Rejanne Le Bivic, PhD

GIS and Remote Sensing Specialist

Profile

Early-career scientist with a multi-disciplinary profile in Remote Sensing and field data acquisition and processing. I have a strong background in processing multi-sources data such as DGPS data, archive aerial images, satellite optical images and LiDAR pointclouds I learned during my PhD. I applied those skills as a Post-doctoral Researcher to quantify sediments transport and storage in rivers with various morphologies : mid-Atlantic streams and tropical rivers. During my PhD I was teaching GIS and Remote Sensing for two years to graduate students, as well as Cartography and Geomorphology classes. As for now, I am a Full-Time Lecturer for the **Masters Program in Geospatial Information Sciences** at the University of Maryland.

Skills

Computer skills	o Programming : Matlab, R, Python
	o GIS : ArcGIS, ArcGIS Online, qGIS, ArcGIS Pro, ArcGIS Online
	o Pointcloud processing : CloudCompare, 3DReshaper, Fledermaus
	o Photogrammetry softwares : MicMac, AgiSoft PhotoScan, ERDAS Imagine
	o LiDAR processing : Riegl(r) RiscanPro
Fieldwork	o DGPS acquisitions and processing (Trimble)
	o Field data acquisition : Esri Collector, StoryMaps
	o Terrestrial LiDAR data acquisition and processing
	o Aerial images acquisition from a plane
	o General organization of fieldwork in challenging areas (tropical forests, riverbeds, coastal areas)
Teaching	o Two semesters (8 credits) teaching GIS (ArcGIS and qGIS softwares)
	o Two semesters (6 credits) teaching Image Processing (ENVI IDL)
	o Two semesters (6 credits) teaching Fluvial Geomorphology and Cartography

Education

2013-2017	**Ph.D in Geosciences**, *'Quantification of erosion and transport processes in La Reunion island, Indian Ocean, using multi-source remote-sensing data'*, University of Western Brittany, Brest, France, Mass-movements study (debris avalanches and slow-moving landslides) and geomorphologic cartography in a tropical environment.
	o Terrestrial LiDAR
	o Aerial photogrammetry
	o Use of archive optical images
	o SPOT-5 optical images correlation
2012–2013	**Master of Geosciences**, *University of Werstern Brittany*, Brest, France.
2008–2013	**Master of Engineering degree in Geosciences, specialization in Environmental sciences**, *LaSalle Beauvais institute*, Beauvais, France.

Experiences

2019 – current	**Full-Time Lecturer for the Master of Sciences in Geospatial Information Sciences Program at University of Maryland**, *Dept. of Geographical Sciences*, College Park, MD, USA.

Course taught	Advanced Remote Sensing Using LiDAR; Introduction to Programming for GIS; Digital Image Processing and Analysis
2017–2019	**Post-doctoral contract**, *University of Delaware - Dept. of Geological Sciences*, Newark, DE, USA. with Pr. James Pizzuto
description	Quantitative study of erosion and sediment storage processes in mid-Atlantic rivers (South River, VA and White Clay Creek, a Delaware river tributary)

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- Sediment budgets and empirical models of sediment storage in the watershed
- Watershed-scale geomorphology cartography using raw LiDAR pointclouds, DEM and aerial photography
- Watershed-scale flodplain cartography
- Field studies of fine-grained sediment storage within the riverbed
- Large woody debris mapping

2011	**4-months Internship**, *Syndicat Mixte Baie de Somme - an Engineering consulting firm*, Abbeville, Bay of Somme, France.
description	Management project : monitoring sediments transferts following new infrastructure construction in a highly -urbanized beach area (Quend, France)

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- Monitoring of the installation of a innovative sand storage technique in a beach area
- Field acquisition and processing of topographical data
- Monitoring of the dunes system response using field apps
- Reporting to political offices
- Integrate those results at a larger spatial scale within a team

Scientific Presentations and Publications

Presentations

2018	**AGU Fall Meeting**, *Talk*, Washington D.C., USA.
	'Spatially-Explicit Predictions of Floodplain Sedimentation Using Mixed Empirical/Processed-Based Models of Increasing Complexity '
2016	**ESA Living Planet Symposium**, *Poster presentation*, Prague, Czech Republic.
	'13 years of temporal evolution of the 'Mare a poule d'Eau' landslide on La Reunion island using optical SPOT-5 images correlation - Preliminary results'
2015	**AGU Fall Meeting**, *Poster presentation*, San Francisco, USA.
	'Cinematic and geomorphological study of the Mare a Poule d'Eau landslide (Hell-bourg, la Reunion island) using satellite (SPOT-5) and aerial images'
2014	**EGU**, *Oral presentation*, Vienna, Austria.
	'Erosive effects of the tropical storms HELENA (1963) and JEANNE (2004) on Basse-Terre island, Guadeloupe (France)'
2013	**Image Mining Workshop**, *Barcelonnette, France*.
2013	**Earth Observation Workshop**, *University of Leicester, UK*.

Publications

Le Bivic, R., Allemand, P., Quiquerez, A., Delacourt, C. **Potential and Limitation of SPOT-5 Ortho-Image Correlation to Investigate the Cinematics of Landslides: The Example of "Mare à Poule d'Eau" (Réunion, France)**.*Remote Sensing*, 2017, 9(2).

Jaud, M., Passot, S., Le Bivic, R., Delacourt, C., Grandjean, P., Le Dantec, N. **Assessing the Accuracy of High Resolution Digital Surface Models Computed by PhotoScan® and MicMac® in Sub-Optimal Survey Conditions**.*Remote Sensing*, 2016, 8(6).

Languages

French	Mother tongue
English	Fluent spoken and written