

# CURRICULUM VITAE

**MARCELA BRUGNACH**

## PERSONAL INFORMATION

**PLACE OF BIRTH** Argentina  
**CITIZENSHIP** Argentina, Italy  
**RESIDENCE** Spain

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## EDUCATION

- Mar 1991    Ingeniería de Sistemas (Computer Science degree with orientation in Information Systems), Facultad de Ciencias Exactas, Universidad Nacional del Centro, Argentina
- Mar 2003    PhD in *Bioresource Engineering* (Dept. Bioresource Engineering) and in *Forest Ecology* (Dept. Forest Science). Oregon State University, Corvallis, OR, USA. Dissertation *New Tools and Approaches to Uncertainty Estimation in Complex Ecological Models*
- Jun 2015    University Teaching Qualification. University of Twente, Netherlands

## SCHOLARSHIPS & COURSES

- May-Jun 1998    Complex Systems Summer School. Santa Fe Institute. Santa Fe, NM, USA. Invited
- Dec 2000    Nonlinear Time Series Analysis in Biology. University of Tennessee. Knoxville, USA Invited
- Feb 2007    Stakeholder Collaboration, Framing, Cognitive Mapping and Model Building NeWater TIAS Training. Osnabrück, Germany
- May 2008    Honing your Facilitation Skills. NeWater-TIAS Training. Montpellier, France
- May 2011    Supervising final projects. Student and Education Service Centre. University of Twente, The Netherlands
- Mar 2011    Creative thinking. Student and Education Service Centre. University of Twente, The Netherlands
- Oct 2014    Learning Café met Ken Gergen. Appreciative inquiry: social constructionism in action. Genk, Belgium
- In progress    International Professional Development Programme – Leading Meaningful Change. Organized by ProDevInt. The Netherlands

**LANGUAGES** Spanish (native speaker), English (read-write-speak), Italian (read-write-speak), French (basic), German (basic), Dutch (B1 level)

## RESEARCH EXPERIENCE

### CURRENT RESEARCH FOCUS AND INTERESTS

Collective decision-making processes under uncertainty. Climatic Change. Sustainability. Resilience. Participation and collaboration. Environmental justice and equity. Ambiguity. Knowledge co-production, inter- and trans-disciplinarity. Policy-science interactions. Socio-environmental modeling. Participatory modeling. Simulations and games. Adaptive and integrated natural resources management.

### PUBLICATIONS

#### PEER REVIEWED JOURNAL ARTICLES

Bakhshianlamouki E, E-W Augustijn, **M Brugnach**, A Voinov and K Wijnberg. A participatory modelling approach to cognitive mapping of the socio-environmental system of sandy anthropogenic shores in the Netherlands. Accepted in Ocean and Coastal Management.

**Brugnach M** and R van den Hoek. 2023. Embracing ambiguity in climate change adaptation for more effective responses to new uncertain shorescapes conditions. Marine Policy. Vol 152, June 2023, <https://doi.org/10.1016/j.marpol.2023.105626>

Cabello V and **M Brugnach**. 2023. Whose waters, whose nutrients? knowledge, uncertainty and controversy over the Mar Menor eutrophication. Ambio (1-13).

Droz L, **M Brugnach** and U Pascual. 2023. The role of multilingualism for pluralising science-policy on people and nature. Under review in: Perspective in People and Nature. <https://doi.org/10.1002/pan3.10468>

Van Cauwenbergh N., P.A. Dourojeanni, P. Van der Zaag, **M. Brugnach**, K. Dartee, R. Giordano, E. Lopez-Gunn. 2022. Beyond TRL – understanding institutional readiness for implementation of nature-based solutions. Environmental Science & Policy, 127, 293-302, <https://doi.org/10.1016/j.envsci.2021.09.021>.

Craps M, **M Brugnach**. 2021. Experiential learning of local relational tasks for Global Sustainable Development by using a local behavioral simulation. Frontiers in Sustainability, 2, 57.

**Brugnach, M.**, de Waard, S., Dubois, D. and S. Farolfi. 2021. Relational quality and uncertainty in common pool water management: an exploratory lab experiment. *Sci Rep* 11, 15188 (2021). <https://doi.org/10.1038/s41598-021-94517-6>

Karandish, F., Nouri, H. & **Brugnach, M.** Agro-economic and socio-environmental assessments of food and virtual water trades of Iran. *Sci Rep* 11, 15022 (2021). <https://doi.org/10.1038/s41598-021-93928-9>

Wöhler L, A Y Hoekstra, RJ Hogeboom, **M Brugnach**, MS Krol. 2020. Alternative societal solutions to pharmaceuticals in the aquatic environment. *Journal of Cleaner Production*, 277, 124350

Nouri H, B Stokvis, S Chavoshi Borujeni, A Galindo, **M Brugnach**, ML Blatchford, S Alaghmand, AY Hoekstra. 2020. Reduce blue water scarcity and increase nutritional and economic water productivity through changing the cropping pattern in a catchment. *JOURNAL OF HYDROLOGY*. 588. DOI 10.1016/j.jhydrol.2020.125086.

Cortes Arevalo J, L Verbrugge, A Sools, **M Brugnach**, R Wolterink, P van Denderen, J Candel and S Hulscher. 2020. Storylines for practice: a visual storytelling approach to strengthen the science-practice interface. *Sustain Sci*. <https://doi.org/10.1007/s11625-020-00793-y>

Leskens J, **M Brugnach** and AY Hoekstra. 2019. How do Interactive Flood Simulation Models Influence Decision-Making? An Observations-Based Evaluation Method. *Water*, 11(11):2427

**Brugnach M** and G Özerol. 2019. Knowledge Co-Production and Transdisciplinarity: Opening Pandora's Box. *Water*, 11(10): 1997 (DOI: 10.3390/W11101997)

Lepenies R, F Hüesker, S Beek and **M Brugnach**. 2018. Discovering the Political Implications of Coproduction in Water Governance. *Water*, 10 (10):1475 (DOI: 10.3390/W10101475)

Wester SJ, R Grimson, PG Minotti, MJ Booij and **M Brugnach**. 2018. Hydrodynamic modelling of a tidal delta wetland using an enhanced quasi-2D model. *Journal of Hydrology*, Volume 559: 315-326

**Brugnach M**. 2017. The space in between: where multiple ways of knowing in water management meet. Special Issue on Helen Ingram's contributions to water, environment, and policy scholarship. *Journal of the Southwest*, 59 (1): 34-59

Warmink J, **M Brugnach**, J Vinke de Kruijf, R M J Schielen and D C M Augustijn. 2017. Coping with uncertainty in river management: challenges and ways forward. *Water Resources Management*, 1-14

Giordano R, **M Brugnach** and I Pluchinotta. 2017. Ambiguity in problem framing as a barrier to collective actions: some hints from groundwater protection policy in the Apulia Region. *Group Decision and Negotiation*, 1-22

**Brugnach M**, M Craps and A Dewulf. 2017. Including indigenous peoples in climate change mitigation: addressing issues of scale, knowledge and power. *Climatic Change*, 140(1):19-32

Hassenforder E, **M Brugnach**, B Cullen, N Ferrand, O Barreteau, KA Daniell and J Pittok. 2016. Managing frame diversity in environmental participatory processes - Example from the Fogera Woreda in Ethiopia. *Journal of Environmental Management*, 177, 288-297

Leskens JG, **M Brugnach** and AY Hoekstra. 2014. Application of an Interactive Water Simulation Model in Urban Water Management, a case study in Amsterdam. *Water Science and Technology*, 70(11)1729-1739

Van den Hoek RE, **M Brugnach**, JPM Mulder and AY Hoekstra. 2014. Uncovering the origin of ambiguity in nature-inclusive flood infrastructure projects, *Ecology and Society*, **19**(2): 51. <http://dx.doi.org/10.5751/ES-06416-190251>

Van den Hoek RE, **M Brugnach**, JPM Mulder, AY Hoekstra. 2014. Analyzing the cascades of uncertainty in flood defense projects: How “not knowing enough” is related to “knowing differently”. *Global Environmental Change*, **24**: 373–388

Leskens JG, **M Brugnach**, A Hoekstra and W Schuurmans. 2014. Why are decisions in flood disaster management so little supported by information from flood models? *Environmental Modelling & Software*, **53**: 53-61. *Best PhD paper of the year 2015 award of the Twente Water Centre*

**Brugnach M** and H Ingram, 2012. Ambiguity: The challenges of knowing and deciding together. *Environmental Science and Policy*, **15**: 60-71

Van den Hoek RE, **M Brugnach** and AY Hoekstra, 2012. Shifting to ecological engineering in flood management: introducing new uncertainties in the development of a Building with Nature pilot project, *Environmental Science and Policy*, **22**(1): 85-99

Henriksen H-J, P Zorrilla-Miras, A de la Hera and **M Brugnach**. 2012. Use of Bayesian networks for dealing with ambiguity in integrated groundwater management. *Integrated Environmental Assessments and Management*, **8**(3): 430-444

**Brugnach M**, A Dewulf, HJ Henriksen and P van der Keur. 2011. More is not always better: Coping with ambiguity in natural resources management. *Journal of Environmental Management*, **92**(1):78-84

Pahl-Wostl C, P Jeffrey, N Isendahl and **M Brugnach**. 2011. Maturing the new water management paradigm: Progressing from aspiration to practice. *Water Resources Management*, **25**(3):837-856. DOI: 10.1007/s11269-010-9729-2

Van der Keur P, **M Brugnach**, A Dewulf, JC Refsgaard, P Zorrilla, M Poolman, N Isendahl, GT Raadgever, HJ Henriksen, JJ Warmink, M Lamers and J Mysiak. 2010. Identifying Uncertainty Guidelines for Supporting Policy Making in Water Management Illustrated for Upper Guadiana and Rhine Basins. *Water Resource Management*, **24**(14):3901-3938

Rupp DE, RF Keim, M Ossiander, **M Brugnach**, and JS Selker. 2009. Time Scale and Intensity Dependency in Multiplicative Cascades for Temporal Rainfall Disaggregation. *Water Resour. Res.*, **45**, W07409, doi:10.1029/2008WR007321

Isendahl N, A Dewulf, **M Brugnach**, G François, S Möllenkamp and C Pahl-Wostl. 2009. Assessing framing of uncertainties in water management practice. *Water Resources Management*, **23**(15): 3191

Hart Q, **M Brugnach**, B Temesgen, C Rueda, S Ustin, K Frame. 2009. Daily reference evapotranspiration for California using satellite imagery and weather station measurements interpolation. *Civil Engineering and Environmental Systems*. <http://dx.doi.org/10.1080/10286600802003500>

**Brugnach M**, A Dewulf, C Pahl-Wostl and T Taillieu. 2008. Towards a relational concept of uncertainty: about knowing too little, knowing too differently and accepting not to know. *Ecology & Society*, 13(2). <http://www.ecologyandsociety.org/vol13/iss2/art30>

Van der Keur P, HJ Henriksen, JC Refsgaard, **M Brugnach**, C Pahl-Wostl, A Dewulf and H Buiteveld. 2008. Identification of Major Sources of Uncertainty in Current IWRM Practice Illustrated for the Rhine basin. *Water Resources Management*, 22:1677–1708. DOI 10.1007/s11269-008-9248-6

Holtz G, **M Brugnach** and C Pahl-Wostl. 2007. Specifying “Regime” - A Framework for defining and describing Regimes in Transition Research. *Technological Forecasting and social change*. <http://www.sciencedirect.com/science/journal/00401625>

**Brugnach M**, A Tagg, F Keil, and W de Lange. 2007. Uncertainty matters: computer models at the science-policy interface. *Water Resources Management*, 21:1075-1090

**Brugnach M**, C Pahl-Wostl, KE Lindenschmidt, JAEB Janssen, T Filatova, A Mouton, G Holtz, P van der Keur and N Gaber. 2007. Complexity and uncertainty: rethinking the modelling activity. Environmental Modelling and Software and Decision Support - Developments in Integrated Environmental Assessment (DIEA) - Vol – 3.

**Brugnach M**. 2005. Process level sensitivity analysis for complex ecological models. *Ecological Modelling*, 187:99-120

Kittel TGF, NA Rosenbloom, JA Royle, C Daly, WP Gibson, HH Fisher, P Thornton, DN Yates, S Aulenbach, C Kaufman, R McKeown, D Bachelet, DS Schimel, VEMAP2 Participants. 2004. VEMAP Phase 2 bioclimatic database. I. Gridded historical (20th) century climate for modeling ecosystem dynamics across the conterminous USA. *Climate Research*, 27(2):151-170

**Brugnach M**, J Bolte and G Bradshaw. 2003. Determining the significance of threshold uncertainty in rule-based classification models. *Ecological Modelling*, 160:63-76

Bachelet D, **M Brugnach** and RP Neilson. 1998. Sensitivity of a biogeography model to soil properties. *Ecological Modelling*, 109:77-98

#### MANUSCRIPTS AND BOOK CHAPTERS IN ADVANCED STAGE OF PREPARATION

**Brugnach M**, Dubois D, S Farolfi. Can the collective performance of a group be affected by the quality of the relationships of its members? In prep.

**Brugnach M**, et al. The whys and hows of glaciological knowledge Coproduction. Under review in *Annals of Glaciology*

Bakhshianlamouki E, Augustijn E-W, van den Heuvel J, Terpstra T, **Brugnach M**, Voinov A, Wijnberg K. Balancing Recreation and Flood Safety for Integrated Coastal Management Understanding Beach Visitors' Types of Attitude and Behaviour in Sandy Anthropogenic Shores. Under review Sustainable Tourism

Dehnavi S, Nouri H, Abbasi N, **Brugnach M**. Sustainability at the cost of others - Who pays for an SDG fulfillment, other SDGs or other nations? Submitted to Scientific Reports.

Ruiz I, Pompeu J, Ruano A, **Brugnach M**, Sanz MJ. Participatory processes to co-design adaptive sustainable land Exploring forest management practices in the Mediterranean Mijares watershed. Submitted to Env Science & Policy.

Ruiz I, Alloza JA, Zafra-Calvo N, Lliso B, Sanz MJ, **M Brugnach**. Exploring forest management practices to recouple the atmospheric and terrestrial water cycle in the Mediterranean Mijares watershed. Submitted to Journal of Environmental Management

#### REFEREED BOOK CHAPTERS

**Brugnach M** and H Ingram. 2017. Ways of Knowing and the co-Production of Blended Knowledge. In *Science and Scientists in the Contemporary Policy Process: Changing Context, Changing Science and the Challenge of Science Impact*, E. Weber, D. Lach and B. Steel. Eds. Oregon State University Press.

Craps M and **M Brugnach**. 2015. A relational approach to deal with ambiguity in multi-actor governance for sustainability, Management of Natural Resources, Sustainable Development and Ecological Hazards IV, Vol (199), 233 pages. WIT press Publisher.

Dewulf A, **M Brugnach**, C Termeer and H Ingram. 2013. Bridging knowledge frames and networks in climate and water governance. In *Water Governance as Connective Capacity* Edelenbos J, Bressers N and P Scholten Eds. Ashgate, ISBN 978-1-4094-4746-7.

**Brugnach M** and H Ingram. 2012. Rethinking the role of humans in water management: towards a new model of decision-making. In *Water, cultural diversity and environmental change: emerging trends, sustainable futures?* B Rose Johnston, Editor-in-chief, Springer, ISBN 978-94-007-1773-2.

**Brugnach M**, P van der Keur, H-J Henriksen and J Mysiak. 2009. Uncertainty in adaptive water management. NeWater Synthesis Product # 2. <http://www.newater.info/index.php?pid=1045>

**Brugnach M**, P van der Keur, J Mysiak, H-J Henriksen. 2009. Uncertainty in water management. In *The Adaptive Water Resource Management Handbook*. Edited by Jaroslav Mysiak, Hans Jørgen Henriksen, Caroline Sullivan, John Bromley and Claudia Pahl-Wostl. Earthscan, pp216. ISBN 9781844077922.

**Brugnach M** and C Pahl-Wostl. 2007. A broadened view on the role for models in natural resource management: Implications for model development. In Pahl-Wostl C, Kabat P and J Moltgen. 2007. Adaptive and Integrated Water Management. Coping with Complexity and Uncertainty, Springer Verlag, 184-203.

## REPORTS AND NON-PEERED REVIEWED PUBLICATIONS

Zafra-Calvo N, LD Vivas, I Ruiz, MJ Sanz and M **Brugnach**. 2023. El agua en la cuenca del río Mijares: lo que aun faltaría por conocer para avanzar en la toma de decisiones y acciones hacia la sostenibilidad territorial. BC3 • POLICY BRIEF • PB 2023-03 bc3research.org.

Zuluaga-Guerra PA, V Cabello, J Urrutia Asua, P Novo and **M Brugnach**. Travelling beyond Words: Visual Language in Participatory Research in the Mar Menor Lagoon" <https://www.shreddialogues.org/>.

**Brugnach M**, J Heerema, M Meester and F Hijlkema. 2022. Beyond Technologies: learning solutions to water problems through art-science interactions. VanBraun Foundation, Germany.

**Brugnach M**, J Heerema, M Meester and F Hijlkema 2019. Beyond Technology: Exploring the integration of art and engineering education in formulating innovative teaching methods. The Netherlands.

**Brugnach M**. 2016. Knowledge co-production: a new trend in global assessments? September issue of TIAS Newsletter (<http://www.tias.uni-osnabrueck.de>)

**Brugnach M**, H Nieße, C Varela and C Pahl-Wostl. Modeling transitions to adaptive management: considering values and beliefs in decision making. 2009. Deliverable of the EU 6th FP NeWater project ([www.newater.info](http://www.newater.info)).

Dewulf A, G François, **M Brugnach**, N Isendahl, T Taillieu, C Pahl-Wostl, S Moellenkamp. 2008. The role of uncertainty, ambiguity and framing in transition to adaptive management. About knowing too little, accepting not to know and knowing too differently. Deliverable of the EU 6th FP NeWater project ([www.newater.info](http://www.newater.info)).

**Brugnach M** and C Pahl-Wostl. 2007. Putting uncertainty into context: implications of model purpose in dealing with uncertainty. Global Assessments: Bridging Scales and Linking to Policy. GWSP, Issues in Global Water System Research. Report 2: 108-113.

Pahl-Wostl C, P Jeffrey, **M Brugnach** and J Sendzimir. 2007. Adaptive water management: How to cope with uncertainty. NeWater 6<sup>th</sup> framework program. Policy Brief. CAIWA International Conference on Adaptive and Integrated Water Management - Coping with Complexity and Uncertainty. Basel, Switzerland.

**Brugnach M** and C Pahl-Wostl. 2007. Development of a model to analyze transitions to adaptive management regimes: Incorporating the role of humans and culture in decision making. Report on the CoMo model summarizing methods and first results. NeWater 6<sup>th</sup> framework program, Report D1.7.4a.

Pahl-Wostl C, N Isendahl, S Möllenkamp, **M Brugnach**, P Jeffrey, W Medema and T Tessa de Vries. Paradigms in water management. NeWater 6<sup>th</sup> framework program, Report D1.1.2.



Van der Keur P, **M Brugnach**, C Pahl-Wostl and JC Refsgaard. 2006. The importance of uncertainties and how they are addressed in IWRM. In Framework for adaptive water management regimes and for the transition between regimes. NeWater 6<sup>th</sup> framework program, Report D 1.7.1.

Hart QJ, **M Brugnach** and SL Ustin. 2005. Calculation of daily reference evapotranspiration for California using goes satellite measurements and CIMIS weather station interpolation. Technical report, California Department of Water Resources.

#### **ORAL, POSTER PRESENTATIONS AND PUBLICATIONS IN CONFERENCE PROCEEDINGS & WORKSHOPS**

**Brugnach M.** 2023. 11th Rosenberg International Forum on Water Policy. University of Cape Town. Oct 23-27, Cape Town, South Africa. Invited.

**Brugnach M.** 2023. Beyond certainty: exploring the perils and virtues of ambiguity in climate change adaptation. ICARUS (Initiative on Climate Adaptation Research and Understanding through the Social Sciences). Sept 29, Oct 1, 2023. University of Michigan, Ann Arbor, USA.

**Brugnach M**, D Dubois and S Farolfi. 2023. Collective Decision Making and Uncertainty in Natural Resources: The Role of Relational Quality to Increase Cooperation. ASFEE, 25-26 May 2023, Montpellier, France

Bakhshianlamouki E, E-W Augustijn, K Wijnberg, A Voinov and **M Brugnach**. 2023. Building an agent-based model to explore the interactions between human activities and vegetation cover on sandy anthropogenic shores (SAS) in the Netherlands. EGU23-3177

Bakhshianlamouki E, E-W Augustijn, K Wijnberg, A Voinov and **M Brugnach**. 2023. Using Agent-Based modelling to explore human impact on sandy beaches in the Netherlands. NCK-days 2023

**Brugnach M**, D Dubois and S Farolfi. L'impact des la qualite´ des relations dans un groupes un son management d'une ressource commune. 17 Nov 2022. LEEM, University of Montpellier, France

**Brugnach M**, D Dubois and S Farolfi. Collective Decision Making and Uncertainty in Natural Resources: The Role of Relational Quality to Increase Cooperation among Actors. 24 Nov 2022. PRECOS, G-Eau, Cirad, France

**Brugnach M.** 2022. The grand challenge of getting useful knowledge under a changing climate, in Cross-border Water Conflict and Diplomacy. Global Forum and Water and Humanity: "Digital Dynamics and Global Societal Challenges, New Realities of Disruption and Resilience". 17 to 19 October 2022, Oman

Bakhshianlamouki E, EW Augustijn, K Wijnberg, A Voinov and **M Brugnach**. 2022. Building the socio-biophysical cognitive model of sandy anthropogenic shores (SAS) in the Netherlands. NCK Days 2022, Netherlands.

**Brugnach M** and S Faria. 2022. The human side of icy glaciers. Ice in a sustainable society. Symposium. Bilbao 5-10 June. Oral presentation and panellist.

Participation in III SOMMa Gender Equity Event. Universidad Autonoma de Barcelona, 17 June 2022.

**Brugnach M.** 2021. Metodologías de evaluación sociales: Desafíos en la toma colectiva de decisiones bajo incertidumbre para la adaptación al cambio climático. 16 Congreso Nacional de Medio Ambiente -CONAMA. Madrid, Spain. Jun.

**Brugnach M,** R Lejano. 2021. Relationality and Institutions: Understanding Shifting Groundwater Policy Regimes. ICPP5 – 5th International Conference on Public Policy. Barcelona, Spain.

Rosso-Brugnach M and **M Brugnach.** 2021. Transformation towards sustainability: Are we asking the right questions? In The 7th International Degrowth and 16th ISEE Joint Conference Building Alternative Livelihoods in Times of Ecological and Political Crisis.

Bakhshianlamouki E, E-W Augustijn, K Wijnberg, A Voinov, **M Brugnach.** 2021. A fuzzy cognitive map approach to understand the management of anthropogenic sandy shores in the Netherlands. ECSA 58 - EMECS 13 Estuaries and coastal seas in the Anthropocene. 6-9 September.

**Brugnach M.** 2021. My experience at the Female Faculty Network at the University of Twente (NL), Seminar series in BC3, organized by A Soreman. 27 Jan.

Wöhler L, A Y Hoekstra, RJ Hogeboom, **M Brugnach,** MS Krol. 2020. Alternative societal solutions to pharmaceuticals in the aquatic environment. In SY039: Convergent Science, Decision-Making, and Community Action for Addressing Societal Water and Health Needs. AGU Fall Meeting, Dec 1-17.

**Brugnach M** and G Özerol. 2021. Seeking Peace In Governing Common Waters: Approaching Uncertainty From A Social Relational Perspective. EADI ISS Conference 2020: Solidarity, Peace and Social Justice 5 - 8 July 2021 (originally 29 June - 2 July 2020) . Postponed 508 July 2021, The Hague, Netherlands.

**Brugnach M.** 'The (re)democratization of knowledge in participatory processes - The dangers of overlooking ambiguities'. The 5th Post-Normal Science Symposium, "PNS5: Digital journey to PNS 2021 symposium in Florence".

**Brugnach M.** Undoing the politics of knowledge coproduction: what must be taken into account in practice? - Session "Governance, education and communication". XI Iberian Congress of Water Management and Planning: Water transition and global change: from diagnosis to action. Complutense University of Madrid. September 3 to 5, 2020

**Brugnach M,** C van Bers and V Cabello. Addressing ambiguity in participatory processes for sustainable resources management to support Integrated Assessment". Virtual session at the 5th Post-Normal Science Symposium, "PNS5: Digital journey to PNS 2021 symposium in Florence". 21-25 September.

**Brugnach M.** Uncertainty and climate change in urban areas. 2020. Cambio climático y Urdaibai: Soluciones innovadoras de emprendimiento social y medioambiental. 25-26 June. Organized by Egiarte L and M Alonso, as part of: UDA IKASTAROAK CURSOS DE VERANO – UPV/EHU.

Arevalo VJC, LNH Verbrugge, **M Brugnach**, A Sools, R Wolterink, P van Denderen, J Candel, S Hulscher- 2019. Storylines to improve science communication to practitioners in river management. Geophysical Research Abstracts 21.

**Brugnach M.** 2018. 10th Biennial Rosenberg International Forum on Water Policy. Oct 8-10, San Jose, California, USA. Invited.

**Brugnach M.** 2018. Un-performing (gender) differences: the pros and cons of participatory modelling for embracing ambiguity. International Workshop “Diversifying Epistemic Perspectives”. Sep 25, Dresden, Germany. Invited.

**Brugnach M.** 2018. What we talk about when we talk about uncertainty. U.S. Geological Survey Noon Seminar. July 6, Arizona, USA.

**Brugnach M** and R Giordano. 2018. Participatory Modelling, Ambiguity and the Challenges of Being Inclusive. Environmental Modelling and Software Conference. June 24-28, Colorado, USA.

Cortes Arevalo J, A Sools, LNH Verbrugge, **M Brugnach**, RP van Denderen, JHJ Candel, JEW van Gemert-Pijnen and SJMH Hulscher. 2018. Usefulness of storylines to increase the accessibility and transparency of RiverCare knowledge. NCR DAYS 2018, 64-65, Netherlands.

Cortes Arevalo J, A Sools, LNH Verbrugge, **M Brugnach**, RP van Denderen, JHJ Candel, JEW van Gemert-Pijnen and SJMH Hulscher. 2018. Evaluating online storylines to increase the accessibility, transparency and potential usefulness of RiverCare knowledge. Geophysical Research Abstracts, 20.

Craps M, **M Brugnach**. 2017. Jugando a colaborar: el caso de la reserva de la biosfera del macizo del Cajas. Presentación en simposio: La Universidad y las Metodologías Participativas, coordinated by G Rodríguez y R Rodríguez. ARNA Conference. June 12-17, Cartagena, Colombia.

Craps M, **M Brugnach** and M Bouwen. 2017. The “Mining in the Biosphere” simulation as a learning tool to deal with power in multi-actor collaboration. In session Constructing and Overcoming Power Inequalities in Cross-Sector Collaborative Forums, Organized by B Gray. Conference of the International Association for Conflict Management, July 9-12, Berlin, Germany.

Vinke-de Kruijf J, **M Brugnach** and C Pahl-Wostl. 2017. Knowledge co-production in European cooperation projects: evidence from a comparative study (title max 20 words). 3<sup>rd</sup> European Climate Change Adaptation Conference. Glasgow 5-9 June, 2017.

**Brugnach M.** 2017. Uncertainty in water management: when things are poorly known and differently understood. University of California, Santa Cruz, USA. February 1, 2017. *Invited*

**Brugnach M.** 2016. Narrowing the policy-science divide through the co-production of knowledge: the case of ground water management. 6<sup>th</sup> Congreso Nacional de Investigación en Cambio Climático. 17-21 October. Mexico. Oral presentation. *Invited*.

**Brugnach M.** 2016. Towards a relational concept of uncertainty for natural resources management: can contemplative practices help? International Symposium for Contemplative Studies (ISCS). 10-13 Nov, San Diego, CA. Poster presentation.

Craps M and **M Brugnach.** 2016. Learning from spirituality for sustainability. Spirituality, Symbolism, and Storytelling. 11<sup>th</sup> Organization Studies Summer Workshop 2016. 19-21 May. Mykonos, Greece. Oral presentation.

Giordano R, **M Brugnach** and I Pluchinotta. 2016. Integrating conflict analysis in drought risk management: Some hints from the Mediterranean area. Adaptation Futures: practices and solutions. 10 May. Rotterdam, The Netherlands. Oral presentation.

**Brugnach M.** 2015. Interazioni politica-scienza e la co-produzione della conoscenza: Implicazioni per l'attuazione delle politiche di cambiamento climatici. In workshop: Dagli impatti dei cambiamenti climatici sulle risorse idriche alle strategie di adattamento: come superare le barriere tra comunità scientifica e decisori. organizzate dall'Istituto di Ricerca Sulle Acque (IRSA) e del Consiglio Nazionale delle Ricerche (CNR), Aquae Venezia 2015 - Expo Venice, 21 - 23 October 2015, Venice, Italy. Oral presentation.

Giordano R and **M Brugnach.** 2015. Policies in context: the Apulia case of ground water protection. 10<sup>th</sup> International Conference in Interpretative Policy Analysis, 8-10 July, 2015. Lille, France. Paper and oral presentation.

Craps M and **M Brugnach.** 2015. A relational view on dealing with ambiguities in multiactor governance of natural resources. Ravage of the Planet IV: 4th International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards, 1-3 July. Opatija, Croatia. Paper and oral presentation.

**M Brugnach,** R Giordano. 2015. Ambiguity in problem framing as a barrier to collective actions. International Conference on Group Decision & Negotiation, 22- 26 June. Warsaw, Poland. Paper and oral presentation.

Giordano R, I Pluchinotta and **M Brugnach.** 2015. A System Dynamic Analysis approach to deal with complexity in water resources management: the case of groundwater protection in the Apulia region (Southern Italy). EGU General Assembly. Vienna, Austria. . Extended abstract and oral presentation.

**Brugnach M.** 2014. Incertidumbres y ambigüedades: desafíos del manejo colectivo de recursos naturales. 2 Oct. Ciencias Exactas. Universidad Nacional del Centro. Tandil, Pcia Bs As, Argentina. Oral presentation.

**Brugnach M** and H Ingram. 2014. Ways of knowing and the production of blended knowledge when managing for resilience Resilience 2014: Resilience and development: mobilizing for transformation. 4-8 May. Montpellier, France. Extended abstract and oral presentation.

**Brugnach M.** 2014. Ambiguity: The challenge of making decisions in River Management. In workshop: Uncertainty in river management: How to deal with It? 27 March. Utrecht, The Netherlands. Oral presentation.

Lach D, **M Brugnach**, and H Ingram. 2013. Panel session on New roles for science and scientists? In workshop *Science and Scientists in the Contemporary Policy Process: Changing Context, Changing Science and the Challenge of Science Impact*, organized by E. Weber, D. Lach and B. Steel. 3-6 October. Oregon State University, Oregon, USA. *Invited*.

Leskens, JG and **M Brugnach**. 2013. Interactive modelling with stakeholders in two cases in flood management. EGU General Assembly, 7-12 April. Vienna, Austria. Oral presentation.

Van den Hoek R, **M Brugnach**, A Hoekstra. 2013. How do local stakeholders respond to the uncertain implications of an innovative flood infrastructure projects? Geophysical Research Abstracts, vol. 15, EGU General Assembly 2013, Vienna, Austria. Oral presentation.

**Brugnach M**, M Craps, R Bowen and T Taillieu. 2012. Creating decision spaces that support collaboration: what type of practices can better support coping with ambiguity and conflict? International Association for Conflict Management (IACM) Conference, 11-14 July. Cape Town, South Africa. Extended abstract and oral presentation.

Giordano R, **M Brugnach** and M Vurro. 2012. System Dynamic Modelling for conflicts analysis in groundwater management. International Environmental Modelling and Software Society (iEMSs) 2012 International Congress on Environmental Modelling and Software. Managing Resources of a Limited Planet, Sixth Biennial Meeting, Leipzig, Germany. R. Seppelt, A.A. Voinov, S. Lange, D. Bankamp (Eds.) <http://www.iemss.org/society/index.php/iemss-2012-proceedings>. Paper and oral presentation by first author.

Leskens JG and **M Brugnach**. 2012. Applying a network approach to identify reasons for the limited use of flood models. In: 19th Annual Conference on Multi-Organisational Partnerships, Alliances and Networks. 2-4 July. Wageningen, The Netherlands. Paper and oral presentation by first author.

Van den Hoek RE, **Brugnach M**, AY Hoekstra. 2012. Uncertainty in nature-inclusive flood policy development: the origin of multiple knowledge frames, in: Teixeira de Almeida, A., Costa Morais, D., de França Dantas Daher, S. (eds.), *Group Decision and Negotiation 2012, Proceedings: volume I*, Recife: Ed. Universitária da UFPE, 2012 (282 p.): 202-203. Paper and oral presentation by first author.

**Brugnach M.** 2011. Creating decision spaces that support collaboration: the role of dialogue, facilitation and mediation in coping with ambiguity. Presented in workshop: *Mediation In Environmental Conflicts Management New Frontiers*, organized by G. Concilio, C. Pacchi and V. Monno. 28-29 November. Polytechnic of Milan, Milan, Italy. Oral and paper presentation. *Invited*.

Giordano R, **M Brugnach** and M Vurro. 2011. Fuzzy Cognitive Map for ambiguity and conflict analysis in drought management. *Geophysical Research Abstracts*, Vol. 13, EGU General Assembly 2011, Vienna, Austria. Oral presentation by first author.

Van den Hoek RE, **M Brugnach**, and AY Hoekstra. 2011. Towards resilience-based water management: understanding the role of uncertainty in policy evaluation, *Resilience 2011 – 2<sup>nd</sup> International Science and Policy Conference*, Tempe, Arizona, USA. Extended abstract and oral presentation by first author.

Van den Hoek RE and **M Brugnach**. 2011. Uncertainties in policy development of Building with Nature projects: is ambiguity more important than content? *IGS-SENSE Conference: Resilient Societies*. 19-21 October. Enschede, the Netherlands. Extended abstract and oral presentation by first author.

Van den Hoek RE, **M Brugnach**, MS Krol and AY Hoekstra. 2010. Policy-relevant uncertainties in an innovative sand nourishment project: identification and classification, *IGS Conference 2010: Tentative Governance in Emerging Science and Technology*, Enschede, the Netherlands: 51-53. Extended Abstract

**Brugnach M.** More information is not always better: coping with uncertainty in adaptive water management. International Workshop Advances in Flood Forecasting and the Implications for Risk Management. 25-26 May. Alkmaar, The Netherlands. Oral and poster presentation. *Invited*

**Brugnach M.** 2010. From prediction to learning: the implications of changing the purpose of the modelling activity. Proceedings of the iEMSs Fifth Biennial Meeting: International Congress on Environmental Modelling and Software (iEMSs 2010), Ottawa, Canada, 5-8 July. Oral and poster presentation.

**Brugnach M** and H Ingram. 2009. Rethinking the role of humans in water management: towards a new model of decision-making. Symposium: "Water cultural diversity and global environmental change: emerging trends, sustainable futures?" Organized by RIHN, UNESCO-IHP and UNESCO-IAS. Kyoto, Japan, 1-3 October. Oral and poster presentation. *Invited*

Dewulf A, **M Brugnach** and H Ingram. 2009. The Co-Production of Knowledge about Water Resources: Framing, Uncertainty and Climate Change. 7<sup>th</sup> International Science Conference on Human Dimensions of Global Environmental Change. Bonn, Germany. Paper and oral Presentation.

**Brugnach M.** 2008. Managing uncertainty in ecological models: Linking model development and use. Public Lecture. Zentrum für Marine Tropenökologie. Bremen, Germany. Oral presentation. *Invited.*

**Brugnach M,** P van der Keur, M Mysiak and HJ Henriksen. 2008. Uncertainty Guidelines. NeWater Final Conference. Sevilla, Spain. Oral presentation

**Brugnach M** and C Pahl-Wostl. 2007. How can models better aid the decision processes for the management of water resources? American Geophysical Union, San Francisco, USA. Oral presentation. *Invited.*

**Brugnach M,** A Dewulf, C Pahl-Wostl and T Taillieu. 2007. Towards a relational concept of uncertainty: Including the human experience. CAIWA International Conference on Adaptive and Integrated Water Management - Coping with Complexity and Uncertainty. Basel, Switzerland. Oral presentation.

Isendahl N, A Dewulf, **M Brugnach,** G François, S Möllenkamp, C Pahl-Wostl. 2007. How to assess framing of uncertainties in water management practice. CAIWA International Conference on Adaptive and Integrated Water Management - Coping with Complexity and Uncertainty. Basel, Switzerland. Paper and oral presentation.

**Brugnach M,** A Dewulf, C Pahl-Wostl and T Taillieu. 2007. Towards a relational concept of uncertainty: about knowing too little, knowing too differently and accepting not to know. Proceedings of the 14th International Conference on Multi-Organisational Partnerships, Alliances & Networks MOPAN. Leuven, Belgium. Paper and oral presentation.

**Brugnach M** and C Pahl-Wostl. 2007. Putting uncertainty into context: Implications of model purpose in dealing with uncertainty. 7th International IWA Symposium on Systems Analysis and Integrated Assessment in Water Management. Watermatex. Washington DC, USA. Paper and oral presentation.

**Brugnach M,** A Dewulf, G Francois, T Taillieu and C Pahl-Wostl. 2006. The role of uncertainties in water management: connecting theory and practice. NeWater General Assembly. Hortobagy, Hungary. Poster presentation.

**Brugnach M** and C Pahl-Wostl. 2006. Uncertainty, models and decision making. HarmoniRib workshop. Brussels, Belgium. Poster presentation.

**Brugnach M** and C Pahl-Wostl. 2006. Complexity and uncertainty and a new role for models. 3rd Biennial meeting of the International Environmental Modelling and Software Society. Vermont, USA. Paper and oral presentation.

**Brugnach M** and P van der Keur. 2005. Characterization of uncertainties. NeWater General Assembly. Mallorca, Spain. Oral presentation.

**Brugnach M.** 2004. On ecological models, uncertainty and inference. International Institute of Applied Systems Analysis. Laxenburg, Austria. 4 June. Oral presentation. *Invited.*

**Brugnach M**, RP Neilson and J Bolte. 2001. A Sensitivity Analysis Method to Study the Behavior of Complex Process-based Models. *Eos Trans. AGU*, 82(47). Poster presentation.

**Brugnach M**, J Bolte, G Bradshaw and RP Neilson. 2000. Distinguish Ecological Significant Pattern from Modeling Artifacts: A Spatially-Explicit Method to Identify and Classify Model Uncertainty. 85<sup>th</sup> Annual Meeting of Ecological Society of America. Utah. USA. Poster presentation.

Rupp DE, RF Keim, **M Brugnach**, M Ossiander and JS Selker. 2000. A scale variant random cascade model of temporal rainfall. *Eos Trans. AGU*, 81(48). Poster presentation.

Ossiander M, EC Waymire, JS Selker, DE Rupp, RF Keim and **M Brugnach**. 2000. Estimation for multiplicative cascades, some statistical developments. *Eos Trans. AGU*, 81(48). Poster presentation.

**Brugnach M**, J Bolte, G Bradshaw and RP Neilson. 1999. Behavioral changes of Global Vegetation Models across scales. 2<sup>nd</sup> European Ecological Modelling Conference. Pula, Croatia. Oral presentation.

**Brugnach M**, G Bradshaw and RP Neilson. 1999. Effects of scaling bias introduced by spatial pattern-resolution interactions in Dynamic Global Vegetation Models. 84<sup>th</sup> Annual Meeting of Ecological Society of America. Spokane, Washington. USA. Oral presentation.

Waichler S, M Wigmosta, RP Neilson, **M Brugnach**. 1998. A hydrology-biogeochemistry model for investigating impacts of climate change and timber harvest on watersheds. *Eos Trans. AGU*, 79(45), 353. Poster presentation.

Hibbard A, **M Brugnach**, A Franz, JM Lenihan, S Waichler, RP Neilson and SW Running. 1998. Implications of changing land-use on global carbon and water budgets: Simulations with the BIOME-BGC-MAPSS Dynamic Global Vegetation Model. GCTE/LUCC, Barcelona, Spain. Oral presentation.

Bradshaw G, **M Brugnach** and RP Neilson. 1997. Articulating the science policy gap: The problem of validation for global change models. Chile National Ecological Conference. Pucon, Chile 10-15 Nov. 1997. Oral presentation.

## RESEARCH POSITIONS

2019-present **IKERBASQUE Research Professor**. Basque Climate Change Center (BC3). Leioa, Spain

Responsibilities: Conducting research on the topic of collective decision making under uncertainty in the context of climate change. Funding acquisition and education.

Nov-Dec 2022 **Visiting Research Scholar**. PRECOS research group, G-EAU (Water Management, Actors and Uses), CIRAD (Institute of Agricultural Research for Development). Montpellier, France



2009- 2019 **Assistant Professor** -Full time position (UD1). Water Engineering and Management Group. Faculty of Engineering Technology. University of Twente, The Netherlands

Responsibilities: Teaching and coordination of the MSc courses *Tools for policy Analysis* and *Integrated Water Management*. Development of MSc curriculum. Supervision of students at Bachelor, MSc and PhD level. Write grants and seek for collaboration with other institutions and funding opportunities. Principal Investigator BwN and Interreg project. Internationalization USP Brazil.

Apr 2017 **Visiting Research Scholar**. IRSTEA (National Research Institute of Science and Technology for Environment and Agriculture - Division Water) and CIRAD-Green (Institute of Agricultural Research for Development). Montpellier, France

Nov–Apr 2014-15 **Visiting Research Scholar**. IRSTEA (National Research Institute of Science and Technology for Environment and Agriculture - Division Water). Montpellier, France

Research: Sharing knowledge on considerations of uncertainties in governance and issues of adaptive management, sharing experiences of role-playing mobilization for the governance of natural resources, in collaboration with Dr. Nils Ferrand and Dr. Olivier Barreteau.

2005-09 **Senior Researcher**. Full time researcher at the Institute of Environmental Systems Research. University of Osnabrück. Osnabrück, Germany

Responsibilities: As part of the project NeWater (New Approaches to Adaptive Management under Uncertainty -6th EU Framework Program): (1) developing a multi-objective model to understand transitions in managing regimes (2) developing concepts and guidance of uncertainty for natural resource adaptive management. In addition to scientific research and modeling work, these tasks included writing reports, scientific papers and documents oriented to a non-scientific audience. Also, this position required the organization of international workshops, teaching courses in adaptive management, collaboration with other projects and the participation in grant development and fund raising activities. The work in uncertainty involved the coordination of a crosscutting "Uncertainty Group" that operated under my leadership. In this group several activities were carried out, such as the organization of scientific and working meetings as well as workshops and focused groups with policy makers and practitioners.

2003-04 **Post Doctoral Researcher**. CalcSpace Center of Excellence for Agriculture, Natural Resources and Environment. University of California, Davis, CA, USA

Responsibilities: Part of the development team for an automated platform to produce daily evapotranspiration maps for the State of California. The goal of this project was to implement a near real-time monitoring capability based on satellite imagery, to be used in the development and evaluation of water management strategies, considering the effects of climatic variability and land use on evapotranspiration. I was topically responsible for the identification of interpolation methods which in combination with satellite information could render a good representation of climatic variables. Within the scope of this modeling exercise, part of my work was devoted to making this research applicable to environmental management objectives as determined by the California Department of Water Resource, the CIMIS program and collaborating clients. This involved the organization of group discussions, communication among colleagues and stakeholders, interviews, writing reports and scientific material.

1997-02 **Graduate Research Assistant.** Department of Forest Science, Oregon State University. Corvallis, OR, USA

Responsibilities: To work as part of a team of diverse ecologists, resource specialists, and computer scientists in the development of the dynamic global vegetation model BIOMAP, that consisted in linking the biogeographical model MAPSS and the biogeochemical model BGC. I was topically responsible for the generalization of the biogeochemical model BGC from being a one life form, one soil layer model to that of a complex structure with competing over/understory vegetation and multiple soil layers. This task involved technical and computational aspects of model development, and also required detailed scientific (field and theory) knowledge about vegetation dynamics in the context of global climate change.

1995-96 **System Analyst.** Geomática S.A. Buenos Aires, Argentina

Responsibilities: Analysis and design of a cadastral system for the Santa Fe Province, using GIS and Remote Sensing technology. This task involved interactions and in depth discussions with clients from the Ministry and Municipalities to identify their requirements and determine their needs, as well as the more technical tasks of designing a cadastral system that was commensurate to the identified requirements.

1993–95 **Research Assistant.** Department of Forest Science, Oregon State University. Corvallis, OR, USA

Responsibilities. To develop spatial-explicit ecological model based on GIS technology. This task involved programming, exchange with ecologist, presentation and writing of scientific material.

## **FUNDING AND PARTICIPATION IN PROJECTS**

2023. Unravelling emotions about environmental degradation through comic and illustration (Total budget € 15,000). ESRC IAA, Leeds Social Sciences Institute. University of Leeds, UK. Part of research group.

2023-2026. **PALIMPSEST.** Creative drivers for sustainable living heritage landscapes (Total budget € 2,998,900, budget WP4 € 221,188). HORIZON-CL2-2022-HERITAGE-01-10. P.I. WorkPackage 4 **Brugnach.**

2022-2024. **MENDindi.** Understanding the uncertainties and their role in the coproduction of indigenous knowledge about the “grafting of glaciers” for water security: the case of High Mountains in Asia Asia (Total budget € 50.000) Ref PIBA\_2022\_1\_0043. P.I. **Brugnach.**

2021-2024. **UNDUE.** Water management and governance UNDER Uncertainty: A Mediterranean watershed case. Ref. PID2020-114944RB-I00, financiado por la AEI en su convocatoria «Proyectos del+D+i» 2020, en el marco del Programa Estatal de I+D+i Orientada a los Retos de la Sociedad. (Total budget € 108.000). P.I. **Brugnach.**

2020-2025. **ReAShore**. Resilient Anthropogenic Shores (Total budget € 1.190.879). NWO-domein Exacte en Natuurwetenschappen. P.I. Subproject 1 **Brugnach** – Use and management of NBS-modified coastal landscapes -budget subproject € 232.038.

2017-2020. **MEDUWA INTERREG** Vecht(e) Deutschland-Nederland. Topic: Water quality in the Vecht river catchment: transitions towards sustainability. Funding Lara Wöhler's PhD work.

2010-13. EcoShape Building with Nature (BwN) programme (€ 227.500) Participated as P. I. GOV 3.1. This project funded the PhD work of Ronald van der Hoek, under my supervision, on the theme of identification, conceptualization and strategies for uncertainty management in BwN projects in The Netherlands.

2009 **PSI-connect**. Policy Science Interactions: connecting science and policy. 7th EU Framework Program Collaborative Project Theme ENV-2008-1. (€ 1.781.687,9) I participated in the fund acquisition phase of this project, writing proposal and developing ideas as the University of Osnabrück partner. Since I took a full time position at the University of Twente, I was not able to continue working on this project.

2005-09 **AquaStress**. Mitigation of Water Stress through new Approaches to Integrating Management, Technical, Economic and Institutional Instruments. 6th EU Framework Program. (€ 2,329 million) Project coordinated by the University of Osnabrück. Together with other partners, I participated in establishing synergies between NeWater and AquaStress activities towards the development of adaptive and integrated decision-making practices for water stress mitigation.

2005-09 **NeWater**. New Approaches to Adaptive Management under Uncertainty. 6th EU Framework Program. (€ 15.118.673) Project coordinated by the University of Osnabrück. I participated as a full time senior researcher, leading the cross-cutting group on uncertainty in adaptive water management. It required coordination, managing and research activities across different work packages as well as partners' institutions. As a result of this project I produced several scientific and professional publications and reports (please refer to list of publications above).

2003-04 Funded by California Department of Water Resource- California Irrigation Management Information System (CIMIS) program, and the NSF Cyberinfrastructure for Environmental Observatories: Prototype Systems to Address Cross-Cutting Needs (CEO:P) initiative award, Coast-to-Mountain Environmental Transect (COMET). Postdoctoral researcher.

Other funding sources

2011 University of Twente, Stimuleringsfond (7000 €). Spent as visiting scholar at IRSTEA, France

2015 University of Twente, Stimuleringsfond (3000 €).

2016 University of Twente, International strategic partnerships- USP-Brazil (5500€).

2018 University of Twente, Stimuleringsfond (3000 €).

2018 Beyond Technologies: Searching for solutions to water problems (Van Braun Stiftung - 16000€).

## TEACHING EXPERIENCE

### GRADUATE COURSES

*Integrated Water Resource Management.* Yearly course in MSc program Track Water (4<sup>rd</sup> quartile), taught since 2011 to present. Faculty of Engineering Technology, University of Twente. The Netherlands.

*Urban Water Management and Governance.* In the Spatial Engineering MSc programme (Module: Climate Resilient Cities), Faculty of Geo-Information Science and Earth Observation (ITC) Starting, Sept 2018- Sept 2019.

*Water Management and Governance for Engineers.* Yearly course in MSc program Track Water (3<sup>rd</sup> quartile), to start 2019. Faculty of Engineering Technology, University of Twente. The Netherlands.

*Civil Engineering Abroad.* Academic year 2013-14. Study trip: Sept 13-Oct 5, 2014.

*Tools for Policy Analysis.* Yearly course in MSc program Track Water (2<sup>nd</sup> quartile) taught from 2010 to 2013. Faculty of Engineering Technology, University of Twente. The Netherlands.

*European Water Management in Theory and Practice.* Department of Geography. University of Osnabrueck. Period: April 17-Oct 7, 2007. Osnabrück, Germany

*System Analysis and Design.* Universidad Nacional del Centro, Argentina. April-Nov 1987-90.

*Programming and Software Engineering.* Necochea, Argentina. May-Nov 1991-92.

### POST-GRADUATE COURSES

SENSE workshop *Transdisciplinary needs for achieving Sustainable Development.* Organized together with Prof. Ken Irvine, IHE Delft. Planned for March 27, 2018. Utrecht, The Netherlands.

*Incerteza e ambiguidade na governança dos recursos hídricos.* In Curso de Segurança Hídrica (Uncertainty and ambiguity in water resources governance), GovÁgua, Nov 2017, UFABC & USP, São Paulo, Brazil.

*Gobernanza colaborativa para la sustentabilidad* (Collaborative Governance for Sustainability). International Course for Professionals from the Andes region: Cuenca, Ecuador, 7-17 Sept, 2015.

*How to analyze transitions? Uncertainty analyses and Implementing learning cycles in water management.* NeWater summer school. Transitions to Adaptive River Basin Management. July 2007. Bad Krozingen, Germany.

*Role of uncertainties in water management.* In NeWater autumn school. Adaptive Management in the context of Integrated Water Resource Management. March 2006. Peyresq, France.

## SUPERVISION

### POST DOCTORAL

- 2021-23 Dr Violeta Cabello Villarejo. Knowledge co-production for water governance in complexity. Juan de la Cierva. MINECO Ref ijc2019-038847-i
- 2023-24 Dr Ambika Markanday. Postdoc under project UNDUE.
- 2023-24 Dr Noelia Zafra-Calvo. Associated Research under project PALIMPSEST.

### PhD

- 2019-2023 *Paula Zuluaga Guerra*. University of Amsterdam, NL, Marie Curie Network Newave
- 2020-2024 *Elham Bakhshianlamouki*. Managing human activities on anthropogenic sandy shores. University of Twente, The Netherlands
- 2015 *Anne Leskens*. Interactive use of simulation models for collaborative knowledge construction. The case of flood policy decision making. University of Twente, The Netherlands
- 2013 *Ronald van den Hoek*. Coping with uncertainty in water Engineering projects embracing natural dynamics. University of Twente, The Netherlands

### *Participation as external PhD committee member*

- 2023 Neda Abassi. June 30, 2023. Crop Water Use Estimation Using Remote Sensing and Google Earth Engine. Department of Geography, Philipps-Marburg University, Germany.
- 2023 Freddy Eliseo Michel Portugal. July 5, 2023. Cambio climático y Resiliencia tradicional/ancestral: Pueblos y nacionalidades indígenas de la Amazonía Ecuatoriana, Provincia Pastaza del Cantón Mera, Parroquia Madre Tierra del 2016-2019 University of the Basque Country, Spain
- 2023 Anastasia Panenko. January 30, 2023. University Grenoble Alpes. France. Irene Bianchi. (How) do flood prone cities build resilience? Towards a learning-sensitive analytical framework. Department of Architecture and Urban Studies. Politecnico of Milano, Italy
- 2020 Lorenzo De Vidovich. 27 March, 2020. Governing Local Welfare at the urban edges: Issues challenges and perspectives: an investigation in Italy. Department of Architecture and Urban Studies. Politecnico of Milano, Italy.
- 2019 Rotman Alejandro Criollo Manjarrez. An approach for hydrogeological data management, integration and analysis. Platform for data management and analysis of geological and hydrogeological data for Barcelona city. Barcelona, Spain.
- 2018 *Judith Floor*. Knowledge uncertainties – Analysing the science-policy interactions in the Dutch Wadden Sea. Wageningen University, Netherlands
- 2017 *Mark Zandvoort*. Planning amid uncertainty: adaptiveness for spatial interventions in delta areas. Wageningen University, Netherlands

- 2016 *Maria Carmona Costa*. Risk perception and governance performance in Multi-Sector Partnerships: The case study of the Permanent Drought Commission of the Jucar River Basin. University of Hamburg, Germany
- 2015 *SKH Janssen*. Greening flood protection in The Netherlands. A Knowledge arrangement approach. Wageningen University, Netherlands
- 2015 *Kate Reilly*. Framing environmental flows as providers of ecosystem services: Implications for policy implementation. Mc Gill University, Canada
- 2014 *Michal Petr*. Climate Change, Uncertainty, and Consequent Risks: Opportunities for Forest Management adaptation in Britain, Department of Urban and Regional Planning and Geo-information Management, Faculty of Geo-Information Science and Earth Observation, University of Twente, Netherlands
- 2013 *Paloma Esteve Bengoechea*. Water scarcity and climate change impact and vulnerability in irrigated agriculture in Mediterranean river basins. Departamento de Economía y Ciencias Sociales Agrarias E.T.S.I. Agrónomos. Universidad Politécnica de Madrid. Madrid, Spain
- 2007 *Eva Ebenhöh*. Modelling human behaviour in social dilemmas using attributes and heuristics. Dept. System Science, University of Osnabrück, Germany

#### MASTER OF SCIENCE

- 2022 *Maike Kreis*. Social-ecological micro-foundations of collective decision-making under uncertainty: a complex adaptive systems approach. Master in International Economic SoSe 22. HWR Berlin (Berlin School of Economics and Law), Germany
- 2023 *Tariq Al-Olaimy* (Online Master on Degrowth). Master Propi Thesis Autonomous (March, 2023) University of Barcelona, Spain.
- 2018 *Zoe Flogera*. Knowledge co-production for climate change adaptation. The transnational case study of wave. University of Twente, Netherlands
- 2018 *Safiyah Sanusi*. Water governance from a gender perspective: a review case of lake Chad. University of Twente, Netherlands
- 2017 *Rafael Imada*. What do stakeholders have to say about sand Nourishments? The use of uncertainties to cope with gaps in water governance in the context of Dutch Adaptation to climate change University of Twente, Netherlands
- 2017 *Robin Noordhoek*. Climate adaptation and urban resilience; identifying barriers and drivers in sustainable stormwater management implementation. University of Twente, Netherlands
- 2017 *Sander de Waard*. Decision making under uncertainty in water management: exploring experimental methods. University of Twente, Netherlands
- 2016 *Ethan Tromp*. Stakeholder perspectives on the effects of beach hut development along the Dutch coast. University of Twente, Netherlands
- 2016 *Wassim Sako*. Transnational INTERREG projects within the context of climate change adaptation in the water sector: an evaluation of learning based theories. University of Twente, Netherlands

- 2016 *Sjoerd Wester*. Hydrodynamic modelling of a data scarce wetland area in the Lower Paraná Delta. University of Twente, Netherlands
- 2015 *Frank Tibben*. The introduction of 3Di modelling in urban flood resilient spatial planning. University of Twente, Netherlands
- 2012 *Matti Janssen*. Serious gaming in water management. University of Twente, Netherlands
- 2011 *Jasper Middelkamp*. Public Participation? The influence of the PKB “Room for the River” on interactive design processes for river widening projects. University of Twente, Netherlands
- 2011 *Oana Iacobs*. Transfer of modelling technology in flood management. The Netherlands – Romania. Universitatea Gh. Asachi, Iasi, Romania
- 2007 *Hendrik Niesse*. Modeling the influence of culture in water management. Department of System Science, University of Osnabrück, Germany

#### BACHELOR

- 2015 *Iljia Awakimjan*. Urban water modelling. A conceptual model for urban drainage in Ciudad del Plata. University of Twente. The Netherlands
- 2014 *Robin Noordhoek*. Using Water-Sensitive Urban Design to improve drainage capacity. Examination of the impact of distributed and catchment scale Water-Sensitive Urban Design systems on flow frequency. University of South Australia. Selected as finalist for the national Student Research Conference
- 2013 *Jelmer Veenstra*. Flood vulnerability of the Thach Han watershed in the Quang Tri province. Vietnam National University- Hanoi University of Science (VNU-HUS). Vietnam
- 2011 *Frank Tibben*. Securing water supplies by setting up stormwater quality targets for the Greater Adelaide Region. University of Twente. The Netherlands
- 2011 *Heleen de Fooij*. WAT-A-GAME: Modeling a participatory role play game. University of Twente. The Netherlands

#### INTERNS

- 2021 *Jorge Mezza Paggi*. Intern UNDUE, from University Freiburg, Germany (1 Sep-30 Oct). Analisis Institucional cuenca Mijares (España).
- 2023 *Ana Carolina Tarapuez Quiroz*. Intern Project UNDUE, from Universidad del Valle Colombia, Colombia. Period: March-May 2023.
- 2023 *Sacha Poultier*. Intern Project UNDUE: Análisis espacial de datos cualitativos relacionados con la toma colectiva de decisión bajo incertidumbre en la gestión del agua. Department of Education and Research in Biology, Ecole Normale Supérieure Paris-Saclay, France. Period: June-August 2023.

## OTHER PROFESSIONAL ACTIVITIES

### WORKSHOPS, WORKING GROUPS AND SESSIONS ORGANIZED

InHouse Training: Behavioural simulation under uncertainty. BC3. Nov 22, 2023

InHouse Training: Experimenting with water management in El Cajas National Park, Ecuador. BC3. Jun 14, 2023.

Session: *Integrated Assessments: Addressing ambiguity in participatory processes for sustainable resources management*. Organizers: Brugnach M and C van Bers (University of Osnabrueck). EGU General Assembly, Vienna, 2019.

Session: *A social framework for integrated water management and tools for water policy analysis*. Organizers: Brugnach M and James Callegary (USGS), Pamela Nagler (USGS), Rudy Schuster (USGS). EGU General Assembly, Vienna, 2019.

Session and workshop: *Participatory Modelling, Ambiguity and the Challenges of Being Inclusive*. Organizers: Brugnach M and R Giordano. 9<sup>th</sup> International Congress on Environmental Modelling and Software: *Modelling for Sustainable Food-Energy-Water Systems*, Fort Collins, USA. June 2018.

Workshop: *Uncertainty and ambiguity in water resources governance*. Organizers: Brugnach M ad Renata Sousa Leao. In 6<sup>o</sup> Encontro GovAgua: *Fortalecimento da Governança e Ampliação da Participação como Caminho para a Justiça Hídrica*. UFABC & USP, São Bernardo do Campo, Brazil. 21-24 Nov 2017.

Participant in working group on *Participatory Processes and Methodologies* from CLACSO Consejo Latinoamericano de Ciencias Sociales. 2016-19

Discussant at Panel: *Assessing adaptation and adapting Assessing adaptation and adapting assessment: how to better account for the specificities of climate change?* At the NWO, LANDac and IDS-Utrecht Conference on Climate Change Interventions as a Source of Conflict, Competing Claims and New Mobilities. Organized A Fallot, M Piketty, F Gérard, M Antona CIRAD (Agricultural Research Centre for International Development) and GREEN research unit (Management of Renewable Resources and Environment). Utrecht, Netherlands 24-25 Nov 2016.

Workshop: "Uncertainty in river management: How to deal with It?" organized in collaboration with NRC and Rijkswaterstaat. Utrecht, Netherlands. 27 March, 2014.

Uncertainty Discussion Group –Organizer. Faculty of Engineering Technology (CTW). University of Twente, Netherlands. 2010-13.

Scientific Committee CAIWA: International Conference on Adaptive and Integrated Water Management - Coping with Complexity and Uncertainty. Basel, Switzerland. 12-15 Nov, 2007



Session: “Uncertainty in water resource management”. In CAIWA International Conference on Adaptive and Integrated Water Management - Coping with Complexity and Uncertainty. Basel, Switzerland. 12-15 Nov, 2007

Workshop: “Complexity and uncertainty and a new role for models”. In 3rd Biennial meeting of the International Environmental Modelling and Software Society. Vermont, USA. 2006

Workshop: “Stakeholder Dialogues on Uncertainty”. Leuven, Belgium. 1-2 Jun 2006.

### **REVIEWER FOR JOURNALS AND PANELS**

Environmental Science and Policy; Climatic Change; Ecology and Society; Regional Environmental Change; Journal of Environmental Policy & Planning; Journal of Earth Science; Society and Natural Resources; Environmental Management; Water; Sustainability; Water Resources Research, American Association for the Advancement of Sciences.

Intergovernmental Platform on Biodiversity & Ecosystem Services (IPBES). 2015. Reviewer.

### **AFFILIATIONS AND MEMBERSHIPS**

2015-present. Vice-president of TIAS – Integrated Assessment Society (<http://www.tias.uni-osnabrueck.de>).

2021-Present. BC3-Equity Commission Member.

2022-present Advisory board member for PhD programme in Urban planning, design and policy. Politecnico di Milano. Italy.

2021-2024. Advisory Board Project INTERACTIONS: Integrated Assessment of Climate Impacts on Ecosystem Functions and Productivity of Critical-Zone Eco-Hydrology. Belmont Forum.

2015-18 Research committee member of the SENSE Research School (<http://www.sense.nl/>)

2010-19 Member of FFNT –Female Faculty Network Twente (<https://www.utwente.nl/ffnt/>)