

CURRICULUM VITAE

Branislav M. Notaros

*Professor and University Distinguished Teaching Scholar
2024 President, IEEE Antennas and Propagation Society*

<https://ieeeps.org>; <https://ieeeps.org/75-years-celebration>

Director of Electromagnetics Laboratory

Department of Electrical and Computer Engineering

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APPOINTMENTS

- 2016- Professor and University Distinguished Teaching Scholar, Colorado State University
2012-2016 Professor, Department of Electrical & Computer Engineering, Colorado State University
2006-2012 Associate Professor (with Tenure), Dept. Electrical & Comp. Eng., Colorado State University
2004-2006 Associate Professor (with Tenure), Dept. Elec./Comp. Eng., Univ. of Massachusetts Dartmouth
1999-2004 Assistant Professor, Dept. of Electrical & Computer Eng., Univ. of Massachusetts Dartmouth
1998-1999 Visiting Scholar, Dept. of Electrical & Computer Eng., University of Colorado, Boulder
1996-1999 Assistant Professor, School of Electrical Engineering, University of Belgrade, Yugoslavia
1989-1996 Teaching & Research Assistant (faculty position), School EE, Univ. of Belgrade, Yugoslavia

PROFESSIONAL PREPARATION

- 1988 Dipl. Ing. (B.S.) in Electrical Engineering, University of Belgrade, Sch. of Elec. Eng., Yugoslavia
1992 M.S. in Electrical Engineering, University of Belgrade, School of Electrical Eng., Yugoslavia
1995 Ph.D. in Electrical Engineering, University of Belgrade, School of Electrical Eng., Yugoslavia
1998-1999 Postdoctoral scholar, Dept. of Electrical & Computer Eng., University of Colorado, Boulder

MAJOR AWARDS AND HONORS

<http://www.engr.colostate.edu/~notaros/awards/awards.htm>

- **2005 IEEE Microwave Prize** – best-paper (journal paper) award by the *Microwave Theory and Techniques Society (MTT-S)* of the *IEEE (Institute of Electrical and Electronics Engineers)* – granted for a paper published in the *IEEE Transactions on Microwave Theory and Techniques* in 2003.
- **1999 IEE Marconi Premium** – best-paper (journal paper) award by the *IEE (Institution of Electrical Engineers)*, London, United Kingdom (IEE-wide award) – granted for a paper published in the *IEE Proceedings on Microwaves, Antennas and Propagation* in 1997/1998.
- **2022 IEEE Antennas and Propagation Edward E. Altshuler Prize Paper Award** – best-paper (journal paper) award by the *IEEE Antennas and Propagation Society (AP-S)* – granted for a paper published in the *IEEE Antennas and Propagation Magazine* in 2021.

- **2015 IEEE Undergraduate Teaching Award**, *IEEE*-level award, July 21, 2015, Vancouver, Canada.
- **IEEE Fellow**, “for contributions to higher order methods in computational electromagnetics,” 2016.
- **ACES Fellow**, *Applied Computational Electromagnetics Society*, 2017.
- **University Distinguished Teaching Scholar (UDTS)**, Colorado State University, 2016. (This University Distinguished Faculty title is conferred for the duration of the faculty member’s association with the institution; only 12 persons may hold the title at any one time.)
- **2019 ACES Technical Achievement Award**, “For pioneering contributions to higher order elements, basis functions, and solution techniques in computational electromagnetics,” *Applied Computational Electromagnetics Society*, April 17, 2019, Miami, Florida.
- **2014 Carnegie Foundation for the Advancement of Teaching Colorado Professor of the Year Award**, *Council for Advancement and Support of Education* and *Carnegie Foundation for the Advancement of Teaching*, November 20, 2014, National Press Club, Washington, D.C.
- **2015 ASEE ECE Distinguished Educator Award**, *American Society for Engineering Education (ASEE)*, June 15, 2015, Seattle, Washington.
- **2012 IEEE Region 5 Outstanding Engineering Educator Award**, *IEEE Region 5*, April 6, 2013.
- **2005 Scholar of the Year Award** – the most prestigious and competitive university-wide award for scholarly accomplishments, University of Massachusetts Dartmouth.
- **2012 Colorado State University System Board of Governors Excellence in Undergraduate Teaching Award** – the only CSU System Board of Governors award, Colorado State University.
- **2014 Provost’s N. Preston Davis Award for Instructional Innovation**, Colorado State University.
- **2018 Provost’s N. Preston Davis Award for Instructional Innovation**, as a member of the ECE RED (Revolutionizing Engineering Departments) Project Team, Colorado State University.
- **2004 Dean’s Recognition Award** – the first ECE recipient in the first year of the newly established College of Engineering award for outstanding accomplishments, UMass Dartmouth.
- **2021 Walter Scott, Jr. College of Engineering Art Corey Outstanding International Contributions Award**, Colorado State University.
- **2010 College of Engineering George T. Abell Outstanding Teaching and Service Faculty Award**, CSU.
- **2009 ECE Excellence in Teaching Award**, presented at COE Engineering Days (E-Days) Award Ceremony, April 17, 2009 (by nominations and votes of ECE students), CSU.
- **2010 ECE Excellence in Teaching Award**, presented at COE Engineering Days (E-Days) Award Ceremony, April 16, 2010 (by nominations and votes of ECE students), CSU.
- **2011 ECE Excellence in Teaching Award**, presented at COE Engineering Days (E-Days) Award Ceremony, April 15, 2011 (by nominations and votes of ECE students), CSU.
- **2014 ECE Excellence in Teaching Award**, presented at COE Engineering Days (E-Days) Award Ceremony, April 25, 2014 (by nominations and votes of ECE students), CSU.
- **1999 URSI Young Scientist Award**, for the *26th URSI (International Union of Radio Science) General Assembly*, Toronto, Canada, 1999.

- **1992 Belgrade Chamber of Industry and Commerce Award** – best M.S. Thesis annual award, Yugoslavia, 1992.
- Delivered the **faculty charge at the Spring 2011 College of Engineering Commencement**, on May 13, 2011, in Moby Arena, CSU.
Speech: http://cope.colostate.edu/CCS/comm/Engineering_Spring_2011.wmv

MAJOR EXTERNAL RESEARCH GRANTS

http://www.engr.colostate.edu/~notaros/research/research.htm#External_Grants

Active grant funding in 2017:

- *Total Active as PI:* \$1.4M
- *Total Active as Co-PI:* \$3.3M
- *Indirect cost generation in the top five in the ECE Department at CSU.* ECE Department is one of the departments with highest external research funding and expenditures at Colorado State University, <https://www.engr.colostate.edu/ece/research/>.

Active grant funding in 2016:

- *Total Active as PI:* \$1,913,604.00
 - *Total Active as Co-PI:* \$3,231,636.00
- (1) Grant “**Revolutionizing Simulation-Based Design: Adaptive Anisotropic Multiscale Computational Methods for Electromagnetics and Engineering**,” from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Communications, Circuits, and Sensing Systems (CCSS) Program*, unsolicited grant, PI Branislav Notaros (single-PI grant), start date August 1, 2024, end date July 31, 2027, \$450,000, Award No. 2414473 (Program Director: Dr. Jenshan Lin).
Award abstract: https://www.nsf.gov/awardsearch/showAward?AWD_ID=2414473
 - (2) Grant “**CDS&E: ECCS: Accurate and Efficient Uncertainty Quantification and Reliability Assessment for Computational Electromagnetics and Engineering**,” from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Computational and Data-Enabled Science and Engineering (CDS&E) Program*, PI Branislav Notaros (single-PI grant), start date June 15, 2023, end date May 31, 2026, \$420,000, Award No. 2305106 (Program Director: Dr. Jenshan Lin).
Award abstract: https://www.nsf.gov/awardsearch/showAward?AWD_ID=2305106
 - (3) Contract “**RF Analysis and Validation Engineering Software (RAVENs)**,” from the *Air Force Research Laboratory (AFRL), Applied Research Associates (ARA)*, PI: Branislav Notaros (single-investigator contract), start date July 1, 2020, end date June 30, 2025, \$1,000,000, Contract No. FA8650-20-C-1132.
 - (4) Grant “**Novel Integrated Characterization of Microphysical Properties of Ice Particles Using In-Situ Field Measurements and Polarimetric Radar Observations**,” from the *National Science Foundation, Geosciences Directorate, Atmospheric and Geospace Sciences (AGS) Division, Physical and Dynamic Meteorology (PDM) Program*, unsolicited grant, PI: Branislav Notaros, co-PI: V. Bringi, start date October 1, 2020, end date September 30, 2025, \$647,003, Award No. AGS-2029806 (Program Director: Dr. Yu Gu).

Award abstract: https://www.nsf.gov/awardsearch/showAward?AWD_ID=2029806

- (5) Grant **“A Telemedicine Approach for Monitoring Fracture Healing Via Direct Electromagnetic Coupling,”** from the *National Institutes of Health (NIH), NIH R21 grant*, PI: Christian Puttlitz, Co-PIs: Kevin Labus and Branislav Notaros, and Subcontract to UC Denver, start date March 1, 2020, end date February 28, 2024, \$351,322 (B. Notaros part: \$93,835), Grant No. 1R21AR077323.
- (6) Grant **“Direct Electromagnetic Coupling for Diagnostic Prediction of Fracture Healing,”** from the *Office of Economic Development and International Trade (OEDIT), State of Colorado*, PI: Christian Puttlitz, Co-PIs: Kevin Labus, Branislav Notaros, and Jeremiah Easley, start date March 1, 2020, end date February 28, 2021, \$170,000.
- (7) Grant **“Novel RF Volume Coils for High and Ultra-High Field Magnetic Resonance Imaging Scanners,”** from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Communications, Circuits, and Sensing Systems (CCSS) Program*, unsolicited grant, PI Branislav Notaros (single-PI grant), start date September 1, 2018, end date August 31, 2024, \$370,000, Award No. ECCS-1810492 (Program Director: Dr. Jenshan Lin).
Award abstract: https://www.nsf.gov/awardsearch/showAward?AWD_ID=1810492
- (8) Grant **“Development of Uncertainty Quantification and Design Approaches and Solutions,”** from the *Air Force Research Laboratory (AFRL), CREATE SENTRi, Riverside Research Institute*, PI: Donald Estep (Statistics Department), co-PI: Branislav Notaros (B. Notaros part: 65%), co-PI: Troy Butler (subcontract to University of Colorado Denver), start date September 19, 2016, end date September 18, 2021, \$744,882.
- (9) Grant **“CPS: Synergy: Collaborative Research: Enabling Smart Underground Mining with an Integrated Context-Aware Wireless Cyber-Physical Framework,”** from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Cyber-Physical Systems (CPS) Program*, PI: Sudeep Pasricha, co-PI: Branislav Notaros, start date October 1, 2016, end date September 30, 2020, CSU part: \$420,500, Award No. ECCS-1646562 (Program Director: Dr. Chengshan Xiao).
Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=1646562
- (10) Grant **“Toward a More Statistically Robust, Generalized Process Evaluation Framework of Bin and Bulk Microphysics in Winter Precipitation Using NASA GV and GPM-DPR Data,”** from *NASA (National Aeronautics and Space Administration), Science Mission Directorate, Earth Science, Precipitation Measurement Missions (PMM), PMM Science Team*, PI: Branislav Notaros, co-Is: V. N. Bringi and Andrew Newman [subcontract to National Center for Atmospheric Research (NCAR), Boulder, Colorado], start date March 1, 2016, end date August 31, 2020, \$240,000, Award No. NNX16AE43G (Program Director: Dr. Ramesh Kakar).
- (11) Grant **“IUSE Revolutionizing Engineering Departments (RED): Revolutionizing Roles to Reimagine Integrated Systems of Engineering Formation (R²E² – Revolutionary Redesign of Engineering Education),”** from *National Science Foundation, Directorate of Engineering, Division of Engineering Education and Centers (EEC)*, PI: Anthony Maciejewski, ECE Dept. Head; B. Notaros is Senior Personnel on this grant; start date July 1, 2015, end date June 30, 2021, \$1,988,663, Award No. EEC 1519438, (Program Director: Dr. Elliot Douglas).
Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=1519438
- (12) Grant **“Advanced Comprehensive Analysis of Rain Drop Shapes, Oscillation Modes, and Fall Velocities Using High-Resolution Surface Disdrometers, Polarimetric Radar, and Numerical**

Models,” from the *National Science Foundation, Geosciences Directorate, Atmospheric and Geospace Sciences (AGS) Division, Physical and Dynamic Meteorology (PDM) Program*, unsolicited grant, PI: V. Bringi, co-PI: Branislav Notaros, start date January 1, 2015, end date December 31, 2019, \$530,342, Award No. AGS-1431127 (Program Director: Dr. Nicholas Anderson).

Award abstract: http://nsf.gov/awardsearch/showAward?AWD_ID=1431127

- (13) Grant “**Accurate Characterization of Winter Precipitation Using Multi-Angle Snowflake Camera, Visual Hull, Advanced Scattering Methods, and Polarimetric Radar,**” from the *National Science Foundation, Geosciences Directorate, Atmospheric and Geospace Sciences (AGS) Division, Physical and Dynamic Meteorology (PDM) Program*, unsolicited grant, PI: Branislav Notaros, co-PI: V. Bringi, start date December 1, 2013, end date November 30, 2018, \$607,967, Award No. AGS-1344862 (Program Director: Dr. Nicholas Anderson).

Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=1344862

- (14) Grant “**Treatment Methodologies for Radiofrequency (RF) Injuries,**” subcontract *RF Applicator System Development*, from *Wyle Laboratories, Inc./USAF School of Aerospace Medicine (USAFSAM)/AFOSR*, subcontract PI Branislav Notaros (CSU PI Thomas Johnson, Department of Environmental and Radiological Health Sciences), start date September 4, 2013, end date December 1, 2014, \$71,497 (Wyle Laboratories: Dr. John Ewing, USAFSAM: Dr. Bruce Wright).

- (15) Grant “**Suppression of Wind Turbine Clutter from Radar Data,**” from *Matrix Research, Inc./Air Force Office of Scientific Research (AFOSR), Small Business Technology Transfer (STTR) Program – Phase I*, Margaret Cheney, V. Chandraskar, Branislav Notaros, start date October 15, 2013, end date January 14, 2014, \$90,000 (Program Director: Dr. Arje Nachman; Matrix Research: Dr. Matthew Ferrara).

Award abstract: <http://www.sbir.gov/sbirsearch/detail/409098>

- (16) Grant “**Collaborative Research: Electromagnetic Field Profile Design for Next-Generation Travelling-Wave MRI,**” from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Communications, Circuits, and Sensing Systems (CCSS) Program*, unsolicited grant, PI Branislav Notaros, start date July 1, 2013, end date June 30, 2019, CSU part: \$248,000, Award No. ECCS-1307863 (Program Director: Dr. Mona Zaghoul).

Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=1307863

- (17) Grant “**Diakoptic Approach to Modeling and Design of Complex Electromagnetic Systems,**” from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Integrative, Hybrid and Complex Systems (IHCS) Program*, unsolicited grant, PI Branislav Notaros (single-investigator grant), start date May 1, 2010, end date April 30, 2016, \$404,000, Award No. ECCS-1002385 (Program Director: Dr. Andreas Weisshaar).

Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=1002385

- (18) Grant “**Analysis of Structures for 3-D ALERT,**” subcontract from the University of Colorado at Boulder, Phase 0 DARPA grant, collaboration of CU Boulder (Prof. Zoya Popovic), CSU, and BAE Systems. CSU budget \$20,000, start date February 23, 2007, end date March 31, 2007. CSU PI Branislav Notaros.

- (19) Grant “**Efficient Higher Order Techniques for Electromagnetic Modeling and Design of Photonic Crystal Structures,**” from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division, Integrative, Hybrid and Complex Systems (IHCS) Program*, unsolicited grant, PI Branislav Notaros (single-investigator grant), start

date September 1, 2006, end date August 31, 2011, \$410,396, Award No. ECCS-0650719 (Program Director: Dr. Leda Lunardi).

Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=0650719

- (20) Grant “Textile Based Carbon Nanostructured Flexible Antenna,” from the *National Textile Center (NTC)*, *Competency: Materials*, B. Notaros is a co-PI, collaborative project with colleagues in the ECE Department and Materials and Textiles Department at UMass Dartmouth and Rennselaer Polytechnic Institute, start date June 1, 2006, end date May 31, 2009, \$155,000 per year, Project ID: M06-MD01.
- (21) Grant “**Higher-Order Finite Element-Moment Method Modeling Techniques for Conformal Antenna Applications**,” from the *National Science Foundation, Engineering Directorate, Electrical, Communications and Cyber Systems Division, Electronics, Photonics, and Device Technologies (EPDT) Program*, unsolicited grant, PI Branislav Notaros (single-investigator grant), start date September 1, 2003, end date August 31, 2009, \$249,417, Award No. ECCS-0647380 (Program Director: Dr. Kawthar A. Zaki).
Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=0324345
- (22) Grant “**Large-Domain Hybrid Moment Method–Physical Optics Techniques for Efficient and Accurate Electromagnetic Modeling of Cars and Aircraft over a Wide Range of Frequencies**,” from the *National Science Foundation, Engineering Directorate, Electrical and Communications Systems Division, EPDT Program*, unsolicited grant, PI Branislav Notaros (single-investigator grant), start date September 1, 2001, end date August 31, 2005, \$192,000, Award No. ECS-0115756 (Program Director: Dr. James W. Mink).
Award abstract: http://www.nsf.gov/awardsearch/showAward?AWD_ID=0115756
- (23) NSF Foundation Coalition grant, project “Electromagnetics Concept Inventory” – Branislav Notaros, *National Science Foundation, Engineering Directorate, Engineering Education and Centers Division*, start date June 1, 2000, end date August 31, 2003, approx. \$70,000, Award No. EEC-9802942.

RESEARCH IN THE ELECTROMAGNETICS LABORATORY (DIRECTOR B. NOTAROS)

http://www.engr.colostate.edu/~notaros/research/research.htm#EM_Lab

Research expertise, interests, contributions, initiatives, and future plans of the Electromagnetics Laboratory at Colorado State University, ECE Department, are in the area of electromagnetics, and in its crossings with other areas of science and engineering. Our current research activities span a very broad range of exciting and emerging topics in computational electromagnetics; modeling and numerical methods; higher order CEM methodologies and tools; antennas; scattering; AI and machine learning in computational EM, remote sensing, and medical imaging and diagnostics; cyber-physical systems; error estimation; adaptive model refinement; uncertainty quantification; atmospheric/meteorological electromagnetics; radar meteorology; characterization of snow and rain; surface and radar precipitation measurements; image processing; RF/optical instrumentation development; bioelectromagnetics; RF design for magnetic resonance imaging at high and ultrahigh magnetic fields; direct electromagnetic coupling system for orthopaedic diagnostics; telemedicine system for orthopaedic applications; and electromagnetics education.

While these topics and applications are really “all over” science and engineering, we focus on the strong interweaving common thread among all of them – electromagnetics.

Our main contributions to computational electromagnetics (CEM) are in higher order CEM techniques based on the method of moments (MoM), surface integral equation (SIE) approach, volume integral

equation (VIE) formulation, finite element method (FEM), ray tracing (RT), physical optics (PO), domain decomposition method (DDM), diakoptics, hybrid CEM methods, adjoint methods, a posteriori error estimation, adaptive model refinement, uncertainty quantification, sensitivity analysis, and general surface meshing methods, as applied to modeling and design of antennas, scatterers, and RF/microwave and optical devices and systems.

Some current projects deal with

- (a) revolutionizing simulation-based design: adaptive anisotropic multiscale computational methods for electromagnetics and engineering;
- (b) computational and data-enabled science and engineering: accurate and efficient uncertainty quantification (UQ) and reliability assessment for computational electromagnetics and engineering;
- (c) advances of AI and machine learning as applied to computational EM, remote sensing, and medical imaging and diagnostics;
- (d) error estimation, adaptive model refinement, and uncertainty quantification for RF Analysis and Validation Engineering Software (RAVENs);
- (e) development of UQ and design approaches and solutions for CREATE/SENTRI;
- (f) adjoint-based error estimation and control, adaptive model refinement, sensitivity analysis, and accelerated high-dimensional UQ;
- (g) novel synergistic approach to fully adaptive error control (both deterministic and statistical) and UQ for reliability assessment in engineering applications and EM systems and devices;
- (h) refinement-by-superposition approach to adaptive fully anisotropic hp -refinement in computational electromagnetics, with theoretically guaranteed exponential convergence of solutions in all cases;
- (i) novel shooting and bouncing ray tracing techniques for indoor and outdoor propagation modeling: advancing accuracy and parallel GPU optimization;
- (j) novel integrated characterization of microphysical properties of ice particles using in-situ field measurements and polarimetric radar observations;
- (k) accurate characterization of winter precipitation using multi-angle snowflake camera, visual hull, advanced scattering methods, and polarimetric radars;
- (l) AI-enabled analysis, characterization, classification, and profiling of winter precipitation and snow particles based on multicamera instruments, image processing, and machine learning methodologies;
- (m) novel RF volume coils (antennas) for next-generation high and ultrahigh field ($B_0 \geq 3T$) magnetic resonance imaging (MRI) scanners;
- (n) integrated design of exposure and excitation of EM RF fields for traveling-wave MRI at high and ultrahigh magnetic fields;
- (o) direct electromagnetic coupling (DEC) system for human orthopaedic fracture-healing diagnostics;
- (p) telemedicine system for orthopaedic patient self-testing and data transmission;
- (q) advanced comprehensive analysis of rain drop shapes, oscillation modes, and fall velocities using high-resolution surface disdrometers, polarimetric radar, and numerical models;
- (r) AI-enabled data-driven machine learning-based approach to accelerate MoM, FEM, and related variational methods by predicting macro basis functions;
- (s) fast scalable higher order direct algorithms for large and complex problems in computational sciences and engineering;

- (t) hierarchical matrix methods for extreme-scale parallel computation on leading-edge high performance computing (HPC) platforms;
- (u) observational analysis, modeling, and development of a statistically robust, generalized process evaluation framework of bin and bulk microphysics in winter precipitation using NASA GV and GPM-DPR data;
- (v) cyber-physical systems: modeling and measurements of EM propagation in underground mines and enabling smart underground mining with an integrated wireless cyber-physical framework;
- (w) development of the optical/electronic/laser-sensing/image-processing Snowflake Measurement and Analysis System (SMAS);
- (x) RF/microwave applicator system development for biomedical applications;
- (y) development of antennas for biomedical applications;
- (z) revolutionizing engineering departments (RED) – revolutionary redesign of engineering education.

Electromagnetics Laboratory, CSU Engineering Building B110, includes a completely computerized and motorized six-axis 10 MHz–50 GHz antenna and scattering test system (three-axis spherical positioning system and three-axis planar positioning system), completely built by students, in a fully anechoic and shielded chamber and a vector network analyzer system (PNA), with time-domain option, oscilloscope, power generators, pulse generator, and other RF equipment.

TEACHING EXPERIENCE

<http://www.engr.colostate.edu/~notaros/teaching/teaching.htm>

- **36 years of teaching experience as faculty member** (29 years as Assistant, Associate, and Full Professor) in Electrical Engineering at the University of Belgrade, Yugoslavia, University of Colorado at Boulder, University of Massachusetts Dartmouth, and Colorado State University.
- **Courses taught at Colorado State University:**
 - ECE 341, Electromagnetic Fields & Devices I, Fall 2008, Fall 2009, Fall 2012, Fall 2013, Fall 2016, Fall 2017, Fall 2020, and Fall 2021;
 - ECE 342, Electromagnetic Fields & Devices II, Spring 2011, Spring 2012, Spring 2015, Spring 2016, Spring 2019, Spring 2020; Spring 2023; Spring 2024; and Spring 2025;
 - ECE 641, Electromagnetics, Fall 2007, Spring 2009, Spring 2010, Fall 2012, and Fall 2014;
 - ECE 642, Time Harmonic Electromagnetics, Spring 2008, Spring 2011, and Fall 2013;
 - ECE 444, Antennas and Radiation, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2014, Spring 2016, Fall 2016, Fall 2017, Fall 2018, Fall 2020, Fall 2021, Fall 2022, and Fall 2023;
 - New course: ECE 540 Computational Electromagnetics, Spring 2012, Spring 2016, Spring 2017, Spring 2019, and Fall 2021.
 - New course: ECE 541 Applied Electromagnetics, Fall 2017, Fall 2020, Fall 2022, and Fall 2023.
 - Senior design (capstone) projects, ECE 401/402: see the list of projects and academic years/numbers of students within the UNDERGRADUATE RESEARCH/DESIGN STUDENTS section.
 - Independent Study: ENGR 498 Spring 2009, Spring 2010, and Summer 2011; ECE 395 Spring 2008, Spring 2017, and Fall 2017; ECE 695 Fall 2008; MECH 495 Spring 2010; ECE 495 Fall 2010, Fall 2011, Spring 2014, Fall 2014, Spring 2016, Fall 2016, Fall 2017, Spring 2018, Fall

- 2018, Fall 2019, Fall 2020, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Spring 2024, and Fall 2024.
- ECE 341 and ECE 342, Electromagnetic Fields & Devices I and II, Honors Sections (for practically all offerings of ECE 341 and ECE 342).
 - **At UMass Dartmouth, at the undergraduate level**, was constantly teaching a two-course junior-level sequence on electromagnetic fields and waves required for all electrical engineering majors:
 - ECE 335, Electromagnetic Theory I;
 - ECE 336, Electromagnetic Theory II.
 - **At UMass Dartmouth, at the graduate level**, introduced five new courses in applied electromagnetics:
 - ECE 536, Applied Computational Electromagnetics;
 - ECE 537, Antenna Theory;
 - ECE 538, Advanced Antenna Engineering;
 - ECE 539, Electromagnetics of Signal Integrity;
 - ECE 540, Electromagnetics.
 - Also ECE 595, Independent Study (for several advanced graduate topics/courses).
 - **Courses taught at the University of Belgrade**, School of Electrical Engineering:
 - EF10E, Fundamentals of Electrical Engineering [a huge freshmen-level two-semester (full-year) course on basic circuits and fields, with 8 hours of lectures, recitations, and lab per week];
 - TE3E, Electromagnetics (junior-level, two-semester course);
 - RI3E, Electromagnetics for Computer Engineers (junior-level, one-semester course);
 - EG3E, Electromagnetics for Power Engineers (junior-level, one-semester course);
 - TE5PE, Applied Electromagnetics (senior/graduate elective).
 - **Undergraduate academic advisor** for a number of Electrical Engineering majors (typically 15 students in every year) at UMass Dartmouth. **Faculty mentor** for four ECE undergraduate students, Spring 2011, CSU.

GRADUATE STUDENT RESEARCH ADVISING/SUPERVISION

<http://www.engr.colostate.edu/~notaros/research/research.htm#Students>

Ph.D. graduates:

- Dr. Milan Ilic (“Higher Order Hexahedral Finite Elements for Electromagnetic Modeling,” 2003);
- Dr. Miroslav Djordjevic (“Numerical Methods for Electromagnetic Modeling of Vehicles over a Wide Range of Frequencies,” 2004);
- Dr. Eve Klopf (“Optimal Higher Order Modeling Methodology Based on Method of Moments and Finite Element Method for Electromagnetics,” 2011);
- Dr. Elene Chobanyan (“Higher Order Volume/Surface Integral Equation Modeling of Antennas and Scatterers Using Diakoptics and Method of Moments,” 2014);
- Dr. Nada Sekeljic (“Transient Analysis of Closed- and Open-Region Electromagnetic Problems Using Higher Order Finite Element Method and Method of Moments in the Time Domain,” 2015);

- Dr. Ana Manic (“Fast and Accurate Double-Higher-Order Method of Moments Accelerated by Diakoptic Domain Decomposition and Memory Efficient Parallelization for High Performance Computing Systems,” 2015).
- Dr. Sanja Manic (“Electromagnetic Model Subdivision and Iterative Solvers for Surface and Volume Double Higher Order Numerical Methods and Applications,” 2019).
- Dr. Cam Key (“Improvements in Computational Electromagnetics Solver Efficiency: Theoretical and Data-Driven Approaches to Accelerate Full-Wave and Ray-Based Methods,” 2020).
- Dr. Pranav Athalye (“Designing Novel Radio-Frequency Coils for High Field and Ultra-High Field Magnetic Resonance Imaging,” 2021).
- Dr. Jake Harmon (“Accelerated Adaptive Numerical Methods for Computational Electromagnetics: Enhancing Goal-Oriented Approaches to Error Estimation, Refinement, and Uncertainty Quantification,” 2022).
- Dr. Stephen Kasdorf (“Full-Wave and Asymptotic Computational Electromagnetics Methods: On Their Use and Implementation in Received Signal Strength, Radar-Cross-Section, and Uncertainty Quantification Predictions,” 2024).
- **25 other M.S. and Ph.D. students** in the areas of computational electromagnetic, antennas, and remote sensing (at both Colorado State University and University of Massachusetts Dartmouth).
- **Current Ph.D. graduate students** fully supported on NSF, DoD, and other grants: Hein Thant (Ph.D.), Christopher Erickson (Ph.D.), Ross Stauder (Ph.D.), Nickolas Rhodes (Ph.D.).

M.S. Students:

- Andjelija Ilic, Ergun Simsek, Nilanjana De, Enow Tanjong, Erdem Yilmaz, Mubashir Hussain (with Prof. Dayalan Kasilingam), Roochi Chopra (with Prof. Steven Nardone), Carlos Flores, Cameron Kleinkort, Aaron Smull, Nabeel Moin, Ryan McCullough, Marcus Benzel, Adam Hicks, Blake Troksa, Jeremiah Corrado.

Graduate Committee Assignments at CSU:

- Served on PhD and MS committees of **more than 40 students** (with other colleagues as major advisors).

POSTDOCS AND SENIOR RESEARCH SCIENTISTS

<http://www.engr.colostate.edu/~notaros/research/research.htm#Students>

- **Five Postdoctoral Fellows and Senior Research Scientists** (at both CSU and UMD).

Senior Research Scientists at CSU:

- Dr. Gwo-Jong Huang, Research Scientist/Scholar II (full-time, since December 2013)
- Dr. Merhala Thurai, Research Scientist/Scholar III (full-time, since January 2015)

Postdoctoral Fellows at CSU:

- Dr. Milan Ilic, Postdoctoral Fellow (Summers 2007–2019)
- Dr. Slobodan Savic, Postdoctoral Fellow (Summer 2017)
- Dr. Miroslav Djordjevic, Postdoctoral Fellow (Summer 2008)

Visiting Scholar Sponsored at CSU:

- Dr. José M. Gil, Visiting Professor of Electrical and Computer Engineering, CSU, Fall 2009 (on leave from Polytechnic University of Madrid, Spain).

UNDERGRADUATE RESEARCH/DESIGN STUDENTS

<http://www.engr.colostate.edu/~notaros/research/research.htm#Students>

- **22 undergraduate Research Assistants** on “Research Experiences for Undergraduates (REU)” supplemental NSF grants (at both CSU and UMD).

Undergraduate Research/Senior Design Advising at CSU:

- NSF REU - Research Experiences for Undergraduates – students (at CSU):
 - She-ming Allen Chen, Steven Turner, Amy Standley, Joseph Kelly, Eric Smith, Michael Rader, Cameron Kleinkort, Laura Imbler, Aaron Smull, Nabeel Moin, Yoshi Okayasu, Jacob Hartman, Chad Paulson, Mehmed Erkocevic, Cameron Key, Jake Harmon, Jeremiah Corrado, Corban Yeakley, Christopher Erickson, Cody Hundhausen.
- Other research undergraduate students supported by NSF grants (at CSU):
 - Junjiang Lin, Ce Guo, Andres Solorzano Solis, Bryan Johnson, Aaron Tai, Peter Walsh, Luke Aldana, Corban Yeakley, Ryan Zonnefeld, Isaac Jacobson.
- **Senior design (capstone) projects at CSU:**
 - Senior design project “CSU Antenna Test Range”, AYs 2008/09, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, a total of **25 students** so far. Our projects and teams won the **First Place Award at Senior Design Project Competition at COE Engineering Days (E-Days)**, April 17, 2009, and **Second Place Award at Senior Design Project Competition at COE E-Days**, April 19, 2013.
 - Senior design project “Antenna Design”, AY 2011/12, **3 students**.
 - Senior design project “Geometry Processing for Computational Electromagnetics”, AY 2012/13, **1 student**.
 - Senior design project “Magnetics: Experimental Investigation of Magnetic Materials and Devices”, AY 2014/15, **2 students**.
 - Senior design project “Finite element electromagnetic modeling”, AY 2014/15, **1 student**.
 - Senior design project “HexArray: Antenna Array for Wi-Fi Mesh and Robotics”, AY 2014/15, **3 students**. Our project and team won the **Third Place Award at Senior Design Project Competition at COE E-Days**, April 17, 2015.
 - Senior design project “Snowflake Sensing System (SSS)”, AY 2015/16, **5 students**. Our project and team won the **First Place Award at Senior Design Project Competition at COE E-Days**, April 15, 2016.

- Senior design project “RF Design for Next-Generation MRI Scanners”, AY 2015/16, **3 students**. Our project and team won the **Third Place Award at Senior Design Project Competition at COE E-Days**, April 15, 2016.
- Senior design project “Ram the Snow Cam: Winter Weather Observation and Processing System”, AY 2016/17, **6 students**. Our project and team won the **2017 Best Paper Contest**, IEEE High Plains Section.
- Senior design project “Electromagnetic Measurements in Medical Applications (EMMA)”, AY 2016/17, **5 students**. Our project and team won the **Third Place Award at Senior Design Project Competition at COE E-Days**, April 14, 2017.
- Senior design project “Semi-Automated Precipitation Gauge”, AY 2016/17, **5 students**.
- Senior design project “Next Generation RF MRI Scanners”, AY 2017/18, **3 students**; AY 2019/20, **3 students**; AY 2020/21, **3 students**; AY 2021/22, **3 students**; AY 2022/23, **3 students**; AY 2023/24, **4 students**. Our project and team won the **First Place Award at Senior Design Project Competition at WS College of Engineering E-Days** at Colorado State University, on April 19, 2024, out of 25 competing projects/teams; AY 2024/25, **4 students**.
- Senior design project “3D Snowflake Camera & Snowflake Sensing System”, AY 2017/18, **6 students**; AY 2018/19, **6 students**; AY 2019/20, **3 students**; AY 2020/21, **3 students**; AY 2021/22, **6 students**; AY 2022/23, **8 students**; AY 2023/24, **7 students**; AY 2024/25, **10 students**.
- Senior design project “CSU Antenna Test Range – ATR”, AY 2017/18, **3 students**; AY 2018/19, **4 students**; AY 2019/20, **3 students**; AY 2020/21, **2 students**; AY 2021/22, **2 students**; AY 2022/23, **5 students**; AY 2023/24, **4 students**; AY 2024/25, **4 students**.
- Senior design project “Wireless Signal Characterization of Underground Mines”, AY 2017/18, **3 students**. Our project and team won the **Second Place Award at Senior Design Project Competition at WSCO E-Days**, April 12, 2018; AY 2018/19, **4 students**. Our project and team won the **Second Place Award at Senior Design Project Competition at WSCO E-Days**, April 19, 2019, as well as the **2019 Best Paper Contest**, IEEE High Plains Section; AY 2019/20, **4 students**; AY 2020/21, **2 students**.
- Senior design project “Telemedicine System for Patient Self-Testing and Data Transmission”, AY 2020/21, **3 students**; AY 2021/22, **2 students**; AY 2022/23, **4 students**; AY 2023/24, **4 students**; AY 2024/25, **3 students**.

Links to all senior design project websites can be found at

<http://www.engr.colostate.edu/~notaros/teaching/teaching.htm#CSUSeniorDesign>

and

<https://www.engr.colostate.edu/ECE401/SeniorDesign.php>

LEADERSHIP IN PROFESSIONAL TECHNICAL SOCIETIES AND ORGANIZATIONS

<http://www.engr.colostate.edu/~notaros/Service/service.htm#Societies>

- President of the [*IEEE Antennas and Propagation Society \(AP-S\)*](#) (2024). [More details on 2024](#).
- President Elect of the [*IEEE Antennas and Propagation Society*](#) (2023).
- President of the [*Applied Computational Electromagnetics Society \(ACES\)*](#) (2020–2023).

- Chair of the [USNC-URSI Commission B](#) (*Fields and Waves*; largest URSI commission), *US National Committee, International Union of Radio Science* (2021–2023).
- Chair of the *Meetings Committee* of the *IEEE Antennas and Propagation Society* (the role of Vice President of Conferences in other IEEE societies) (2021–2022).
- Chair of the *Joint Meetings Committee* between the *IEEE Antennas and Propagation Society* and the *US National Committee of the International Union of Radio Science* (2021–2022).
- Member of the *IEEE Antennas and Propagation Society Administrative Committee (AdCom)* (2021–).
- Chair of the *Nominations Committee* of the *IEEE Antennas and Propagation Society* (2025).
- Chair of the *Past Presidents Council* of the *IEEE Antennas and Propagation Society* (2025).
- *Applied Computational Electromagnetics Society (ACES) Awards Chair* (2023–).
- Member of the *Strategic Planning Committee* of the *IEEE Antennas and Propagation Society* (2021–).
- Member of the *Constitution and Bylaws Committee* of the *IEEE Antennas and Propagation Society* (2023–).
- Member of the *Member and Geographic Activities Committee* of the *IEEE Antennas and Propagation Society* (2021–2022).
- Vice President of the *Applied Computational Electromagnetics Society (ACES)* (2019–2020).
- Vice-Chair of the *USNC-URSI Commission B, US National Committee, International Union of Radio Science* (2018–2020).
- Member of the *Board of Directors (BoD)* of the *Applied Computational Electromagnetics Society (ACES)* (2016–2019).
- Chair of the *Technical Committee* for the *USNC-URSI Commission B, US National Committee, International Union of Radio Science* (2015–2017).
- *Applied Computational Electromagnetics Society (ACES) Secretary* (2017–2019).
- Member of the *Scientific Committee of International Workshops on Finite Elements for Microwave Engineering – FEM* (2012–).
- Member of the *IEEE Antennas and Propagation Society Education Committee*, 2010–2018.
- Originator (with Prof. Atef Elsherbeni) of *CO-EM Group* (of professors and researchers in Colorado working in Electromagnetics area), group meets quarterly, 2016–.
- Fellow of the *IEEE (Institute of Electrical and Electronics Engineers)*, “for contributions to higher order methods in computational electromagnetics.”
- Fellow of *ACES, Applied Computational Electromagnetics Society*.
- URSI Senior Member (Senior Member of “International URSI”), *International Union of Radio Science*.
- Member (Fellow) of the *IEEE Antennas and Propagation Society (AP-S)*, *IEEE Microwave Theory and Technology Society (MTT-S)*, *IEEE Geoscience and Remote Sensing Society (GRS-S)*, *IEEE Electromagnetic Compatibility Society (EMC-S)*, and *IEEE Education Society (EdSoc)*.

- Member of the *USNC-URSI Commissions B (Fields and Waves), F (Wave Propagation and Remote Sensing), and K (Electromagnetics in Biology and Medicine), US National Committee, International Union of Radio Science.*
- Member (Fellow) of the *Applied Computational Electromagnetics Society (ACES).*
- Member of the *American Society for Engineering Education (ASEE).*
- Member of the *American Geophysical Union (AGU).*
- Member of the *American Meteorological Society (AMS).*
- Member of the *Antenna Measurement Techniques Association (AMTA).*
- Fellow (by invitation) of the *Industry Academy* within the *International Artificial Intelligence Industry Alliance (AIIA).*
- Fellow of *The Electromagnetics Academy.*

SERVICE AS 2024 PRESIDENT OF IEEE ANTENNAS AND PROPAGATION SOCIETY

IEEE AP-S: <https://ieeeps.org>; More details on 2024: <https://ieeeps.org/75-years-celebration>

Prof. Notaros served as 2024 President of the *IEEE Antennas and Propagation Society (AP-S)*. [Accomplishments of the Society in 2024](#), thanks to incredible work, enthusiasm, and contributions by AP-S leaders, volunteers, and members, can be summarized as follows:

- We carried out a number of forward-looking [Fundamental Changes of the IEEE AP-S Society](#) aimed at establishing foundation for advancing the structure and operation of our Society in all areas.
- We made more fundamental changes in the [IEEE AP-S Constitution, Bylaws, and Operating Manual](#) than at any other time in Society's history.
- We established, for the first time, [Society Vice Presidents](#), namely, VPs of Professional Activities, Technical Activities, Operations and Finance, Publications, and Conferences, respectively, as well as the AP-S Director of Intersociety Collaboration (DISC).
- We restructured and repurposed the AP-S Technical Directions Committee (TDC) and Finance Committee, with several permanent subcommittees, and created the [Fellows Search Committee \(FSC\) and Awards Search Committee \(ASC\)](#) of the AP-S.
- We established 12 inaugural [IEEE AP-S Technical Committees \(TCs\)](#) to guide our technical activities (note that AP-S did not have Technical Committees before).
- We established a [maximum total length of terms](#) for all volunteer positions in the AP-S, at 6 years, including reappointments, except for those positions that are already limited in our documents.
- We instituted a practice of every [AP-S Standing Committee](#), in addition to Chair, having Vice Chair of the committee.
- We created [several Ad Hoc \(temporary\) Committees](#) to complete specific tasks; namely, the New Logo Implementation and Communication (NLIC) Committee; Committee on Recommendations to Advance Flagship Conferences (RAFC); and Committee on AP-S Awards Changes.
- We created a new AP-S conference in Latin America – [Latin American Conference on Antennas & Propagation \(LACAP\)](#), to increase IEEE and AP-S membership and impact in IEEE Region 9 and participation of our colleagues and students from the region in IEEE and AP-S activities.

- We undertook concerted efforts and actions toward [AP-S Membership Growth and Retention](#).
- On December 31, 2024, we topped the [13,000 AP-S active members mark, an unprecedented 25% growth in just one year, 2024 alone](#).
- We established [50 new AP-S chapters in 2024](#), more than in any single year in the Society's history. This is 22% chapters growth in a year.
- In 2024, the [AP-S women membership grew by 64%](#).
- The most important event of 2024 for the AP Society – [IEEE APS/URSI 2024, held in July in Florence, Italy](#), was an astounding success.
- In 2024, we conducted the [75th AP-S Anniversary Celebrations](#), as IEEE's third society (AP-03), with many activities, events, and publications throughout the year.
- The [main 75 Years of AP-S Celebration took place at our flagship conference in Florence](#), with truly historic events.
- The inaugural edition of our Latin American Conference on Antennas & Propagation, [LACAP 2024, in Cartagena de Indias, Colombia](#), was a fantastic success, resulting in a dramatic increase of our membership in IEEE Region 9.
- The second edition of the [International Microwave & Antennas Symposium – IMAS 2024](#), in Marrakech, Morocco, jointly by AP-S and IEEE MTT-S, was an outstanding success too.
- And so was the joint [IEEE Microwave and Antennas Propagation Conference – MAPCON 2024](#), in Hyderabad, India. Before and after MAPCON, we had fantastic visits, workshops, and meetings with our chapters all across India.
- Various AP-S Committees organized throughout the year a very large number of innovative and impactful [international membership-oriented workshops and meetings in all IEEE regions](#).
- Our Intersociety Collaboration included establishment of the [IEEE Journal of Selected Topics on Electromagnetics, Antennas and Propagation, Intersociety Joint Distinguished Lecturer Program](#), etc.
- We made multifaceted efforts toward enhancing impactful industry involvement and presence within all AP-S activities, with several [preliminary events aimed at learning of industry needs, desires, and ideas](#).
- I was incredibly fortunate to have such fabulous [AP-S AdCom at Large Members](#), and I am enormously grateful to them – see [my personal acknowledgements](#).
- [What a year!](#) For me personally, this was the busiest year of my life. It was also the most pleasurable, enriching, and rewarding year of my career, and a privilege and opportunity of a lifetime.

75TH ANNIVERSARY CELEBRATION OF IEEE AP SOCIETY THROUGHOUT 2024

<https://ieeeps.org/75-years-celebration>

2024 was a special celebratory year for the IEEE Antennas and Propagation Society as we celebrated our 75th Anniversary. The AP-S was founded in 1949, as one of the three oldest IEEE societies. [Celebratory activities, events, and publications throughout the year](#) can be summarized as follows:

- For the celebration, we created an [extended version of the new AP-S logo](#), and used it extensively in our publications, conferences, electronic media, and communications throughout the year.

- On February 16, 2024, the IEEE Technical Activities Board (TAB) conducted the [IEEE TAB Celebration of the 75th AP-S Anniversary](#) in Orlando, Florida, [with ~200 IEEE leaders in attendance](#).
- The TAB celebration was featured in the [IEEE Technical Activities Society Sentinel \(Newsletter\)](#) on February 28, 2024.
- IEEE TA Spotlight article on [“Celebration of the 75th Anniversary of the IEEE AP Society and Its Accomplishments”](#) written by the AP-S President went, on April 16, 2024, to all IEEE members.
- The [celebratory June Special Issue of the IEEE AP Magazine](#) featured comprehensive articles describing our cornerstone technical and professional accomplishments and activities over 75 years.
- The main anniversary events took place in Florence, Italy, and were conducted in conjunction with the in conjunction with our flagship conference, [IEEE AP-S/URSI 2024](#), on July 17–18, 2024.
- [The July 18, 2024 75 Years AP-S Plenary Session](#) provided a technical and professional overview of the Society and its past and present, featuring 9 plenary talks by technical and professional leaders.
- [The July 18, 2024 AP-S Past Presidents Panel](#) was a historic event, gathering a record number of 23 Society Presidents as presenters who provided unique perspectives on AP-S and AP.
- [The July 18, 2024 Intersociety Collaboration Panel](#) was a historic event, with as many as 17 leaders of IEEE and non-IEEE technical professional international societies and organizations as presenters.
- [The July 18, 2024 Celebratory Lunch](#) included gigantic anniversary cake cutting ceremony with IEEE President serving cake to students and attendees and AP-S President opening and serving champagne.
- [The July 18, 2024 Celebratory Gala Dinner](#) took place in the Salone dei Cinquecento at Palazzo Vecchio, the most historic and artistic building and hall in Florence – “once in a lifetime” experience.
- The highlight of the Gala were [fantastic performances by opera singers](#). The biggest surprise of the evening (and entire conference) was [AP-S President’s unplanned singing of Schubert’s “Ave Maria”](#).
- [Our external guests](#), IEEE President and Vice Presidents, Presidents of other IEEE Societies and international organizations, were truly impressed with AP-S, and [our organization and hospitality](#).
- Many AP-S chapters held anniversary celebrations, with cake cutting, throughout the year and all over the globe.
- The AP Transactions released on Sep. 13, 2024 [two Special Article Collections](#) on the occasion of the 75th AP-S Anniversary focusing on AP for Emerging 5G/6G Communications and Climate Change.
- [October 30, 2024 IEEE eNotice](#) communicated IEEE AP-S Membership Growth and Retention Milestone Announcement (attributed in part to the 75th AP-S Anniversary Celebration in 2024).
- The 2024 membership growth ended up being [25%, with 13,012 AP-S active members](#) on Dec. 31.
- [Our 75th Anniversary celebration](#) was valuable to AP-S volunteers and members, for their technical and professional advancement, for morale and belonging to the Society, for our outreach to new members, and for our promotion among other organizations that we care about.

SERVICE AS EDITOR, GUEST EDITOR, TPC MEMBER, ETC.

<http://www.engr.colostate.edu/~notaros/Service/service.htm#Editor>

- Track Editor (serves as Editor in Chief for a track of papers) for the [IEEE Transactions on Antennas and Propagation](#) (2021–).

- Associate Editor for the *IEEE Transactions on Antennas and Propagation* (2017–2020).
- Guest Editor for the *Special issue “Frontiers in Computational Electromagnetics”* of the *IEEE Transactions on Antennas and Propagation* (Guest Editors: Branislav M. Notaros, Colorado State University, USA, Francesco P. Andriulli, Politecnico di Torino, Italy, and Hakan Bagci, King Abdullah University of Science and Technology, Saudi Arabia), 2022–2024.
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9653185>
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=10367426>
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=10431661>
- Guest Editor of the *Special Issue on Finite Elements for Microwave Engineering, Electromagnetics* (double special issue), Vol. 34, Issue 3-4, April 2014.
- Guest Editor in Chief of the *Special Issue on Advanced Computational Electromagnetic Methodologies and Techniques (“ACES2018 Denver – Methods”)*, *ACES Journal*, Vol. 33, No. 10, October 2018, and Vol. 34, No. 2, February 2019.
- Guest Editor in Chief of the *Special Issue on New Designs of Antennas and RF, Microwave, and Wireless Structures and Systems (“ACES2018 Denver – Designs”)*, *ACES Journal*, Vol. 33, No. 10, October 2018, and Vol. 34, No. 2, February 2019.
- Guest Editor in Chief of the *Special Issue on Cutting-Edge Modeling and Applications of Electromagnetic Devices and Fields (“ACES2018 Denver – Applications”)*, *ACES Journal*, Vol. 33, No. 10, October 2018, and Vol. 34, No. 2, February 2019.
- Founding Editor of *“Electromagnetics, Wireless, Radar, and Microwaves Series”*, book series, *CRC Press, Taylor & Francis Group, LLC*.
- Series Associate Editor of the *SciTech/IET-ACES Book Series on Computational Electromagnetics and Engineering (CEME)*.
- Technical Program Committee member for *2023 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, July 23–28, 2023, Portland, Oregon.
- Technical Program Committee member for *2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, July 10-15, 2022, Denver, Colorado.
- Technical Program Committee member for *2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, December 4–10, 2021, Singapore.
- Technical Program Committee member for *2020 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, July 5–10, 2020, Montreal, Canada.
- Technical Program Committee member for *2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, July 7–12, 2019, Atlanta, Georgia.
- Technical Program Committee member for *2018 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, July 8–13, 2018, Boston, Massachusetts.
- Technical Program Committee member for *2017 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, July 9–15, 2017, San Diego, California.
- Technical Program Committee member for *2016 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, June 26 – July 1, 2016, Fajardo, Puerto Rico.
- Technical Program Committee member for *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, July 19–25, 2015, Vancouver, BC, Canada.

- Served as a reviewer of journal papers on more than 200 occasions within last several years.
- Regularly serves as reviewer for the *IEEE Transactions on Antennas and Propagation* and for the *IEEE Transactions on Microwave Theory and Techniques*, and frequently for the *IEEE Antennas and Wireless Propagation Letters*.
- Periodically serves as reviewer for *Nature*, *APS Magazine*, *ACES Journal*, *Journal of Applied Meteorology and Climatology*, *Journal of Computational Physics*, *JOSA A*, *JOSA B*, *IEEE Microwave and Wireless Components Letters*, *Journal of Quantitative Spectroscopy and Radiative Transfer*, *International Journal of RF and Microwave Computer-Aided Engineering*, *IET Microwaves, Antennas & Propagation*, *International Journal for Numerical Methods in Engineering*, *International Journal of Engineering Analysis with Boundary Elements*, *IEEE Transactions on Wireless Communications*, *IEEE Sensors Journal*, *International Journal of Numerical Modeling*, etc.
- Reviewer for many conferences, book series, monographs, textbooks, etc.
- Serves as reviewer of applications for *IEEE Antennas and Propagation Society* Pre-Doctoral and Doctoral Research Awards, Student Paper Awards, Student Design Competitions, etc.
- Member of Award Committees for *2015 ACES Computational Electromagnetics Award*, *2015 ACES Early Career Award*, and *2015 ACES Technical Achievement Award*, *Applied Computational Electromagnetics Society (ACES)*.
- Frequently serves as reviewer and panelist for the National Science Foundation, *Engineering Directorate, Electrical, Communications and Cyber Systems (ECCS) Division*, and also *NSF Office of International Science and Engineering*.
- Proposal reviews for other institutions and agencies.

GENERAL CHAIR OF CONFERENCES

<http://www.engr.colostate.edu/~notaros/Service/service.htm#Confchair>

- (1) General Chair of the *2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting – APS/URSI 2022*, July 10-15, 2022, Denver, Colorado.
<https://www.2022apsursi.org/>
Chair's Report (with event photos) on APS-URSI 2022 Denver Conference:
<https://2022apsursi.org/Files/Chair's%20Report%20on%20APS-URSI%202022%20Denver%20Conference.pdf>
- (2) General Chair of the *2018 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2018*, March 25-29, 2018, Denver, Colorado, USA, with record participation,
http://aces-society.org/conference/Denver_2018/
- (3) General Chair of the *2021 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2021*, August 1-5, 2021, Online Conference.
https://aces-society.org/conference/Online-Live_2021/
- (4) General Chair of the *11th International Workshop on Finite Elements for Microwave Engineering – FEM2012*, June 4-6, 2012, The Stanley Hotel, Estes Park, Colorado, USA, with record participation,
<http://www.engr.colostate.edu/FEM2012>

- (5) General Chair of the *14th International Workshop on Finite Elements for Microwave Engineering – FEM2018*, September 10-14, 2018, Cartagena de Indias, Colombia,
http://www.iceaa-offshore.org/j3/images/documenti/FEM_18_Call_For_Papers.pdf

SELECTED RECENT PROFESSIONAL TECHNICAL SERVICE SPEECHES

- B. M. Notaros, “IEEE Antennas and Propagation Society Remarks,” USNC-URSI Business Meeting, *2025 USNC-URSI National Radio Science Meeting*, Boulder, Colorado, January 7, 2025.
https://nrsmboulder.org/NRSM2025_ProgramGuide.pdf
- B. M. Notaros, “Welcome and Greetings of IEEE AP-S President and AP-S Overview,” *IEEE AP-S Workshop IIT Delhi*, Indian Institute of Technology Delhi, New Delhi, India, December 17, 2024.
[IEEE AP-S Workshop IIT Delhi](#)
- B. M. Notaros, “Welcome and Greetings of IEEE AP-S President and AP-S Overview,” *IEEE PUNECON 2024, Electromagnetics and Sustainability Special Session*, and “Inauguration Ceremony for the IEEE AP-S DIAT Student Branch Chapter”, DIAT, Pune, India, and “Chief Guest Address”, *Awards Ceremony for EU-REKA 2024*, IEEE AP-S Committee on Promoting Equality Co-Sponsored Project, IEEE Pune Section, Pune, India, December 15, 2024.
<https://punecon.ieeeepunesection.org/>
<https://www.eu-reka.org/>
- B. M. Notaros, “Welcome and Greetings of IEEE AP-S President and AP-S Overview,” *IEEE AP-S Jaipur Meetings*, Department of ECE, Malaviya National Institute of Technology, Jaipur, India, December 14, 2024.
- B. M. Notaros, “Welcome and Congratulations of IEEE AP-S President and AP-S Overview,” Opening Ceremony, December 10, 2024, and “Advancing Impacts of IEEE Antennas and Propagation Society in India and IEEE Region 10,” IEEE AP-S and MTT-S India and Region 10 Chapter Chairs Meeting, December 12, 2024, *IEEE Microwaves, Antennas and Propagation Conference – MAPCON 2024*, Hyderabad, India.
<https://ieeemapcon.org/>
- B. M. Notaros, “Welcome and Congratulations of IEEE AP-S President and AP-S Overview,” *Multi-Society, Multi-Chapter International Workshop on Trends & Techniques on Advancement of Antenna & Microwave Technology and New Chapters Inauguration*, Kovalam, Kerala, India, December 8, 2024.
[International Workshop on Antennas & Microwaves](#)
- B. M. Notaros, “Sustainable Development Goals” IEEE AP-S SIGHT (Special Interest Group of Humanitarian Technology) Competition Ceremony, with 17 teams of undergraduate and high-school students located in Colombia applying and five teams being awarded and presenting their posters, and “IEEE AP-S Young Professionals: Activities and Opportunities,” IEEE AP-S Young Professionals Reception, *First IEEE Latin American Conference on Antennas & Propagation – LACAP 2024*, Cartagena de Indias, Colombia, December 2, 2024.
<https://lacap2024.org/ieee-ap-s-sight-poster-competition/>
<https://lacap2024.org/2024/11/27/discover-the-benefits-of-ieee-young-professionals/>
- B. M. Notaros, “Welcome to Inaugural LACAP, Priorities of IEEE AP-S for IEEE Region 9,” Opening Ceremony, December 2, 2024, and “Advancing Impacts of IEEE Antennas and Propagation Society in IEEE Region 9,” IEEE Region 9 AP-S Chapter Chairs Meeting, December 1, 2024, *First IEEE Latin American Conference on Antennas & Propagation – LACAP 2024*, Cartagena de Indias, Colombia.

https://lacap2024.org/wp-content/uploads/2024/12/Program_LACAP_v12012024-2.pdf

- B. M. Notaros, “Welcome of IEEE AP-S President, Overview of IEEE Antennas and Propagation Society,” Opening Ceremony, *International Microwave & Antennas Symposium – IMAS 2024*, Marrakech, Morocco, October 22, 2024.
http://imas2024.org/wp-content/uploads/2024/10/Program_Booklet.pdf
- B. M. Notaros, “Introduction of Event”, “IEEE AP-S Overview”, and “Inauguration Ceremony for the IEEE Serbia and Montenegro Section Antennas and Propagation Society AP03 Chapter”, *IEEE AP-S Distinguished Lecturers Workshop & Meeting Series*, Belgrade, Serbia, October 17-19, 2024.
[IEEE AP-S Distinguished Lecturers Workshop & Meeting Series](#)
- B. M. Notaros, “IEEE Antennas and Propagation Society President Address” (virtual), *IEEE PUST AP-S Student Branch Chapter Inauguration on IEEE Day*, Pabna University of Science and Technology, Pabna, Bangladesh, October 1, 2024.
- B. M. Notaros, “IEEE Antennas & Propagation Society President MTT-S AdCom Address,” *IEEE MTT-S AdCom Meeting (AM3) 2024*, IEEE Microwave Theory and Technology Society, Cagliari, Sardinia, Italy, September 28, 2024.
- B. M. Notaros, “75th Anniversary of the IEEE Antennas & Propagation Society and its Accomplishments” (virtual), *IEEE SPACE 2024 (SPace, Aerospace and defenCE Conference)*, Bangalore, India, July 22, 2024.
<https://ieee-space-2024.ieeebangalore.org/program.php>
- B. M. Notaros, “IEEE AP-S President Welcome and AP-S Overview,” Opening Ceremony, *2024 International Applied Computational Electromagnetics Society Symposium – ACES2024*, Orlando, Florida, May 20, 2024.
https://aces-society.org/conference/Orlando_2024/ACES2024_Orlando_Program.pdf
- B. M. Notaros, “Presidential Address” (virtual), *75th Anniversary Celebration of the IEEE Antennas and Propagation Society, Kerala Chapter*, Thampanoor, Trivandrum, India, April 19, 2024.
- B. M. Notaros, “Welcome of the IEEE AP-S President” and “IEEE & AP-S Today: Activities and Opportunities,” *IEEE AP-S/MTT-S/EMC-S First Joint Distinguished Lecture Workshop*, Zagreb, Croatia, April 12, 2024.
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=10807799>
- B. M. Notaros, “IEEE Antennas and Propagation Society President’s Opening Remarks,” Opening Ceremony, *The 18th European Conference on Antennas and Propagation – EuCAP 2024*, Glasgow, UK, March 18, 2024.
- B. M. Notaros et al., “Student Mentoring Panel,” *2024 USNC-URSI National Radio Science Meeting*, January 11, 2024, Boulder, Colorado.
https://www.usnc-ursi-archive.org/nrsm/2024/NRSM2024_ProgramGuide.pdf
- B. M. Notaros, “IEEE AP-S Presentation,” *IEEE Sensors Council 25th Anniversary Celebration*, IEEE SENSORS 2023 Conference, Vienna, Austria, October 31, 2023.
<https://2023.ieee-sensorsconference.org/25th-anniversary-speakers>
- B. M. Notaros, “IEEE AP-S Opening Remarks,” Opening Ceremony, and “IEEE AP-S Opportunities for Members and Students,” IEEE SIGHT Panel, *The 7th International EMC Conference EMC Türkiye 2023 and IEEE AP-S International Workshop on Current and Future Challenges in Electromagnetics and Antenna Engineering*, Istanbul, Türkiye, September 18, 2023.
http://www.emcturkiye.org/EMC_TURKIYE_2023_FINAL_PROGRAM.pdf

ORGANIZER AND CHAIR OF CONFERENCE SESSIONS

<http://www.engr.colostate.edu/~notaros/Service/service.htm#Sessions>

- (1) Organized/coordinated Commission B (and joint) Special Sessions for the *2018 USNC-URSI National Radio Science Meeting*, January 4-7, 2018, Boulder, Colorado (10 special sessions, 70 papers).
- (2) Organized/coordinated Commission B (and joint) Special Sessions for the *2017 USNC-URSI National Radio Science Meeting*, January 4-7, 2017, Boulder, Colorado (8 special sessions, 63 papers).
- (3) Organized/coordinated Commission B Special Sessions for the *2016 USNC-URSI National Radio Science Meeting*, January 6-9, 2016, Boulder, Colorado (9 special sessions, 54 papers).
- (4) Organizer and host of the *Second CO-EM Group* (of professors and researchers in Colorado working in Electromagnetics area) *Meeting*, December 2, 2016, Colorado State University.
- (5) Organizer and Chair of the Plenary Session for the *2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting – APS/URSI 2022*, July 14, 2022, Denver, Colorado, www.2022apsursi.org/plenary_talks.php.
- (6) Co-Organizer of NRSM 2022 Plenary Session, Theme: “RF Spectrum Use, Management, and Interference Mitigation,” for the *2022 USNC-URSI National Radio Science Meeting*, January 6, 2022, Boulder, Colorado.
- (7) Co-Organizer and Co-Chair (with Dr. CJ Reddy and Prof. Douglas Werner) of the Plenary Panel “Current Needs in CEM,” for the *2023 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2023*, March 27, 2023, Monterey, California.
- (8) Organizer and Chair of the Special Session “Advancements in Antennas, Propagation, and Radio Science: In Memory of W. Ross Stone,” for the *2024 IEEE International Symposium on Antennas and Propagation and ITNC-USNC-URSI Radio Science Meeting*, July 17, 2024, Florence, Italy.
- (9) Co-Organizer and Co-Chair (with Dr. Stefania Monni) of the Workshop In Memory of Ross Stone, for the *18th European Conference on Antennas and Propagation – EuCAP 2024*, March 20, 2024, Glasgow, UK.
- (10) Organizer and Chair of the Special Session “Advances in Frequency-Domain CEM Techniques and Applications,” for the *24th International Conference on Electromagnetics in Advanced Applications – ICEAA 2023*, October 11, 2023, Venice, Italy.
- (11) Organizer and Chair of the Special Session “Advances in Frequency-Domain CEM Techniques and Applications,” for the *2023 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2023*, March 27, 2023, Monterey, California.
- (12) Organizer and Chair of the Special Session “Advances in Frequency-Domain CEM Techniques and Applications,” for the *2020 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2020*, July 30, 2020, Monterey, California, Online Conference.
- (13) Organizer and Chair of the Special Session “Advances in Frequency-Domain CEM Techniques and Applications,” for the *21st International Conference on Electromagnetics in Advanced Applications – ICEAA 2019*, September 11, 2019, Granada, Spain.
- (14) Organizer and Chair of the Special Session “Advances in Frequency-Domain CEM Techniques and Applications,” for the *2019 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2019*, April 16, 2019, Miami, Florida.

- (15) Organizer and Chair (with Prof. Yahya Rahmat-Samii) of the Special Session “Advances in CEM and Emerging Applications,” for the *2017 USNC-URSI National Radio Science Meeting*, January 4, 2017, Boulder, Colorado.
- (16) Organizer and Chair (with Prof. Zoya Popovic and Prof. Erdem Topsakal) of the Special Session “Magnetic Resonance Imaging,” for the *2017 USNC-URSI National Radio Science Meeting*, January 4, 2017, Boulder, Colorado.
- (17) Organizer and Chair (with Prof. Juan Zapata) of the Special Session “Advanced FEM and Hybrid Techniques,” for the *13th International Workshop on Finite Elements for Microwave Engineering – FEM2016*, May 16-18, 2016, Florence, Italy.
- (18) Organizer and Chair (with Prof. Yahya Rahmat-Samii) of the Special Session “Advances in Computational EM and Emerging Applications,” for the *2016 USNC-URSI National Radio Science Meeting*, January 7, 2016, Boulder, Colorado.
- (19) Organizer (with Prof. Sourajeet Roy) of Special Session “Uncertainty Quantification in Computational EM and Signal/Power Integrity Verification” for the *2015 IEEE Symposium on Electromagnetic Compatibility & Signal Integrity – EMC&SI 2015*, March 19, 2015, Silicon Valley, California.
- (20) Organizer and Chair (with Prof. Thomas Eibert) of the Special Session “Advanced FEM and Hybrid Techniques,” *12th International Workshop on Finite Elements for Microwave Engineering – FEM2014*, May 15, 2014, Chengdu, China.
- (21) Organizer (with Prof. Branko Kolundzija) of Special Session “Higher Order CEM: Development and Applications” for the *29th International Review of Progress in Applied Computational Electromagnetics – ACES 2013*, March 24-28, 2013, Monterey, California.
- (22) Organizer and Chair of Special Session “25 Years of Progress and Future Challenges in Applied Computational Electromagnetics” for the *25th Annual Review of Progress in Applied Computational Electromagnetics – ACES 2009*, March 10, 2009, Monterey, California.
- (23) Organizer and Chair of the Special Session “Emerging Techniques and Applications for Computational Modeling Technologies: Academic and Commercial Aspects and Challenges,” for the *URSI CNC/USNC North American Radio Science Meeting - URSI 2007*, July 24, 2007, Ottawa, ON, Canada.
- (24) Organizer and Chair of the Special Session “Emerging Computational Electromagnetic Modeling Technologies: Academic and Commercial Aspects and Challenges” for the *2006 IEEE APS International Symposium and USNC/URSI Radio Science Meeting*, July 10, 2006, Albuquerque, NM (AP special session).
- (25) Organizer and Chair (with Prof. Branko Kolundzija) of Special Session “Higher Order Numerical Methods” for the *28th International Review of Progress in Applied Computational Electromagnetics – ACES 2012*, April 10-14, 2012, Columbus, Ohio.
- (26) Organizer and Chair of the Special Session “Higher Order Computational Electromagnetics” of the *2005 IEEE APS International Symposium and USNC/URSI Radio Science Meeting*, July 7, 2005, Washington, D.C. (joint AP/URSI B special session).
- (27) Chair of Special Session “Advanced Modeling Techniques and Algorithms in Computational Electromagnetics,” *2025 USNC-URSI National Radio Science Meeting*, January 9, 2025, Boulder, Colorado.
- (28) Chair of Session “Devices, Systems, and Applications,” *2025 USNC-URSI National Radio Science Meeting*, January 10, 2025, Boulder, Colorado.

- (29) Chair of Keynote Session – Prof. Constantine A. Balanis, “The Evolution of Antenna Technology: Past, Present and Future” *First IEEE Latin American Conference on Antennas & Propagation – LACAP 2024*, Cartagena de Indias, Colombia, December 3, 2024.
- (30) Chair of Session “Propagation, Scattering, and Sensing I,” *2024 USNC-URSI National Radio Science Meeting*, January 11, 2024, Boulder, Colorado.
- (31) Chair of Session “Target Detection and Identification,” *2023 IEEE International Symposium on Antennas and Propagation*, July 24, 2023, Portland, OR, USA.
- (32) Chair of Session “Finite Element Methods I,” *2023 IEEE International Symposium on Antennas and Propagation*, July 24, 2023, Portland, OR, USA.
- (33) Chair of Session “Numerical Electromagnetics,” *2023 USNC-URSI National Radio Science Meeting*, January 13, 2023, Boulder, Colorado.
- (34) Chair of Session “Machine Learning Applications for Remote Sensing,” *2023 USNC-URSI National Radio Science Meeting*, January 13, 2023, Boulder, Colorado.
- (35) Chair of Session “Numerical Methods,” *2022 USNC-URSI National Radio Science Meeting*, January 5, 2022, Boulder, Colorado.
- (36) Chair of Session “Frequency-Domain Methods,” *2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, December 9, 2021, Singapore.
- (37) Chair of Session “Antenna Theory, Design, and Measurements,” *2021 USNC-URSI National Radio Science Meeting*, January 6, 2021, Boulder, Colorado, Online Conference.
- (38) Chair of Session “Numerical Methods,” *2021 USNC-URSI National Radio Science Meeting*, January 6, 2021, Boulder, Colorado, Online Conference.
- (39) Chair of Session “Finite Element Methods,” *2019 IEEE International Symposium on Antennas and Propagation*, July 9, 2019, Atlanta, Georgia.
- (40) Chair of Session “Computational Electromagnetics II,” *2019 IEEE International Symposium on Antennas and Propagation*, July 12, 2019, Atlanta, Georgia.
- (41) Co-chair of Special Session “Advances in Curved Patch Modeling,” *2019 International Applied Computational Electromagnetics Society (ACES) Symposium – ACES2019*, April 15, 2019, Miami, Florida.
- (42) Chair of Session “Numerical Methods,” *2019 USNC-URSI National Radio Science Meeting*, January 10, 2019, Boulder, Colorado.
- (43) Chair of Session “Analytical and Theoretical Electromagnetics,” *2019 USNC-URSI National Radio Science Meeting*, January 11, 2019, Boulder, Colorado.
- (44) Chair of Session “Applications of millimeter-wave and 5G antenna systems,” *2018 IEEE International Symposium on Antennas and Propagation*, July 12, 2018, Boston, MA, USA.
- (45) Chair of Session “Sensor Network and Cognitive Radio,” *2018 USNC-URSI Radio Science Meeting (Joint with IEEE AP-S Symposium)*, July 12, 2018, Boston, MA, USA.
- (46) Chair of Session “Imaging and Monitoring in Medical Applications,” *2018 USNC-URSI National Radio Science Meeting*, January 5, 2018, Boulder, Colorado.
- (47) Chair of Session “Numerical Methods,” *2018 USNC-URSI National Radio Science Meeting*, January 6, 2018, Boulder, Colorado.
- (48) Chair of Session “Integral Equation Applications,” *2017 IEEE International Symposium on Antennas and Propagation*, July 10, 2017, San Diego, California.

- (49) Chair of Session “Fast Direct and Iterative Integral-Equation Solvers,” *2016 IEEE International Symposium on Antennas and Propagation*, June 29, 2016, Fajardo, Puerto Rico.
- (50) Chair of Session “Advanced Remote Sensing and Radar Techniques and Applications,” *2016 IEEE International Symposium on Antennas and Propagation*, June 29, 2016, Fajardo, Puerto Rico.
- (51) Chair of Session “Electromagnetic Imaging and Sensing,” *2016 USNC-URSI Radio Science Meeting* (Joint with IEEE AP-S Symposium), June 30, 2016, Fajardo, Puerto Rico.
- (52) Chair of Session “Numerical Methods,” *2016 USNC-URSI National Radio Science Meeting*, January 6, 2016, Boulder, Colorado.
- (53) Chair of Session “RCS and Scattering,” *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, July 21, 2015, Vancouver, BC, Canada.
- (54) Chair of Session “Radar Metrology and Clutter Modeling,” *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, July 22, 2015, Vancouver, BC, Canada.
- (55) Chair of Session “Frequency-Domain Integral-Equation Methods,” *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, July 23, 2015, Vancouver, BC, Canada.
- (56) Chair of Session “Medical Imaging and Sensing,” *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Sci. Meeting*, July 23, 2015, Vancouver, BC, Canada.
- (57) Chair of Session “Parallel and special-processor based numerical methods,” *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, July 24, 2015, Vancouver, BC, Canada.
- (58) Chair of Session “Accelerated Computing Methods for Numerical Electromagnetics I,” *2014 IEEE Antennas and Propagation Society International Symposium*, July 10, 2014, Memphis, Tennessee.
- (59) Chair of Session “Accelerated Computing Methods for Numerical Electromagnetics II,” *2014 IEEE Antennas and Propagation Society International Symposium*, July 10, 2014, Memphis, Tennessee.
- (60) Chair of Session “Numerical Methods,” *2014 USNC-URSI National Radio Science Meeting*, January 10, 2014, Boulder, Colorado.
- (61) Chair of Session “Scattering, Diffraction, and RCS II,” *2013 IEEE Antennas and Propagation Society International Symposium*, July 8, 2013, Orlando, Florida.
- (62) Chair of Session “Finite Element Domain Decomposition Methods,” *2013 IEEE Antennas and Propagation Society International Symposium*, July 12, 2013, Orlando, Florida.
- (63) Chair of Session “Numerical Methods,” *2013 USNC-URSI National Radio Science Meeting*, January 10, 2013, Boulder, Colorado.
- (64) Chair of Session “Advances in Integral Equation Methods,” *2012 IEEE Antennas and Propagation Society International Symposium*, July 10, 2012, Chicago, Illinois.
- (65) Chair of Session “Applications of Numerical Methods,” *2012 IEEE Antennas and Propagation Society International Symposium*, July 9, 2012, Chicago, Illinois.
- (66) Chair of Session “Numerical Methods,” *2012 USNC-URSI National Radio Science Meeting*, January 6, 2012, Boulder, Colorado.
- (67) Member of the Host Committee of the *2005 AMTA (Antenna Measurement Techniques Association) Symposium*, October 30 – November 4, 2005, Newport, Rhode Island.

- (68) Chair for the Session “Method of Moments Basis Functions and Grids” of the *2003 IEEE Antennas and Propagation Society International Symposium*, June 26, 2003, Columbus, Ohio.
- (69) Chair for the Session “Electromagnetics Education” of the *2002 IEEE Antennas and Propagation Society International Symposium*, June 17, 2002, San Antonio, Texas.
- (70) Chair for the Session “Applications of Integral Equation Techniques” of the *2001 IEEE Antennas and Propagation Society International Symposium*, July 10, 2001, Boston, Massachusetts.

UNIVERSITY SERVICE

<http://www.engr.colostate.edu/~notaros/Service/service.htm#UnivService>

- Service and outreach as University Distinguished Teaching Scholar (UDTS), Colorado State University, 2016–.
- Chair of the ECE Curriculum Committee, Department of Electrical and Computer Engineering, Colorado State University, 2010–2017; member 2008–.
- Member of the College Curriculum Committee, College of Engineering, CSU, 2009–2017.
- Member of the University Task Force on Institutional Learning Outcomes (ILO), CSU, 2017–2018.
- Member of the University Distinguished Teaching Scholars Selection Committee, CSU, 2018, 2019, 2021, and 2022.
- Member of the Search Committee for the Associate Dean for Academic and Student Affairs, Walter Scott, Jr. College of Engineering, CSU, 2021.
- Member of the 2021 Interdisciplinary Scholarship Award (IDSA) Selection Committee, Office of the Vice President for Research, CSU.
- Member of the CSU System Board of Governors Excellence in Undergraduate Teaching Award Selection Committee, 2020.
- ECE manager for ABET accreditation visit, for EE and CpE Undergraduate Programs, College of Engineering, Colorado State University, 2012–2013.
- Member of the College ABET Committee, College of Engineering, CSU, 2012–2013.
- Chair of the ECE Faculty Search Committee, 2006/2007, CSU.
- Member of the ECE Academic Advisor Search Committee, 2012/2013, CSU.
- Initiator and organizer of the new ECE Seminar Series, 2007, 2008, 2009, 2010, CSU.
- Member of the ECE Tenure and Promotion Committee, CSU, 2006–.
- Representative of UMass Dartmouth campus (together with the Provost and another faculty member) on the newly established UMass system-wide Research Council. The council has been appointed by President Jack Wilson to advise him and the vice presidents on policies to enhance research activity on the five campuses. The kick-off meeting with the president and vice presidents occurred on May 5, 2006.
- Member of the University Committee to Support Research and Creative Activity (new committee to solicit and review proposals for Chancellor’s Research/UMass Healey Endowment Grants), University of Massachusetts Dartmouth.

- Member of Chancellor's Advisory Committee for the Chancellor's Colloquium Series, UMD.
- Member of the Faculty Senate, UMD.
- Member of the University Curriculum Committee (2002-2004), UMD.
- Founding Director of the Telecommunications Laboratory in the Advanced Technology and Manufacturing Center (ATMC) at UMass Dartmouth.
- Performed the work that led up to equipment donations valued at about \$100,000 for the ATMC Telecommunications (Antenna) Laboratory, UMD.
- Chair of the College of Engineering Research Seed Initiative Grants Review Committee, UMD.
- Member of the ECE Graduate Committee, UMD.
- Chair of the ECE Ph.D. Qualifying Examination Committee, UMD.
- Chair of the ECE Web and Publications Committee, UMD.
- Member of the ECE Faculty Evaluation Standards Committee, UMD.
- Member of the Electrical Engineering Curriculum Committee, UMD.
- Member of the ECE Faculty Evaluation Committee, UMD.
- Coordinator of the ECE Microwave Teaching Laboratory, UMD.
- General Chair (for five years, 1994-1998) of the Organization and Steering Committee of a joint national entrance examination (in mathematics, physics, and chemistry) for 10 schools (departments) in engineering and natural sciences of the University of Belgrade, Yugoslavia, for the admission of new students (attempted every year by as many as about 4,000 prospective students, taking the tests simultaneously over two days in three large halls at Belgrade Fairgrounds).

BOOKS – TEXTBOOKS

<http://www.engr.colostate.edu/~notaros/Publications/publications.htm#Textbooks>

- (1) B. M. Notaros, "*Electromagnetics*," textbook, 840 pages (PEARSON Prentice Hall, 2010).
Book website: <http://www.pearsonhighered.com/product?ISBN=0132433842>
- (2) B. M. Notaros, "*MATLAB[®]-Based Electromagnetics*," textbook, 416 pages, (PEARSON Prentice Hall, 2013).
Book website: <http://www.pearsonhighered.com/product?ISBN=0132857944>
- (3) B. M. Notaros, "*Conceptual Electromagnetics*," textbook, 568 pages (CRC Press, Taylor and Francis, LLC, 2017).
<https://www.crcpress.com/Conceptual-Electromagnetics/Notaros/p/book/9781498770668>
- (4) B. M. Notaros, "*Conceptual Questions in Electromagnetics*," 160 pages, an e-supplement to "*Electromagnetics*" (PEARSON Prentice Hall, 2010).
<http://www.pearsonhighered.com/notaros/>
- (5) B. M. Notaros, "*Computer Exercises in Electromagnetics Using MATLAB*," 350 pages, e-book, supplement to "*Electromagnetics*" (PEARSON Prentice Hall, 2010).
<http://www.pearsonhighered.com/notaros/>

- (6) B. M. Notaros, “*Electromagnetics Concept Inventory (EMCI)*,” an assessment tool for measuring students’ understanding of fundamental concepts in electromagnetics.
- (7) B. M. Notaros, V. V. Petrovic, M. M. Ilic, and A. R. Djordjevic, B. M. Kolundzija, and M. B. Dragovic, “*Collection of Examination Questions and Problems in Electromagnetics*” (371 pages) (Academic Press, Belgrade, Yugoslavia, 1998) (in Serbian language).
- (8) A. R. Djordjevic, G. N. Bozilovic, and B. M. Notaros, “*Collection of Examination Problems in Fundamentals of Electrical Engineering with Solutions, Part I, Electrostatic Fields and Circuits with dc Currents*” (159 pages) (Academic Press, Belgrade, Yugoslavia, 1997) (in Serbian language).
- (9) A. R. Djordjevic, G. N. Bozilovic, and B. M. Notaros, “*Collection of Examination Problems in Fundamentals of Electrical Engineering with Solutions, Part II, Magnetism and Circuits with ac Currents*” (164 pages) (Academic Press, Belgrade, Yugoslavia, 1997) (in Serbian language).

BOOKS – MONOGRAPHS

<http://www.engr.colostate.edu/~notaros/Publications/publications.htm#BookChapters>

- (1) B. M. Notaros, “Higher Order Methods in Computational Electromagnetics,” *IET*, writing in progress (contract signed on October 17, 2018).

CHAPTERS IN BOOKS – MONOGRAPHS

<http://www.engr.colostate.edu/~notaros/Publications/publications.htm#BookChapters>

- (1) B. M. Notaros, R. McCullough, S. B. Manic, and A. A. Maciejewski, “Teaching and learning electromagnetics through MATLAB programming of electromagnetic fields” (Chapter 4) in *Teaching electromagnetics: Innovative approaches and pedagogical strategies*, K. T. Selvan and K. F. Warnick (eds.), *CRC Press, Taylor and Francis, LLC*, 2021, pp. 49–75.
- (2) B. M. Notaros and S. Yan, “New trends in finite element methods,” in *New Trends in Computational Electromagnetics*, Özgür Ergül (ed.), *The Institution of Engineering and Technology (IET)*, 2019, pp. 259–313.
- (3) B. M. Notaros and L. C. Kempel, “Computational Electromagnetics for Antennas,” in *Antenna Engineering Handbook, 5th edition*, J. L. Volakis (ed.), *McGraw-Hill Education*, 2018, pp. 1343–1375.
- (4) B. M. Notaros, M. M. Ilic, S. V. Savic, and A. B. Manic, “Construction, Modeling, and Analysis of Transformation-Based Metamaterial Invisibility Cloaks,” (Chapter 4) Invited Summary Review Chapter, C.D. Geddes (ed.), *Reviews in Plasmonics 2015, Springer*, 2015, pp. 69–101.
- (5) B. D. Popovic and B. M. Notaros, “Large-Domain MoM for CAD of Antennas and Scatterers” in *Applied Computational Electromagnetics: State of the Art and Future Trends*, Edited by N.K. Uzunogly, K.S. Nikita, and D.I. Kaklamani, *NATO ASI Series, Series F: Computer and Systems Sciences*, Vol. 171 (Springer, Berlin, 2000), pp.46–59.

JOURNAL PAPERS

<http://www.engr.colostate.edu/~notaros/Publications/publications.htm#JournalPapers>

- (1) B. M. Notaros, “75 Years of IEEE AP-S Research in Computational Electromagnetics: A view on the discipline and its history, current state, and future prospects,” First Issue of the *Special Series on Celebrating the 75th Anniversary of the IEEE Antennas and Propagation Society, IEEE Antennas and Propagation Magazine*, Vol. 66, No. 3, June 2024, pp. 68–83.
- (2) B. M. Notaros, “State of the IEEE Antennas and Propagation Society: An overview of operation, activities, accomplishments, and impacts,” First Issue of the *Special Series on Celebrating the 75th Anniversary of the IEEE Antennas and Propagation Society, IEEE Antennas and Propagation Magazine*, Vol. 66, No. 3, June 2024, pp. 16–27.
- (3) S. Kasdorf, J. J. Harmon and B. M. Notaros, “Kriging Methodology for Uncertainty Quantification in Computational Electromagnetics,” *IEEE Open Journal of Antennas and Propagation*, Vol. 5, No. 2, April 2024, pp. 474–486.
- (4) S. Kasdorf, B. Troksa, C. Key, J. Harmon, S. Pasricha, and B. M. Notaros, “Parallel GPU Optimization of the Shooting and Bouncing Ray Tracing Methodology for Propagation Modeling,” *Special Issue on Frontiers in Computational Electromagnetics, IEEE Transactions on Antennas and Propagation*, Vol. 72, No. 1, January 2024, pp. 174–182.
- (5) J. J. Harmon, J. Corrado, and B. M. Notaros, “A Refinement-by-Superposition hp -Method for $H(\text{curl})$ - and $H(\text{div})$ -Conforming Discretizations,” *Special Issue on Frontiers in Computational Electromagnetics, IEEE Transactions on Antennas and Propagation*, Vol. 71, No. 12, December 2023, pp. 9357–9364.
- (6) K. M. Labus, J. Wolynski, J. Easley, H. L. Stewart, M. Ilic, B. Notaros, T. Zagrocki, C. M. Puttlitz, K. C. McGilvray, “Employing direct electromagnetic coupling to assess acute fracture healing: An ovine model assessment,” *Injury*, Vol. 54, 2023, 111080.
- (7) J. Corrado, J. J. Harmon, M. M. Ilic, and B. M. Notaros, “FEM_2D: A Rust Package for 2D Finite Element Method Computations with Extensive Support for hp -refinement,” *Journal of Open Source Software*, 8(84), 2023, 4172.
- (8) B. M. Notaros, “Polarimetric Weather Radar: Overview of Principles and Applications,” *IEEE Antennas and Propagation Magazine*, Vol. 64, No. 5, October 2022, pp. 43–54.
- (9) J. J. Harmon and B. M. Notaroš, “Accelerated Adaptive Error Control and Refinement for SIE Scattering Problems,” *IEEE Transactions on Antennas and Propagation*, Vol. 70, No. 10, October 2022, pp. 9497–9510.
- (10) J. J. Harmon and B. M. Notaros, “Adaptive hp -Refinement for 2-D Maxwell Eigenvalue Problems: Method and Benchmarks,” *IEEE Transactions on Antennas and Propagation*, Vol. 70, No. 6, June 2022, pp. 4663–4673.
- (11) J. G. Wolynski, M. M. Ilic, K. M. Labus, B. M. Notaros, C. M. Puttlitz, and K. C. McGilvray, “Direct Electromagnetic Coupling to Determine Diagnostic Bone Fracture Stiffness,” *Annals of Translational Medicine*, Vol. 10, No. 9, May 2022, pp. 510.
- (12) J. G. Wolynski, M. M. Ilic, B. M. Notaros, K. M. Labus, C. M. Puttlitz, and K. C. McGilvray, “Vivaldi Antennas for Contactless Sensing of Implant Deflections and Stiffness for Orthopaedic Applications,” *IEEE Access*, Vol. 10, 2022, pp. 1151–1161.
- (13) J. G. Wolynski, K. M. Labus, J. T. Easley, B. M. Notaros, M. M. Ilic, C. M. Puttlitz, and K. C. McGilvray, “Diagnostic Prediction of Ovine Fracture Healing Outcomes via a Novel Multi-Location Direct Electromagnetic Coupling Antenna,” *Annals of Translational Medicine*, Vol. 9, No. 15, August 2021, pp. 1223.

- (14) C. Key, J. J. Harmon, and B. M. Notaros, "Correlations in A posteriori Error Trends for the Finite Element Method in the Presence of Changing Material Parameters," *IEEE Antennas and Wireless Propagation Letters*, Vol. 20, No. 12, December 2021, pp. 2516–2518.
- (15) J. J. Harmon, C. Key, D. Estep, T. Butler, and B. M. Notaros, "Adjoint Sensitivity Analysis for Uncertain Material Parameters in Frequency Domain 3-D FEM," *IEEE Transactions on Antennas and Propagation*, Vol. 69, No. 10, October 2021, pp. 6669–6679.
- (16) C. Key, A. Hicks, and B. M. Notaros, "Advanced Deep Learning-Based Supervised Classification of Multi-Angle Snowflake Camera Images," *Journal of Atmospheric and Oceanic Technology*, Vol. 38, No. 8, August 2021, pp. 1399–1414.
- (17) S. Kasdorf, B. Troksa, C. Key, J. Harmon and B. M. Notaros, "Advancing Accuracy of Shooting and Bouncing Rays Method for Ray-Tracing Propagation Modeling Based on Novel Approaches to Ray Cone Angle Calculation," *IEEE Transactions on Antennas and Propagation*, Vol. 69, No. 8, August 2021, pp. 4808–4815.
- (18) C. Key and B. M. Notaros, "Predicting Macro Basis Functions for Method of Moments Scattering Problems Using Deep Neural Networks," *IEEE Antennas and Wireless Propagation Letters*, Vol. 20, No. 7, July 2021, pp. 1200–1204.
- (19) B. M. Notaros, "Using Conceptual Questions in Electromagnetics Education," *IEEE Antennas and Propagation Magazine*, Vol. 63, No. 3, June 2021, pp. 128–137.
- (20) B. M. Notaros, "Meteorological Electromagnetics: Optical and Radar Measurements, Modeling, and Characterization of Snowflakes and Snow," **Invited Article** (first ever in this new category), *IEEE Antennas and Propagation Magazine*, Vol. 63, No. 2, April 2021, pp. 14–27, featured on the cover of the magazine, <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9392835>. **Winner of the 2022 IEEE Antennas and Propagation Edward E. Altshuler Prize Paper Award.**
- (21) J. J. Harmon, C. Key, D. Estep, T. Butler, and B. M. Notaros, "Adjoint-based Accelerated Adaptive Refinement in Frequency Domain 3-D Finite Element Method Scattering Problems," *IEEE Transactions on Antennas and Propagation*, Vol. 69, No. 2, February 2021, pp. 940–949.
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- (15) B. M. Notaros, “Some Novel Methodologies, Computational Technologies, and Unconventional Applications of Electromagnetics in Communication, Medicine, and Meteorology,” **Keynote Talk**, *2023 International Telecommunications Conference, ITC 2023*, Alexandria, Egypt, July 18-20, 2023.
<https://www.itc2023.itc-egypt-adc.org/>
- (16) B. M. Notaros, “Higher Order Computational Electromagnetics, Uncertainty Quantification, and Meshing Techniques with Applications in Wireless Communication, Medicine, and Meteorology,” **Keynote Talk**, *2021 International Applied Computational Electromagnetics Society (ACES-China) Symposium*, Chengdu, China, hybrid conference, July 29, 2021.
<http://www.em-conf.com/aces-china-2021/downloads/ACES-CHINA-2021-TECHNICAL-PROGRAM-20210724-V3.pdf>
- (17) B. M. Notaros, “Higher Order Computational Electromagnetics, Uncertainty Quantification, and Meshing Techniques with Applications in Wireless Communication, Medicine, and Meteorology,” **Plenary Talk**, *14th International Conference on Advanced Technologies, Systems and Services in Telecommunications – TELSIS 2019*, Nis, Serbia, October 23, 2019.
<https://www.telsiks.org.rs/invited-keynote-speakers/>
- (18) B. M. Notaros, “Electromagnetics Education: State of the Art, Assessment of Challenges, and Moving Forward,” **Plenary Talk**, *2019 International Applied Computational Electromagnetics Society Symposium – ACES2019*, Miami, Florida, April 16, 2019.
http://aces-society.org/conference/Miami_2019/Notaros_abstract.pdf
- (19) B. M. Notaros, “Electromagnetics Education and Its Future and Challenges,” **Semi-Plenary Talk**, *13th European Conference on Antennas and Propagation – EuCAP2019*, 2 April 2019, Krakow, Poland. <https://www.eucap2019.org/conference/keynote-and-invited-speakers-list/prof-branislav>
- (20) B. M. Notaros, “Higher Order Computational Electromagnetics, Uncertainty Quantification, and Meshing Techniques with Applications in Wireless Communication, Medicine, and Meteorology,” **Invited Seminar and PhD Course**, 1-credit course, *PhD Program in Information Engineering*, University of Florence, Florence, Italy, November 14, 2019.
<https://informationengineering.dinfo.unifi.it/courses/>

- (21) B. M. Notaros, “Higher Order Computational Electromagnetics, Uncertainty Quantification, and Meshing Techniques with Applications in Wireless Communication, Medicine, and Meteorology,” **Invited Seminar**, Politecnico di Torino, Turin, Italy, November 18, 2019.
- (22) B. M. Notaros, “Higher Order Computational Electromagnetics, Uncertainty Quantification, and Meshing Techniques with Applications in Wireless Communication, Medicine, and Meteorology,” **Invited Seminar**, School of Electrical Engineering, University of Belgrade, Belgrade, Serbia, November 6, 2019.
- (23) B. M. Notaros, “Higher Order Computational Electromagnetics and Its Applications,” **Invited Seminar**, Dep. Teoría de la Señal y Comunicaciones, Universidad Carlos III de Madrid, Madrid, Spain, September 16, 2019.
- (24) B. M. Notaros, “Higher Order Computational Electromagnetics and Its Applications in RF Design, MRI, and Meteorology,” IEEE Joint Microwave Theory and Techniques Society/Antennas and Propagation Society/Geoscience and Remote Sensing Society Chapter Denver Section Fall Meeting, sponsored by Lockheed Martin, September 27, 2017, Boulder, Colorado.
- (25) B. M. Notaros, “Microphysical Characteristics Analysis of Heavy Snowfall Events from MASCRAD Campaigns and Potential Relation to ICE-POP 2018,” 2nd ICE-POP 2018 (International Collaborative Experiments for Pyeongchang 2018 Olympic & Paralympic Winter Games) Workshop, 8-11 November, 2016, Seoul, Korea.
- (26) B. M. Notaros, “Accurate Characterization of Atmospheric Precipitation Based on Advanced Surface and Dual-Polarized Radar Observations,” 2016 KNU CARE Mini Conference on Radar Meteorology, November 7, 2016, Center for Atmospheric REmote sensing (CARE), Kyungpook National University (KNU), Daegu, Korea.
- (27) B. M. Notaros, “MASCRAD Events: Observations and Analyses of Cases with Contrasting Hydrometeor Forms”, 2016 KNU CARE Mini Conference on Radar Meteorology, November 7, 2016, Daegu, Korea.
- (28) B. M. Notaros, “Faculty Spotlight” research presentation, ECE Industry Advisory Board Meeting, Colorado State University, October 28, 2016, Fort Collins, CO.
- (29) B. M. Notaros, “Advanced Observations for Microphysics Scheme Evaluation, Using GCPEX Data and Beyond,” NASA PMM Science Team Meeting Oral Presentation, October 24-26, 2016, Houston, TX.
- (30) B. M. Notaros, “Characterization of Atmospheric Precipitation within 2014-2016 Snow and Rain Observation Campaigns in Greeley, Colorado, USA”, Seminar, Kyungpook National University, 27 March 2016, Daegu, Korea.
- (31) B. M. Notaros, “Analysis of Microphysical Properties of Winter Precipitation Based on Observations by Multi-Angle Snowflake Camera”, Site Survey and Observation Group Workshop for International Collaborative Experiments for Pyeongchang 2018 Olympic & Paralympic Winter Games, ICE-POP 2018, March 21-25, 2016, Pyeong-Chang, Korea.

PERSONAL

<http://www.engr.colostate.edu/~notaros/Personal/personal.htm>

- **Notaros Family:**

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 - *Milica Notaros*, Ph.D. EE Massachusetts Institute of Technology; Researcher, Raytheon BBN, Cambridge, MA
- Plays accordion, sang in a professional choir
 - Loves nature, outdoors, animals, pet farming, horses (Ranger and Belle), miniature farm animals (Coco and Bambi), National Parks, boating, camping, hiking, swimming, snorkeling, skiing, travel, driving, construction, carpentry, landscaping, gardening, stonework, history, geography, geology.