Jérôme LE COZ
born 09 Nov. 1978
(41 year-old)
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French National Research Institute for Agriculture, Food and Environment

- **Professional experience**

  - Since 2003, scientist with INRAE, UR RiverLy, River Hydraulics group, Lyon, France
  - 2015-2016 one-year scientific stay at NIWA Christchurch, New Zealand

- **Research topics**

  - Field measurement technologies (hydrometry, sediment, hydroacoustics)
  - Uncertainty analysis of discharge and flux measurement techniques
  - Suspended particulate matter fluxes in rivers and environmental pollution assessment
  - 1D/2D numerical modelling of river morphodynamics and suspended load

- **Education**

  - 2017 **Habilitation (HDR)**, Graduate School for Earth, Planetary and Environmental Sciences (ED TUE, Université Grenoble Alpes): Quantifying discharges and fluxes of matters in rivers
  - 2003-2007 **PhD thesis** at ECL-Lyon University in Fluid Mechanics: *Hydro-sedimentary processes in abandoned channels of alluvial rivers*
  - 2001-2003 **MSc in** Hydrology Hydrogeology Geostatistics Geochemistry (Paris VI)
  - 2001-2003 ENGREF (Génie Rural Eaux et Forêts, environmental engineering school)
  - 1998-2001 Ecole polytechnique (Engineering school)

- **Professional experience**

- Supervisor of 5 post-docs, 9 PhD candidates, 9 engineers and 13 graduate students
- Head of the Metrology team (field and lab instrumentation) of the Hydrology-Hydraulics Research Unit (5 technicians, 2007-2012)
- Member of the national standardisation commission "Hydrometry" (AFNOR X10C, since 2014)
- Coordination of the Groupe Doppler Hydrométrie, an international working group of French-speaking hydrometry technologists (since 2005), including the organisation of 5 large-scale ADCP intercomparison experiments in 2009, 2010, 2011, 2012, 2016
- Annual training of national water authority (Onema/AFB) staff for the measurement of statutory streamflows (since 2010)
- Annual training of national hydrological services on ADCP measurements (IFORE, 2007-2013)
- Lecturer and Chair of the IAHR/WMO/IAHS international short course on stream gauging (Andong-Korea 2013, Hanoi-Vietnam 2014, Queenstown-NZ 2016, Lyon-France 2018)
- Organisation committee of the SHF Hydrométrie conferences in 2013 (member) and 2017 (chair)
- Co-chair of the hydrometric uncertainty session of the EGU meetings (2015-2019)
- Reviewer of 65 research articles in international peer-review journals and of 4 research project applications for NSERC-CRSNG (Canada), Research Council of Norway, National Research Foundation (Singapore), and Innovation Canada.
- Member of 1 HDR (Romaric Verney, 2019) and 7 PhD defence committees : Mickaël Bricault (2006, examinateur, Université de Grenoble), Laura Jugaru (2009, examinateur, Aix-Marseille Université), Thomas Morlot (2014,

referee, Université de Grenoble), Valentin Wendling (2015, examinateur, Université de Grenoble), Aurélien Despax (2016, invited member, Université Grenoble-Alpes), Flavie Druine (2018, referee, Université de Rouen), Xiaoxiao Zhu (2019, examinateur, Université de Lyon)

- **Software development and release**

- **Fudaa-LSPIV software**: user-friendly processing of image sequences for Large-Scale Particle Image Velocimetry (LSPIV) and discharge computation; co-developed with EDF and released freely (GPL). About 100 users worldwide.
- **BaRatinAGE software**: user-friendly application of the Bayesian approach BaRatin for the estimation of stage-discharge rating curves and streamflow time series, and their uncertainties; released freely under Irstea licence. About 150 users worldwide. Used operationally by the French national hydrometry service, the Compagnie nationale du Rhône (France) and the NEON-USA long-term environment observatory. Used by other research groups in 8 published papers.

- **Main research projects and cooperations**

- **Rhône Sediment Observatory** (OSR, 2009-2017): a regional research programme focussing on the morphodynamics and particulate contaminant fluxes of the Rhône River from Lake Geneva to the Mediterranean Sea. I have coordinated the research tasks on the monitoring and 1-D modelling of suspended particulate matters (cf. PhD of Marina Launay and postdoc of Violaine Dugué).
- **WMO initiative** on the « Assessment of the Performance of Flow Measurement Instruments and Techniques » (2008-2016): I am the representative of IAHS in the Management Committee and I am particularly involved in the tasks related to uncertainty analysis of streamgauging techniques and discharge modelling methods, such as rating curves and index velocity relations.
- **PHC Dumont-d'Urville (2015-2016) and AWATERE (2015-2016)**, a one-year sabbatical stay at NIWA (The National Institute of Water and Atmospheric Research) in Christchurch, New Zealand, to work with Graeme Smart and Hilary McMillan on the assessment of hydrological data uncertainties in rivers with unstable beds, and their impact on hydrological signatures and models.
- **KAIA project (2015-2016) and cooperation with KICT and Dankook University, Korea**, on hydro-acoustic technologies and sediment transport experiments in the River Experiment Center of Andong
- **Redynamisation of the Old Rhine** (2008-2012): an Interreg European project conducted in collaboration with German partners, including LWI Braunschweig. I contributed to the assessment of the feasability, risks and efficiency of sediment artificial feeding measures, using 1-D and 2-D morphodynamical simulation (cf. PhD of Claire Béraud).
- **PHC Stefanik** (2006-2013): we have a long-lasting, fruitful bilateral cooperation with the Slovak Water Research Institure (VUVH, Bratislava, Slovakia) on the observation and modelling of morphodynamical changes in large regulated rivers (cf. PhD of Claire Béraud).

- **Invited lectures**

Le Coz, J. (2017) Operational methods for establishing rating curves and discharge time series, and computing their uncertainties, K-water Seminar, 18 October 2017, Daejeon, Korea

Le Coz, J. (2017) Measuring the uncertainty of stream gauging techniques using repeated measures experiments, Andong River Experiment Forum (AREF), 16 October 2017, Ilsan, Korea.

Le Coz, J., and Dramais, G. (2016) Non intrusive flood gauging techniques, 15 July 2016, USGS, Urbana-Champaign, USA.

Le Coz, J. (2008) Challenges in Hydrometry: Some Examples from France, Experiences and Advancements in Hydrometry, 17 March, 2008, Seoul, Korea.