

## Short Bio

Katharine Nora Farrell, PhD, is Associate Professor of Economics and Ecology with the Biology Program of the Universidad del Rosario, Bogotá, Colombia. Her work focuses on the political economy of environmental knowledge, environmental governance, and the role of time and tradition in ecological economic production. She graduated with a BA, with honors in Political Science from Rutgers University, USA with secondary studies in molecular biology and holds a Master's degree, also with honors, in Policy Analysis and Urban Management from the New School University of New York. She also holds a Master Degree, by Research in Environmental Engineering from Trinity College Dublin, in Ireland. She received her PhD in Ecological Political Economy from Queen's University of Belfast in 2005 and has worked as a researcher and teacher at universities in the United States, Ireland, the United Kingdom, Germany, Japan, Denmark, Spain, and Colombia. She is the author of more than 30 international high-impact scholarly articles, has held the prestigious research funding awards of the Japan Society for the Promotion of Science and the Marie Curie Fellowship Program of the European Union and has led successful undergraduate, master's, and doctoral levels thesis studies at various universities in Europe. In 2018 she completed her Habilitation with the Department of Agricultural Economics of the Humboldt-Universität zu Berlin, where she is also an Affiliated Researcher and member of the Coordination Team of the Berlin Workshop in Institutional Analysis of Social-ecological Systems. In addition to her main affiliation with the Universidad del Rosario, she is also a Visiting Professor, pro-bono, with the Universidad del Magdalena, associated with their SMART-University and Sustainability Seal projects.

## Abstract

Mangroves and the Circular Economy: where water meets water and what that implies

The concept of circular economy, while receiving, in recent times, greater attention, has been, since the 1960s, a basic component of the production theory of the Romania ecological economist Nicholas Georgescu-Roegen. In particular, Georgescu-Roegen's bioeconomics theory, which employs the category distinction of flow and funds, in place of the traditional production theory categories of capital, labour, land and materials, allows us to explore the process based character of economic production and in this way construct analysis in which the circular reproductive capacities of economic processes, i.e. their sustainability, can be addressed. In this presentation, I address, using Georgescu-Roegen's flow/fund theory, distinctions between water quantity and quality in the production and maintenance of healthy and productive mangrove forests actively exploited for fish production. In this way, the conceptual frame of the circular economy is used to contextualization ecological economic production. In this way, the relatively abstract concepts of circular economy and flow/fund theory are applied to the imminently concrete problem of mangrove recovery on the north coast of Colombia, allowing us to explore the complexities of coordinating competing and complementary water demands from different economic systems all using the same four water sources that maintain the mangrove ecology of the Ciénaga Grande of Santa Marta.