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Curriculum Vitae

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PERSONAL

Date of Birth: August 7, 1955
Place of Birth: Semipalatinsk, USSR (Kazakhstan)
Marital Status: Married, one son

EDUCATION

- 1983, Tomsk Polytechnic, Russia; Ph.D., Dissertation: "Development of Techniques for the Determination of Lightning Peak Current Statistical Distributions"
- 1977, Tomsk Polytechnic, Russia; MS (with High Honors), Masters thesis: "Multi-criteria optimization of the parameters of the Nurek-Regar 500-kV power transmission line"
- 1972, High School # 29; Semipalatinsk, USSR; Graduation with Honors

EMPLOYMENT

8/98 – present	Professor, Department of Electrical and Computer Engineering, University of Florida, Gainesville, Florida
6/91 - 8/98	Associate Professor, Department of Electrical Engineering, University of Florida, Gainesville, Florida
9/88 - 7/89	10-month Sabbatical funded by the US-USSR Research Exchange Program, Department of Electrical Engineering, University of Florida, Gainesville, Florida
10/79 - 1/94	Director of Lightning Research Laboratory (1984-1994), Senior Scientist (1983-1984), Scientist (1979-1983), High Voltage Research Institute at Tomsk Polytechnic, Russia
9/77 - 10/79	Assistant Professor of Electrical Engineering, Tomsk Polytechnic Institute, Russia

GUEST PROFESSORSHIPS

- Uppsala University, Sweden, September 2005
- Swiss Federal Institute of Technology Lausanne (EPFL), February-March, 2001
- Technical University of Vienna, Austria, September 1998

AREAS OF INTEREST

Lightning, Atmospheric Electricity, Lightning Protection

PROFESSIONAL ORGANIZATIONS

Fellowships and Memberships

- The Institution of Engineering and Technology (IET), Fellow, 2005-present
- American Geophysical Union (AGU), Member, 1989-present
- IEEE, Senior Member, 1996-2002; Fellow, 2003-present
- American Meteorological Society (AMS), Member, 1996-2003; Fellow, 2004-present
- Society of Automotive Engineers (SAE Aerospace), Member, 1999-present
- IEEE Power Engineering Society, Member, 2001-present
- IEEE EMC Society, Member, 2001-present
- American Society for Engineering Education, Member, 2003-present

Committee Chairmanships and Memberships

- AGU Committee on Atmospheric and Space Electricity (CASE), Chairman, 2000-2002; Member, 1996-2000 (two terms)
- Technical Program Committee on Lightning for the biennial International Zurich Symposium on Electromagnetic Compatibility, Chairman, 1997-present
- Ad Hoc Committee to revise topics for the International Conference on Lightning Protection, Chairman, 1996-1998
- CIGRE (International Conference on Large High Voltage Electric Systems) Working Group 33.01 "Lightning", Member, 1991-present
- Steering Committee of the International Symposium on Lightning Protection (SIPDA), Member, 1998-present
- IEEE Working Group on the Lightning Performance of Distribution Lines, Member, 1999-present
- International Commission on Atmospheric Electricity, Member, 1999-2007
- Scientific Committee of the International Conference on Lightning Protection (ICLP), Member, 2000-present
- Fall AGU Meeting Program Committee, Member, 2001
- AMS Science and Technology Committee on Atmospheric Electricity, Member, 2001-2007 (two terms)
- Underwriters Laboratories Standards Technical Panel for Lightning Protection Components (STP 96), Member, 2001-present
- International Advisory Committee for the PowerTech Conference, Member, 2002-2003
- Steering Committee of the International Project on Electromagnetic Radiation from Tall Structure Lightning, Member, 2002-present
- National Lightning Safety Institute, Board of Advisors, Member, 2002-present
- Program Committee of the International Conference on Nonlinear Phenomena in Environmental Research, Member, 2003
- Scientific Committee of the International Symposium on Power Quality (SICEL'2003 and SICEL'2005), Member, 2003 and 2005
- Underwriters Laboratories Standards Technical Panel for Surge Protective Devices (STP 1449), Member, 2003-present
- National Fire Protection Association Committee on the Standard for the Installation of Lightning Protection Systems (NFPA 780), Member, 2004 – present
- Technical Committee of the 6th International Workshop on Physics of Lightning, Member, 2004
- Program Committee of the VI International Suzdal URSI Symposium, Member, 2004
- Scientific Committee of the 1st International Conference on Lightning Physics and Effects (LPE) and GROUND' 2004, Member, 2004
- STP 96/UL 96A Grounding Task Force, Member, 2004-present
- Technical Program Committee on Lightning for EMC Zurich in Singapore, Chairman, 2005-2006
- Scientific/Technical Committee of the 2005 International Symposium on EMC (ISEMC 2005), Member, 2005
- Program Committee for the 2nd Conference on Meteorological Applications of Lightning, Atlanta, Georgia (part of the 2006 AMS Annual Meeting), Member, 2005-2006

- NFPA 780 Modeling Task Group, Member, 2005-present
- URSI Commission E, Co-Chair of the Working Group on Lightning, 2005-present
- IEEE EMC Society, Technical Committee on High Power Electromagnetics (TC-5), Member, 2005-present
- Technical Program Committee for the 2005 International Lightning Conference in Shanghai, China, Member, 2005

Editorship

- Journal of Lightning Research, Associate Editor, 2004-present
- Advisory Board for the Elsevier Series in Lightning Research, Member, 2004-present
- IEEE Transactions on Electromagnetic Compatibility, Associate Editor, 2003-present
- Editor's Choice - Atmospheric and Space Electricity (AGU electronic journal) Advisory Panel, Member, 2001-2006; Chief Editor, 2006-2007

Reviewer or Adjudicator for McGraw-Hill, Wiley Publishers, Addison Wesley, Public Affairs, Oxford University Press, Journal of Geophysical Research, Geophysical Research Letters, Radio Science, Journal of Atmospheric and Solar-Terrestrial Physics, IEEE Transactions on EMC, Journal of Electrostatics, Atmospheric Research, Journal of Atmospheric and Oceanic Technology, International Journal of Power and Energy Systems, AIAA Journal of Spacecraft and Rockets, IEE Proc. Science, Measurement & Technology, The Royal Society Proceedings, Annales Geophysicae, EPJ Applied Physics, Review of Radio Science, Journal of Applied Meteorology, IEEE Transactions on Dielectrics and Electrical Insulation, IEEE Transactions on Plasma Science, International Journal of Climatology, Physica A, IEEE Antennas and Propagation Magazine, Power Engineering Letters, IJECE, IEEE Transactions on Power Delivery, IEE Proc. Generation, Transmission & Distribution, Acta Geophysica Polonica, International Journal for Computation and Mathematics in Electrical and Electronic Engineering (COMPEL), Electric Power Systems Research, Journal of Physics D: Applied Physics, Icarus, Indian Journal of Radio and Space Physics, Plasma Sources Science and Technology, Measurement Science and Technology (IoP), Journal of Physics A: Mathematical and General (IoP)

INVITED TALKS

- Invited Keynote Presentation “Lightning Phenomenology and Fundamentals of Lightning Protection” at the International Symposium on Trees and Lightning, Fort Lauderdale, Florida, March 7-8, 2007
- Invited Lecture “Phenomenology and Parameters of the Lightning Discharge” at the Opening Ceremony of the 2nd International Conference on Lightning Physics and Effects (LPE) and GROUND’ 2006, Maceio, Brazil, November 26-29, 2006
- Invited Talk "Lightning: Phenomenology and Parameters Important for EMC" at the Fourth Asia-Pacific Conference on Environmental Electromagnetics (CEEM’2006), Dalian, China, August 1-4, 2006
- Invited Presentations “What We Need to Know About Lightning and How Rocket-Triggered Lightning Experiments Can Help” at the Brazilian IEEE Chapter Meeting, Recife, Brazil, July 20, 2006
- Invited Lectures “Lightning Phenomenology and Parameters Important for Lightning Protection” and “Lightning Effects on Various Objects and Systems: Triggered-Lightning Experiments” at the 2006 Brazilian Symposium on Electric Networks (SBSE 2006), Campina Grande, Paraiba, Brazil, July 17-19, 2006
- Featured Speaker at Luncheon organized for Members and Staff of the US Congress by the Coalition for Plasma Science, Washington, DC, May 8, 2006
- Invited Keynote Presentation “NLDN Responses to Lightning Initiated Using the Rocket-and-Wire Technique” at the 2006 ILDC/ILMC, Tucson, Arizona, April 24-27, 2006
- Invited Lecture “Lightning Research at the University of Florida”, Science Seminar Series 2005-2006, Daytona Beach Community College, April 21, 2006
- Invited Lectures “Lightning Currents for Engineering Applications: Triggered Lightning in Florida” and “Lightning Electric and Magnetic Fields”, Tutorial on EMC Aspects of Lightning, Singapore, February 27-March 3, 2006

- Invited Talk “Lightning Protection: History and Modern Approaches”, UF ECE Graduate Seminar, February 16, 2006
- Invited Talk “Lightning Protection: History and Modern Approaches” at the 2nd Conference on Meteorological Applications of Lightning, Atlanta, Georgia (part of the 2006 AMS Annual Meeting), January 29-February 2, 2006
- Invited Talk “Lightning Initiation Mechanisms: A Review and New Data on Submicrosecond “Lightning Initiation Pulses”” at the “Cloud Physics and Thunderstorm Electrification: from Generator to Discharge” Session of the 2005 Fall American Geophysical Union Meeting, December 5-9, 2005, San Francisco, California
- Invited Talk “Lightning interaction with power distribution lines: Triggered-lightning experiments” at the 2005 International Symposium on Electromagnetic Compatibility (ISEMC’2005), Petropolis, Rio de Janeiro, Brazil, November 26-30, 2005
- Invited Lecture “Evaluation of the performance characteristics of lightning locating systems using rocket-triggered lightning” at the VIII International Symposium on Lightning Protection (VIII SIPDA), Sao Paulo, Brazil, November 21-25, 2005
- Invited Talk “What We Need to Know About Lightning and How Rocket-Triggered Lightning Experiments Can Help” at the Management Meeting of COST Action P18 “Physics of Lightning Flash and Its Effects”, Lausanne, Switzerland, November 14, 2005
- Invited Lecture “Lightning Research at the University of Florida”, Department of Physics, University of Florida, November 3, 2005
- Invited Lecture “Triggered-Lightning Experiments at Camp Blanding, Florida”, Uppsala University, Sweden, September 6, 2005
- Invited Lecture “Lightning Effects on Various Objects and Systems: Triggered-Lightning Experiments”, Uppsala University, Sweden, September 8, 2005
- Invited Plenary Talk “Initiation of Lightning in Thunderclouds” at the Int. Conference on Nonlinear Phenomena in Environmental Research, St. Petersburg - Nizhny Novgorod, Russia, August 2-9, 2005
- Whitney Laboratory Public Lecture “Lightning Artificially Initiated from Natural Thunderclouds in Florida”, St Augustine, Florida, May 19, 2005
- Keynote Speaker at ICEE 2005, Zanjan University, May 11, 2005
- Invited Lecture “Triggered-Lightning Experiments at Camp Blanding, Florida”, Amirkabir University of Technology, May 9, 2005
- Invited Speaker at the 2005 ULPA/LPI Conference, Las Vegas, Nevada, February 24-26, 2005
- Invited Lecture “Review of Triggered-Lightning Experiments at Camp Blanding, Florida”, University of Belgrade, Serbia and Montenegro, February 18, 2005
- Invited Plenary Talk “Lightning Physics and Effects” at the 1st International Conference on Lightning Physics and Effects (LPE) and GROUND’ 2004, Belo Horizonte, Brazil, November 7-11, 2004
- Invited Plenary Talk “What We Need to Know About Lightning and How Rocket-Triggered Lightning Experiments Can Help” at the 18th International Lightning Detection Conference, Helsinki, Finland, June 7-9, 2004
- Invited Talk “What Can We Learn from Triggered-Lightning Experiments?” at the Darwin Observatory Workshop, Osaka, Japan, March 8-10, 2004
- Invited Speaker at the 2004 ULPA/LPI Conference, St. Augustine, Florida, March 10-13, 2004
- Invited Speaker at the Physics of Lightning and Storm Electrification Session of the 2003 Fall AGU Meeting, San Francisco, California, December 8-12, 2003
- Invited Lecture “Engineering Models of the Lightning Return Stroke” at the VII International Symposium on Lightning Protection (VII SIPDA), Curitiba, Brazil, November 17-21, 2003
- Invited Talk “A Review of Ten Years of Triggered-Lightning Experiments at Camp Blanding, Florida,” at the Int. Conference on Nonlinear Phenomena in Environmental Research, Nizhny Novgorod – Moscow, Russia, Sept. 6-12, 2003
- Invited Lecture “Review of Triggered-Lightning Experiments at the ICLRT at Camp Blanding, Florida” at the 2nd Int. Seminar on Lightning Physics and Protection in the South of Brazil, Porto Alegre, Brazil, May 9-10, 2003
- Invited Lecturer at the "Lightning and Its Effects" Session of the 15th International Zurich Symposium on EMC, February 18-20, 2003, Zurich, Switzerland

- Invited Lecture “Lightning Return Stroke Modeling: Recent Developments” at the International Conference on Grounding and Earthing (GROUND 2002) and 3rd Brazilian Workshop on Atmospheric Electricity, Rio de Janeiro, Brazil, November 4-7, 2002
- Invited Talk “Lightning Artificially Initiated from Natural Thunderclouds in Florida” at the Retired Faculty of the University of Florida (RFUF) meeting, Gainesville, Florida, October 29, 2002
- Invited Talk “Lightning and Tall Structures” at the 17th International Lightning Detection Conference, Tucson, Arizona, October 16-18, 2002
- Invited Talk "Division of Lightning Current and Charge Among MOV Arresters and Grounds of a Power Distribution Line: Triggered Lightning Experiments" at the IEEE Surge Protective Devices Committee Spring Meeting, St. Petersburg, Florida, May 16, 2002
- Invited Talk "Rocket-Triggered Lightning Experiments: Some Recent Results" at the Department of Engineering Physics, Air Force Institute of Technology, Wright-Patterson AFB, Ohio, February 13, 2002
- Invited Speaker at the VI International Symposium on Lightning Protection (VI SIPDA), November 19 - 23, 2001, Santos, Brazil
- Invited Talk "Rocket-Triggered Lightning Experiments: Some Recent Results" at the Brown Bag Seminars in Electronics, University of Florida, Gainesville, May 29, 2001
- Invited Talk "Recent Experiments at the International Center for Lightning Research and Testing at Camp Blanding, Florida" at the Swiss Federal Institute of Technology Lausanne (EPFL), February 27, 2001
- Tutorial Lecture "Characterization of Lightning Electromagnetic Fields and Their Modeling" at the 14th International Zurich Symposium on Electromagnetic Compatibility, February 19, 2001, Zurich, Switzerland
- Invited Lecture "Lightning Protection of Structures and Personal Safety" at the 2000 International Lightning Detection Conference, November 6 - 8, 2000, Tucson, Arizona
- Invited Lecture "Lightning Characteristics Relevant to Power Quality and EMC Problems", EES - UETP Course "Solving EMC/Power Quality Problems due to Lightning", September 27 - 29, 2000, University of Bologna, Italy
- Invited Lecture "Lightning Location System Techniques", EES - UETP Course "Solving EMC/Power Quality Problems due to Lightning", September 27 - 29, 2000, University of Bologna, Italy
- Invited Speaker at the IEEE Surge Protective Devices Committee Meeting, May 13-19, 2000, St. Petersburg, Florida
- Keynote Speaker at the 10th Annual Meeting of the Society for Technology in Anesthesia, January 12-15, 2000, Lake Buena Vista, Florida
- Invited Speaker at the Lightning and Thunderstorm Electrification Session of the 1999 Fall American Geophysical Union Meeting, December 13- 17, 1999, San Francisco, California
- Frederic Labino Lecture "Lightning Makes Glass" at the 29th Annual Glass Art Society Conference, April 29 - May 2, 1999, Tampa, Florida
- Invited Speaker at the V International Symposium on Lightning Protection (V SIPDA), May 17- 21, 1999, Sao Paulo, Brazil
- Invited Lecturer at the "Lightning Physics and Effects" Session of the 13th International Zurich Symposium on EMC, February 16-18, 1999, Zurich, Switzerland
- Invited Lecture "Comparison of Positive and Negative Lightning" at the 1998 International Lightning Detection Conference, November 17 - 18, 1998, Tucson, Arizona
- Invited Speaker at Austrian Lightning Protection Committee Meeting, September, 1998, Vienna, Austria
- Invited Speaker at the 5th International Congress of the Brazilian Geophysical Society, September 28 - October 2, 1997, Sao Paulo, Brazil
- Invited Lecturer at the "Lightning and Its Effects" Session of the 12th International Zurich Symposium on EMC, February, 18-20, 1997, Zurich, Switzerland
- Invited Lecture "Modeling of Lightning Processes as Sources of Electromagnetic Fields" at the International Symposium on Winter Lightning in Hokuriku, June 17-18, 1996, Kanazawa, Japan
- Invited Speaker at the EPRI Conference on Triggered Lightning and Surge Protection, March 6, 1996, Jacksonville, Florida
- Invited Speaker at the International Symposium on Electromagnetic Compatibility (EMC'94 ROMA), September 13-16, 1994, Rome, Italy
- Invited Speaker at the 2nd US/Japan Symposium on Lightning, December 2, 1993, Toyama, Japan

- Invited Speaker at the UF Department of Aerospace Engineering, Mechanics and Engineering Science Seminar, October 15, 1993, Gainesville, Florida
- Speaker at the Florida Power Affiliates Seminar "Lightning Protection of Power Systems with Emphasis on Effects of Multiple Impulses on Electrical and Electronic Equipment", July 15, 1993, Tampa, Florida
- Speaker at the 4th Florida Power Affiliates Conference for Electric Power Engineering Research and Education, December 1, 1992, Gainesville, Florida

OTHER PROFESSIONAL ACTIVITIES

- Chairman or Moderator of sessions at the International Conference on Lightning Protection (ICLP), 1994 (Budapest, Hungary), 1996 (Florence, Italy), 1998 (Birmingham, UK), 2000 (Rhodes, Greece), 2002 (Cracow, Poland), 2004 (Avignon, France), 2006 (Kanazawa, Japan)
- Convener and/or Chairman of sessions at the AGU Fall Meeting, San Francisco, California, 1995, 1996, 2001
- Chairman of sessions at the International Conference on Atmospheric Electricity (ICAE), 1996 (Osaka, Japan), 1999 (Guntersville, Alabama), 2003 (Versailles, France)
- Invited Organizer and/or Chairman of sessions at the International Zurich Symposium on Electromagnetic Compatibility, 1997, 1999, 2003, 2005, 2006
- Invited Chairman of sessions at the International Symposium on Lightning Protection (SIPDA), 1999 (Sao Paulo, Brazil), 2001 (Santos, Brazil), 2003 (Curitiba, Brazil), 2005 (Sao Paulo, Brazil)
- United States Organizer and Co-Chairman for Session "Lightning and Atmospheric Environment" at the 1999 International Conference on Lightning and Static Electricity (ICOLSE), June 22-24, 1999, Toulouse, France
- Chairman of Session "Lightning Protection" at the PowerTech Conference, June 23-26, 2003, Bologna, Italy
- Chairman of Session "Experimental Observations and Applications" at the 2nd Int. Workshop on Electromagnetic Radiation from Lightning to Tall Structures, June 27, 2003, Bologna, Italy
- Panelist at the 2nd International Symposium on Winter Lightning in Hokuriku, September 17-18, 2001, Toyama, Japan
- Moderator of round-table discussion "Lightning Attachment Process" at the 17th International Lightning Detection Conference, Tucson, Arizona, October 16-18, 2002
- Moderator of session "Lightning Phenomenology" at the 6th International Workshop on Physics of Lightning, Sainte-Anne, Guadeloupe, France, May 3-9, 2004
- Moderator of discussion forum "Lightning Attachment and Parameters" at the 18th International Lightning Detection Conference, Helsinki, Finland, June 7-9, 2004
- Chairman of Session "Electrodynamic Processes in Geophysics" at the Int. Conference on Nonlinear Phenomena in Environmental Research, St. Petersburg - Nizhny Novgorod, Russia, August 2-9, 2005
- Co-Convener and Co-Chair of Session "Lightning Phenomena and Modeling" at the General Assembly of URSI (International Union of Radio Science), New Delhi, India, October 23-29, 2005
- Chairman of Session "Advances in Technology and Operational Utility of Lightning Data" at the 2nd Conference on Meteorological Applications of Lightning, Atlanta, Georgia (part of the 2006 AMS Annual Meeting), January 29 – February 2, 2006
- Invited Chairman of Sessions "Atmospheric Physics" and "Network Performance" at the 2006 ILDC/ILMC, Tucson, Arizona, April 24-27, 2006
- Co-Organizer of the Tutorial on EMC Aspects of Lightning at the IEEE International Symposium on EMC, Honolulu, Hawaii, July 9-13, 2007
- Faculty Advisor for the Student Chapter of the American Meteorological Society at the University of Florida, 2002-present
- Reviewer for the National Science Foundation and other similar organizations, including FCT (Portugal), NSERC (Canada), and NWO (The Netherlands), ISF (Israel), and for the U.S. Civilian Research and Development Foundation (CRDF)
- Designated opponent (external examiner) for Ph.D. dissertations, Tomsk Polytechnic, Russia (3), and Uppsala University, Sweden (1); reviewer of dissertations, Tomsk Polytechnic, Russia (D.Sc.), Ss. Cyril and Methodius University, Skopje, Macedonia (Ph.D.), and M.Z. Nodiya Institute of Geophysics, Georgia (D.Sc.)

- Collaborator (Foreign Technical Advisor) for International Science and Technology Center (ISTC) Project #1822 “Development and Investigation of the Single-Point System for Lightning Location in the Range of Super-Long Waves”, funded by the U.S. Government
- Collaborator on the International Project COST (European Cooperation in the Field of Scientific and Technical Research) Action P18 on 'Physics of Lightning Flash and its Effects', funded by the European Union

HONORS

- 2005 Editors' Citation for Excellence in Refereeing for Geophysical Research Letters
- 17th International Zurich Symposium on EMC, Singapore, February 27-March 3, 2006, Plaque “In Appreciation of Contribution to the Symposium Workshops & Tutorials”
- Fellow of The Institution of Engineering and Technology (IET), in recognition of “significant individual responsibility, sustained achievement and professionalism in areas relevant to the interests of the Institution of Engineering and Technology”, 2005
- Annual National Lightning Safety Institute Recognition Award “for consistent excellence in advancing the understanding of lightning electromagnetics/energy systems through research and in many reviewed journals and for personal contributions as committees' chairman and membership in international scientific organizations”, 2004
- Fellow of AMS “for outstanding contributions to the atmospheric or related oceanic or hydrologic sciences, or their applications, during a substantial period of years”, 2004
- Fellow of IEEE “for contributions to the understanding of lightning discharge phenomena,” January 1, 2003
- IEEE Power Engineering Society Surge Protective Devices Committee, Prize Paper Award, 2001
- IEEE PES Surge Protective Devices Committee, Certificate of Appreciation for Services Rendered as Guest Speaker at the IEEE SPDC Lightning Forum, 2001
- University of Florida Research Foundation (UFRF) Professorship award (recognizes faculty members who have a distinguished current record of research and a strong research agenda that is likely to lead to continuing distinction in their field), 2001-2003
- "Who'sWho in America", 55th, 56th, 57th, 58th, 60th, and 61st Editions; "Who'sWho in Science and Engineering", 6th, 8th, and 9th Editions; "Who'sWho in the World", 23rd and 24th Editions, “Who'sWho in American Education”, 7th Edition, “Who'sWho in Finance and Business”, 35th Edition
- American Society for Engineering Education (ASEE) Southeastern Section Medallion Certificate, Research Unit Award for Outstanding Contribution in Research, April 12, 1999
- Florida Foundation for Future Scientists, Certificate of Appreciation in Recognition of Dedicated Service to the 36th Annual Student Science Program, June 12 - August 6, 1994
- Florida Foundation for Future Scientists, Certificate of Appreciation in Recognition of Dedicated Service to the 31st Annual Junior Science, Engineering and Humanities Symposium, January 30 - February 1, 1994
- College of Engineering, University of Florida, Meritorious Service Award in Appreciation for Significant Contributions to the Lightning Research Laboratory and for Exemplary Guidance of Graduate and Undergraduate Students, 1988-1989
- Main Committee of the USSR Exhibition of Technological Achievements, Silver Medal, 1987
- USSR State Committee for Inventions and Discoveries, Medal "Inventor of the USSR", 1986
- Tomsk Polytechnic Institute, 1985, Rank of Senior Scientist
- Tomsk Polytechnic 1985 Best Young Scientist
- Best Young Inventor within Educational and Research Institutions in Tomsk; 1981, 1985, 1988
- Tomsk Polytechnic and High Voltage Research Institute; Several Outstanding Service Awards and Prizes for Significant Scientific Results, 1977-1991

PATENTS AND USSR CERTIFICATES OF INVENTIONS (published in the USSR Bulletin of Inventions)

32. Lightning Detector and Related Systems, US60/635, 100 (12/10/2004), J.R. Dwyer, M.A. Uman, H.K. Rassoul, J. Jerauld, D.M. Jordan, K.J. Rambo, V.A. Rakov.
31. A Technique for Determination of the Ground Flash Density Spatial Distribution, No. 1812537, October 10, 1992.

30. A Technique for Determination of the Areas with Increased Lightning Incidence, No. 1753437, August 7, 1992, with O.N. Sokolovsky, V.M. Sapozhnikov and S.R. Mastov.
29. A Device for Determination of the Pulse Amplitude Statistical Distribution, No. 1654845, June 7, 1991, with D.V. Shelukhin and V.D. Dudkin.
28. A Lightning Detector, No. 1606951, November 15, 1990, with R.F. Esipenko and R.M. Gavrilova.
27. A Device for Lightning Registration, No. 1592824, September 15, 1990, with Y.R. Shoivanov and S.A. Proshutinskaya.
26. A Device for Lightning Registration, No. 1536337, January 15, 1990, with V.A. Zapryagaev
25. A Device for Lightning Registration, No. 1525648, November 30, 1989, with V.M. Krasik and D.V. Shelukhin.
24. A Device for Lightning Registration, No. 1462218, February 28, 1989, with Y.R. Shoivanov and A.O. Lutz.
23. A Device for Lightning Registration, No. 1439515, November 23, 1988, with V.A. Zapryagaev.
22. A Device for Registration of Lightning Activity, No. 1348762, October 30, 1987, with Y.R. Shoivanov, A.Y. Kravchenko.
21. A Circuit Model of Lightning, No. 1327151, July 30, 1987, with V.A. Zapryagaev.
20. A Device for Determining the Statistical Distributions of Random Process Parameters, No. 1325530, July 23, 1987, with Y.R. Shoivanov, A.O. Lutz.
19. A Device for Determination of Lightning EMP Maximum Amplitude Statistical Distribution, No. 1309053, May 7, 1987, with A.A. Dulzon, E.P. Djenikhov.
18. A Device for Lightning Registration, No. 1267332, October 30, 1986.
17. A Device for Determination of Statistical Distributions of Pulse Parameters, No. 1246119, July 23, 1986.
16. A Device for Determination of Statistical Distributions of Pulse Parameters, No. 1241267, June 30, 1986.
15. A Device for Lightning Registration, No. 1233085, May 23, 1986, with V.I. Potapkin.
14. A Device for Determination of Pulse Amplitude Statistical Distribution, No. 1191924, November 15, 1985.
13. A Device for Determination of Statistical Distributions of Random Process Parameters, No. 1138811, February 7, 1985, with V.I. Potapkin.
12. A Device for Determination of Statistical Distributions of Pulse Parameters, No. 1111183, August 30, 1984, with V.I. Potapkin.
11. A Device for Determination of Pulse Amplitude Statistical Distribution, No. 1078445, March 7, 1984.
10. A Device for Determination of Pulse Amplitude Statistical Distribution, No. 1078444, March 7, 1984, with V.I. Potapkin.
9. A Device for Determination of Pulse Amplitude Distributions, No. 1067514, January 15, 1984, with V.I. Potapkin.
8. A Device for Determination of Pulse Maximum Amplitude Statistical Distributions, No. 1057968, November 30, 1983, with V.I. Potapkin.
7. A Device for Determination of Statistical Distributions of Random Process Parameters, No. 1043685, September 23, 1983, with V.I. Potapkin.
6. A Device for Determination of Pulse Amplitude Distribution, No. 1019469, May 23, 1983, with V.I. Potapkin.
5. A Device for Determination of Pulse Amplitude Statistical Distributions, No. 987637, January 7, 1983, with V.I. Potapkin.
4. A Device for Determination of Statistical Distributions of Random Process Parameters, No. 968826, October 23, 1982, with V.I. Potapkin.
3. A Device for Determination of Lightning EMP Amplitude Statistical Distribution, No. 942063, July 7, 1982, with V.I. Potapkin.
2. A Device for Measurement of Pulse Amplitude Statistical Distribution, No. 926687, May 7, 1982, with V.I. Potapkin.
1. A Device for Measurement of Pulse Maximum Amplitude Statistical Distribution, No. 922805, April 23, 1982.

RESEARCH GRANTS AND CONTRACTS

43. Co-Principal Investigator, Development of the Thunderstorm Energetic Radiation Array (TERA), 2004-2007, NSF, \$771,123
42. Principal Investigator, Engineering Analysis of Airfield Lighting System Lightning Protection, 2005, Department of Navy, \$38,000.
41. Principal Investigator, Further Studies of the Phenomenology and Physics of the Lightning Discharge, 2004-2009, NSF, \$1,125,000.

40. Principal Investigator, Triggered-Lightning Testing of the Performance of Grounding Systems in Florida Sandy Soil, 2004-2005, Lightning Safety Alliance Corporation, \$80,000
39. Principal Investigator, Rocket Triggered Lightning Experiment University of Florida, 2004-2006, University of California/Los Alamos, \$70,000
38. Co-Principal Investigator, Florida Power and Light R&D Project at Camp Blanding, 2004, FPL, \$110,000
37. Principal Investigator, Continued Study of Various Properties of Natural and Triggered Lightning Discharges, Supplement, 2003, NSF, \$11,204
36. Co-Principal Investigator, Florida Power and Light R&D Project at Camp Blanding, 2003, FPL, \$200,000
35. Principal Investigator, Continued Study of Various Properties of Natural and Triggered Lightning Discharges, 2001-2004, NSF, \$557,443.
34. Principal Investigator, Close Lightning Electromagnetic Environment, 2001, Florida Space Grant Consortium, \$3,200.
33. Co-Principal Investigator, Triggered Lightning Testing of a Section of Florida Gas Transmission Pipeline Connectors, 2001, Florida Gas Transmission, \$20,000
32. Principal Investigator, Close Lightning Electromagnetic Environment, 2000, Florida Space Grant Consortium, \$3,200.
31. Co-Principal Investigator, Lightning Protection Standards for Aircraft, 1999-2004, FAA, \$525,058.
30. Co-Principal Investigator, Florida Power and Light R&D Project at Camp Blanding, 1999-2002, FPL, \$704,000.
29. Co-Principal Investigator, Building a Test House at the ICLRT to Set Standards for the Lightning Structural and Surge Protection of Residential Buildings, 1999, Florida Department of Community Affairs, \$50,000.
28. Principal Investigator, Study of Various Properties of Natural and Triggered Lightning Discharges, 1998-2001, NSF, \$554,870.
27. Principal Investigator, Continued Triggered-Lightning on the Test Power Distribution System at Camp Blanding, 1997-1998, EPRI, \$26,000.
26. Principal Investigator, Testing of Distribution Arresters Using Triggered Lightning at Camp Blanding, Florida, 1997-1998, EPRI, \$140,000.
25. Co-Principal Investigator, Testing of MOV Arresters for Georgia Power Company, 1997-1998, Georgia Power, \$12,000.
24. Principal Investigator, Continued Triggered-Lightning on the Test Power Distribution System at Camp Blanding, 1997, EPRI, \$80,000.
23. Co-Principal Investigator, 1997 Triggered Lightning Test KOMO42296 Continued, 1997, Sandia National Laboratories, \$310,000.
22. Principal Investigator, Using Lightning to Test Airport Lighting System, 1996-1998, Florida Department of Transportation, \$110,000.
21. Principal Investigator, Continued Triggered-Lightning on the Test Power Distribution System at Camp Blanding, 1996, EPRI, \$88,000.
20. Co-Principal Investigator, 1996 Triggered Lightning Test KOMO42296, 1996-1997, Sandia National Laboratories, \$86,745.
19. Principal Investigator, Supplement to NSF Grant ATM-9415507, 1996, NSF, \$13,500.
18. Principal Investigator, Study of Various Properties of Natural and Triggered Lightning Discharges, 1995-1998, NSF, \$506,675.
17. Co-Principal Investigator, U.S.-Switzerland Cooperative Research in the Modeling of Lightning, 1992-1995, NSF, \$13,500.
16. Co-Principal Investigator, Rocket Triggered Lightning Research for Duquesne Light Company at Camp Blanding by the University of Florida, 1995-1996, EPRI, \$25,200.
15. Co-Principal Investigator, Performance of Storm Test No. 7, 1995-1996, EPRI, \$20,000.
14. Co-Principal Investigator, Continued Testing of the Galileo Lightning and Radio Emission Detector, 1995-2000, NASA, \$167,450.
13. Principal Investigator, Testing of the Galileo Lightning and Radio Emission Detector on Earth Lightning, 1994, Florida Space Grant Consortium, \$5,000.
12. Co-Principal Investigator, Continued Testing of the Galileo Lightning and Radio Emission Detector, 1994, NASA, \$45,180.
11. Co-Principal Investigator, Determination of Lightning Properties from Single Station Wideband Electric Field Measurements, 1991-1993, NSF Grant ATM-9014085, \$311,714.

10. Co-Principal Investigator, Continued Testing of the Galileo Lightning and Radio Emission Detector, 1990-1993, NASA Grant NAG 2-667, \$73,086.
9. Principal Investigator, Investigation of Patterns in Territorial Inhomogeneity of Thunderstorm Activity, Russian State Committee for Science and Education, 1991-1993, 171,180 rubles.
8. Principal Investigator, Investigation of Properties of Natural and Triggered Lightning Flashes as Derived from Electric Field Records, Russian State Committee for Science and Education, 1991-1993, 114,120 rubles.
7. Co-Principal Investigator, Lightning Properties Determined from Single Station Wideband Electric Field Measurements, 1988-1990, NSF Grant ATM-8807449, \$120,000.
6. Principal Investigator, Study of Regional Features of Thunderstorm Activity, Lightning Parameters, and Lightning Incidence to Various Structures, Russian Ministry for Public Education, 1986-1990, 231,000 rubles.
5. Principal Investigator, Development of Technique and Device for Remote Lightning Peak Current Measurements, High Mountain Geophysical Institute, Nalchik, 1987-1988, 200,000 rubles.
4. Principal Investigator, Study of Lightning Activity in Tomsk Region Using Lightning Flash Counters, Forestry Research Institute, Leningrad, 1987-1988, 35,000 rubles.
3. Principal Investigator, Development and Field Evaluation of a Device for Lightning EMP Peak Distribution Measurements, High Mountain Geophysical Institute, Nalchik, 1986, 89,000 rubles.
2. Principal Investigator, Development of Effective Lightning Protection of Power Lines in Tropical and Temperate Regions, State Power Engineering Research Institute (ENIN), Moscow, 1984-1987, 230,000 rubles.
1. Principal Investigator, Development of Lightning Detection Device, USSR Academy of Sciences (Siberian Department) Forestry Institute, Krasnoyarsk, 1984, 30,000 rubles.

CONSULTING

Consulting relative to lightning properties, detection, and protection: Lightning Location and Protection, Inc., Insight Electronics, Electric Research and Management, Inc., CSX Transportation, LEC, Global Atmospheric, Inc., National Arborist Association, Inc., Vaisala, Coastal Technical Services, NASA, a number of Law Offices

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