

## COMCAS 2009

■ Shmuel Auster and Barry Perlman

The second annual IEEE Conference on Microwaves, Communications, Antennas, Solid-State Circuits and Electronic Systems (COMCAS 2009) took place at the David Intercontinental Hotel in Tel-Aviv, 9–11 November 2009. We expanded the conference to three days. The first and second days included the plenary session together with six regular parallel sessions and poster sessions, while the third day was reserved for two tutorial tracks.

As with the first conference held in May 2008, COMCAS 2009 was organized as a multidisciplinary international forum. The intention was to continue an exciting international conference and exhibition that would be attended by top internationally recognized scientists and engineers active in the fields of antennas, microwave, and solid-state and systems engineering. This diverse and multidisciplinary conference was organized such that scientists, engineers, and students from various complementary disciplines could meet and discuss subjects of common interest.

At COMCAS 2009, there were seven IEEE Societies involved, each of which provided technical support. They included the Electron Device Society (EDS), Solid-State Circuits Society (SSCS), Communications Society (Com-Soc), Electromagnetic Compatibility Society (EMCS), Microwave Theory and Techniques Society (MTT-S), Antennas and Propagation Society (APS), and Aerospace and Electronic Systems Society (AESS). In addition, other technical associations, such as the European Microwave Association (EuMA), provided technical support. There was significant participation of many of the leaders from the IEEE professional community, including Dr. John Vig, president of the IEEE

and Roberto Sorrentino, president of EuMA, together with Elya Joffe, president EMC-S, Barry Perlman, president MTT-S, Roger Pollard, vice president IEEE Technical Activities Board Elect, Doug Zuckerman, president COM-SOC, Jozef Modelski, IEEE Region 8 director, Dr. Eli Oppen, chief scientist, Israeli Ministry of Industry, Trade and Labor, and Prof. Sigmond Singer, IEEE Israel Section chair. Similar to 2008, the COMCAS 2009 event delivered on the promise of attracting the global community to Israel with more than 900 participants, 181 papers, 48 technical sessions, six parallel sessions and meeting rooms, and a relatively large professional exhibition with 80 booths.

In 2008, all conference papers were invited. Given this was the first conference of its kind, the idea was to organize an exciting multidisciplinary technical program with papers from a cross section of well-known local and international speakers. In 2009, the technical program originated with a formal call for papers distributed on a global scale. An international technical program committee consisting of many of the leading professionals in their disciplines developed the high-quality technical program by

following a rigorous review process. The MTT Technical Paper Management System (TPMS) was used successfully to manage the process and develop the program. Prof. Roger Pollard, cochair of TPC (Leeds, United Kingdom) assumed the primary responsibility for overseeing the paper acceptance process and successfully created an outstanding technical program with the support of many TPC members.

The 2009 conference included presentations on the development and challenges associated with microwave technology, antennas, radar, electron devices, solid-state and radio-frequency integrated circuits (RFICs), in addition to RF and microwave photonics, biomedical technologies, and cognitive radios and networks. There was a special session, "In Memory of Ben Munk: Metamaterials and Beamformers," that focused on issues related to artificial dielectrics and electromagnetic materials for antennas and beamformers. There were sessions on the following:

- channel modeling and cell planning and optimization
- radar and electronic systems
- millimeter-wave RFICs
- EMC materials and models



From left: Roberto Sorrentino, EuMA president, Shmuel Auster, COMCAS chair, Bumman Kim, TPC member, Jozef Modelski, IEEE Region 8 director, and Barry Perlman, IEEE MTT-S president 2009 and COMCAS TPC cochair.

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*Shmuel Auster was the COMCAS 2009 chair. Barry Perlman, MTT-S president 2009, was a Technical Program cochair.*

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- EMC regulation and nonionizing radiation hazards
- computational methods in electromagnetics and wave propagation
- terahertz technology and applications
- wideband antennas and arrays
- novel antenna techniques and advanced manufacturing
- antenna technology—theory and analysis
- transmitter and receiver modulation techniques
- adaptive coding and modulation
- performance assessment in communication systems
- wireless networks
- microwave measurements
- substrate integrated filters and passive elements
- microwave and RF photonics
- solid-state analog/mixed-signal/digital circuits and systems
- power amplifiers—design and devices
- devices for communications applications
- novel RFID technologies and systems
- solid state RFIC devices
- circuits and systems
- RF MEMS devices and sensors
- cognitive radios and networks
- SDRs and smart antennas.

In addition, the conference included a full day of tutorials with one track dedicated to communications and microwave/RF-related subjects, including RFID technologies and applications, RFIC transceiver design, cooperative communications and femtocell deployment, network architecture, and MIMO technology, and a second track on nanoplasmonics running in parallel with an open discussion and a focus on advanced applications. This portion of the program included a short course on the optical properties of metal nanostructures. The latter was an introduction and review of the modern state of nano-optics and nanoplasmonics. This session provided a platform for open discussion and a focus on advanced applications, including the physics of surface plasmons, concentration of energy on the nanoscale, control of nano-optical phenomena, and ultrafast and nonlinear nanoplasmonics.



Opening session. From left: Sigmond Singer, IEEE Israel Section chair, Roger Pollard, IEEE VP 2010 and COMCAS TPC cochair, John Vig, IEEE president, Shmuel Auster, COMCAS chair, Barry Perlman, IEEE MTT-S president 2009 and COMCAS TPC cochair, Jozef Modelski, IEEE Region 8 director, Eli Opper, chief scientist, Ministry of Industry, Trade and Labor, Israel.

The 2009 program boasted a very impressive list of guest speakers, including expert research and development engineers, students, renowned scientists, and industry leaders from Asia, the United States, Europe, Latin America, the Far East, and Israel. There were two keynote speakers, Dr. Joseph Mitola III from Stevens Institute of Technology in the United States, who presented “Cognitive Radio Research and Commercialization: Challenges and Opportunities,” and Robert Van Buskirk from RFMD in the United States, who presented “Gallium Nitride (GaN) Goes Mainstream: A Differentiated Semiconductor

Technology in the RF Power Industry.” Both presentations were very well received during the plenary session.

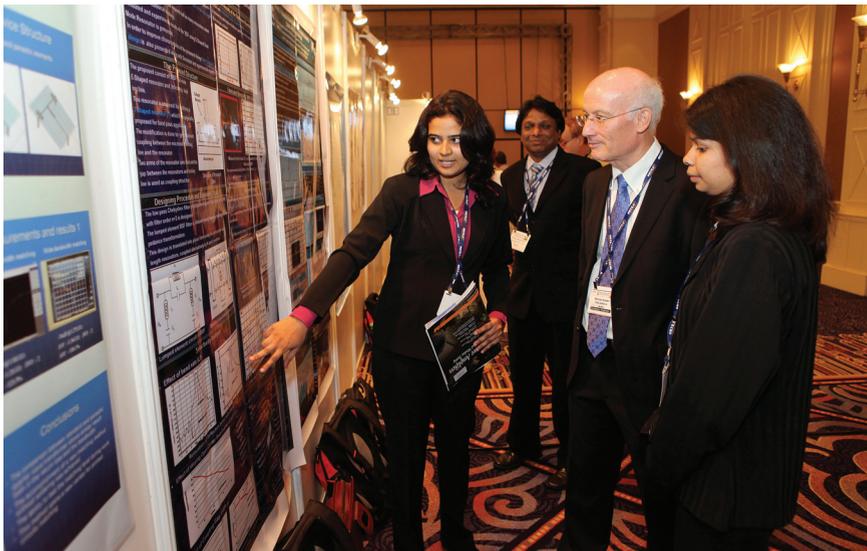
The IEEE COMCAS conference had an interesting breadth of technical papers, from leading-edge microwave devices, ingenious architectures, advanced analog and mixed-signal circuits, to clever antenna technology and information on new and old radar and communication systems. Many local practitioners, engineers, and decision makers from the technology, communication, radar, and electronic systems communities participated, and many presented papers on technology, circuits,



Shmuel Auster (center) receives an IEEE certificate of appreciation from IEEE President John Vig (left) and IEEE Region 8 Director Jozef Modelski (right).



*Nine hundred scientists and engineers from more than 28 countries attended COMCAS 2009.*



*Shefali Saxena and Komal Soni, senior undergraduates at the Geetanjali Institute of Technical Studies, Udaipur, India discuss their poster with Shmuel Auster.*



*COMCAS exhibition.*

system aspects, and innovations in these fields. Many speakers discussed new ideas, applications, and challenges to enrich the microwave, antenna, communication, EMC, solid-state circuit, RFIC, and electronic systems communities. Overall, the emphasis was on application-oriented research and development, ranging from devices and components to circuits and systems, to antennas, communications and networking, sensors, and radar and software.

The atmosphere at IEEE COMCAS was extremely professional and well organized. A key contributor to this success was having a well-organized exhibition and technical paper session room layout that significantly helped promote and encourage networking activity and friendly interchange among the leading innovators in the field. The exhibition was situated alongside the symposium halls. All papers were in rooms that were directly attached to the main exhibition hall, which was very much appreciated by both attendees and exhibitors. One especially noted innovation was the addition of real-time overhead monitors at the entrance of each lecture hall, providing timely information about the particular session in that room. The overall atmosphere was very collegial, allowing for innovation and the formation of collaborations that leads to real advancement. The relaxed and informal setting of the conference facilitated many discussions between the top-level microwave scientists and engineers in attendance.

These scientific discussions, which build relationships that result in actual collaborations, are vital to the advancement and progress of microwave electronics and the associated electronic systems industry. Many of the academic and industry leaders that attended the IEEE COMCAS conference are those responsible for a good deal of the innovation and advancement in the field worldwide. Companies and agencies presented their CAD tools, test equipment, RF, microwave and millimeter-wave components, and modules for electronic systems applications. There were three Platinum sponsors—Agilent Technologies, Intel Corporation, and

Herley GMI Eyal. The many Gold cosponsors included, WIN Semiconductors, TriQuint Semiconductor, CST, Interlligent, Rockwell-Collins, M/A-COM, EIM Systems and Components, STG International, Tech Cent, ORBIT/FR, Ansoft, MTI, and *Microwave Journal* (media sponsor).

A key characteristic of the conference was having a high concentration of engineers and scientists representing various technical disciplines in one location. In addition, the high quality and positive atmosphere of the conference was conducive to building international partnerships, and furthered the development of advanced technology in the microwave and electronics industry. For conference program details, visit the Web site at [www.comcas.org](http://www.comcas.org).

Medium, high-quality conferences such as IEEE COMCAS and others, including Asia Pacific Microwave Conference (APMC, Far East), COMITE and RADIOELEKTRONIKA 2008 (Czech Republic), EuWiT (Europe, held during the European MW Week), IMOC (Brazil),

KJMC (Korea-Japan), MMS (Mediterranean), MIKON and IRS (Poland), MWP (Europe, Asia Pacific, United States), ICMMW (China), and our new MTT-S International Microwave Workshop Series (IMWS), have a complementary and vital role to play in helping members in many regions participate, listen and share ideas, meet with international speakers and leaders in the field, and report scientific innovation. Hosting such conferences in various locations around the world is an excellent way to encourage IEEE Members and Societies and the technical community at large to participate. This helps improve recognition and generate growth for the IEEE-MTT-S and its sister Societies.

The second IEEE COMCAS conference was highly successful, and those who attended provided very positive feedback and comments. Substantial credit goes to the professional management team from ORTRA Ltd. They were responsible for general conference management, including registration, exhibition, conference Web site, and dis-

tribution of printed materials. We thank ORTRA for a job well done. COMCAS continues to be very successful and will likely be well attended in the future by many technologists that lead innovation and have an impact on the microwave, communications, antenna, solid-state and electronic systems fields.

We invite you to view photos from IEEE COMCAS 2009, available online at <http://picasaweb.google.com/austers/IEEECOMCAS2009#>

Planning for the next IEEE COMCAS conference is already underway, and in keeping with Israeli culture, tradition is very important. The next conference, to be held in May 2011, will again be a valuable, informative, and entertaining event, providing yet another excellent opportunity to share ideas, learn about exciting technology developments, and meet and socialize with friends and colleagues from around the globe. Please join us in May 2011 for what promises to be another very exciting and enjoyable event. Updated conference information can be found at [www.comcas.org](http://www.comcas.org).

## MMS2009

### ■ Mohamed Essaïdi

After eight successful editions organized in Tetuan, Morocco (2000); Caceres, Spain (2002); Cairo, Egypt (2003); Marseilles, France (2004); Athens, Greece (2005); Genova, Italy (2006); Budapest, Hungary (2007); and Damascus, Syria (2008), the ninth edition of the Mediterranean Microwave Symposium (MMS) was held in the wonderful Gibraltar Strait overlooking Moroccan city of Tangiers, where the Atlantic Ocean meets the Mediterranean, 15–17 November 2009 (Figure 1). All these editions were technically cosponsored by the IEEE MTT-S.

### Special Sessions

MMS2009 provided an international forum for reporting progress and re-

cent developments in RF, microwave, and many other related topics, both in theory and applications. MMS2009 consisted of several technical sessions, some of which were invited, keynote, and tutorial sessions. These special sessions covered the state-of-the-art of several hot topics in RF and microwave and wireless and mobile networks engineering and technologies. The keynote sessions included the following talks:

- *New Antennas for Wireless and Other Applications*: Yahia Antar, Royal Military College of Canada
- *SDR Based Power Amplifiers /Transmitters for Advanced Wireless and Satellite Communications*: Fadhel Ghannouchi, University of Calgary, Canada
- *Microwave Antennas for Medical Applications*: Koichi Ito, Research Center for Frontier Medical Engineering, Chiba University, Japan

- *Radio Frequency Integrated Circuits for Adaptive Beamforming*: Frank Ellinger, Dresden University of Technology, Germany

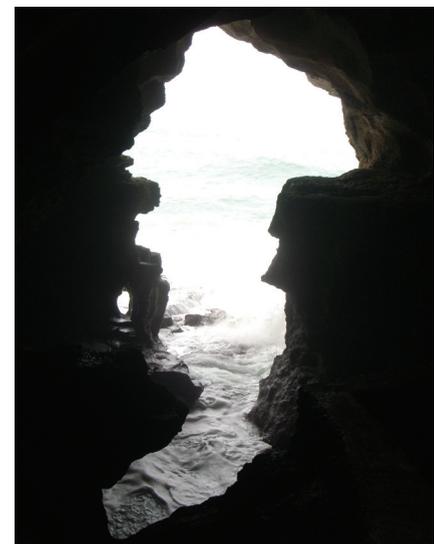


Figure 1. Caves of Hercules in Tangiers.

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