

Louise Crochemore

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Born in May 1989 , French nationality

WORK EXPERIENCE

Since Feb 2013
3 years

PhD candidate

[Irstea, Catchment Hydrology Research Group, Antony, France](#)

- Development of a coupled low-flow forecasting system and water reservoir management model to improve the management of the Arzal dam during low rain seasons
- Member of the Drought Team in the DROP Project (Benefit of Governance in Drought Adaptation) for the IAV Water Supply pilot site (Brittany, France)
- Collaboration with: IAV, La Roche Bernard, France (Ing. Aldo Penasso) and ECMWF, Reading, UK (Dr. Florian Pappenberger)
- Work under the [Interreg IVB NWE project DROP](#)
- PhD defense expected April 29th 2016

Aug 2012 – Jan 2013
6 months

Research Engineer

[Irstea, Catchment Hydrology Research Group, Antony, France](#)

- Development of a graphic tool based on accumulated rainfall scenarios to help decision-making in short-range flood forecasting
- Collaboration with SCHAPI and SPC (French national and local flood forecasting services)

Oct 2011 – Mar 2012
6 months

Research Engineer

[Schlumberger Water Services, Delft, the Netherlands](#)

- Application of groundwater measurement techniques to monitor carbon dioxide storage
- Development of a prototype of a graphical interface for data visualisation
- Development of methods to analyse pressure and temperature measures

Feb 2011 – Sep 2011
8 months

Intern

[Irstea, Catchment Hydrology Research Group, Antony, France](#)

- Development of a research project on the evaluation of hydrological models
- Work presented at the XXVth IUGG General Assembly in Melbourne, Australia
- Article published in Hydrological Sciences Journal (Crochemore et al., 2015)

Jun 2010 – Aug 2010
3 months

Intern

[Veolia Propreté, Landfill and Treatment Direction, Nanterre, France](#)

- Collecting and analysing electrical resistivity data to monitor water content in landfills
- Final report: "Etude de mesures géophysiques réalisées dans les puits d'une installation de stockage de déchets"

Jul 2009
1 month

Intern

[LTHE, Grenoble, France](#)

- Maintenance of hydrological measurement stations

EDUCATION AND TRAINING

Feb 2013 – today 3 years	<p>PhD candidate in Geosciences, Natural resources and Environment AgroParisTech - Doctoral School of Geosciences, Ressources Naturelles et Environnement</p> <p>Supervisor: Maria-Helena Ramos Director: Vazken Andréassian PhD developed within the Interreg DROP Project</p> <ul style="list-style-type: none">▪ Operational hydrology▪ Seasonal forecasting▪ Reservoir management
Sep 2015 2 days	<p>Participation to the course on the HYPE model “Multi-basin modelling at the large scale using HYPE” Swedish Meteorological and Hydrological Institute (SMHI), Norrköping, Sweden</p>
March 2015 1 week	<p>Participation to the Course “Introduction to Analysis in Meteorology” Électricité de France (EDF), Grenoble, France</p>
June 2014 1 week	<p>Participation to the summer school “Drought Hazard and Management: Challenges in a Changing World” European project FP7 Drought R-SPI, Ermoupoli, Syros, Greece</p>
Sep 2008 – Sep 2011 2 years	<p>Engineering (BSc) and Master (MSc) degrees in Geosciences Ecole Polytechnique Universitaire, Université Paris VI Pierre et Marie Curie, Paris, France</p> <ul style="list-style-type: none">▪ Water sciences, Geophysics, Geotechnics
Sep 2010 – Dec 2010 4 months	<p>Participation to a student exchange program University of British Columbia, Vancouver, Canada</p> <ul style="list-style-type: none">▪ Groundwater Hydrology and Contamination, Treatment Processes, Pollutants in Aquatic Systems
Sep 2006 – Sep 2008 2 years	<p>Classes Préparatoires aux Grandes Ecoles Condorcet high school, Paris, France</p> <ul style="list-style-type: none">▪ Mathematics, Physics, Engineering sciences

TEACHING EXPERIENCE

2014 and 2015 High school lecturing: Introduction to hydrology (6 hours)

2014 Sciences Workshop with high school students at the occasion of the Festival of Science (8 hours)

PROFESSIONAL ACTIVITIES

2013-2015 Member, European Geosciences Union

2015 Reviewer for Journal of Hydrometeorology and Journal of Hydrology

2016 Co-convenor of the scientific sessions:

EGU 2016 – “Servicing Water Users by forecasting, outlooks and climate projections for water services”

EMS 2016 – “Interfacing hydrological and meteorological models in forecasting system”

PUBLICATIONS AND OTHER RESEARCH OUTPUTS

Publications

- Crochemore, L.**, Ramos M.-H., Perrin, C., Pappenberger F. Combining seasonal information to build ensemble streamflow forecasts. An application to drought risk assessment. In preparation.
- Crochemore, L.**, Ramos M.-H., Pappenberger F. Bias correcting precipitation forecasts to improve the skill of seasonal streamflow forecasts. Submitted to *Hydrology and Earth System Sciences*.
- La Jeunesse, I., Larrue, C., Furusho, C., Ramos, M.-H., Browne, A., de Boer, C., Vidaurre, R., **Crochemore, L.**, Penasso, A., Arrondeau, J.-P.. Chapter 6: The governance context of drought policy and pilot measures in the Arzal dam and reservoir, Vilaine catchment, Brittany, France, in: *Governance for Drought Resilience*. H. Bressers, N. Bressers, C. Larrue (Eds.). In press.
- Crochemore, L.**, Ramos M.-H., Pappenberger F., Andel S. J., and Wood A., 2015. An experiment on risk-based decision-making in water management using monthly probabilistic forecasts. *Bull. Amer. Meteor. Soc.* In press.
<http://dx.doi.org/10.1175/BAMS-D-14-00270.1>
- Crochemore, L.**, Perrin, C., Andréassian, V., Ehret, U., Seibert, S.P., Grimaldi, S., Gupta, H., Paturel, J.-E., 2015. Comparing expert judgement and numerical criteria for hydrograph evaluation. *Hydrological Sciences Journal* 60, 402–423.
<http://www.tandfonline.com/doi/abs/10.1080/02626667.2014.903331>
Selected as featured article by the journal
- Perrin, C., Ramos, M.-H., Andréassian, V., Nicolle, P., **Crochemore, L.**, Pushpalatha, R., 2015. Improved rainfall-runoff modelling tools for low-flow forecasting: Application to French catchments, in: *Drought: Research and Science-Policy Interfacing*. CRC Press, pp. 259–265.
<http://www.crcnetbase.com/doi/abs/10.1201/b18077-45>

Oral presentations and Invited talks

- A low-flow forecasting and water management system to support reservoir management under multiple water uses. **Crochemore, L.**, Ramos, M.-H., Penasso, A., Perrin, C., HEPEX Seasonal Hydrological Forecasting Workshop, Sep. 2015, Sweden.
- Low-flow forecasting and reservoir management: the case of the Arzal dam. DROP Drought team meeting with stakeholders (Freshwater pilots), Sep. 2015, France.
- Q&A at EGU session: “Public Engagement and Outreach – Scientists Must Film! Filmmaker Workshop”, Apr. 2015. *Invited*
- Development of a tool for managing low flows and enhancing reactive adaptation: Case study of the Arzal dam, Vilaine, France. DROP 4th Transnational Exchange Meeting, Sep. 2014, Germany.
- Using seasonal forecasts in a drought forecasting system for water management: case-study of the Arzal dam in Brittany. **Crochemore, L.**, Ramos, M.-H., Perrin, C., Penasso, A., European Geosciences Union General Assembly, Apr. 2014, Austria.
- Gérer les étiages de la Vilaine grâce au barrage d’Arzal. Penasso, A., **Crochemore, L.**, Carrefour des Gestions de l’Eau, Jan. 2014, France. *Invited*
- A risk-based visualisation tool to support decision making in low flow forecasting and water management: case-study of the Arzal dam in Brittany. **Crochemore, L.**, Ramos, M.-H., Perrin, C., Penasso, A., European Meteorological Society, Sep. 2013, United Kingdom.
- Expert judgement vs. statistical goodness-of-fit for hydrological model evaluation: Results of experiment. Perrin, C., Andréassian, V., **Crochemore, L.**, XXV IUGG General Assembly, Jul. 2011, Australia.

Posters	<p>Development of a drought forecasting system and reservoir management model for water supply: Case study of the Arzal dam (Brittany, France). Crochemore, L., Penasso, A., Ramos, M.-H., Perrin, C., 26th IUGG General Assembly, 2015, Czech Republic.</p> <p>Assessing the skill of seasonal precipitation and streamflow forecasts in sixteen French catchments. Crochemore, L., Ramos, M.-H., Pappenberger, F., European Geosciences Union General Assembly, 2015, Austria.</p> <p>Combining medium-range and seasonal forecasts in a drought forecasting system for water management: Case-study of the Arzal dam in Brittany, France. Crochemore, L., Ramos, M.-H., Perrin, C., Penasso, A., DROUGHT R-SPI Summer School, 2014, Greece.</p> <p>Risk-based decision making in water management using probabilistic forecasts: results from a game experiment. Crochemore, L., Ramos, M.-H., Pappenberger, F., van Andel, S.-J., Wood, A., European Geosciences Union General Assembly, 2014, Austria.</p>
Blog Posts	<p>2014 “Sharing experiences on seasonal forecasting”. Crochemore, L., Ramos, M.-H., Wood, A., in HEPEX blog</p> <p>2014 “Dam 'n drought”. Crochemore, L., in DROP project blog</p>
Video	<p>2014 “Hydrological Drought Predictions for Reservoir Management: What's the Use?” Crochemore L., EGU Communicate Your Science Video Competition winning entry</p>
Game	<p>2013 “A risk-based decision-making game relevant to water management. Try it yourself!” Crochemore, L., Pappenberger, F., van Andel, S. J., Ramos, M.-H., Wood, A., in HEPEX blog</p>

OTHER SKILLS

Language(s)	<p>French : Mother tongue</p> <p>English : Fluent (read, write, speak)</p> <p>Spanish : Basic communication skills</p>
Computer skills	<p>Operating systems : Windows, Linux</p> <p>Programming languages : R, FORTRAN, C#, SQL, Scilab</p> <p>Models : GR hydrological models, HYPE model</p>
Communication skills	<ul style="list-style-type: none"> ▪ Communication skills gained through oral presentations ▪ In charge of Communication for the Student Association of Polytech'Paris UPMC 2008-2009
Driving licence	<ul style="list-style-type: none"> ▪ Driving license category B (cars)