

50 Years of Dissipativity Theory, Part I

This *IEEE Control Systems* issue celebrates the 50th anniversary of the publication of Jan Willems' two publications laying the foundations of dissipativity theory. "From the Editor" elaborates on reasons to celebrate this event. Guest Editor Arjan van der Schaft has assembled six articles for the first special issue

devoted to the first part of the dissipativity article: "Compositional Design and Verification of Large-Scale Systems Using Dissipativity Theory," by Murat Arcak; "Passivity-Based Control of Robots," by Nikhil Chopra, Masayuki Fujita, Romeo Ortega, and Mark Spong; "Dissipativity and Optimal Control," by Lars Grüne; "Dissipativity, Stability, and Connections: Progress in Complexity," by David Hill and Tao Liu; "Interconnection

and Approximation in Networks of Dissipative Systems," by Siep Weiland and Xiaodong Cheng; and "Passivity Measures in Cyberphysical Systems Design," by Hasan Zakeri and Panos Antsaklis. The six articles are described in the introductory article by Guest Editor Arjan van der Schaft.

"Applications of Control" features "Swinging a Playground Swing," by Sergiy Koshkin and Vojin Jovanovic. Models of a playground swing have

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Contributors



Arjan van der Schaft with wife and daughters in front of the Great Temple of Abu Simbel, Egypt.



Masayuki and Mitsuko Fujita. Mitsuko is adorned in traditional Japanese clothing.

Contributors



Panos Antsalkis



Sergiy Koshkin



Vojin Jovanovic



Nikhil Chopra on the beach in Ocean City, Maryland.

at the University of South Florida). “Technical Activities” provides an update from Yoshio Ebihara on the IEEE Technical Committee on Robust and Complex Systems. “Conference Reports” includes a preview of the

2022 Control and Decision Conference (CDC2022) and a report on the 2021 Society for Industrial and Applied Mathematics (SIAM) Conference on Control and Its Applications (CT21), which was held online from July

19–21, 2021 under the umbrella of the SIAM Annual Meeting. The “Awards” column presents the 2021 recipients of the Control Systems Awards presented at the Annual Awards Ceremony of the IEEE Control Systems Society



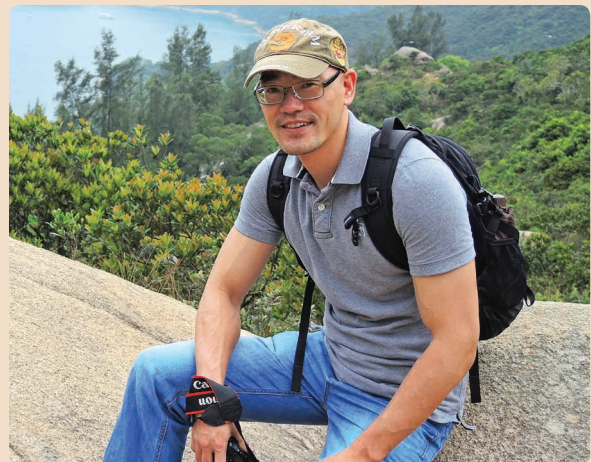
Romeo Ortega and family visiting the pyramids of Giza, Egypt.



David Hill in early morning with dogs at famous Three Sisters in the Blue Mountains.



Mark Spong at the top of Waynapicchu Mountain with Machu Picchu far below.



Tao Liu hacking at Dragon's Back Trail in Hong Kong.

(CSS) during the 60th IEEE Conference on Decision and Control. The "25 Years Ago" article revisits "Control Education: A World ShowCase," by J. Jim Zhu, guest editor of a special issue on control education. "Conference

Calendar" lists upcoming conferences sponsored or cosponsored by the IEEE CSS. "Book Announcements" provides summaries of books recently published in the control field. "Book Reviews" provides a discussion by

K. G. Vamvoudakis of the book *A Dynamical Systems Theory of Thermodynamics*, authored by Wassim M. Haddad.

Rodolphe Sepulchre

