

September 2019

2019 GLOBAL SUSTAINABILITY SUMMER SCHOOL ON URBAN SUSTAINABILITY

Certification of Participation

This is to certify that **Raymond Heberer** attended and met the requirements for the Santa Fe Institute's 2019 Global Sustainability Summer School. The two-week program was conducted from July 15 through July 26, 2019, in Santa Fe, New Mexico, U.S.A.

The school consisted of approximately 80 contact hours through an intensive series of graduate-level lectures, and discussion sessions focusing on foundational ideas, tools, and current topics in complex systems research related to urban sustainability. Lectures were given by an international faculty and included the topics of: urban metabolism, sociology and big data, energy transformation in buildings, technology and social dynamics, air pollution in cities and health, health and sociology, ecological networks, the evolution of technology, high density/high livability cities, the challenges of estimating community GHG emissions, water and socioeconomics, cities and governance, sustainable cities, general urban sustainability, and scaling and cities.

Participants were required to collaborate in transdisciplinary groups to develop a research project and give a group presentation on their work to the participants. Evaluations are based on project work, oral presentations, and responses to online surveys.

Luís Bettencourt

2019 GSSS Director

External Faculty, Santa Fe Institute

Director, Mansueto Institute for Urban Innovation



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