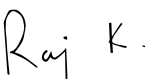
Competing (Collaborating?) in the Science & Technology Space

The dog days of summer are sputtering to a close (at least in the northern hemisphere) and soon fall will be upon us, when this issue of *Interface* will reach your hands. Incidentally, a scientist's curiosity drove me to seek an explanation for the term "dog days." A casual and intuitive rationale would be to invoke the inherent laziness of domesticated dogs during the hottest days of the summer [a self-defense mechanism I suppose for the body to guard against overheating from too much exercise; an argument which I wholeheartedly endorse to support my frequent couch-potato state (summer or not) much to the annoyance of my wife, Ro!]. However, thanks to the miracle of modern day search engines and Wikipedia, I find an even more intriguing explanation. The term "dog days," believe it or not, was apparently used by the ancient Greeks and Romans in honor of Sirius (the "Dog Star"), the brightest star in the galaxy besides the Sun. The dog days originally were the days when Sirius rose just before or at the same time as sunrise although this is no longer the case because of the precession of the equinoxes. This was believed to be an evil time "when the seas boiled, wine turned sour, dogs grew mad, and all creatures became languid, causing to man burning fevers, hysterics, and phrensies (*sic*)."[1] Thus the ancient civilizations apparently sacrificed a brown dog to appease the rage of Sirius, surely something that the dog lover in many of us will not appreciate today!

Turning to more serious and relevant matters at hand, this is also the season of competition. (As I write this column, the Beijing Olympics are set to begin.) On the heels of the 2006 report by the National Academies, "Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future,"[2] the RAND Corporation recently released a definitive document entitled, "U.S. Competitiveness in Science and Technology."[3] This report presents arguments and facts related to whether the United States is losing its edge in science and technology. We have all heard claims about insufficient R&D expenditures (especially in basic research); problems with U.S. education in science and engineering, and a perceived drying up of the pipeline of trained domestic scientists and engineers because of globalization; decreasing attractiveness of science and engineering careers to younger generations who flock to business, law, or medicine (a trend that has been addressed in this column before); and increasing reliance on foreigners in the workforce. I suspect that these concerns are not confined solely to the U.S. but also possibly pervade all industrialized nations encompassed by the Organization for Economic Co-operation and Development (OECD). The new 155-page RAND report analyzes the arguments made in support of this "gathering storm" or science and technology crisis in the U.S., contrasts these arguments with relevant data, and considers them from a variety of perspectives—I found it to be most informative and thought-provoking.

Interestingly one of the recommendations from this report is to foster more international partnerships with Europe, Japan, Korea, Latin America, and the BRIC (Brazil, Russia, India, China) block of nations in science & engineering disciplines. This could be done, for example, by promoting joint commercial ventures, collaborative R&D, travel exchange of U.S. and their foreign counterpart researchers and students for durations ranging from weeks to months, and establishing informal networks with U.S.-trained scientists and engineers who have returned to their native countries and are in positions of influence. ECS has already a leg up in this thinking and our biannual meetings (now spilling over to other parts of the world beyond North America) provide an ideal environment to promote and prime such collaborations. Stay tuned.



Krishnan Rajeshwar
Editor

1. Brady's *Clavis Calendarium*, 1813, as cited in Wikipedia.
2. http://www.nam.org/s_nam/bin.asp?CID=202592&DID=235064&DOC=FILE.pdf
3. http://www.rand.org/pubs/monographs/2008/RAND_MG674.pdf

The Electrochemical Society Interface (USPS 010-327) (ISSN 1064-8208) is published quarterly by The Electrochemical Society, at 65 South Main Street, Pennington, NJ 08534-2839 USA. Subscription to members as part of membership service; subscription to nonmembers $58.00 plus $16.00 for postage outside U.S. Single copies $6.00 to members; $13.00 to nonmembers. Periodicals postage at Pennington, New Jersey, and at additional mailing offices. POSTMASTER: Send address changes to The Electrochemical Society, 65 South Main Street, Pennington, NJ 08534-2839.

The Electrochemical Society is an educational, nonprofit 501(c)(3) organization with more than 8000 scientists and engineers in over 70 countries worldwide who hold individual membership. Founded in 1902, the Society has a long tradition in advancing the theory and practice of electrochemical and solid-state science by dissemination of information through its publications and international meetings.

The Electrochemical Society
INTERFACE

Published by:
The Electrochemical Society
65 South Main Street
Pennington, NJ 08534-2839 USA
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Production Notes
Design Consultant:
O&Y Design,
Trenton, NJ

Printed by:
Cummings Printing Co.
Hooksett, NH

Canada Post:
Publications Mail Agreement #40612608
Canada Returns to be sent to:
Bleuchip International, P.O. Box 25542,
London, ON N6C 6B2