

# Maurizio Mazzoleni - Curriculum Vitae

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## CONTACT INFORMATION

**Name:** Maurizio Mazzoleni  
**Address:** Oost-Indielaats 88, 2611 BT, Delft, the Netherlands  
**Date and Place of Birth:** 18<sup>th</sup> November 1986 in Brescia, Italy  
**Nationality:** Italian  
**Occupation field:** Flood forecasting, Risk Mitigation, Data assimilation and Hydraulic Structures reliability for flood control  
**Present position:** Junior lecturer at UNESCO-IHE, Delft, the Netherlands  
**Mobile:** +31-0617971191  
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## OBJECTIVES AND RESEARCH INTERESTS

Placement in an academic position to research advanced methods to reduce flood risk and improve flood forecasting by means of data assimilation approaches, uncertainty analysis, flood inundation modelling (1D, 2D and 1D-2D coupling modelling) and remote sensing, flood defence systems design and reliability analysis.

## EDUCATION

**UNESCO-IHE, TU Delft, The Netherlands**

- PhD in hydroinformatics, October 2012–November 2016
  - Thesis Title: Improving flood prediction assimilating uncertain crowdsourced data into hydrologic and hydraulic models.

**University of Brescia, Italy**

- Engineering licence obtained in the first session 2011 of professional practice examination at the University of Brescia.
- MSc in Environmental Engineering, April 2009–March 2011
  - Thesis Title: Uncertainty in flood hazard mapping induced by piping breach: An application to the Po River (carried out at UNESCO-IHE)
- BSc in Environmental Engineering, September 2005–March 2009
  - Thesis Title: Estimation of Flow Duration Curve, Statistical Hydrology

## EXPERIENCE RECORD

### Employment and internships history

- Lecturer in Hydroinformatics at UNESCO-IHE **2016–2017**
- Visiting Ph.D at University of Texas at Arlington, Texas, U.S.A. **08-12/2015**
- Ph.D. fellow, UNESCO-IHE, Delft, The Netherlands **2012–2016**
- Research fellow, University of Brescia, Brescia, Italy **2011–2012**
- Trainee activity, E.V.A. Energie Valsabbia, Gavardo, Italy **09-12/2008**

### Management/coordination of Education

- PhD Coordinator Graduate School of IHE Delft **2017–**

### Projects

- EU H2020 GroundTruth 2.0 **2016–2017**
- BPutra Project **2016–2017**
- EU FP7 Project WeSenseIt **2012–2016**
- EU FP7 Project KULTURisk **2010–2012**

### Lecturer of the following courses

- At IHE Delft, Delft, The Netherlands
  - River structures 2013-2016
  - Introduction to Data Assimilation 2015
  - Numerical methods 2015
  - Mathematical Formulation of fluid flow equations 2015-2017
  - Hydroinformatics modeling in MATLAB 2014-2017
- At the Peruvian Association of Hydraulic and Environmental Engineer, Lima, Peru
  - Introduction to levee structures 2015

### Supervisor of the following MSc Thesis/Internships

- Marinelli L. (2017) Probabilistic flood hazard mapping in case of levee failure using HEC-RAS 2D model. Mentor: Prof. A. Maranzoni, University of Parma. Internship at UNESCO-IHE.
- Hoang M. (2017) Risk Assessment and Monitoring Networks for Coastal Regions. Mentor: Prof. D. Solomatine. UNESCO-IHE, Master's degree in Flood Risk Management Erasmus Program.
- Chandra L. (2017) Improving hydrological prediction in Bangladesh by using improved hydrological modelling of the Brahmaputra catchment. Mentor: Prof. D. Solomatine. UNESCO-IHE, Master's degree in Flood Risk Management Erasmus Program.
- Conway C. (2017) Fusion of different remote sensing product of precipitation in hydrological applications. Mentor: Prof. D. Solomatine. UNESCO-IHE, Master's degree in Hydroinformatics.
- Shrestha D. (2015) Refining Data Assimilation for Hydrological Prediction: Case Study in West Rapti Basin, Nepal. Mentor: Prof. D. Solomatine. UNESCO-IHE, Master's degree in Hydroinformatics.
- Tenkolu H.M. (2015) Hydraulic Modelling for Global Flood Hazard Mapping. Mentor: Prof. A. Mynett. UNESCO-IHE, Master's degree in Hydraulic Engineering & River Basin Development.
- Prato E. (2015) Developing a methodology to estimate the probability of levee failure in case of slope stability. Mentor: Prof. M. Martina, University of Bologna. Internship at UNESCO-IHE.
- Franco A. (2015) Time-dependent method to estimate fragility curves in case of slope stability. Mentor: Prof. M. Martina, University of Bologna. Internship at UNESCO-IHE.
- Lopez Lopez Q. (2014) Assimilation of distributed observations of water level into an operational flood forecasting system. Mentor: Prof. D. Solomatine. UNESCO-IHE, Master's degree in Flood Risk Management Erasmus Program.
- Shewandagn L.T. (2013) How do different interventions on existing levee systems influence flood maps? Mentor: Prof. A. Mynett. UNESCO-IHE, Master's degree in Hydraulic Engineering & River Basin Development.
- Beatrice A. (2012) Hydrological and hydraulic uncertainty in flood hazard mapping. Mentor: Prof. R. Ranzi. University of Brescia, Master's degree in Environmental Engineering.

EDITORSHIPS,  
ORGANIZATION  
OF EVENTS,  
AFFILIATIONS

### **Editorships**

- Co-convenor of the session “Hydroinformatics: computational intelligence, systems analysis, optimisation, data science and data-driven modelling of social-hydrologic systems”, at the European Geosciences Union (EGU) General Assembly, 2017.
- Co-convenor of the short course “Hydroinformatics for hydrology: geostatistical modelling”, at the European Geosciences Union (EGU) General Assembly, 2017.
- Convenor of the short course “Hydroinformatics for hydrology: introduction to data science including data assimilation”, at the European Geosciences Union (EGU) General Assembly, 2016

### **Affiliations**

- Chairmain, Sub-division of Hydroinformatics, European Geosciences Union
- Member of the International Association of Hydraulic Research and Engineering (IAHR)
- Secretary of the Young Professional Network Delft

FELLOWSHIPS,  
GRANT AND  
AWARDS

### **Research grants**

- October 2012–2016
  - Funded by: European FP7 Project WeSenseIt.
  - Project aim: Develop a citizen-based observatory of water, which will allow citizens and communities to become active stakeholders in information capturing, evaluation and communication.
- July 2011–July 2012
  - Funded by: European project FP7 KULTURisk.
  - Project aim: Developing a culture of risk prediction through the communication and understanding of the current concept and future of flood risk associated with the memory and knowledge of past disasters.

### **Scholarships**

- September 2010–January 2011: Thesis research at UNESCO-IHE funded by University of Brescia.
- 2009–2010/2008–2009/2007–2008: University studies funded by University of Brescia.

### **Awards**

- September 2013: Best PhD presentation during the PhD symposium at UNESCO-IHE.

LIST OF  
PUBLICATIONS

### **Peer-reviewed publications**

- Kreibich H., Di Baldassarre G., Vorogushyn S., Aerts J.C.J.H., Apel H., Aronica G.T., Arnbjerg-Nielsen K., Bouwer L.M., Bubeck P., Caloiero T., Chinh D.T., Cortes M., Gain A.K., Giampa V., Kuhlicke C., Kundzewicz Z.W., Llasat M.C., Mard J., Matczak P., Mazzoleni M., Molinari D., Dung N.V., Petrucci O., Schroter K., Slager K., Thielen A.H., Ward P.J., Merz B. (2017) Adaptation to flood risk – results of international paired flood event studies, *Earth’s Future*, accepted
- Mazzoleni M., Cortes Arevalo V.J., Wehn U., Alfonso L., and Solomatine D.P. (2016) Assimilation of crowdsourced observations into a cascade of hydrological

and hydraulic models: The flood event of May 2013 in the Bacchiglione basin, *Hydrology and Earth System Sciences*, under review.

- Mazzoleni M., Chacon-Hurtado J., Noh S.J., Seo D.J., Alfonso L., and Solomatine D.P. (2016) Data assimilation in hydrologic routing: impact of sensor placement on flood prediction, *Journal of Hydrological Engineering*, in preparation.
- Mazzoleni M., Noh S.J., Lee H., Liu Y., Seo D.J., and Solomatine D.P. (2016) Real-time assimilation of streamflow observations into a hydrologic routing model: Effects of different model structures and updating methods, *Hydrological Science Journal*, under review.
- Mazzoleni M., Veerlan M., Alfonso L., Monego M., Norbiato D., Ferri M., and Solomatine D.P. (2017) Can assimilation of crowdsourced streamflow data in hydrological modelling improve flood prediction?, *Hydrology and Earth System Sciences*, 21, 839–861, doi:10.5194/hess-21-839-2017.
- Mazzoleni M., Alfonso L. and Solomatine D.P. (2017) Effect of spatial distribution and quality of sensors on the assimilation of distributed streamflow observations in hydrological modelling, *Hydrological Sciences Journal*, 62(3), 389–407.
- Mazzoleni M., Dottori F., Brandimarte L., Tekle S. and Martina M. (2017) Effects of levee cover quality on flood mapping in case of levee breach due to overtopping, *Hydrological Sciences Journal*, 62(6), 892–910.
- Mazzoleni M., Alfonso L., Chacon-Hurtado J.C. and Solomatine D.P. (2015) Assimilating uncertain, dynamic and intermittent streamflow observations in hydrological models, *Advances in Water Resources*, 83, 323-339.
- Mazzoleni, M., Barontini, S., Ranzi, R., and Brandimarte, L. (2014). Innovative Probabilistic Methodology for Evaluating the Reliability of Discrete Levee Reaches Owing to Piping, *J. Hydrol. Eng.*, 10.1061/(ASCE)HE.1943-5584.0001055.
- Mazzoleni, M., Bacchi, B., Barontini, S., Di Baldassarre, G., Pilotti, M., and Ranzi, R. (2014). Flooding Hazard Mapping in Floodplain Areas Affected by Piping Breaches in the Po River, Italy, *J. Hydrol. Eng.*, 19(4), 717-731.

#### Conference proceedings

- Kreibich H., Di Baldassarre G., Vorogushyn S., Aerts J.C.J.H., Apel H., Aronica G.T., Arnbjerg-Nielsen K., Bouwer L.M., Bubeck P., Caloiero T., Chinh D.T., Cortes M., Gain A.K., Giampa V., Kuhlicke C., Kundzewicz Z.W., Llasat M.C., Mard J., Matczak P., Mazzoleni M., Molinari D., Dung N.V., Petrucci O., Schroter K., Slager K., Thielen A.H., Ward P.J., Merz B. (2017) Learning from floods to mitigate flood risk, *International Conference of Flood Risk Management*, Leeds, UK.
- Alfonso L., Chacon-Hurtado J., Mazzoleni M. and Solomatine D.P. (2016) Optimal Design of Hydrometric Monitoring Networks with Dynamic Components based on Information Theory, *Hydroinformatics Conference 2016*, Incheon, Korea.
- Chacon-Hurtado J., Mazzoleni M., Alfonso L. and Solomatine D.P. (2016) Scheduling of dynamic hydrometric sensors for operational streamflow forecasting, *Hydroinformatics Conference 2016*, Incheon, Korea.

- Chacon-Hurtado J., Mazzoleni M., Corzo G. and Solomatine D.P. (2016) On the use of surrogate inverse models for hydrological data assimilation, Hydroinformatics Conference 2016, Incheon, Korea.
- Mazzoleni M., Noh S.J., Lee H., Liu Y., Seo D.J. and Solomatine D.P. (2016) Assimilation of real-time streamflow observations into a hydrologic routing model: Effect of different model structures, Hydroinformatics Conference 2016, Incheon, Korea.
- Noh S.J., Mazzoleni M., Lee H., Liu Y., Seo D.J. and Solomatine D.P. (2016) Real-time assimilation of observations from heterogeneous sensors into hydrologic routing models, Hydroinformatics Conference 2016, Incheon, Korea.
- Viavattene C., McCarthy S., Ferri M., Monego M. and Mazzoleni M. (2016) Evaluation of emergency protocols using agent-based approach, 13th International Conference on Information Systems for Crisis Response and Management, Sao Paulo, Brazil.
- Mazzoleni M., Chacon-Hurtado J., Alfonso Segura L. and Solomatine D.P. (2015) Towards the assimilation of anarchoist flow observations in hydrological models, IAHR World Congress 2015, At Den Haag, The Netherlands.
- Mazzoleni M., Barontini S., Ranzi R., and Brandimarte L. (2015) Effect of availability of levee data in the estimation of the probability of levee failure in case of piping, IAHR World Congress 2015, At Den Haag, The Netherlands.
- Mazzoleni M., Alfonso Segura L. and Solomatine D. (2014) Effect of different hydrological model structures on the assimilation of distributed uncertain observations of discharge, Hydroinformatics Conference 2014, New York, USA.
- Mazzoleni M., Alfonso Segura L. and Solomatine D. (2014) Assimilation of heterogeneous uncertain data, having different observational errors, in hydrological models, Hydroinformatics Conference 2014, New York, USA.
- Ranzi R., Bacchi B., Barontini S., Ferri M. and Mazzoleni M. (2013) Levee Breaches Statistics, “geotechnical uncertainty”, Residual Risk in Flood Hazard Mapping, Proceedings of the 35th IAHRWorld Congress, “The wise find pleasure in water: meandering through science and engineering”, September 8-13, Chengdu, China, Tsinghua University Press, Beijing, ISBN 978-7-89414-588-8, (on USB), 9 pp.
- Mazzoleni M., Barontini S. and Ranzi R. (2012) Reliability levee model to support flooding hazard assessment, Proc. XXXIII Conference of Hydraulics and Hydraulic Engineering, Brescia (Italy), 10-14 September 2012, Bacchi B., Ranzi R. and Tomirotti M. (editors), ISBN: 978-88-97181-18-7 (on CD), Edibios, Cosenza (Italy), 10 pp.
- Ranzi R., Barontini S., Mazzoleni M., Ferri M. and Bacchi B. (2012) Levee breaches and “geotechnical uncertainty” in flood risk mapping, IAHR European Division Congress, Munich, 27-28 June 2012, Technische Universitat Munchen, 6 pp. (on USB Pen).

#### **Brief communications in international conferences**

- Mazzoleni M., Cortes Arevalo V.J., Alfonso L., Wehn U., Norbiato D., Monego M., Ferri M. and Solomatine D.P. (2017) Effect of citizen engagement levels in flood forecasting by assimilating crowdsourced observations in hydrological models, EGU 2017 conference, Geophysical Research Abstract, Vienna, Austria.

- Solomatine D.P., Mazzoleni M., Alfonso L. And Chacon Hurtado J.C. (2017) Towards socio-hydroinformatics: optimal design and integration of citizen-based information in water-system models, EGU 2017 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Verlaan M., Alfonso L., Norbiato D., Monego M., Ferri M. and Solomatine D.P. (2016) Assimilation of streamflow observations from a heterogeneous network of distributed sensors in hydrological modelling COWM2016 - International Conference on Citizen Observatories for Water Management, Venice.
- Noh S.J., Mazzoleni M., Lee H., Liu Y., Seo D.J. and Solomatine D.P. (2016) Comparative analysis of various real-time data assimilation approaches for assimilating streamflow into a hydrologic routing model, EGU 2016 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Verlaan M., Alfonso L., Norbiato D., Monego M., Ferri M. and Solomatine D.P. (2016) Towards real-time assimilation of crowdsourced observations in hydrological modelling, EGU 2016 conference, Geophysical Research Abstract, Vienna, Austria.
- Noh S.J., Mazzoleni M., Lee H., Liu Y., Seo D.J. and Solomatine D.P. (2015) Real-time assimilation of crowdsourced observations into hydrologic routing models for improved river forecasting, World Environmental Water resources Congress, West Palm Beach, Florida, USA.
- Di Baldassarre G., Brandimarte L., Dottori F., Mazzoleni M. and Yan K. (2015) Potential and issues in large scale flood inundation modelling, EGU 2015 conference, Geophysical Research Abstract, Vienna, Austria.
- Brandimarte L., Martina M., Dottori F and Mazzoleni M. (2015) A statistical method to estimate outflow volume in case of levee breach due to overtopping, EGU 2015 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Alfonso L. and Solomatine D.P. (2015) Improving flood prediction by assimilation of the distributed streamflow observations with variable uncertainty and intermittent behaviour, EGU 2015 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Alfonso L. and Solomatine D.P. (2015) Can citizen-based observations be assimilated in hydrological models to improve flood prediction?, EGU 2015 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Alfonso Segura L. and Solomatine D. (2014) Towards assimilation of soil moisture remote sensing data into a semi-distributed flood model, International Conference of Flood Management, Sao Paulo, Brazil.
- Mazzoleni, M., Alfonso, L., Solomatine D.P. (2014) Assimilation of soil moisture observations from remote sensing in operational flood forecasting, EGU 2014 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni, M., Alfonso, L., Solomatine D.P. (2013) FP7 WeSenseIt Project, Citizen Water Observatories, Risultati Preliminari, Le Giornate della Idrologia della Società Idrologica Italiana, Venezia, 18-20 December.
- Mazzoleni M., Alfonso Segura L., Chacon Hurtado J. and Solomatine D. (2013) Reducing uncertainty in a hydrological semi-distributed model by means of assimilation of observations of discharge varying in time and space, EGU Leonardo conference 2013, Geophysical Research Abstract.

- Mazzoleni M., Alfonso Segura L., Chacon Hurtado J. and Solomatine D. (2013) Assimilation of uncertain data varying in time and space into hydrological model, EGU 2013 conference, Geophysical Research Abstract.
- Ranzi R., Bacchi B., Barontini S., Ferri M. and Mazzoleni M. (2012) Levee breaches statistics and “geotechnical uncertainty” in flood risk mapping, EGU Leonardo 2012, “Hydrology and Society”, Torino.
- Mazzoleni M., Barontini S. and Ranzi R. (2012) A probabilistic levee breach model for evaluating different breach scenarios for flooding hazard mapping, UMH-Uncertainty Modelling in Hydraulics, Stresa
- Mazzoleni M., Barontini S., Di Baldassarre G. and Ranzi R. (2012) Probabilistic flood hazard mapping induced by piping breaches: Application to the Po River, Italy. 2nd European Conference on FLOODrisk Management, Rotterdam.
- Mazzoleni M., Bacchi B., Barontini S., Di Baldassarre G. and Ranzi R. (2011) Uncertainty in flood hazard mapping for piping{induced levee breaches in the Po river, Geophysical Research Abstract Vol.13:10212, ISSN 1029-7006, Vienna.

#### **Presentations at international conferences**

- Mazzoleni M., Verlaan M., Alfonso L., Norbiato D., Monego M., Ferri M. and Solomatine D.P. (2016) Assimilation of streamflow observations from a heterogeneous network of distributed sensors in hydrological modelling COWM2016 - International Conference on Citizen Observatories for Water Management, Venice.
- Noh S.J., Mazzoleni M., Lee H., Liu Y., Seo D.J. and Solomatine D.P. (2016) Comparative analysis of various real-time data assimilation approaches for assimilating streamflow into a hydrologic routing model", EGU 2016 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Verlaan M., Alfonso L., Norbiato D., Monego M., Ferri M. and Solomatine D.P. (2016) Towards real-time assimilation of crowdsourced observations in hydrological modelling, EGU 2016 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni M., Chacon-Hurtado J., Alfonso Segura L. and Solomatine D.P. (2015) Towards the assimilation of anarchist flow observations in hydrological models, IAHR World Congress 2015, At Den Haag, The Netherlands.
- Mazzoleni M., Barontini S., Ranzi R., and Brandimarte L. (2015) Effect of availability of levee data in the estimation of the probability of levee failure in case of piping, IAHR World Congress 2015, At Den Haag, The Netherlands.
- Mazzoleni M., Alfonso Segura L. and Solomatine D. (2014) Effect of different hydrological model structures on the assimilation of distributed uncertain observations of discharge, Hydroinformatics Conference 2014, New York, USA.
- Mazzoleni M., Alfonso Segura L. and Solomatine D. (2014) Assimilation of heterogeneous uncertain data, having different observational errors, in hydrological models. Hydroinformatics Conference 2014, New York, USA.
- Mazzoleni, M., Alfonso, L., Solomatine D.P. (2014) Assimilation of soil moisture observations from remote sensing in operational flood forecasting, EGU 2014 conference, Geophysical Research Abstract, Vienna, Austria.
- Mazzoleni, M., Alfonso, L., Solomatine D.P. (2013) FP7 WeSenseIt Project, Citizen Water Observatories, Risultati Preliminari, Le Giornate della Idrologia della Societa Idrologica Italiana, Venezia, 18-20 December.

- Mazzoleni M., Barontini S. and Ranzi R. (2012) Reliability levee model to support flooding hazard assessment, Proc. XXXIII Conference of Hydraulics and Hydraulic Engineering, Brescia (Italy), 10-14 September 2012, Bacchi B., Ranzi R. and Tomirotti M. (editors), ISBN: 978-88-97181-18-7 (on CD), Edibios, Cosenza (Italy), 10 pp.
- Mazzoleni M., Barontini S. and Ranzi R. (2012) A probabilistic levee breach model for evaluating different breach scenarios for flooding hazard mapping, UMH-Uncertainty Modelling in Hydraulics, Stresa;
- Mazzoleni M., Bacchi B., Barontini S., Di Baldassarre G. and Ranzi R. (2011). Uncertainty in flood hazard mapping for piping-induced levee breaches in the Po River, Geophysical Research Abstract Vol.13:10212, ISSN 1029-7006, Vienna.

#### **Scientific reports**

- Mazzoleni M., Viavattene C., Alfonso L., McCarthy S. and Solomatine D.P. (2016) Integrated social and physical models, WeSenseIt Project, Work Package 3, Deliverable 3.30.
- Mazzoleni M., Chacon-Hurtado J., Alfonso L. and Solomatine D.P. (2016) Modelling procedures incorporating heterogeneous data, WeSenseIt Project, Work Package 3, Deliverable 3.13.
- Mazzoleni M., Alfonso L. and Solomatine D.P. (2014) Methods for uncertainty-aware modelling of natural processes, WeSenseIt Project, Work Package 3, Deliverable 3.11.
- Mazzoleni M., Barontini S., Milanesi L., Pilotti M., Ranzi R., Mukolwe M., Bogaard T., Di Baldassarre G., Alfonso L., Brilly M., Ferri M., Giuriato F., Neal J. and Bates P. (2011) Preparation of a baseline for non-structural measures using European case studies, KULTURisk Project, Work Package 3, Deliverable 3.2.
- Ranzi R., Mazzoleni M., Milanesi L., Pilotti M., Ferri M., Giuriato F., Michel G., Fewtrell T., Bates P., Neal J., Di Baldassarre G., Bogaard T., Brilly M. and Miko, M. (2011) Critical review of non structural measures for water related risks, KULTURisk Project, Work Package 3, Deliverable 3.1.

#### **Books**

- Mazzoleni M. (2017) Improving flood prediction assimilating uncertain crowdsourced data into hydrologic and hydraulic models, Taylor & Francis, ISBN 978-1-138-03590-4

#### **Thesis**

- Mazzoleni M. (2011) Uncertainty in flood hazard mapping induced by piping breach: An application to the Po River, Italy, MSc Thesis, University of Brescia, Brescia, Italy, 204 pages.
- Mazzoleni M. (2009) Regionalizzazione delle curvee di durata delle portate per la stima della producibilità idroelettrica (Estimation of Flow Duration Curve for the evaluation of the hydroelectric production), BSc Thesis, University of Brescia, Brescia, Italy, 138 pages.



PERSONAL  
COMPETENCE  
AND SKILLS

**Expertise**

- Writing and presenting technical reports acquired during intensive involvement in the WeSenseIt and KULTURisk EU projects and by teaching at post graduate level in an International context;
- Ability to work to project deadline under pressure and meet deadlines, shown in the involvement in the EU projects;
- Experience in developing teaching materials.
- Language Proficiency:

Language	Reading	Speaking	Writing
Italian	Mother tongue	Mother tongue	Mother tongue
English	Excellent	Excellent	Excellent
Spanish	Good	Good	Good
Dutch	Basic	Basic	Basic

**Computer skills**

- Strong background in using scripting languages such as Matlab, Python, R, Fortran in water and environmental research modelling.
- Strong background in data assimilation methods coding, such as nudging methods, Kalman filter, Ensemble Kalman filter, Particle filter.
- Experienced users of Hydrological (PCRaster, HBV, HEC-HMS) and Hydrodynamic models (HEC-RAS, MIKE11, LISFLOOD-FP).
- Experiences in Agent Based Modelling using the NetLogo model.
- Data and CAD models: ArcGIS, ArcView, MapInfo, Autocad.
- Grafical applications: Grapher, GNUPlot, GIMP, Photoshop.

**General skills**

- Social skills
  - Ability to work as part of a team acquired during the collaboration in different EU Projects.
  - Good problem-solving attitude, responsible and self-confidence.
  - Strong values of equity and fairness.
  - Excellent ability to establish and maintain good working and interpersonal relations in a multi-cultural atmosphere gained through my research abroad.
- Organisational skills
  - Good experience in projects or team management acquired during the university studies.
  - Sense of organisation, time planning and management.

CONTACTABLE  
REFEREES

**Prof. Dimitri Solomatine**

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**Prof. Dong-Jun Seo**

Professor at the Department of Civil Engineering, The University of Texas at Arlington (UTA), Texas, U.S.A.  
Phone: 817 272 5063  
Email: djseo@uta.edu

**Prof. Giuliano Di Baldassarre**

Professor of Hydrology at Uppsala University, Uppsala, Sweden

Phone: +4618-471 7028

Email: Giuliano.Dibaldassarre@geo.uu.se

**CERTIFICATION**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Delft,  
15/05/2017

The undersigned  
Maurizio Mazzoleni