

## **Jury Report**

### **ESM Dissertation Prize for Interdisciplinarity 2023**

**Dr. J. (Jonatan) Godinez Madrigal**

*Paradigm Lost; On the Value of Lost Causes in Transforming Cities and Water Systems’  
Development Pathways*  
Delft University, April 2022

Interdisciplinarity, crossing disciplinary borders with the aim of developing new scientific knowledge, is an increasingly important theme across universities all over the world. In many fields of science interdisciplinary approaches or collaboration have already generated more complete and in-depth understandings of complex scientific or societal problems.

This year the KHMW ESM Dissertation Prize for Interdisciplinarity will be awarded for the first time (ESM stands for Elizabeth Schram-Mulley, who was born in India, married in the US and financed a foundation to stimulate education and science).

Among the overwhelming amount of submissions (76), the jury, consisting of Joost-Pieter Katoen, Chantal Kemner, Aafke Komter, Angela Maas, Roos Masereeuw and Maaïke Meijer, succeeded to select - with great conviction and enthusiasm - an excellent candidate: Jonatan Godinez Madrigal with his thesis called “*Paradigm Lost; On the Value of Lost Causes in Transforming Cities and Water Systems’ Development Pathways*”. What a beautiful title!

A longstanding water conflict in Mexico, the Zapatillo conflict, is the central theme of this thesis. Water conflicts are especially complex, a.o. because of large power asymmetries between actors, and because of the dominance of socio-technical paradigms reducing the decision space of water policies. This applies in particular to the conflict investigated by Jonatan Godinez Madrigal. In this conflict the large infrastructure proposed by the government would deprive the local inhabitants from their water supply and cause them to leave the area.

To unravel the complexity of the conflict Jonatan described its historical background, provided insights into the social, cultural, political, and technical determinants of the existing water infrastructure and analysed the underlying assumptions and choices made in the previously used models. More sustainable alternatives had not been taken into account in these models. He gathered data through participant observation, half-structured interviews with the most important stake-holders, and local representatives, and requested the original technical data used for the models from the government. On the basis of all of these data he developed a new technical model in collaboration with the TU Delft, allowing for a comparison of competing infrastructural alternatives. This approach unveiled underlying conflicts of interests between various stake-holders, and opened up new ways for political bottom-up pressure, finally resulting in a more sustainable solution.

This dissertation has a number of great merits. Jonatan demonstrates an impressive knowledge of socio-hydrology and water management, a thorough mastery of a variety of social scientific methods and an admirable capacity to communicate the complex subject material of this thesis in such a way that it is comprehensible for a lay public. But the greatest

contribution is that Jonatan succeeds in bridging the dichotomy between the objective, technical, and the more subjective social political expertise needed to understand the problem. By combining a longitudinal, and an inter- and transdisciplinary approach he is able to simultaneously investigate the historic-social and the biophysical dimension of the water conflict.

For all of these reasons the jury is proud to award the first KHMW ESM Dissertation Prize for Interdisciplinarity to you, Jonatan Godinez Madrigal. By the way: you not only display great interdisciplinary skills in your scientific work, but also in your hobbies: repairing gadgets, studying philosophy and playing the guitar. We are convinced that you will continue to contribute to interdisciplinary science with your new, worldwide research project on sustainable ways to deal with natural resources. We would like to warmly congratulate you, your family, your colleagues of the TU Delft and of course your supervisors with this unique, first-time prize!

*Prof. dr. ir. dr.h.c. J.-P. (Joost-Pieter) Katoen, hoogleraar Software Modeling & Verification RWTH Aachen University, hoogleraar Formal Methods Universiteit Twente*

*Prof. dr. C. (Chantal) Kemner, hoogleraar biologische ontwikkelingspsychologie Universiteit Utrecht en UMC Utrecht*

*Prof. dr. A.E. (Aafke) Komter, emeritus-hoogleraar comparative studies of social solidarity Universiteit Utrecht*

*Prof. dr. A.H.E.M. (Angela) Maas, emeritus-hoogleraar cardiologie voor vrouwen Radboudumc*

*Prof. dr. R. (Roos) Masereeuw, vicedecaan onderzoek bètafaculteit en hoogleraar experimentele farmacologie Universiteit Utrecht*

*Prof. dr. M.J.H. (Maaike) Meijer, emeritus-hoogleraar studies van gender & diversiteit Universiteit Maastricht*

The meeting of the jury took place on May 23rd, 2023, was chaired by KHMW societal member Drs. G. (Garance) Reus-Deelder and was also attended by KHMW secretary humanities and social sciences Prof. dr. W.B. (Wim) Drees, KHMW secretary natural and medical sciences Prof. dr. A.P. (Ad) IJzerman and KHMW secretary Drs. S. (Saskia) van Manen (report).