdCom Member of IEEE Power Electronics Society
1995 – 1998	Membership and Publicity Chair of IEEE Power Electronics Society
1995 – 1998	Advisor to Virginia Tech Student Chapter of IEEE Power Electronics Society
1991 – 2009	Member of Industrial Power Converter Committee of IEEE Industry Applications Society
1991 – 1996	Member of the Industrial Drives Committee of IEEE Industry Applications Society
1988 – present	IEEE Power Electronics Society
1987 – present	IEEE Industrial Electronics Society
1986 – present	IEEE Industry Applications Society
1981 – present	IEEE
1988 – 1990	Yugoslav Association for Regulation, Electrical Measurements, and Automation
1978 – 1990	Yugoslav Association for Electronics, Telecommunications, Automation, and Nuclear Engineering (ETAN)

Tutorials:

1. D. Boroyevich, P. Mattavelli, “Small-Signal Stability and Subsystem Interactions in Three-Phase Nano-Grids,” *2012 CPES Power Electronics Conf.*, Blacksburg, VA, Apr. 2012.
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4. D. Boroyevich, "Power electronics integration technology at system level," Tutorial at *Power Electronics System Integration Seminar*, organized by European Center for Power Electronics, Nuremberg, Germany, Nov. 2004.
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11. F. C. Lee and D. Borojevic, "Power Factor Correction Circuits – Topologies and Control," *APEC '93 Professional Education Seminar 'S4' - IEEE Applied Power Electronics Conf.*, San Diego, CA, March 1993.
12. D. Borojević, "Motor drives and industrial control," and F. C. Lee, D. Borojević, and D. Y. Chen, "Power quality issues." Presentations at *VPEC Special Presentation "Sponsored Research and Product Development at VPEC*" for Virginia industry and agencies, CIT Headquarters, Herndon, Va., March 1993.
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Consulting:

1. Gridco Systems, Inc., Cambridge, MA, Member of Technical Advisory Board, 2012-present
2. Swiss Federal Institute of Technology (ETH), Zürich, Switzerland, (International Expert Board for peer evaluation of Dept. for Information Technology and Electrical Engineering), 40 hours, Nov. 2007
3. GE Global Research, 80 hours, Niskayuna, NY, 2006
4. The National University of Singapore, Singapore, (ext. examiner for Ph.D.), 4 hours, June 2005
5. Lund Institute of Technology, Lund, Sweden, (external Ph.D. opponent), 16 hours, Dec. 2002
6. University of Johannesburg, South Africa, (ext. examiner for Ph.D.), 4 hours, Feb. 2002
7. University of Stellenbosch, South Africa, (ext. examiner for Ph.D.), 4 hours, Jan. 2002
8. Electric Power Research Institute, 8 hours, Palo Alto, CA, 2001
9. Schneider Electric, Paris, France, 8 hours, 1999
10. Naval Research Lab, Washington, D.C., 8 hours, May 1998
11. The National University of Singapore, Singapore, (ext. examiner for M.S.), 4 hours, May 1997
12. RFPP, Inc., Voorhees, NJ, 16 hours, Dec. 1996
13. Dr. Victor Stefanović, Independent Consultant, Afton, Va., 10 hours, 1995
14. McGill University, Montreal, Canada, (ext. examiner for Ph.D.), 4 hours, May 1995

15. Concordia University, Montreal, Canada (ext. examiner for Ph.D.), 8 hours, Apr. 1995
16. Army Research Laboratory, Ft. Monmouth, N.J., 8 hours, Sep. 1994
17. Virginia Power Technologies Inc., Blacksburg, Va., 30 hours, Aug. 1994

Invited lectures:

1. "Current Research Activities at CPES," Indian Institute of Technology Delhi, New Delhi, India, Dec. 2012.
2. "Current Research Activities at CPES," Indian Institute of Technology Bombay, Mumbai, India, Dec. 2012.
3. "Current Research Activities at CPES," *NSF-Sponsored Workshop on Energy Education and Research: Addressing the need of industry*, The Petroleum Institute, Abu Dhabi, United Arab Emirates, Nov. 2012.
4. "Intergrid: A Future Electronic Energy Network?" *Distinguished Speakers on Energy*, Renewable Energy and Vehicular Technology Laboratory, Erik Jonsson School of Engineering & Computer Science, University of Texas at Dallas, Richardson, TX, Oct. 2012.
5. "Intergrid: A Future Electronic Energy Network?", Department of Electrical Engineering, College of Electrical Eng. and Computer Science, National Cheng Kung University, Tainan, Taiwan, June 2012.
6. "A Brief Overview of CPES and of IEEE Power Electronics Society," *IEEE Taipei Section, Taipei PELS Chapter Meeting*, National Tsing Hua University, Taipei, Taiwan, June 2012.
7. "Intergrid: A Future Electronic Energy Network?" Department of Electrical Engineering, Columbia University, New York, NY, Nov. 2011.
8. "EMI Modeling and Noise Reduction in Motor Drive Systems," *SPEC 4 – 4th SAFRAN Power Electronics Center Symposium*, INSA Campus, Lyons, France, Nov. 2011.
9. "Future Electronic Power Distribution Systems – A Contemplative View," IEEE PELS Distinguished Lecture, *IEEE Benelux IA / PEL / PE Joint Chapter Meeting*, Department of Electrical Sustainable Energy, Faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology, Delft, Netherlands, July 2011.
10. "CPES Overview," Power Electronics, Machines and Control Group, Department of Electrical & Electronic Engineering, University of Nottingham, Nottingham, UK, July 2011.
11. "Overview of Research at CPES," Rolls Royce, Derby, UK, October 15, 2010.
12. "Future Electronic Power Distribution Systems – A Contemplative View," *Workshop on Power Electronics – Challenges for the Swedish Industry*, Division of Electric Power Engineering, Chalmers University of Technology, Gothenburg, Sweden, Sep. 2010.
13. "Future Electronic Power Distribution Systems – A Contemplative View," IEEE PELS Distinguished Lecture, *IEEE Republic of Macedonia Section, IE / IA / PEL Joint Chapter Meeting*, Faculty of Electrical Eng. and Information Technology, Ss. Cyril and Methodius University, Skopje, Macedonia, Aug. 2010.
14. "Overview of Recent Research at CPES," Division of Electric Power Engineering, Chalmers University of Technology, Gothenburg, Sweden, May 2010.
15. "Future Electronic Power Distribution Systems – A contemplative view," IEEE PELS Distinguished Lecture, *IEEE Rock River Valley Section and IEEE Power Electronics Society Chapter meeting*, Woodward Technology Center, Rock Valley College, Rockford, IL, Jan. 2010.
16. "Overview of High Power Density Research at CPES," Hamilton Sundstrand, Rockford, IL, Jan. 2010.
17. "A View at Future of Integration in Power Electronics Systems," keynote presentation, *Power Electronics Workshop*, United Technologies Research Center, East Hartford, CT, Nov. 2009.
18. "Modeling and Control of Three-Phase PWM Converters," IEEE PELS Distinguished Lecture, *IEEE Northeast 1, Bahia Section, Brazil PE / IA / PEL Joint Chapter Meeting*, Universidade Federal de Campina Grande, Campina Grande – PB, Brazil, Oct. 2009.

19. "Future Electronic Power Distribution Systems – A Contemplative View," IEEE PELS Distinguished Lecture, *IEEE Northeast 1, Bahia Section, Brazil PE / IA /PEL Joint Chapter Meeting*, Universidade Federal de Campina Grande, Campina Grande – PB, Brazil, Oct. 2009.
20. "Future Electronic Power Distribution Systems – A Contemplative View," IEEE PELS Distinguished Lecture, *IEEE Northeast 1, Bahia Section, Brazil PE / IA / PEL Joint Chapter Meeting*, Universidade Federal de Pernambuco, Recife – PB, Brazil, Oct. 2009.
21. "Modeling and Control of Three-Phase PWM Converters," IEEE PELS Distinguished Lecture, *IEEE South Brazil Edu / PE / MAG / IA / PEL Joint Chapter Meeting*, Universidade Federal de Santa Catarina, Florianópolis – SC, Brazil, Oct. 2009.
22. "Overview of Some Recent Research in CPES at Virginia Tech," Power Electronics and Renewable Energy Research Center (PEREC), Xi'an Jiaotoang University, May 2009.
23. "Future Electronic Power Distribution Systems – A Contemplative View," IEEE PELS Distinguished Lecture, *IEEE Singapore IAS/PELS Joint Chapter meeting*, National University of Singapore, Singapore, Dec. 2008.
24. "Building Block Integration in Power Electronics – New Concepts and Development," IEEE PELS Distinguished Lecture, *IEEE Malaysia PELS/IAS/IES Joint Chapter Meeting*, Universiti Teknologi MARA, Shah Alam, Malaysia, Nov. 2008.
25. "Future Electronic Power Distribution Systems – A Contemplative View," IEEE PELS Distinguished Lecture, *IEEE PELS Dallas Chapter Meeting*, University of Texas at Dallas, Richardson, TX, Aug. 2008.
26. "Research Experience and Future of CPES," *AIST Symposium on Network Society and Energy*, Tokyo, Japan, Jan. 2008.
27. Y. Maillet, S. Wang, F. Wang, D. Boroyevich, "EMC filter Integration," *2nd SAFRAN "More Electric" Aircraft Technologies Symposium*, Evry, France, Nov. 2007.
28. "Future Electronic Power Distribution Systems – A contemplative view," IEEE PELS Distinguished Lecture, *IEEE PELS Baltimore Chapter Meeting*, Historic Electronics Museum, Baltimore, MD, Oct. 2007.
29. "Trends of System Integration in Power Electronics Equipment," IEEE IE / IA /PEL Joint Japan Chapter 50th Anniversary of Power Electronics Lecture Meeting – Trends in Power Devices, Integration, and Converter Circuits, Nagoya, Japan, Apr. 2007.
30. "Electronic Energy Networks – Changing the Way Electricity is Utilized," *LEES colloquium*, Massachusetts Institute of Technology, Cambridge, MA, Dec. 2006.
31. "Electronic Energy Networks – Changing the Way Electricity is Utilized," GE Global Research, Niskayuna, NY, Dec. 2006.
32. "Future of Power Electronics – Changing the Way Electricity is Used," *Power Electronics Seminar*, Northeastern University, Boston, MA, Dec. 2006.
33. "A View at the Future of Integration in Power Electronics," *LEES colloquium*, Massachusetts Institute of Technology, Cambridge, MA, Sep. 2006.
34. "Future of Power Electronics – Overview of Research at CPES," Texas Instruments, Dallas, TX, Feb. 2006.
35. "Overview of Research at CPES," University of Novi Sad, Yugoslavia, June 2005.
36. "CPES Research Overview," Schneider Toshiba Inverter Europe, Pacy-sur-Eure, France, May 2005.
37. "Brief Overview of CPES," Thales Avionics Electrical Systems, Chatou, France, March 2005.
38. "Integral Approach to Power Electronics – Magic Electronic Power Processors," *DARPA Magic Switch Workshop*, Arlington, VA, Jan. 2005.
39. "An Overview of Research at CPES," GE China Technology Center, Shanghai, China, Aug. 2004.
40. "Some Recent Power Electronics Research at Virginia Tech," Tsinghua University, Beijing, China, Aug. 2004.

41. "Power Electronics Education at Virginia Tech," Università degli Studi Roma TRE, Rome, Italy, June 2004.
42. "Some Recent Power Electronics Research at Virginia Tech," Università di Padova, Padua, Italy, June 2004.
43. "Overview of Research at CPES," Università degli Studi Roma TRE, Rome, Italy, June 2004.
44. "Overview of Sponsored Research at Virginia Tech CPES," GE Global Research Center, Niskayuna, NY, Sep. 2003.
45. "An Introduction to DC Distributed Power Systems," Lund Institute of Technology, Lund, Sweden, Dec. 2002.
46. "CPES at a Glance," Siemens, Munich, Germany, June 2002.
47. "Introduction to CPES," Infineon, Munich, Germany, June 2002.
48. "CPES Roadmap for IPEM-Based Power Electronics Design," EUPEC, Munich, Germany, June 2002.
49. "CPES at a Glance," EPCOS, Munich, Germany, June 2002.
50. D. Boroyevich, J. H. Bohn, and F. Wang, "Software Integration Research at CPES," Engineering Information Systems Lab, Georgia Tech, Atlanta, GA, Mar. 2002.
51. "Overview of the CPES Research Program at Virginia Tech," Seoul National University, Seoul, Korea, Oct. 2001.
52. S. Busquets-Monge, G. Soremekun, E. Hertz, C. Crebier, S. Ragon, J. Zhang, D. Boroyevich, Z. Gurdal, D. K. Lindner, and M. Arpillier, "Design Optimization of Power Electronics Circuits using Genetic Algorithms - A Boost PFC Converter Example," University of Maribor, Maribor, Slovenia, Aug. 2001.
53. "Education and Research in Power Electronics at Virginia Tech," University of Maribor, Maribor, Slovenia, Aug. 2001.
54. "Power Electronics Building Block Approach to Advanced Electric Power Systems," *IEEE/PES Summer Power Meeting - Working Group I8*, Vancouver, Canada, July 2001.
55. "Overview of CPES Research Program," Marconi, Cleveland, OH, Aug. 2000.
56. "Power Electronics Research at Virginia Tech," University of Novi Sad, Yugoslavia, July 2000.
57. "Review of CPES Research Program," ABB Corporate Research, Baden-Dättwill, Switzerland, Apr. 2000.
58. "Review of CPES Research Program," International Rectifier Corporation, Turin, Italy, Apr. 2000.
59. "Review of CPES Research Program," Semikron, Nürnberg, Germany, Mar. 2000.
60. "Recent Research Developments in Modeling and Control of Three-Phase PWM Converters," (a series of three invited presentations), University of Concepcion, Concepcion, Chile, Mar. 2000.
61. "Review of CPES Research Program," University of Concepcion, Concepcion, Chile, Mar. 2000.
62. "Review of CPES Research Program," Rockwell Automation, Mequon, WI, Nov. 1999.
63. "Review of CPES Research Program," Motorola, Phoenix, AZ, May 1999.
64. "Electrical Engineering and Power Electronics Education at Virginia Tech," Polytechnic University of Madrid, Spain, November 1998.
65. "Center for Power Electronics Systems – A New Engineering Research Center," Polytechnic University of Madrid, Spain, November 1998.
66. "Research at Virginia Power Electronics Center," Polytechnic Federal University of Lausanne, Switzerland, October 1998.
67. "Research at Virginia Power Electronics Center in the area of three-phase power converters," University of Novi Sad, Yugoslavia, July 1996.
68. "High frequency PWM three-phase power conversion techniques," Concordia University, Montreal, Canada, Apr. 1995.

69. "Three-phase rectification with power factor correction," AT&T Bell Laboratories, Mesquite, TX, March 1994.
70. "High frequency PWM three-phase power factor correction circuits," American Electrical Power, Columbus, Oh., May 1993.
71. "High frequency PWM three-phase power factor correction circuits," Ohio State University, Columbus, OH., May 1993.
72. "Current Research in Industrial Electronics at University of Novi Sad, Yugoslavia," VPI & SU, Blacksburg, USA, Sep. 1989.
73. "Research in Industrial Electronics at Electronics Group in Novi Sad," Electrotechnical Institute "Rade Končar," Zagreb, Yugoslavia, June 1989.
74. "Robust Algorithms for Speed and Position Regulation of Electrical Drives," Department of Electrical Engineering and Computer Science, Technical Faculty, University of Maribor, Yugoslavia, Oct. 1987.

Conference organization:

1. Organizing Committee Co-Chair for *IEEE ECCE Asia 2014 IPEC – 7th Int. Power Electronics Conference*, Hiroshima, Japan, May 18-21, 2014.
2. Organizer for *IEEE Power Electronics Society Long Range Planing Retreat*, Duck, NC, Sep. 2012.
3. General Co-Chair for *IEEE FEPPCON VII – 7th Int. Workshop on the Future of Electronic Power Processing and Conversion*, Petrovaradin, Serbia, Sep. 2012.
4. General Co-Chair for *IEEE EPE-PEMC 2012 ECCE Europe – 15th Int. Power Electronics and Motion Control Conference*, Novi Sad, Serbia, Sep. 2012.
5. Co-Organizer for *CPES Workshop on AC Small-Signal Stability*, Arlington, VA, July 2012.
6. Honorary Co-Chair for *IEEE ECCE Asia 2012 IPEMC – 7th Int. Power Electronics and Motion Control Conf.*, Harbin, China, 2-5 June 2012.
7. General Co-Chair for EPE-PEMC 2010 – 14th Int. Power Electronics and Motion Control Conference, Ohrid, Macedonia, Sep. 2010.
8. Member of the Organizing Committee for *IEEE ECCE 2009 – Energy Conversion Congress and Exposition*, San Jose, CA, Sep. 2009.
9. Topic chairman for "Technology Push by System Developments," and member of the Organizing Committee for *IEEE FEPPCON VI – 6th Int. Workshop on the Future of Electronic Power Processing and Conversion*, Ragusa, Sicily, Italy, June 2009.
10. Member of Steering Committee for *IEEE ECCE – Energy Conversion Congress and Exposition*, 2004 – 2010.
11. Round Table Organizer for "Integrated Power Electronics Modules – A Building Block Approach to Power Conversion Systems," *EPE-PEMC 2004 – 11th Int. Power Electronics and Motion Control Conference*, Riga, Latvia, Sep. 2004.
12. Topic chairman for "Design Methods and Tools," and member of the Technical Steering Committee of *CIPS 2004 – 3rd Int. Conf. on Integrated Power Systems*, Aachen, Germany, June 2004.
13. Member of the Organizing Committee for *IEEE FEPPCON V – 5th Int. Workshop on the Future of Electronic Power Processing and Conversion*, Salina, Aeolian Islands, Italy, May 2004.
14. Organizer for Special Session on Soft-Switching for the Industrial Power Converter Committee at *IAS '01 – IEEE Ind. Appl. Soc. Ann. Meet.*, Chicago, IL, Oct. 2001.
15. Member of the Organizing Committee for *FEPPCON IV – 4th Int. Workshop on the Future of Electronic Power Processing and Conversion*, Salina, Aeolian Islands, Italy, May 2001.
16. Session Organizer for the Industrial Power Converter Committee at *IAS '99 – IEEE Ind. Appl. Soc. Ann. Meet.*, Phoenix, AZ., Oct. 1999.

17. Session Organizer for the Industrial Power Converter Committee at *IAS '98 – IEEE Ind. Appl. Soc. Ann. Meet.*, St. Louis, MO, Oct. 1998.
18. Member of the Technical Program Committee for *APEC '98 – IEEE Appl. Power Elec. Conf.*, Anaheim, CA, Feb. 1998.
19. Member of the Technical Program Committee for *APEC '97 – IEEE Appl. Power Elec. Conf.*, Atlanta, GA, Feb. 1997.
20. Topic chairman for "Inverters and Rectifiers for Power Supplies and UPS Applications," and member of the Technical Program Committee *PESC '96 - IEEE Power Elec. Spec. Conf.*, Baveno, Italy, June 1996.
21. Topic chairman for "Inverters and Rectifiers for Power Supplies and UPS Applications," and member of the Technical Program Committee *PESC '95 - IEEE Power Elec. Spec. Conf.*, Atlanta, GA, June 1995.
22. Member of the Technical Program Committee for *PESC '94 - IEEE Power Elec. Spec. Conf.*, Taipei, Taiwan, June 1994.
23. Member of the Technical Program Committee for *IECON '93 - IEEE Int. Conf. on Ind. Electronics, Control, Instr.*, and Automation, Maui, Hawaii.
24. Program Committee member for *PESC '92 - IEEE Power Elec. Spec. Conf.*, Toledo, Spain, June 1992.
25. Organizing Committee member, *33rd Yugoslav Conference on Electronics, Telecommunications, Automation, and Nuclear Engineering*, Novi Sad, Yugoslavia, June 1989.
26. Program Committee member, *6th Yugoslav Conference on Power Electronics*, Subotica, Yugoslavia, June 1986.

Invited session panelist:

1. Opening Session, *PEDES 2012 – IEEE International Conference on Power Electronics, Drives and Energy Systems*, Bengaluru, India, Dec. 2012.
2. Opening Session, *IICPE 2012 – IEEE 5th India International Conference on Power Electronics*, Delhi, India, Dec. 2012.
3. Panel Session: "More Electric Aircraft: Power Management and Stability Issues," *ITEC 2012 – IEEE Transportation Electrification Conference and Expo*, Dearborn, MI, June 2012.
4. Rap Session: "Smart Grid and Green Technologies: A Good Use of Power Electronics or a Waste of Money?" *APEC '12 – IEEE Appl. Power Elec. Conf.*, Orlando, FL, Feb. 2012.
5. Panel Session: "Thermal Management and Reliability," *EPE-PEMC 2010 – 14th Int. Power Electronics and Motion Control Conference*, Ohrid, Macedonia, Sep. 2010.
6. Panel Session: "Power Electronics for Future Electricity Networks," *EPE-PEMC 2010 – 14th Int. Power Electronics and Motion Control Conference*, Ohrid, Macedonia, Sep. 2010.
7. Panel Session: "PEBB Concept in the Industrial Power Electronics Systems," *ISIE 2010 – IEEE Int. Symp. on Ind. Elec.*, Bari, Italy, 4-7 July 2010.
8. ECPE Panel Discussion, "Intelligent Power Electronics for Energy Efficiency – Research Needs and Opportunities," *CIPS 2008 - 5th Int. Conf. on Integrated Power Electronics Systems*, Nürnberg, Germany, Mar. 2008.
9. Panel Session: "Power Electronics Building Blocks (PEBB) – Applications to Marine Systems," *IEEE Electric Ship Technologies Symposium*, Philadelphia, PA, July 2005.
10. Rap Session: "Building-Block Approach to Power Conversion Systems," *PESC '05 – IEEE Power Elec. Spec. Conf.*, Recife, Brazil, June 2005.
11. Panel Session: "Power Electronics Building Block Concepts," *IAS 2004 – IEEE Ind. Appl. Soc. Ann. Meet.*, Seattle, WA, Oct. 2004.
12. Rap Session: "Will future converters be fully integrated and totally inflexible?" *PESC '04 – IEEE Power Elec. Spec. Conf.*, Aachen, Germany, June 2004.

13. Panel Session: "Power Electronics Building Block Concepts," *PES '03 – IEEE Power Eng. Soc. General Meet.*, Toronto, Canada, July 2003.
14. Rap Session: "Technologies for High Power Densities," *CIPS 2002 – 2nd Int. Conf. on Integrated Power Systems*, Bremen, Germany, June 2002.
15. Round Table Discussion: "Discrete versus Integrated Power Semiconductors – A Competitive Challenge in Automotive Electronics," *ISPSD '97 – IEEE International Symposium on Power Semiconductor Devices and IC's*, Weimar, Germany, May 1997.

Session chairman:

1. *PICONF 2012 – 5th POWER INDIA Conference*, Discussion Session: "Grid Integration of Renewable & Sustainable Energy Sources," Murthal, India, Dec. 2012.
2. *OPTIM 2010 – 12th Int. Conf. on Optimization of Electrical and Electronic Equip.*, Plenary Session, Brasov, Romania, May 2010.
3. *IEEE ECCE Europe 2011 EPE – 14th European Conf. on Power Elec. and Appl.*, Birmingham, UK, Aug. 2011.
4. *IEEE ECCE Asia 2011 ICPE – Int. Conf. on Power Electronics*, Jeju, Korea, June 2011.
5. *ECCE 2010– IEEE Energy Conversion Congress and Exposition*, Atlanta, GA, Sep. 2010.
6. *CIPS 2010 – 6th Int. Conf. on Integrated Power Electronics Systems*, Nürnberg, Germany, Mar. 2010.
7. *ECCE 2009 – IEEE Energy Conversion Congress and Exposition*, Session: "Three-Phase Rectifiers," San Jose, CA, Sep. 2009.
8. *FEPPCON VI – 6th Int. Workshop on The Future of Electronic Power Proc. and Conv.*, Ragusa, Italy, June 2009.
9. *IPEMC 2009 ECCE Asia – 6th International Power Electronics and Motion Control Conference*, Opening Plenary Session, Wuhan, China, May 2009.
10. *CIPS 2008 – 5th Int. Conf. on Integrated Power Electronics Systems*, Session: "System Integration (Part 2)," Nürnberg, Germany, Mar. 2008.
11. *PESC 2007 – IEEE Power Elec. Spec. Conf.*, Session: "DC-DC Converters: VRM Control II," Orlando, FL, June 2007.
12. *IPEMC 2006 – CES/IEEE 5th International Power Electronics and Motion Control Conference*, Session: "Motion Control," Shanghai, China, Aug. 2006.
13. *PESC 2006 – IEEE Power Elec. Spec. Conf.*, Session: "Rectifiers and AC-AC Converters III," Jeju, Korea, June 2006.
14. *PESC 2006 – IEEE Power Elec. Spec. Conf.*, Session: "Rectifiers and AC-AC Converters IV," Jeju, Korea, June 2006.
15. *IAS 2005 – IEEE Ind. Appl. Soc. Ann. Meet.*, Session: "Multilevel Converters," Kowloon, Hong Kong, Oct. 2005.
16. *PESC 2005 – IEEE Power Elec. Spec. Conf.*, Session: "DC-DC Converters IV," Recife, Brazil, June 2005.
17. *IPEC 2005 – Int. Power Electronics Conference*, Session: "Power Electronics Circuitry," Niigata, Japan, April 2005.
18. *IPEMC 2004 – 4th Int.. Power Elec. and Motion Contr. Conf.*, Session: "EMC Issues in Power Electronics," Xi'an, China, Aug. 2004.
19. *PESC 2004 – IEEE Power Elec. Spec. Conf. and CIPS 2004 – 3rd Int. Conf. on Integrated Power Systems*, Sessions: "Design Methods and Tools I and II," Aachen, Germany, June 2004.

20. *FEPPCON V – 5th Int. Workshop on The Future of Electronic Power Proc. and Conv.*, Session: "Medium-Term Industry Perspectives: Power Systems," Salina, Aeolian Islands, Italy, May 2004.
21. *IAS 2003 – IEEE Ind. Appl. Soc. Ann. Meet.*, Session: "Utility Interface and Power Factor Correction," Salt Lake City, UT, Oct. 2003.
22. *IAS 2003 – IEEE Ind. Appl. Soc. Ann. Meet.*, Session: "Soft Switching and Resonant Converters," Salt Lake City, Utah, Oct. 2003.
23. *PESC 2003 – IEEE Power Elec. Spec. Conf.*, Session: "Digital Techniques Applied to Power Electronics," Acapulco, Mexico, June 2003.
24. *PESC 2002 – IEEE Power Elec. Spec. Conf.*, Session: "EMC/EMI Issues for SMPS," Cairns, Australia, June 2002.
25. *PESC '01 – IEEE Power Elec. Spec. Conf.*, Session: "CAD Modeling II," Vancouver, Canada, June 2001.
26. *EPE '01 – 9th European Conf. on Power El. and Appl.*, Lecture Session 2: "Multilevel Converters," Graz, Austria, Aug. 2001.
27. *IAS 2001 – IEEE Ind. Appl. Soc. Ann. Meet.*, Session: "Applications of Soft-Switching and Resonant Technologies in Power Converters," Chicago, IL, Oct. 2001.
28. *FEPPCON IV – 4th Int. Workshop on The Future of Electronic Power Proc. and Conv.*, Concluding Session (secretary): "The Future of Electronic Power Processing and Conversion," Salina, Aeolian Islands, Italy, May 2001.
29. *IAS '99 – IEEE Ind. Appl. Soc. Ann. Meet.*, Session: "DC Power Conversion I," Phoenix, AZ., Oct. 1999.
30. *FEPPCON III – 3rd Int. Workshop on The Future of Electronic Power Proc. and Conv.*, Session: "Future Converters, Circuits, and System Integration," Skukuza, South Africa, July 1998.
31. *PESC '98 – IEEE Power Elec. Spec. Conf.*, Session: "Sensorless Control of Induction Motors," Fukuoka, Japan, May 1998
32. *APEC '97 – IEEE Appl. Power Elec. Conf.*, Atlanta, GA, Feb. 1997.
33. *IAS '96 – IEEE Ind. Appl. Soc. Ann. Meet.*, Session: "Soft Switching Converters," San Diego, CA, Oct. 1996.
34. *PESC '96 - IEEE Power Elec. Spec. Conf.*, Session "Soft-Switching Converters – 2," Baveno, Italy, June 1996.
35. *PESC '95 - IEEE Power Elec. Spec. Conf.*, Session "PWM Control of Inverters, Rectifiers, and Converters," Atlanta, GA, June 1995.
36. *Control Technology Workshop*, Session III: "Control for Intelligent Systems," Office of Naval Research & VPEC, Herndon, Va., Apr. 1995.
37. *PESC '94 - IEEE Power Elec. Spec. Conf.*, Session TP-2: "Soft Switching Converters," and Session WA-1: "Control I: DC-DC Converters," Taipei, Taiwan, June 1994.
38. *PESC '94 - IEEE Power Elec. Spec. Conf.*, Session 14: "Topology IV: Power Factor Correction," Seattle, June 1993.
39. *34th Annual Meeting of Yugoslav Association for Regulation, Electrical Measurement and Automation*, Session: "Controlled Electrical Drives", Zagreb - Plitvička Jezera, Yugoslavia, April 1989.
40. *6th Yugoslav Conference on Power Electronics*, Session: "Solid State Power Devices," Subotica, Yugoslavia, June 1986.

Manuscripts and grant proposals reviewed:

2011 – ONR Power Electronics Program

2008 – 8 CAREER proposals to Power, Control & Adaptive Networks area of the Directorate for Engineering of NSF

1999 – 2 papers for *IEEE Spectrum*.

1998 – 1 paper for *IEEE Trans. on Power Electronics*.
– 6 digests for *IEEE - IAS '98*.

1997 – 2 papers for *IEEE Spectrum*.
– 2 papers for *IEEE Trans. on Power Electronics*.
– 10 digests for *IEEE - APEC '98*.

1996 – 1 paper for *IEEE Spectrum*.
– 1 paper for *IEEE Trans. on Industry Applications*.
– 12 digests for *IEEE - APEC '97*.

1995 – 2 papers for *IEEE Trans. on Power Electronics*.
– 1 paper for *IEEE Trans. on Industry Applications*.
– 16 digests for *EPE '95 – 6th European Power Electronics Conf.*

1994 – 1 paper for *IEEE Spectrum*.
– 2 papers for *IEEE Trans. on Power Electronics*.
– 2 papers for *IEEE Trans. on Industry Applications*.
– 46 digests for *IEEE - PESC '95*.

1993 – 1 paper for *IEEE Spectrum*.
– 4 papers for *IEEE Trans. on Power Electronics*.
– 2 papers for *IEEE Trans. on Industry Applications*.
– 7 grant proposals as a member of the Engineering Review Panel for the US Agency for International Development, Washington, D.C.
– 13 digests for *EPE '93 – 5th European Power Electronics Conf.*
– 17 digests for *IEEE - IECON '93*.

1992 – 5 digests for *IEEE - PESC '92*.
– 3 papers for *IEEE Trans. on Power Electronics*.
– 2 papers for *IEEE Trans. on Industry Applications*.
– 1 digest for *35th Midwest Symposium on Circuits and Systems*.

1991 – 1 digest for *EPE '91 – 4th European Power Electronics Conf.*
– 5 papers for *IEEE Trans. on Power Electronics*.
– 13 digests for *IEEE - IAS '91*.

1990 – 5 papers for *IEEE Trans. on Power Electronics.*

1989 – 3 papers for *IEEE Trans. on Power Electronics.*

1988 – 2 papers for *IEEE Trans. on Power Electronics.*

1985 – 2 papers for *IEEE Trans. on Industry Applications.*

Administrative Service

Course supervisor:

2000 - 2008	Power Electronics System Integration
1998 - present	Modeling and Control of Three-Phase PWM Converters
1995 - present	Power Electronics
1995 - 2012	Power Electronics Laboratory
1994 - 2000	Electronics Laboratory

1993 - 2000	Electronic Circuit Design
1991 - 2000	Electronics II

Committee memberships:

At The Bradley Department of Electrical and Computer Engineering, Virginia Tech

2010 - present	Promotion and Tenure Committee
2007 - 2011	Computing Committee (Chair)
2006 - present	Honorifics Committee
2005 - present	Electronics and Circuits Committee
2005	College of Engineering Dean Search Committee
2001 - 2005	Executive Committee
2003 - 2006	Resource (faculty search) Committee
2001	Tenure and Promotion Committee
2000 - 2003	Honorifics Committee
1999 - 2006	Computing Resources Committee
1995 - 2000	Graduate AdCom
1993 - 1995	Undergraduate AdCom
1992 - 1993	Curriculum Committee
1991 - 1999	Electronics and Circuits Committee

At the Institute for Power and Electronic Engineering, University of Novi Sad (Department level)

1990	Building Committee
1987-1990	Research Equipment Committee, Chairman
1987-1989	Undergraduate Curriculum Committee, Assistant Chairman
1986-1989	Executive Committee
1978-1979	Finance Committee
1977-1979	Research and Educational Equipment Committee, Chairman
1976-1979	Facilities Committee

At the Faculty of Technical Sciences, University of Novi Sad (College level)

1988-1989	Commission on Financial Affairs
1989	Executive Committee
1987-1988	Personnel and Promotion Commission
1980-1982	Personnel and Promotion Commission

At the University of Novi Sad (University level)

1980-1982	University Assembly
1980-1982	University Commission on Education

At the District of Vojvodina, Yugoslavia (State level)

1989	State Commission on Information Systems
1987-1989	State Commission on Higher Education