Cornell Digital Agriculture Initiative Seminar Series

A Blockchain for the Food Supply Chain
Prof. Robbert van Renesse, Computing and Information Science, Cornell University
Tuesday June 12, 2018, 11:30am to 1:00pm - Room G01, Gates Hall, Ithaca, NY

Abstract: Blockchains are a promising technology that could bring transparency and accountability to the food supply chain. There are many participants in the food supply chain, including farmers, brokers, packers, traders, distributors, food processors, retailers, regulators, and ultimately, consumers. Today, record keeping is mostly on paper and various centralized databases, while many negotiations are purely verbal. Blockchains could potentially create a shared and tamperproof data repository in which all information is readily shared, available, and auditable. Unfortunately, current blockchains possess a number of properties that make them poorly suited for deployment in the food supply chain. We will present Vegvisir, a partition-tolerant blockchain for use in power-and network-constrained environments. We discuss the use cases, architecture, and challenges of such a blockchain.

Bio: Robbert van Renesse is a Research Professor in the Computer Science Department at Cornell University and Director of a Huawei-funded research initiative in computer systems at Cornell. His research interests include the fault tolerance and security of distributed systems. Van Renesse has published over 200 papers and graduated 26 Ph.D. students. Van Renesse served on over 50 program committees, 10 times as chair. He is currently the elected Chair of ACM SIGOPS (Special Interest Group on Operating Systems), and also serves as Associate Editor on ACM Computing Surveys, the highest cited journal in Computer Science. Van Renesse is an ACM Fellow.

Background on the Cornell Digital Agriculture Initiative: An interdisciplinary group of Cornell University faculty began meeting in early 2017 to formulate a Digital Agriculture (DA) initiative, believing that Cornell is uniquely equipped to lead in this emerging arena that will benefit the public for generations. We define DA to mean the application of computational and information technologies coupled with nanotechnology, biology, systems engineering and economics to both the research and operational sides of agriculture and food production. With approximately 70 faculty from 5 Cornell colleges participating, we are in the formative stages of this initiative, collaborating internally on defining a research agenda for DA that will build a pipeline of discovery and innovations for the next 10+ years. For further information, please contact Dr. Jim Ballingall, Executive Director at jmb436@cornell.edu.