The IEEE International Microwave Biomedical Conference (IMBioC) is an international forum for the exchange of ideas and information on state-of-the-art research in microwave and RF theory and techniques that bridge the science and engineering gap as applied to biological systems and medical applications. This conference is an ideal forum for sharing new ideas on emerging techniques and applications.

IMBioC 2018 will be held as part of Microwave Week 2018 in parallel with the IEEE Microwave Theory and Techniques Society (MTT-S) International Microwave Symposium, RF Integrated Circuits Symposium, and ARFTG Microwave Measurement Conference at the Pennsylvania Convention Center, Philadelphia. IMBioC has emerged from the annual IEEE MTT-S BioWireless Conference held during IEEE Radio and Wireless Week and the IEEE MTT-S International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Health-Care Applications.

IMBioC is technically sponsored by the MTT-S, the IEEE Antennas and Propagation Society, and the IEEE Engineering in Medicine and Biology Society. The papers presented at IMBioC are rigorously peer reviewed and archived in the IEEE Xplore digital library. Topics of interest for IMBioC include RF and microwave integrated circuits for biomedical applications; antennas and sensors for wireless implants; microwave imaging and magnetic resonance imaging; radiometry, thermography, and cellular- and molecular-level spectroscopy; the interaction of electromagnetic fields with biological materials; pathological, physiological, and biochemical studies using electromagnetic waves; computational methods and models for bio-electromagnetics; implantable and wearable diagnostic and therapeutic systems; radar for remote or noninvasive monitoring and tracking; and wireless communication and wireless power transfer.

IMBioC 2018 features two keynote speakers. First, Dr. Nicholas J. Ruggiero, director of structural heart disease and...
two receiving antennas each used a lobe-switching technique for enhanced pointing accuracy. One antenna provided azimuth information, while the other was for elevation. Three separate oscilloscopes were used as indicators for range, azimuth, and elevation [2]. Nearly 3,000 sets were produced by early 1944. Signal Corps Laboratories Director William Blair was awarded U.S. Patent 2,803,819 in 1957 for pulse radar based on this system [3].

Planned exhibits at IMS2018 include an SCR-268 type indicator and receiver (Figure 1), examples of the transmitting tubes, and other hardware from this period. The IMS2018 Steering Committee is also working to bring in other artifacts related to the local microwave industry.

The MTT-S Historical Collection is permanently housed at the National Electronics Museum (NEM) in Linthicum, Maryland, located near Baltimore/Washington International Thurgood Marshall Airport. The museum includes many microwave-related exhibits, including components and radar systems from Hughes, Northrop Grumman, Raytheon, RCA, Western Electric, and Westinghouse, as well as communications and countermeasures equipment from a variety of companies. Specific radar exhibits include the SCR-270 (Pearl Harbor radar), SCR-584 gun-directing radar, Nike-Ajax missile-defense equipment, and military aircraft radars from World War II (AN/APS-4) to the present (AWACS F-35).

The NEM is used for several local IEEE Society functions and annually receives generous support from the MTT-S. The museum provides numerous educational and hands-on programs throughout the year and in 2017 reached more than 5,000 students at both on- and off-site events. A new exhibit funded by the Society of Satellite Professionals International is called “Satellites Transform Our Lives.” The NEM is open to the public Monday–Friday from 10:00 a.m. to 4:00 p.m. and Saturdays from 10:00 a.m. to 2:00 p.m. The address is 1745 W. Nursery Road, Linthicum, Maryland [4].

As a nod to local microwave history, a limited exhibit of items from the Sarnoff Collection will be on display at IMS2018. The Sarnoff Collection was originally established by RCA in 1967 as the David Sarnoff Library. The collection, which includes more than 6,000 artifacts related to major developments in communication during the 20th century, was donated to The College of New Jersey, Ewing, in 2010. The Sarnoff Collection includes artifacts concerning David Sarnoff’s life; RCA, NBC, the Victor Talking Machine Company, and the Marconi Wireless Telegraph Company of America; and the history of radio and television broadcasting, audio and video recording and reproduction, electron microscopy, radar, vacuum tubes, transistors, solid-state physics, semiconductors, lasers, liquid-crystal displays, integrated circuits, microprocessors, computers, communications satellites, and other technologies that RCA played an important role in inventing and developing. J. Allen and M. Pezalla-Granlund have been working with the IMS to make this exhibit happen.

References

---

**2018 IEEE International Microwave Biomedical Conference** (continued from page 70)

noncoronary interventions at Thomas Jefferson University, will present the talk, “Renal Denervation for Uncontrolled Hypertension: Complexity After Simplicity.” Next, Prof. Chung-Kang Peng, director of the Center for Dynamical Biomarkers at Beth Israel Deaconess Medical Center and the Harvard Medical School who also leads the Dynamical Biomarkers Group made up of physicians, scientists, and engineers for the Qualcomm Tricorder XPRIZE project, will deliver the presentation “Is There a Fundamental Law of Health and Disease?”

IMBioC 2018 welcomes engineers and biomedical experts to participate in a multidisciplinary conversation to accelerate technologies that advance health care. Conference information is available at https://imbioc-ieee.org/.