

IEEE GRSS Algeria Chapter Activities and Perspectives

The IEEE Geoscience and Remote Sensing Society (GRSS) Algeria Chapter is the first such Chapter in the Maghreb and North Africa regions, the second on the African continent after the South Africa Chapter, and the third in the Arab world after those of Saudi Arabia and the United Arab Emirates. This Chapter was created through the joint participation of Algerian Space Agency (ASAL) researchers [in particular, researchers

from the Center des Techniques Spatiales (CTS), an operational entity of the ASAL] and Algerian scientists participating in GRS fields from various Algerian universities, such as the Université des Sciences et de la Technologie Houari Boumedienne (USTHB), the Université M'Hamed Bougara (UMB), and the Université Djilali Liabès (UDL) (Figure 1). The research interests of this community range from the design of Earth observation missions (Algerian AISat satellite missions) through the processing of remote sensing and geospatial data and the exploitation of those data in socio-economic applications.

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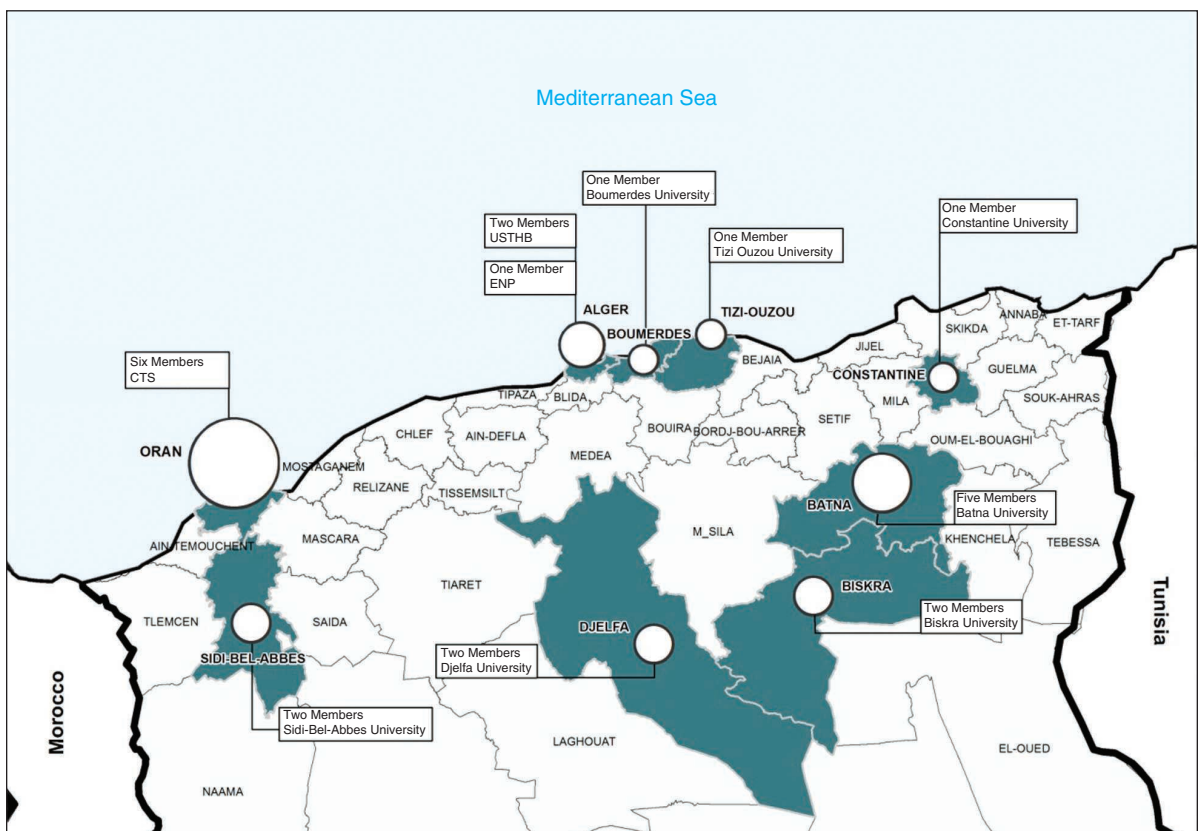


FIGURE 1. The geographic distribution of IEEE GRSS Algeria Chapter members. ENP: École Nationale Polytechnique.

Currently, the IEEE GRSS Algeria Chapter counts 23 members, students, and affiliates. The goal of this community is to promote GRS fields in Algeria. Another main objective is to bring together Algerian researchers, students, and professionals with GRS backgrounds. The Executive Committee of the IEEE GRSS Algeria Chapter is as follows:

- ▶ Dr. Boularbah Souissi (USTHB, Alger), chair
- ▶ Dr. Moussa Sofiane Karoui (CTS/ASAL, Arzew), vice chair
- ▶ Dr. Abdelhamid Daamouche (UMB, Boumerdes), secretary
- ▶ Prof. Salim Chitroub (USTHB, Alger), treasurer.

MAIN ACTIVITIES

Even before the IEEE GRSS Algeria Chapter was created, a first activity was undertaken that same year: organizing the first Algeria Geoscience and Remote Sensing Spring School (AGR3S), which took place 22–27 April 2017 at UMB in Boumerdes, Algeria (Figure 2). These sessions focused on pattern recognition for remote sensing, hyperspectral remote sensing, and radar remote sensing and included such distinguished international lecturers in these GRS fields as Prof. Farid Melgani, Prof. Mathieu Fauvel, and Prof. Irena Hajnsek.

Following the creation of the IEEE GRSS Algeria Chapter, the CTS/ASAL hosted its first Chapter meeting on 29 November 2017. The objectives of this first meeting were to celebrate the Chapter's creation, prepare its activities plan (for the short and medium term), present its Executive Committee, and plan AGR3S 2018. Researchers from ASAL as well as scientists from Algerian universities (USTHB, Algiers; UMB, Boumerdes; UDL, Sidi Bel Abbès; Mouloud Mammeri University, Tizi Ouzou; UST, Oran; and the University of Djelfa) took part in this first meeting of the Algeria Chapter by presenting their laboratories and discussing their work in GRS fields (Figure 3).

A second Chapter meeting was organized for 14–15 March 2018 at the Université Ziane Achour, Djelfa, Algeria, with a workshop on GRS for sustainable development.



FIGURE 2. The first AGR3S in 2017.

During this two-day workshop, Algerian researchers from various institutions offered presentations on the desertification process and the use of GRS tools for sustainable development (Figure 4).

After this second Chapter meeting, the CTS/ASAL organized AGR3S 2018, held 8–12 July 2018. This school was presented with the sponsorship of the Naftal petroleum company. The main objectives of AGR3S 2018 were the presentation of the Algerian Earth Observation Program (managed by the ASAL and its operational entities) and its products and thematic applications. In addition, the school offered educational opportunities in a wide range of advanced GRS signal- and image-processing techniques and their applications, with the participation of distinguished international lecturers Dr. Michele Crosetto, Dr. Mauro Dalla Mura, and Prof. Yannick Deville. Offerings included sessions on machine/deep learning in remote sensing, radar remote sensing, and hyperspectral remote sensing. A poster session was also held, and a prize (a GRSS 2019 student membership) for the best poster was awarded to Rachida Senouci, a Ph.D. student from Mostaganem University, for her poster titled “Behavior of Coastal Area During Its Utilization: Case of Mostaganem Coast” (Figure 5).

During the second AGR3S 2018, following a call for participation for the best Algerian Ph.D. thesis in GRS, awards were given for the five best theses defended in 2017/2018 (Figure 6). The awarded doctors were as follows:

- ▶ *First place:* Fatima Zohra Benhalouche (CTS/ASAL)
- ▶ *Second place:* Sarah Mazari (UDL)



FIGURE 3. The IEEE GRSS Algeria Chapter's first meeting.



FIGURE 4. The IEEE GRSS Algeria Chapter's second meeting.



FIGURE 5. The second AGR3S 2018: (a) the poster session and (b) Rachida Senouci receiving her certificate for the best poster award from Prof. Yannick Deville.

- *Third place:* Kamel Hasni (CTS/ASAL)
- *Fourth place:* Mohammed El Amin Arabi (CTS/ASAL)
- *Fifth place:* Meziane Iftene (ASAL).

In addition to international lecturers, this school was animated by CTS/ASAL researchers in object-based image analysis, ortho-rectification of remote-sensing images, and global navigation satellite systems in geodesy (Figure 7).

PERSPECTIVES

To achieve the goals of this Chapter, the following activities have been initiated:

- organization of one-day periodic meetings of IEEE GRSS Algeria Chapter members
- organization of one-day workshops about Chapter activities at Algerian universities and research centers (preferably, meetings and workshops will be organized simultaneously)
- organization of a national one-week annual spring/summer school on GRS fields (the third school, AGR3S 2019, will be held 6–11 July 2019 at the Université Ziane Achour, Djelfa, Algeria)
- technical sponsorship of conferences, activities, schools, and national projects
- creation of an aperiodic/periodic e-newsletter intended for all Algerian GRSS members as well as others involved in GRS areas in Algeria
- strengthening connections among the different Algerian GRS actors (lab–lab, young researchers–experts–professionals)



FIGURE 6. (From left) Habib Mahi, Dr. Boularbah Souissi (IEEE GRSS Algeria Chapter chair), Dr. Mauro Dalla Mura, and the award-winning doctors cited for the best 2017/2018 Algerian Ph.D. theses in GRS fields: Sarah Mazari, Fatima Zohra Benhalouche, Kamel Hasni, Mohammed El Amin Arabi, and Meziane Iftene.



FIGURE 7. A group photo from AGR3S 2018.

to set up common national projects with socioeconomic impacts

- ▶ establishing collaborations with other GRSS Chapters, especially those in Europe and the Middle East and North Africa regions
- ▶ extending the Executive Committee to include regional and student Chapter coordinators
- ▶ encouraging young researchers to become GRSS members
- ▶ creating an international GRS online master's program.

The Algerian GRS community is very fruitful and will offer many opportunities in these fields over the coming years. The main goal of this community is maintaining a motivated and professional GRSS Chapter by connecting researchers,

academics, students, industry representatives, and members working in GRS and related areas. We can succeed in this challenge with the help and support of the GRSS.

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Activities of the IEEE GRSS Spain Chapter

The IEEE Geoscience and Remote Sensing Society (GRSS) Spain Chapter was formally established on 9 November 2000. The Chapter's early chairs were Adriano Camps (2000–2005), Juan Manuel López (2006–2012), and Antonio Plaza (2012–2016). From November 2016 to the present, the executive committee of the Chapter has had the following members:

- ▶ María Piles (Universitat de València), chair
- ▶ Javier Marcello (Universidad de Las Palmas de Gran Canaria), vice chair
- ▶ Carlos López-Martínez (Luxembourg Institute of Science and Technology), secretary/treasurer
- ▶ Gustau Camps-Valls (Universitat de València)
- ▶ José Luis Álvarez-Pérez (Universidad de Alcalá)
- ▶ Antonio Plaza (Universidad de Extremadura).

The Chapter was created to bring together the increasing number of Spanish researchers from academia and industry