To Prof. Dr. Roland Sigel,
Dean of the Faculty of Science, University of Zürich,
Winterthurerstrasse 190, CH-8057 Zürich, Switzerland

Dear Prof. Roland Sigel,

Please consider my application for the associate or full professor position in "Data Science for Sciences" at the University of Zurich.

My interest in connecting data science to process-based theory to decipher the origin and coexistence of biodiversity began while I studied Biology and Environmental Sciences from 1996-1999 in Madrid, Spain. Through several undergraduate research projects, I became interested in fussioning environmental sciences with the ecology and evolution of ecosystems and began working on my PhD. with Dr. Jordi Bascompte at the Doñana Biological Station, Seville, Spain. I completed my PhD. in 2005 on "The Structure and Dynamics of Ecological Networks" focused on fussioning modern data-driven methods with theory in networks.

I was a postdoctoral fellow at the National Center for Ecological Analysis and Synthesis (NCEAS) at University of California in Santa Barbara from late 2005 to 2010. NCEAS strongly influenced me to learn from data-scientists to fussion small, medium and large environmental and ecological data with broad and general modeling frameworks.

I got a second research fellowship (unrestricted gift) from Microsoft research to continue developing novel methods at NCEAS to bridge heterogeneous ecological data with process-based frameworks scaling from individuals to ecosystem and biodiversity patterns. During this period I introduced my science in the open-source scientific software arena with special attention to reproducible research, data digitalization and new interdisciplinar collaborations. I obtained a tenure-track position at Eawag-ETH-Domain, Switzerland in 2010 and the tenured in 2015. I am currently a lecturer at University of Bern where I teach since late 2013.

I am particularly interested in a faculty position in a institute with researchers who use/develop data-driven science bridging disciplines and span across multiple spatiotemporal scales. My science has been evolving to fully integrate data, novel statistical methods from computer science, optimization, Bayesian statistics, Bayesian neural networks and stochastic processes to understand the biodiversity dynamics and their response to multiple human and non-human disturbances integrating different biological levels and spatial scales.

I have been actively leading international workshops in biodiversity science and reproducible research (*CV.Melian.pdf*), teaching undergraduates and PhD courses in three countries (*CV.Melian.pdf*), published 30 articles in domain and interdisciplinar journals, and obtained funding as a PI from five countries (*Publications.Funding.Melian.pdf.*)

The following are the three potential referees, along with their complete institution address, email, and phone numbers:

Prof. Jordi Bascompte, Department of Evolutionary Biology and Environmental Studies
University of Zurich, Switzerland
e-mail: jordi.bascompte@uzh.ch
phone: +41 44 635 6126

Prof. Stefano Allesina,
Computation Institute, Department of Ecology & Evolution,
University of Chicago, USA.
e-mail: sallesina@uchicago.edu
phone: +1 773 702 7825

Prof. Miguel B. Araujo (email:),
Natural History Musseum, Spanish Research Council, Madrid, Spain.
e-mail: maraujo@mncn.csic.es
phone: +34 91 411 1328

Please find enclosed my curriculum vitae, my research and vision statement outlining major unsolved problems in Biodiversity research, my teaching statement, and my publications and funding summary with reference to my three top papers making a short statement explaining the choice.

Thank you for your consideration.

Sincerely Yours,

Carlos J. Melián, Kastanienbaum, 1 March, 2019
Phone: +41 58 765 2208
e-mail: carlos.melian@eawag.ch
https://www.eawag.ch/en/aboutus/portrait/organisation/staff/profile/carlos-melian/show/