



IGS INTERNATIONAL  
G N S S SERVICE

## IGS 2019 Government Board Nominees

November 2019

# IGS 2019 Network Representative Nominees

*Dr. Rui Fernandes*

**SEGAL**



**Ph.D.** Earth and Space Sciences (GNSS applied to geodynamics), Delft University of Technology, 2004

## **Present positions**

Assistant Professor, UBI

Associated Researcher, IDL

## **Activities relevant for the position:**

- Director of SEGAL (Space & Earth Geodetic Analysis Laboratory, <http://segal.ubi.pt>), a collaborative research laboratory between UBI and IDL. SEGAL managed the installation of more than 60 GNSS sites distributed over the entire world ([http://segal.ubi.pt/docs/SEGAL\\_Sites.pdf](http://segal.ubi.pt/docs/SEGAL_Sites.pdf)) in cooperation with many national and international organizations. It continues to assist the operation and data management of the majority of those stations.

- Chair of the Governing Board of the EPOS-GNSS, the thematic core service of EPOS: European Plate Observing System, the European Union project to integrate Solid Earth Research Infrastructures. EPOS-GNSS is implementing the dissemination of GNSS data and derived products for about 3000 permanent stations in Europe.

- Former member of EUREF Governing Board between 2008 and 2019. Active participant in the development of AFREF.

## **Objectives as Network Representative**

To work in close collaboration with the Network Coordinator and the Governing Board to ensure that the IGS network will continue to be the fundamental global GNSS network that provides the community with essential products for a multitude of scientific and technical applications. In particular, by:

- a) Improve the communication with the station operators to solve issues with stations (e.g., use of Trello);
- b) Prepare online material explaining the benefits of working with IGS, targeting in particular users that have difficulty to understand the proper usage of IGS data and products;
- c) Concentrate on the improvement of the global spatial distribution of the IGS network by directly contact potential stakeholders in areas lacking stations (e.g, Africa, Asia);
- d) Work towards the modernization of the network by fomenting the use of full multi-constellation equipment and acquisition of high-rate data.

*Dr. Laurent Jolivet*

*CNES*



I obtained my Ph.D. degree in Space Sciences and Techniques in 2000 and then I joined the CNES to

be in charge of electric propulsion activities. In 2005, I moved into European Spaceport in French Guyana to be Flight Safety Officer for Ariane 5 launches. I was called back in 2011 to be Leader of the Automated Transfer Vehicle Engineer Team for the missions ATV3 to ATV5 towards the International Space Station. At the end of ATV Project, I was appointed Project Manager in 2016 on REGINA GNSS Network with an additional activity in 2018 as Network Deployment Leader for the Science Project SVOM on Gamma Ray Burst detection.

My professional journey started with a scientific academic background and was followed by a 15 years' experience in operations and international projects which could be an asset for the position of IGS Network representative.

IGS network is a huge frame of many and very different kinds of contributors working in a good spirit of sharing. But

since my implication in IGS activity, I was surprised to see how network which is fundamental to get value added GNSS data was most of the time put in the background. Paradox being that the infrastructure part is often an important cost item supported by the contributors and therefore has to be put in the foreground to maintain a first grade IGS network. This is one of the points on which I would like to carry forth the voices of contributors.

*Ryan Ruddick*

*Geoscience Australia*



As Director of GNSS Infrastructure and Informatics at Geoscience Australia, Ryan is leading the expansion, enhancement and modernization of GNSS networks across Australia, Antarctica and the Pacific. With more than 15 years of experience working with geodetic GNSS networks, he has developed an in-depth understanding of both the technical and functional aspects of GNSS and a holistic

understanding of network operations. He has been involved in the construction and management of over 100 GNSS reference stations and for the last 10 years has overseen Geoscience Australia's contribution of GNSS data and metadata from 38 stations to the IGS network.

As a Network Representative, Ryan will work to maintain the integrity of the IGS network, while promoting the uptake and implementation of modern multi-GNSS data formats and metadata standards. He will share his knowledge and experience in network operations with station operators to help streamline their contribution to the IGS data centers and do his best to represent their views and concerns to the Governing Board.

## IGS 2019 Analysis Center Representative Nominees

*Dr. Jianghui Geng*

*Wuhan University*



Jianghui Geng is a professor in GNSS geodesy and takes charge of coordinating the IGS activities at Wuhan University, China. He received his Bachelor's degree with distinction in Space Geodesy from Wuhan University in 2004, and obtained his PhD in GPS Geodesy from the University of Nottingham, UK in 2011. He afterwards worked as an enterprise research fellow leading a 12-month research grant from the Engineering and Physical Sciences Research Council, UK. From 2012 to 2015, he was awarded the Green Scholar position by the Cecil H. and M. Green Earth Science Foundation to be affiliated with Scripps Institution of Oceanography, USA. Dr Geng has been working on fast precise point positioning ambiguity resolution over the past decade, and also engaged in its application on seismogeodesy for earthquake/tsunami early warning.

If elected to be a GB member for the AC representative, Dr Geng would like to promote the visibility of the underexposed GNSS activities at Wuhan ACs among the IGS and related international bodies, and also stimulate the enthusiasm and initiatives of Chinese AC colleagues in both participation and engagement of IGS events. Dr Geng will facilitate more Chinese AC members to break the communication barriers and express themselves more smoothly within IGS AC projects; he will also urge them to assure the IGS GB of their commitment to both IGS scientific and operational tasks. Dr Geng believes that his election will benefit all- inclusive exchanges between the IGS and the Chinese ACs. For IGS missions, he would like to make a difference.

*Dr. Benjamin Männel*

*Deutsches GeoForschungsZentrum Potsdam*



After graduating in Geodesy from Technische Universität Dresden in 2011, I worked as a Ph.D. student at ETH Zürich (Institute of Geodesy and Photogrammetry). My doctoral research was focused on the combination of geodetic techniques in space with investigations in tracking GNSS satellites using radio telescopes and in combining ground- and space-based GNSS observations. After receiving my Ph.D. degree in 2016, I joined Deutsches GeoForschungsZentrum Potsdam, where I am now the head of GFZ's IGS Analysis Center. Since 2016, I am also co-chairing the Standing Committee on Performance Simulations and Architectural Trade-offs (PLATO) of the GGOS Bureau of Networks and Observations.

My main research interest is to improve GNSS-derived products by advancing the modeling (for example correcting surface loading on the observation level) and by integrating additional

observations (for example processing ground- and space-based GNSS observations together).

As an Analysis Center Representative on the IGS Governing Board, my priorities would be:

- to ensure the highest level of precision and consistency of the IGS products also concerning the inclusion of Galileo and BeiDou
- to support the development of a consistent and reliable weighted combination of orbit, clock and bias products for all GNSS constellations
- to encourage the IGS Analysis Centers to sustain their close collaboration to ensure that the IGS processing standards meet user requirements as well as upcoming scientific developments