▶ Valentine HERRMANN

Nov. 16th 1989 - France

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EDUCATION

2012-2013: 1st year degree in **Mathematics,** partial fulfillment of – *La Rochelle University, 23 Avenue Albert Einstein, 17000 La Rochelle, France.*

June 2012: MS in **Ecology & Ethology** (with high honors) –*Jean Monnet University, 10 Rue Tréfilerie, 42100 Saint-Etienne, France.*

June 2010: BS in **Environmental Geography** (with honors). *European Institute of Rural Ressources Management – Jean Moulin Lyon III University, 6 Cours Albert Thomas, 69008 Lyon, France.*

June 2009: Technical Degree in **Nature Management and Conservation** (with honors) – *Institute of Environment and Technologies, 47 Rue du Sergent Michel Berthet, 69009 Lyon, France.*

EMPLOYMENT

June 2014 to present: **Forest Ecology and Climate Lab – Intern and Contractor.** *Smithsonian Conservation Biology Institute – 1500 Remount Road, Front Royal, USA, VA 22630.*

- **Tree growth**
  - Running, maintaining and testing automated dendrometer's (TreeHuggers)
  - R programming for data management and analysis
- **Water Use**
  - Running and maintaining automated measurement of sap flow (Probes)
  - R programming for data management and analysis

- **Tree size contribution to Carbon cycle**
  - R programming for management and analysis of global network data (ForestGEO)

2012- 2014: **Research Ecologist.** *BioSphère Environnement association – 52 Quai de l'Estuaire, 17120 Mortagne-sur-Gironde, France.*

- **Reedbed passerines** post-breeding migration
  - Capture-mark-recapture (mist-net)
  - VHF radio-telemetry monitoring
  - Banding field camps (1.5 month)
  - Training and supervising interns/volunteers (up to 10) for field work (mist-netting and radio-telemetry)
  - Data entry and management
  - Data analyses with MARK and Ranges (Anatrack Ltd) programs
- **Bluethroat** surveys
  - Building distance sampling protocol
  - Supervising intern for field work
  - Analyses: comparison of densities for 3 different sites with DISTANCE program
  - Capture-mark-recapture (mist-net)
  - Molt study
  - Diet study (collecting drops)
- Wintering **European Curlew** survey
  - Capture-mark-recapture (loop trap)
  - VHF radio-telemetry monitoring

- Other assignments
  - <u>Training professionals</u> in radio-telemetry (cf. teaching experience)
  - <u>Education and outreach</u> (cf. teaching experience)
  - Website development
  - Creation of project display posters
  - Project accounting

Spring and summer 2011and 2012: **Characterization of the Aquatic Warbler ecology during its stopover at Gironde Estuary.** *Master thesis. BioSphère Environnement association – Mortagne-sur-Gironde, France.*

- <u>Optimization of sampling strategy</u> by comparing survival, detection probability and transience on three sites of the Bay of Biscay (CMR, MARK and E-SURGE programs)
- <u>Identification of exploited habitats</u> (radio-telemetry + Ranges program)
- <u>Study of food availability</u> (arthropod sampling,identification, and biomass calculations)
- Diet study (collecting drops)

Summer 2010: **Study of the importance of the Gironde Estuary for reedbed passerines during their post-breeding migration.** 3-month *internship. BioSphère Environnement association – Mortagne-sur-Gironde, France.*

- <u>Radio-telemetry</u> + supervising radio-telemetry program
- <u>Mist-netting and banding</u>
- Assessment of human activities and threats

Spring 2008: **Ecological survey and management plan development for Crépieux-Charmy water catchment site.** *3-month internship. Veolia Eau – Lyon, France.*

- <u>Faunal, floral and abiotic classification</u>
  - Protocol development and data collection
- Development of a <u>5-year management plan</u>
  - Mapping and merging data layers
  - Highlighting challenges and threats
  - Proposing management measures
  - Mapping, planning and costing the measures
  - Presenting the report to the technical committee

February 2017: Learning assistant in **"Statistics for Ecology and Conservation Biology"** *course. Smithsonian-Mason School of Conservation - Smithsonian Conservation Biology Institute – Front Royal, USA, VA.*

- Probability Theory, Statistical Distributions, Linear models, Diagnostics, GLM, Linear Mixed Models, Generalized Linear Mixed Models, Simulations…

April 2013: 2-week course in **"Estimating Animal Abundance and Occupancy"**. *Smithsonian-Mason School of Conservation - Smithsonian Conservation Biology Institute – Front Royal, USA, VA.*

- <u>Distance sampling, capture-mark-recapture, and occupancy modeling techniques</u> (DISTANCE, MARK and PRESENCE programs)

March 2012: 1-week course in **"Modeling individual histories with state uncertainty"**. *Center for Evolutionary and Functional Ecology – Montpellier, France.*

- Capture-mark-recapture analyses using <u>multievent models</u> (E-SURGE program)

August 2016 and May 2015: Teaching *assistant* in **"Estimating Animal Abundance and Occupancy"***course. Smithsonian-Mason School of Conservation - Smithsonian Conservation Biology Institute – Front Royal, USA, VA.*

- Distance sampling data analysis in program DISTANCE

May and June 2010, 2011, 2012 and 2013: **Science popularization.** *Lead guide for at least two 1-week "science*

discovery" classes per year and some one-day field activities. Massif Central, France. Audience ages 6 to 13 in both English and French.

- Topics included:
    - The <u>landscape</u> of the Massif Central (ecological succession, pedogenesis, peat bog formation)
    - <u>Water quality</u> (arthropod sampling and ID, indicators and pollutants)
    - <u>Volcanoes</u> of the Chaîne des Puys
    - Development of <u>interactive learning games</u>

11th & 12th July, 2011: **Radio-telemetry training.** *France. Audience: professionals and interns in field ecology.*

- <u>Helping in teaching</u> courses about radio-telemetry theory and data analysis
- <u>Teaching technical aspects</u> of radio-telemetry (material, strategies, echo and corridors)

March 2014: **Forest ecology.** *Smithsonian Conservation Biology Institute – Front Royal, USA, VA.*

- Helping with local data collected at the Center for Tropical Forest Science (CTFS)-ForestGEO plot at SCBI
- Mapping understory species, status of trees, habitat type, mean elevation, basal area
- Main tool used: Arc Map
- Field work: measuring dendrobands in the plot

February 2014: **Activity pattern of big carnivores.** *Smithsonian Conservation Biology Institute – Front Royal, USA, VA.*

- Helping with data analyses
- Intra-species analyses: does urbanization, moon stage or presence of other species affect the activity patterns?
- Inter-species analyses: are species temporally avoiding each-other?
- Main studied species: American Black Bear, Coyote, Bobcat, Red Fox and Gray Fox
- Main tool used: Overlap package in R

Programming: R

Population modeling and Abundance Estimation: Mark, Distance, U-Care, Close-Test, SODA, E-Surge, Presence.

GIS/Mapping: ArcGIS, QGis, gvSIG, MapInfo, Ranges.

Website Development: HTML, CSS.

Others: Github, Word, Excel, Power Point, Access.

Herrmann V., McMahon S.M., Detto M., Lutz J.A., Davies S.J., Chang-Yang C.H, Anderson-Teixeira K.J. 2016. Tree Circumference Dynamics in Four Forests Characterized Using Automated Dendrometer Bands. PLoS ONE 11(12)

Pepper M.A., **Herrmann V.,** Hines J.E., Nichols J.D., Kendrot S. R. 2016. Evaluation of nutria (Myocastor coypus) detection methods in Maryland, USA. Biol Invasions (2017) 19: 831.

Anderson-Teixeira K. J., McGarvey J. C., Muller-Landau H. C., Park J. Y., Gonzalez-Akre E. B., **Herrmann V.,** Bennett A. C., So C. V., Bourg N. A., Thompson J. R., McMahon S. M. and McShea W. J. (2015), Size-related scaling of tree form and function in a mixed-age forest. Funct Ecol, 29: 1587–1602.

Musseau R., **Herrmann V.**, Bénard S., Kerbiriou C., Herault T., Jiguet F. 2014. Ecology of Aquatic Warbler *Acrocephalus paludicola* in a fall stopover area on the Atlantic coast of France. Acta Ornithologica 49 (1): 93-105.

Musseau R., **Herrmann V.** 2013. Gironde estuary, France: important autumn stopover site for Aquatic Warbler. Dutch Birding. 35: 15-23.

Musseau R., **Herrmann V**. 2011. American Yellow Warbler at Gironde estuary, France, in August 2011. Dutch Birding.

33, 322-325

Musseau R., **Herrmann V.,** Hérault T., Kerbiriou E. (in press). Stratégie d'occupation spatiale du Phragmite aquatique (*Acrocephalus paludicola*) sur une importante escale migratoire et orientations de gestion des espaces sur un site clef pour l'espèce. Alauda.

LANGUAGES

French: Native language.

English: Fluent.

Spanish: Intermediate reader, beginner speaker.

REFERENCES

Available upon request