

SILICON Highlights

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1 Introduction

In June of 2009 I had the good fortune to be relaxing with my family halfway across the Pacific Ocean on the fabulous beaches of Kauai (see Fig. 1). During that time Andrea Wurm from Springer emailed to asked me to provide her with a list of exemplary articles from the first year of **SILICON** (2009). In this editorial the scope of that particular request has been expanded by looking back over the various articles published in **SILICON** during 2009 and to some of the events pertaining to **SILICON** from 2009.



Fig. 1 Sunset in Kauai (Queen's Baths, Princeville)

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2 Dr. Tom Lane—President of the American Chemical Society 2009

We were very fortunate to have a silicon chemist Dr. Tom Lane serve as the President of the American Chemical Society during 2009 (See Fig. 2). Tom Lane's background and accomplishments were presented in **SILICON** by his colleague and friend Dr. Mike Owen [1].

"I am proud to be a chemist because of what chemistry and its practitioners contribute to society. As chemists, we help drive economic growth, identify and solve environmental problems, advance medicine and healthcare, and keep our nation safe and secure. As chemists we can all be proud that we help people and provide for a better world." Dr. Tom Lane, ACS President (2009)



Fig. 2 Dr. Tom Lane Opening the 5th ACS *Silicones and Silicone-Modified Materials Symposium* (From L to R: Clarson, Owen, Yu, Bassindale, Lane, Smith, Cosgrove, Brook)

3 The Charles Darwin Celebration

The year 2009 saw the worldwide celebration of the 150th Anniversary of the publication of *On the Origin of Species by Means of Natural Selection* (November 22, 1859) and the 200th Anniversary of the birth of Charles Robert Darwin (February 12, 1809).

Many institutions around the world also celebrated Darwin and his legacy, for example the celebration at the University of Cincinnati had a keynote guest lecture from David Quammen on November 23rd, 2009 entitled “Charles Darwin Against Himself: Caution versus Honesty in the Life of a Reluctant Revolutionary” that was open to the general public and was very well attended [2].

Some modest contributions of silicon to Darwin’s scientific legacy were presented in **SILICON** [3, 4].

4 The Aims and Scope of SILICON

The following description is from the Springer web site for **SILICON**:

The unique nature of silicon leaves it without any disciplinary boundaries. Therefore, the journal **SILICON** is for those working in materials chemistry, materials physics, materials engineering, materials biology, organic chemistry, inorganic chemistry, nanoscience, environmental science, modeling and theory. **SILICON** accepts submissions on subject areas including but not limited to:

- Semiconductors
- Polymers
- Ceramics
- Glasses
- Coatings
- Resins
- Composite materials
- Small molecule silicon chemistry
- Electronics
- Optoelectronics
- Thin films

As can be seen from the aims and scope of the journal—the element silicon (Si) is used in every field of science and technology. It is therefore our intention to welcome contributions to **SILICON** from any discipline where silicon is an enabling element or constituent.

5 A Selection of Exemplary Articles from SILICON Published in 2009

The topics covered by the following articles are: environmental biogeochemistry of silicon [5, 6]; silicon biotechnology [7];

processing of silicon for energy applications [8]; medical / dental applications of silicon [9, 10] and silicon technology in the first Moon landing by the NASA Apollo 11 mission [11].

The Potential use of Silicon Isotope Composition of Biogenic Silica as a Proxy for Environmental Change

Leng MJ, Swann GEA, Hodson MJ, Tyler JJ, Patwardhan, SV Sloane HJ (2009) *Silicon* 1(2), 65–77

The Global Biogeochemical Silicon Cycle

Struyf E, Smis A, Van Damme S, Meire P, Conley DJ (2009) *Silicon* 1(4), 207–213

Organosilicon Biotechnology

Frampton MB, Zelisko PM (2009) 1(3), 147–163

Refining Silicon for Solar Cell Application by Copper Alloying

Mitrosinovic AM, Utigard TA (2009) *Silicon* 1(4), 239–248

Dental Zirconia Adhesion with Silicon Compounds Using Some Experimental and Conventional Surface Conditioning Methods

Heikkinen TT, Matlininna JP, Vallittu PK, Lassila LV (2009) *Silicon* 1(3) 199–202

Experimental Novel Silane System in Adhesion Promotion Between Dental Resin and Pretreated Titanium

Matlininna JP, Lassila LV, Vallittu PK (2009) *Silicon* 1(4) 249–254

How One Tiny Silicon Disc Took the Messages of Mankind to the Moon

Rahman T (2009) *Silicon* 1(4) 203–206



Fig. 3 The inaugural **SILICON** CD



Fig. 4 McCarthy, Zheng (Student Prize Winner, UMASS), Hertel (Springer)

6 The Launch of SILICON at ACS

The fifth ACS *Silicones and Silicone-Modified Materials Symposium* [12–15] was held at the 238th American Chemical Society National Meeting in Washington DC (August 16–20). The Springer booth at the conference prominently displayed the **SILICON** banner and various publicity items were available, including **SILICON** on a CD (see Fig. 3). The ACS symposium was written up in the September 14, 2009 issue of *Chemical & Engineering News* by Sophie Rovner [16]. This write up cited the work of Alan Bassindale (The Open University, Milton Keynes, UK), Richard Gross (Polytechnic Institute, Brooklyn, New York, USA), Paul Zelisko (Brock University, St. Catharines, Ontario, Canada) and Stephen Clarkson (University of Cincinnati, Ohio, USA). Furthermore, two articles from **SILICON** were cited in this article [17, 18]



Fig. 5 The pre-launch meeting of **SILICON** at Springer in Guildford, Surrey, England in the Autumn of 2008 (From L to R: Thieroff-Culierat, Terpstra, Ojo, Clarkson, Patwardhan, Derham)

7 Springer Best Student Poster Award at ACS Washington, DC

Peiwen Zheng was awarded the best student poster award at the ACS symposium by Dr Marion Hertel from Springer. Peiwen Zheng is picture below with her research mentor Professor Tom McCarthy of the Polymer Science and Engineering Program from the University of Massachusetts at Amherst (see Fig. 4) [19].

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