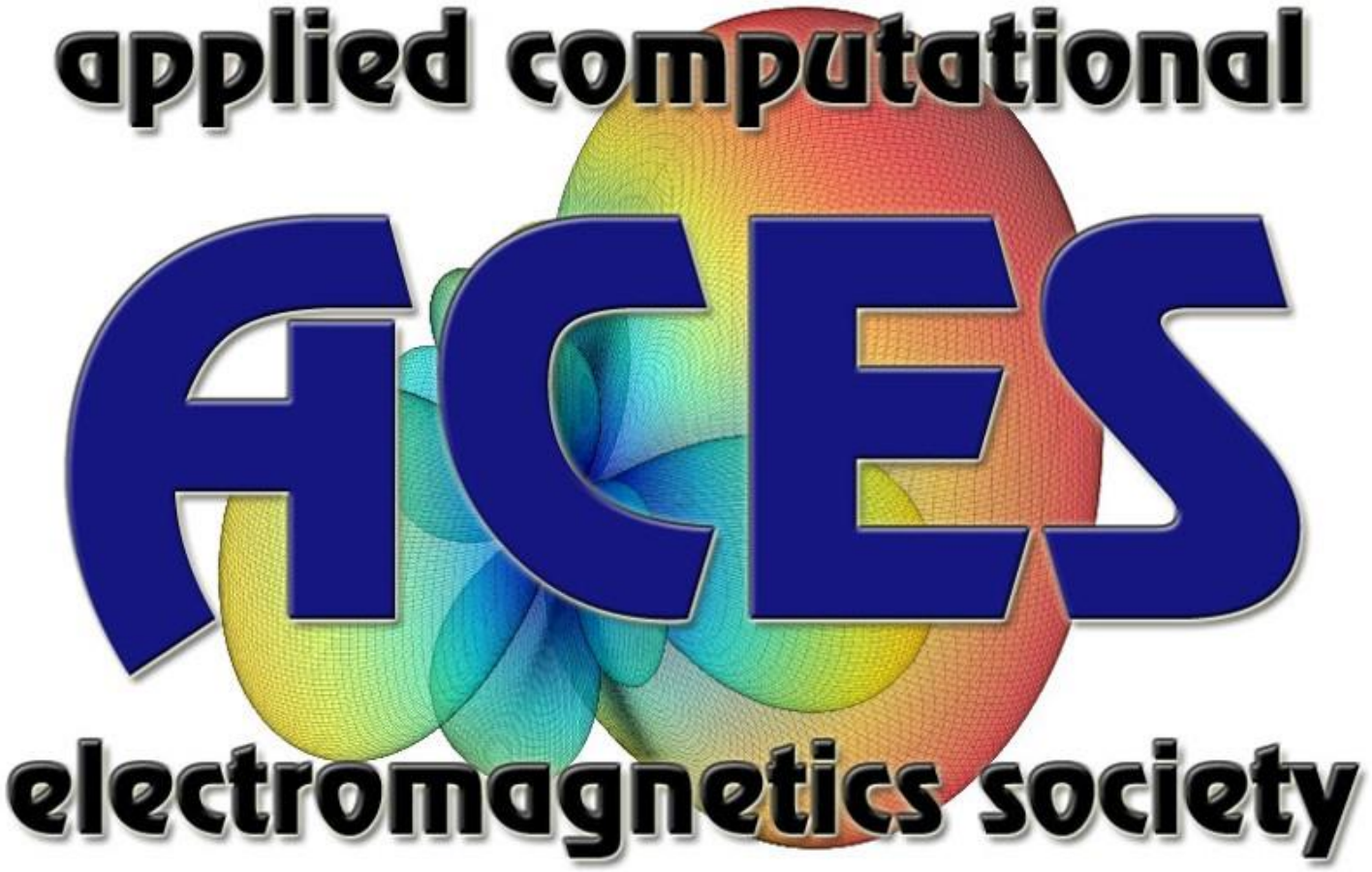

Newsletter

December 2018

Applied Computational Electromagnetic Society (ACES)

President's Message

Greetings from Golden, Colorado, USA.

It is hard to believe that 2018 is almost over—the fall semester classes ended, it is snowing outside, and New Year will be here before we know it. However, I thought that before we all leave to rest and recharge over the holiday break, I wanted to take a moment to share some news.

ACES Board of Directors, BoD, met on December 1st and elected five new ACES Fellows. The elected fellows will be recognized with the recipients of ACES Awards at the awards dinner during ACES 2019 in Miami, Florida, USA. On behalf of ACES BoD and myself, I would like to congratulate the new ACES Fellows. In addition, I would like to note that the grade of Fellow is bestowed by the BoD upon a person with exceptional achievements in computational electromagnetics, including ACES publications, and extensive service to ACES.

Looking forward, ACES 2019 will be held at the Hilton Miami, in downtown Miami, Florida, USA (April 14-18, 2019). A call for papers is posted at the ACES website. The conference General Chairs are John Volakis and Osama Mohammed of Florida International University. In addition, ACES 2020 will be held in Monterey California, USA. Further details will be forthcoming in future newsletters.

Finally, as ACES members, I urge you to participate in the society activities. This include attending and contributing to ACES conferences, getting involved in ACES awards and fellow nominations, as well as contributing to ACES Journal, and actively participating in the journal paper review process.

In closing, I wish you a happy end of the year break and a good and productive 2019. As always, I am looking forward to seeing you at the next ACES conference, this time in beautiful Miami, Florida.

Abd A. Arkadan,
President-ACES
Professor of Electrical Engineering
Colorado School of Mines
Golden CO, USA

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Become ACES Member

ACES membership offers many advantages that include access to ACES Journal and discounted registration fees for ACES conferences.

Member:
Basic: $40/year
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Expanded (Intl): $715/year

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ACES Conference 2019 in Miami

Due to numerous requests, it is still possible to submit your 2 page extended abstract to the ACES Conference in Miami. Do not miss this exceptional opportunity to share your latest research results during ACES 2019, from 14th to 18th April in wonderful Miami.

The following is the list of Sessions organized for the ACES 2019 Conference.

Advanced Radar Technologies and Techniques (Mohamed Abouzahra and Mabel Ramirez)

Advanced Time Domain Solvers for Multiphysics Modeling in Photonics (Bill Henshaw and Alexander V. Kildishev)

Advances in Antennas Technology for Maritime Communication (Hai-tao Chen)

Advances in Continuous and Discontinuous Galerkin Finite Element Methods (Lei Zhao and Su Yan)

Advances in Curved Patch Modeling (Andrew Peterson)

Advances in Electromagnetic Modeling by WIPL-D (Branko Kolundzija)

Advances in Frequency-Domain CEM Techniques and Application (Branislav Notaros)

Advances in Multiscale and Multiphysics Computational Methods (Hakan Bagci, Ozgur Ergul, Huseyin Arda Ulku, and Abdulkadir C. Yucel)

Advances on Time Domain Modeling and Design (Rodolfo Araneo)

Application of Meta-Material in 5G Antenna Systems (Ahmed H. Abdelrahman)

Applications of Integral Equations to Real-Life Electromagnetic Problems (Hakan Bagci, Ozgur Ergul, Huseyin Arda Ulku, and Abdulkadir C. Yucel)

Applied EM for Biomedical and IoT Radar Technologies (Changzhi Li and Changzhan Gu)

Computational Electromagnetics, Advanced Algorithms and Emerging Applications (Zhen Peng and Lijun Jiang)

Design and Optimization for Nanophotonics: Multiscale Techniques (Alexander V. Kildishev and Douglas Werner)

Device Design and Methods for Energy Harvesting Applications (Abdullah Eroglu)

Efficient Optimization of High Frequency Structures (Mohamed Bakr and Slawomir Koziel)

Electromagnetic Aspects of Massive MIMO for 5G (Abbas Omar)

Electromagnetic Co-simulation of 3D Coupled Field-circuit Problems (Cheng Yang)

Electromagnetics for Medical Applications (Khaled ElMahgoub)

EM Modeling Using FEKO (C.J. Reddy)

Finite Difference Methods and other Techniques (Yasushi Kanai and James Cole)

Optimization and Inverse Problems in Low Frequency EM Applications (Alessandro Formisano)

Low Frequency Magnetics (Osama Mohammed)

Modeling Electromagnetic Fields in Plasmas (Vijay Harid)

Modeling of Novel Micro/Nano-Scale Electromagnetic Phenomena, and Applications (Pai-Yen Chen and Haiyu Huang)

Physically Reconfigurable Antennas and Arrays: Design, Modeling and Materials (Stavros Georgakopoulos)

Recent Advancements in the Modeling, Design and Application of Metasurfaces (Douglas Werner, Ping Werner, and Qiang Ren)

RF Filters and Resonators (Ts Kalkur)

Uncertainty Quantification Analysis in Networks, Devices, and Fields (Sourajeet Roy and Ata Zadehgol)

Wireless Power Transfer and Energy Harvesting: Advances in Modelling and Practice (Nunzia Fontana and Shishir Punjala)

ACES Journal

The ACES Journal is devoted to the exchange of information in computational electromagnetics, to the advancement of the state of the art, and to the promotion of related technical activities. The ACES Journal welcomes original, previously unpublished papers, relating to applied computational electromagnetics. All papers are refereed. Access all issues of ACES Journal online.

October 2018 Issue
Special Issue on ACES 2018 Conference in Denver: Part I
Guest Editor: Branislav M. Notaros

"Low Rank Matrix Algebra for the Method of Moments", John Shaeffer

"A Nyström Discretization of a Broad-Band Augmented-Müller Surface Integral Equation", Nastaran Hendijani, Stephen D. Gedney, John C. Young, and Robert J. Adams

"Provably Stable Local Application of Crank-Nicolson Time Integration to the FDTD Method with Nonuniform Gridding and Subgridding", Arne Van Londersele, Daniel De Zutter, and Dries Vande Ginste

"FEKO™ Modeling Study of Passive UHF RFID Tags Embedded in Pavement", Sourabh R. Walvekar and Robert J. Burkholder

"High-Order Moment-Matching MOR with Impedance Boundaries for Signal Integrity Analysis", Matthew B. Stephanson

"Whistler Mode Wave Refractive Index in a Finite Temperature Anisotropic Plasma Medium", Marek Gołkowski and Ashanthi Maxworth

"Locally Corrected Nyström Discretization for Impressed Current Cathodic Protection Systems", John C. Young, Robert A. Pfeiffer, Robert J. Adams, and Stephen D. Gedney

"'Faster' Could be 'Slower': Uncovering the Salient Characteristics of Slow-light Guided Signals with the Finite-Difference-Time-Domain (FDTD) Method", Stavroula Foteinopoulou

"A Finite-Difference Frequency Domain Solver for Quasi-TEM Applications", J. Patrick Donohoe

"DMD-Galerkin Model Order Reduction for Cardiac Propagation Modeling", Riasat Khan and Kwong T. Ng

"Efficient Adaptive Qualitative Methods for 3D Inverse Scattering Problems", Koung Hee Leem, Jun Liu, and George Pelekanos

"Enabling Batteryless Wearables and Implants", Wei-Chuan Chen, Brock DeLong, Ramandeep Vilkhu, and Asimina Kiourti

"Circuitry Design and Magnetic Susceptibility Evaluation of 7T fMRI Implantable RF Coil", Rong Wang, Celia M. Dong, Ed X. Wu, Robert C. Roberts, and Li Jun Jiang

"Theoretical Study of Different Access Points in coupled Wireless Power Transfer – Powerline Communication Systems", Sami Barmada and Mauro Tucci

"A Six-Elements Circularly Polarized Sequential Array for Dedicated Short Range Communications in C-band", Lisa Berretti, Stefano Maddio, Giuseppe Pelosi, Monica Righini, and Stefano Selleri

"A Quad-Band Antenna with AMC Reflector for WLAN and WiMAX Applications", Ernst W. Coetzee, Johann W. Odendaal, and Johan Joubert

"A Wideband Antenna for Biotelemetry Applications: Design and Transmission Link Evaluation", Ala Alemaryeen and Sima Noghanian

"Design and Implementation of a Quad Element Patch Antenna at 5.8 GHz", Mohammad R. Sobhani, Negar Majidi, and Şehabeddin T. Imeci

"Design and Comparison of 4 Types of Dual Resonance Proximity Coupled Microstrip Patch Antennas", Negar Majidi, Mohammad R. Sobhani, Bahadır Kılıç, Mustafa Imeci, Oğuzhan S. Güngör, and Şehabeddin T. Imeci

"Supercapacitor Implementation for PV Power Generation System and Integration", Abdullah Eroglu, Tunir Dey, Kowshik Dey, and Greg Whelan

"Design and Study of a Small Implantable Antenna Design for Blood Glucose Monitoring", Ayesha Ahmed, Tahera Kalsoom, Masood Ur-Rehman, Naeem Ramzan, Sajjad Karim, and Qammer H. Abbasi

"A Cost-Effective Far-Field Antenna Pattern Measurement System" Kyle Patel, Robert Jones, and Atef Elsherbeni

"Reduction of Coupling between Flush-Mounted Antennas" Prathap Valale Prasannakumar, Mohamed A. Elmansouri, Maxim Ignatenko, and Dejan Filipovic

"Full-Wave Modeling of RF Exciters Using WIPL-D: Road to Real-Time Simulation and Optimization" Pranav S. Athalye, Milan M. Ilić, and Branislav M. Notaroš

"Nonlinear Neural Network Equalizer for Metro Optical Fiber Communication Systems", Mahmoud M. T. Maghrabi, Shiva Kumar, and Mohamed H. Bakr

"Synthesis of NFC Antenna Structure under Multi-Card Condition", Paul Baumgartner, Thomas Bauernfeind, Oszkar Biro, Christian Magele, Werner Renhart, and Riccardo Torchio

"A Low Complexity GNSS Array Signal Angle of Arrival (AoA) Estimation Algorithm and Validation", Boyi Wang, Yafeng Li, Nagaraj Channarayapatna Shivaramaiah, and Dennis M. Akos

"Power Transfer Efficiency for Distance-Adaptive Wireless Power Transfer System", Dong-Geun Seo, Seong-Hyeop Ahn, Ji-Hong Kim, Seung-Tae Khang, Soo-Chang Chae, Jong-Won Yu, and Wang-Sang Lee

"Printed Cross-Slot Wideband Conformal Antenna for GPS Application", Ratikanta Sahoo, Damera Vakula, and NVSN Sarma

November 2018 Issue

"Mutual Coupling Compensation in Transmitting Arrays of Thin Wire Antennas", Sana Khan, Hassan Sajjad, Mehmet K. Ozdemir, and Ercument Arvas

"Series-fed Dipole Array for Near-field RFID Application", Yi Wang, Laiwei Shen, Cheng Huang, Jianping Zhu, and Wanchun Tang

"Compact Antenna Array with Newly Designed Decoupling Network", Tao Dong, Yantao Yu, Meng Li, and Hao Zeng

"Dual-Polarized Antenna Based on Metal Ring and Microstrip Patch", Lizhong Song and Sai Li

"Reconfigurable Array Designed for Directional EM Propagation using Energy Band Theory of Photonic Crystals", Yanming Zhang, Zhi Cao, Guizhen Lu, Dongdong Zeng, Mingde Li, and Ruidong Wang

"Coverage Prediction for Triple Diffraction Scenarios", Mehmet B. Tabakcioglu

"Circular Concentric-Ring Reflectarray Design Using a Coaxial Wedge Unit Cell", Joshua S. Roper and Andrew F. Peterson

"Single Layer Reflectarray Antenna with Pie-Shaped Elements for X-band Applications", Tayyab Shabbir, Rashid Saleem, Sabih U. Rehman, and Muhammad Farhan Shafique

"Efficient Computation of SAR and Temperature Rise Distributions in a Human Head at Wide Range of Frequencies Due to 5G RF Field Exposure", Fatih Kaburcuk and Atef Z. Elsherbeni

"A Novel Adaptive Tracking Algorithm for the Resonant Frequency of EMATs in High Temperature", Xiaojuan Jia, Qi Ouyang, Tao Zhang, and Xinglan Zhang

"Microwave Imaging Based on Time Reversal Mirror for Multiple Targets Detection", Tong Mu and Yaoliang Song

"Optimal Design of Microwave Devices by Fitness-estimation-based Particle Swarm Optimization Algorithm", Xiao-hong Fan, Yu-bo Tian, and Yi Zhao

"An Irregular Ground Oriented Miniaturized Antenna for UWB Industrial Applications", Md Z. Mahmud, Touhidul Alam, Md. Samsuzzaman, Amanath Ullah, and Mohammad T. Islam

"A CPW Fed T-shaped Frequency Reconfigurable Antenna for Multi Radio Applications", Sulakshana Chilukuri, Keshav Dahal, Anjaneyulu Lokam, and Wenbing Chen

"A Resonance Prediction Method for a Shielding Enclosure with Apertures Illuminated by a Plane Wave", Bao-Lin Nie, Zhong Cao, and Ping-An Du

"Fast Analysis of Electromagnetic Scattering from a Coated Conductor with the Parabolic Equation", Zi He, Hong-Cheng Yin, and Ru-Shan Chen

"Protection of Computer Enclosure against Coupled Electromagnetic Interference", Run Xiong, Wen Yang, Hai-Lin Chen, and Yan-Tao Duan

"Effect of Aspect Ratio and Frequency of an Open-Ended, Coaxial Line on Admittance for Determination of Moisture in Tenera Oil Palm Fruit Using Finite Difference Method", Ee Meng Cheng, Zulkifly Abbas, Mohamedfareq Abdulmalek, Kok Y. You, Kim Y. Lee, Nashrul F. Mohd Nasir, Mohd S. Abdul Majid, and Shing F. Khor

"Modeling and Experiment on Active Magnetic Bearing as Force Actuators to Detect Inner Race Fault of Rolling Element Bearing", Yuanping Xu, Jin Zhou, and Chaowu Jin

"Calculating Electromagnetic Force Created by Static Suspension Device Used in Permanent Magnet Electrodynamic Suspension Vehicle", Wenlong Zhang, Kunlun Zhang, Yin Chen, and Xijun Liu

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ACES is looking forward to your contributions to the ACES Journal and the Express Journal as well as your participation in the 2019 Conferences: we look forward to your feedback and involvement in ACES activities.

On behalf of the ACES Society, I will you all the best for the forthcoming holiday season and for a prosperous New Year!

Sincerely,

Sami Barmada
Editor - ACES Newsletter