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Biography: Jim Cale is an Associate Professor at Colorado State University in the Systems Engineering Department, with joint appointment in the Electrical & Computer Engineering Department. His research focuses on energy conversion, microgrids, power electronic drive systems, computational and applied electromagnetics, nonlinear optimization methods, and hardware-in-the-loop. At CSU he teaches courses in power systems engineering, power electronics, electrical machine drives, and grid integration of distributed energy systems. Prior to joining CSU, he led the Distributed Energy Systems Integration Group at the National Renewable Energy Laboratory and worked in senior power engineering roles at Ad-

vanced Energy and Orbital ATK. In 2019, he was the local organizer and host for the Fort Collins 2019 International Symposium in Microgrids. He earned his doctorate in electrical engineering from Purdue University (with honors) and bachelors degree in electrical engineering (summa cum laude) from Missouri University of Science & Technology. He is a Senior Member of IEEE, member of Tau Beta Pi, and serves as editor on the IEEE Open Access Journal of Power and Energy.