

JIANCHENG SHI AND SHARMILA PADMANABHAN

## Modeling in Remote Sensing Technical Committee Activities

2019 was a very productive year for the IEEE Geoscience and Remote Sensing Society (GRSS) Modeling in Remote Sensing Technical Committee (MIRS TC) due to efforts by the team at the Chinese Academy of Sciences (CAS). This article provides a summary of the summer school and MIRS workshop conducted in China.

The 2019 IEEE GRSS Summer School on Modeling in Microwave and Optical Remote Sensing was held in Beijing, China, 23–24 July. Two hundred and thirty-two master's degree students, Ph.D. degree candidates, and early-career scientists dealing with remote sensing and

geosciences topics and representing approximately 10 countries attended the summer school. Participating at the event as instructors were Prof. Leung Tsang (University of Michigan, Ann Arbor); Prof. Jiancheng Shi, IEEE Fellow and former chair of the IEEE GRSS MIRS TC (Aerospace Information Research Institute, CAS); Prof. Adriano Camps (Universitat Politècnica de Catalunya, Spain); Prof. Zbyněk Malenovský (University of Tasmania, Australia); Prof. Qinhua Liu (Aerospace Information Research Institute, CAS); Prof. Wenjian Ni (Aerospace Information Research Institute, CAS); and Guangjian Yan (Beijing Normal University, China). During the two-day summer school, seven reports on microwave and optical remote sensing modeling were presented (see Figure 1).

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**FIGURE 1.** Students and professors engage in classroom discussions during the 2019 IEEE GRSS Summer School. (a) Prof. Jiancheng Shi, (b) Prof. Zbyněk Malenovský, (c) Prof. Leung Tsang, and (d)–(e) student participants. (Photos courtesy of Jiancheng Shi.)



**FIGURE 2.** A group photo of participants in the 2019 IEEE GRSS Summer School.



**FIGURE 3.** A group photo of the MIRS 2019 workshop participants.

The IEEE GRSS event was merged with the Ninth Beijing Normal University Summer School on Land Surface Satellite Data Inversion and Applications (18–22 July). The school generated 31 reports focusing on five topics: remote sensing data preprocessing, land surface parameter inversion, remote sensing integrated experimental observation and validation, remote sensing data processing and application, and remote sensing advanced product production and application.

The summer school helped students understand the principles of quantitative remote sensing modeling and retrieval and provided them with a comprehensive grasp of

the application of quantitative remote sensing research. It also promoted international exchange and application of research results from related disciplines. Figure 2 shows a group photo of the summer school participants.

Sponsored by the GRSS and hosted by the Chinese State Key Laboratory of Remote Sensing Science and Zhejiang University, Beijing, the 2019 International Workshop on Optical and Microwave Modeling in Remote Sensing (MIRS 2019) was conducted successfully 10–11 September in Hangzhou, China. MIRS 2019 brought together 55 Chinese and international experts to gain a more comprehensive perspective on the progress of MIRS. Workshop participants included

academics and professionals with expertise in radiative transfer, electromagnetic scattering, and the optical bidirectional reflectance distribution function (BRDF). The workshop, led by Prof. Shi, former cochair of the MIRS TC, and Prof. Yang Du, deputy editor-in-chief of the GRSS Remote Sensing Code Library, is the latest activity sponsored by the MIRS TC. The workshop's participants are shown in Figure 3.

In 2019, the MIRS TC organized nine papers for an invited session, Physical Modeling in Optical and Microwave Remote Sensing, during the International Geoscience and Remote Sensing Symposium. MIRS sessions were also organized for the 2019 Specialist Meeting on Reflectometry Using Global Navigation Satellite Systems and for the 2019 Photonics and Electromagnetics Research Symposium.

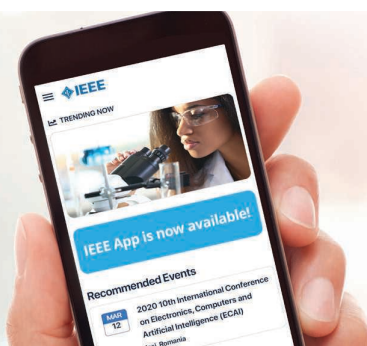
The MIRS TC addresses the technical space between basic electromagnetic theory and data collected by remote sensing instruments. It focuses on models and techniques used to take geometric, volumetric, and material composition descriptions of a scene, along with their electromagnetic (e.g., scattering, absorption, emission, optical BRDF, dielectric properties, and so on) attributes and predicts the resulting observation for a given remote sensing instrument. To become an MIRS member, visit [https://www.grss-ieee.org/tc\\_lists/tclist\\_signup.html?tc=MIRS](https://www.grss-ieee.org/tc_lists/tclist_signup.html?tc=MIRS) to complete a membership form.

## AUTHOR INFORMATION

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