Mar 15th, 3:45 PM - 5:00 PM

Seeking Sustainability for Computing

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The Doctoral Program in Environmental Science & Management and MSU Sustainability Seminar Series Present:

Seeking Sustainability for Computing

WHEN: March 15, 3:45 pm WHERE: Online via Zoom

Dr. Stefan Robila
Montclair State University

Dr. Stefan Robila is Professor of Computer Science and the Director of the Computational Sensing Laboratory at MSU. Between Jan 2018 and Jan 2021 Dr. Robila served as Program Director in the Office of Advanced Cyberinfrastructure (OAC) at the National Science Foundation. His main research interests are in computational sensing. Dr. Robila has worked extensively with collection and analysis of hyperspectral data, and the development and implementation of computationally efficient feature extraction algorithms that use high performance computing. This work has now expanded into more general research and applications for large data sets. More recently, he has also started working on greening the computing infrastructure as well as cybersecurity.

The talk will provide two perspectives on how sustainability is considered in computing. First, the impact computing has on energy consumption and on the environment will be discussed through the prism of past and prior research projects. Computing currently drives advances in all areas of science and engineering, generates efficiencies in industries, and dominates the creation and delivery of entertainment. Computing is also a significant consumer of energy accounting for 3% of the global usage. Data centers account of a third of this consumption, yet also provide a case where efficiencies in system design have limited the energy use increase despite considerable growth in computational efficiency. Second, the sustainability of scientific software and data will be discussed. Scientific computing is often driven by applications and libraries created by small research groups that aim to share their work, improve the replicability of the results and provide a tool for a larger research community. Faced with limited funding, lack of academic recognition, and waning interest, such efforts however are often unsuccessful in creating, maintaining and sustaining quality software. Aspects on how software and data products can be sustained will be discussed.

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