

Special Issue on
Systems Science of Bio-navigation

Guest Editors: Prof. Koichi Hashimoto (Tohoku University, Japan)
Prof. Yuichi Tsumaki (Yamagata University, Japan)
Prof. Takuya Maekawa (Osaka University, Japan)
Prof. Shizuko Hiryu (Doshisya University, Japan)

Publication in Vol. 33, No. 3 (February 2019)

SUBMISSION DEADLINE: 30 April 2018

Navigation is a fundamental behavior of animals including human. Systems science of bio-navigation aims to understand the “algorithms” for the navigation of animals. For the purpose, control engineering, robotics, data science, animal ecology, and neuroscience jointly work on how to measure, analyze, understand, and verify bio-navigation. The results of navigation research contribute not only for biological discovery and understanding, but also for solving social problems such as effective utilization of biological resources, prevention of infectious diseases and prediction of behavior of elderly wandering, etc. There is also possibility to apply the navigation principle of animals to mobile robots and autonomous cars. This special issue will focus on recent achievements in research for systems science of bio-navigation and its related works as follows:

- System identification for bio-navigation
- Big data analysis for bio-navigation
- Bio-logger design
- Mathematical model of bio-navigation
- Location estimation for bio-navigation
- Image processing for bio-navigation
- Trajectory data mining for bio-navigation

Submission: The full-length manuscript (either PDF file or MS word file) should be sent by **April 30, 2018** to the office of Advanced Robotics, the Robotics Society of Japan through the homepage of Advanced Robotics (<http://www.rsj.or.jp/ar/submission>). Instructions for authors and sample form of the manuscript are available at the homepage.