

Medley

In this issue of *IEEE Control Systems Magazine (CSM)*, we are pleased to present you with a collection of diverse feature articles. The cover feature article is the third that *IEEE CSM* has published on a multivehicle testbed. Before you delve into the details of RAVEN, we recommend that you

at least glance at the article on HotDec in the June 2006 issue as well as the article on COMET in the June 2007 issue. While HotDec features hovercraft and COMET is based on trucks, RAVEN is a flight testbed involving aircraft and helicopters. This trio of articles shows the vitality of research

in control of autonomous multivehicle systems. In particular, the article by Jonathan How, Brett Bethke, Adrian Frank, Daniel Dale, and John Vian shows how the sophistication of unmanned aerial vehicles is benefiting from advances in networked control systems.

Contributors



Front (from left) Daniel Dale, Adrian Frank, and Mario Valenti. Back (from left) Brandon Luders, Spencer Ahrens, Brett Bethke, Luc Brunet, James McGrew, and Jonathan How.



Murti Salapaka



Cheryl Lynch and daughter Sarah



Hyeyjeon Chang



Srinivasa Salapaka



Bruno Teixeira

This issue also includes two articles with connections to the life sciences. The article by Hyeygieon Chang and Alessandro Astolfi analyzes the dynamics of AIDS, and considers control strategies for moving the system to nonprogressor status. The second life sciences article, by Cheryl Lynch and Milos Popovic, challenges the control community to contribute to the development of electrical stimulation technology for mitigating the effects of spinal chord injuries. This technology is of immense benefit to individuals who have lost the basic functions of grasping and walking.

Finally, this issue includes an overview of the application of systems and control ideas to atomic force microscopes. Control techniques improve the ability of these devices to

provide valuable insights into the properties of materials.



This issue includes many of the usual columns, namely, the "President's Message," "Feedback," "25 Years Ago," "Ask the Experts," "People in Control," "Member Activities," and "Conference Reports." With this issue we also inaugurate the "Technical Committee Activities" column, contributed by Jay Farrell, IEEE Control Systems Society (CSS) vice president for Technical Activities. We also remember Anthony ("Tony") Pritchard, who was well known to many of us in the field.

The editorial board roster in this issue shows several changes to the board since the end of 2007. On behalf of CSS, I wish to thank outgoing associate editors Vikram Kapila, Daniel Rivera,

Raja Sengupta, and Dawn Tilbury. We also warmly welcome new associate editors Penina Axelrad, Silvia Ferrari, Rafael Fierro, Kathryn (Katie) Johnson, Eric Klavins, and John Watkins. We look forward to their involvement in shaping future issues of *IEEE CSM*.

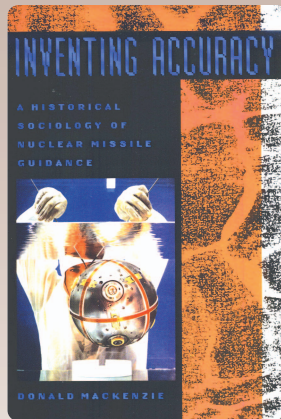
A few quick words about plans and upcoming issues. The development of special issues on Kalman filtering is well under way. If you are interested in contributing to these issues, please contact me as soon as possible. As usual, I invite you to contact me with your ideas for feature articles or special issues. I strongly encourage short tutorial articles on your favorite systems and control tools and techniques.

In the meantime, our next communal meeting will be at the June American Control Conference in Seattle. Coming off a wonderful meeting in New Orleans, the need'll be there for an encore!

Dennis S. Bernstein



A classified theoretical analysis by Draper and colleagues at the Instrumentation Laboratory, dating from February 1947, spelled out what an average accuracy of a mile after ten hours of flight meant in terms of instrument performance. They found the key issue to be the performance of the gyroscope rather than the accelerometer and calculated that to achieve an accuracy of a nautical mile after just one hour of flight required gyroscopes a hundred times more accurate than the state of the art. And since the Air Force was envisaging a flight of up to ten hours, the problem was even worse than that.

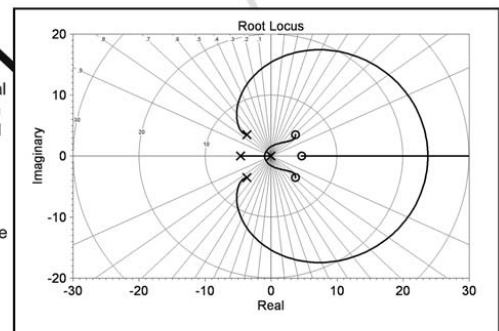


—Donald Mackenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance*, MIT Press, 1993, p. 75.

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