

# Workshop: Next Generation Data Management in Movement Ecology

WIS 6934/74A8, 2 credit hours, Summer C 2016

**Dates:** June 6–June 10, 2016 (+ field trip to the Everglades on Saturday, June 11)

**Venue:** Fort Lauderdale REC, Davie, Florida ([driving directions from Gainesville](#))

**Contact:** Mathieu Basille ([basille@ufl.edu](mailto:basille@ufl.edu))

**Instructors:** David Bucklin (UF WEC) & Mathieu Basille (UF WEC)

**Guest lecturers:** Francesca Cagnacci (Fondazione Edmund Mach, Italy), Ferdinando Urbano (Independent researcher, Italy), Levente Juhász (UF Geomatics), Anne Berger (Leibniz Institute for Zoo and Wildlife Research, Germany) & Hamish Campbell (Charles Darwin University, Australia)

**TA:** Simona Picardi (UF WEC)

**Attendance:** Reserved for UF students (with tuition waiver), UF non-students, and professionals (for a fee). Limited seats are available on a first come – first served basis. Please register on [Eventbrite.com](http://Eventbrite.com), and indicate if you want to join the field trip in the Everglades offered on Saturday, June 11.

- Students: Please also contact Ms. Claire Williams ([ccwillia@ufl.edu](mailto:ccwillia@ufl.edu)) for official academic registration. Accomodation for students will be provided on an ad-hoc basis.

**Prerequisite:** None. Data Carpentry for Biologists ([WIS 6934 from Ethan White](#)) suggested, but not required.

**Grading:** Combination of participation (30 %; exercises and other in-class activities) and a project report (70 %; due July 29). If attendees have access to a working movement data set, this will be used; otherwise a generic data set will be provided.

Recent technological progress has allowed ecologists to obtain a huge amount and diversity of animal movement data sets of increasing spatial and temporal resolution and size, together with complex associated information related to the environmental context, such as habitat types based on remote sensing, population density, and weather. Based on several years of experience on multiple species, this intensive five-day workshop is designed to teach participants how to handle, manage, store and retrieve movement data in a spatial database, and how to eventually feed them to analysis tools. In the first part of the course, participants will be exposed to basics of spatial databases for wildlife tracking data, using PostgreSQL/PostGIS, the reference free and open-source database system. The second part will focus on the integration of environmental data in the process. The third part will tackle the specifics of movement data, and how to connect the database to the R statistical environment for analysis. Step by step, using reproducible, hands-on exercises that will be released on-line, we will provide a complete and seamless procedure from raw data to final analysis that will enable participants to fully manage and integrate complex animal movement data sets. Although the workshop is intended for a wide audience, basic knowledge of SQL, spatial databases and R are highly recommended to get the best experience.

Students will have to bring their own laptop computers, with necessary software installed (instructions will be provided).

**Reference:** Urbano, F. & Cagnacci, F. (ed.) (2014) *Spatial Database for GPS Wildlife Tracking Data: A Practical Guide to Creating a Data Management System with PostgreSQL/PostGIS and R*. Springer, 257 pp. DOI: 10.1007/978-3-319-03743-1