

## PROFESSIONAL EXPERIENCE

OCT 2014 **Research Engineer**

NOV 2018 Transportation and Infrastructure Institute of Technology/Federal University of Parana, Curitiba - Brazil

**Main achievements:**

- Coordinated an Environmental Impact Assessment for a fluvial port, leading to additional environmental plans and partnerships to the Institute;
- Performed mathematical modelling for hydraulic and hydrodynamic studies in fluvial and coastal areas in Brazil, which led to subsequent studies of waterway designs and other projects related to water science (flood risk studies) and port engineering;
- Developed the Feasibility Studies (technic, economic and environmental) of Paraguay River Waterway. The well executed project resulted in an international cooperation with the Brazilian Waterborne Agency (ANTAQ);
- Planning and organizing environmental surveys (sediment characterisation, ADCP measurements in large rivers, geodetic networks implementation, fluvial and port infrastructure research);
- Developed a mathematical and econometric forecast method for cargo trading for the Waterborne Agency (ANTAQ) leading to subsequent partnership with private ports.

MAR 2013 **Intern**

OCT 2013 LACTEC Research and Development Institute, Curitiba - Brazil

Three major achievements can be highlighted: 1. Performed the model setup and data assembly for a flooding system alert in Rio Grande Watershed through a cooperation between Deltares and CEMIG/LACTEC; 2. Spatial data analysis for environmental mapping in GIS; 3. Technical reports revision, and state-of-art research within Monitoring Programmes of Small Power Plants.

AGO 2012 **Visiting Student and Research Assistant**

FEB 2013 The University of Sheffield, Sheffield - United Kingdom

Two main activities can be highlighted: 1. Development of studies of turbulence processes in incompressible flows over a backwards-facing step with quantitative analysis; 2. Application of Matlab tools for data analysis.

JUL 2011 **Research Assistant**

JUL 2012 Brazilian Council for Scientific and Technological Development, Curitiba - Brazil

Research on sedimentation sludge processes in Sewage Treatment Plants (STP) for storage tank design. Performed field surveys, reports and scientific publishing.

## FORMAL EDUCATION

### MAR 2016 **M.Sc in Water Resources -**

Federal University of Parana (UFPR), Curitiba – Brazil

Thesis title: “**Topo-bathymetric data for hydrodynamic modelling with GIS support - a case study of Paraguay River Waterway.**” Advisor: Dr Tobias Bleninger

### OCT 2013 **B.Sc in Environmental Engineering**

Federal University of Parana (UFPR), Curitiba - Brazil

Thesis title: “**Scale analysis of environmental data for mixing and transport processes in outfalls systems - a case study of Cartagena submarine outfall.**” Advisor: Dr Tobias Bleninger

## PROFESSIONAL TRAINING

Sediment Transport Modelling	held by U.S. Army Corps of Engineers (USACE)	2018 (40h)
Hydrodynamics of Environmental Systems (Delft 3D)	held by Federal University of Parana (UFPR)	2017 (45h)
Fluvial Geomorphology	held by U.S. Army Corps of Engineers (USACE)	2017 (40h)
Hydrodynamic Modelling (1D/2D)	held by U.S. Army Corps of Engineers (USACE)	2016-2017 (80h)
Flow measurements with ADCP	held by Federal University of Parana (UFPR)	2016 (45h)
Python Introduction	held by Brazilian Research Institute LACTEC	2015 (40h)
SOBEK Suite	held by Deltares partnership with Brazilian Research Institute LACTEC	2014 (40h)

## SKILLS AND ACHIEVEMENTS

Technical skills	<b>CFD:</b> HEC-RAS (1D-2D) and sediment transport; DELFT 3D; SOBEK Suite; <b>CAD/GIS:</b> ArcGIS; QGIS; HEC-GeoRAS, AutoCAD; <b>Programming:</b> Matlab; Python; LaTeX.
Fellowships / Awards	(2014) Graduate Research Fellowship (CNPq); (2012) International Undergraduate Research Fellowship (CNPq)–The University of Sheffield (UK)
Voluntary work	(2010) Member of the Junior enterprise company of Environmental Engineering
Languages	<b>English:</b> Advanced level proficiency <b>Portuguese:</b> Native <b>Spanish:</b> Working level proficiency <b>German:</b> Elementary level

## SELECTED PUBLICATIONS *(More information available on [ResearchGate](#))*

- Correia, R. Guarneri, H. Bleninger, T. **Improved bathymetry interpolation for hydraulic model development for the strongly meandering Paraguay River Waterway.** To be submitted in the *Brazilian Journal of Water Resources* (in elaboration).
- Ratton, E.; Neto, D. N.; Waydzik, F.; Correia, R. **Methodology for environmental impact assessment of dredging services - case study of Paraguay River Waterway.** Brazilian Journal of Management and Sustainability (2018).
- Correia, R.; Ratton, P.; Guarneri, H.; Ratton, E.; Queiroz, E. **Evaluation of Paraguay-Parana Waterway fluvial infrastructure.** 26<sup>o</sup> National Congress of Waterway Transportation, Naval and Offshore Construction (2016).
- Correia, R.; Guarneri, H.; Bleninger, T. Tomas, G. P.; Ratton, P.; Ratton, E. **Hydrodynamic modelling for navigability assessment in a Brazilian stretch of Paraguay River.** 9<sup>o</sup> SOBENA – Inland Navigation Development Seminar (2015).
- Guarneri, H.; Correia, R.; Ratton, P.; Nadal, C. A.; Mouro, R.C.; Bleninger, T.; Ratton, E. **Digital elevation model determination for large rivers. Case study: brazilian stretch of Paraguay-Parana Waterway.** 9<sup>o</sup> SOBENA – Inland Navigation Development Seminar (2015).

## REFERENCES

### **Dr-Ing. Tobias Bleninger (Professor)**

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- Department of Environmental Engineering / Graduate Program on Water Resources and Environmental Engineering;
- Federal University of Parana (UFPR)

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