

Westchester Chemical Society
New York Section of the American Chemical Society
THE DISTINGUISHED SCIENTIST AWARD AND DINNER
AND COLLEGE STUDENT ACHIEVEMENT AWARDS

THURSDAY, APRIL 30, 2015

Social 5:00 p.m. Lecture and Awards 6:00 p.m. Dinner 7:00 p.m.

***Silicon, Silanes, Silicones and You: Ordinary and
Extraordinary Applications of Silicon and Silicon-
Containing Compounds***

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ABSTRACT:

Worldwide sales of silanes, silicones and other organosilicon compounds exceed US\$ 5 billion annually and the industry continues to grow. Where are these products used? How are they used and by whom? This presentation will show that silicon-containing compounds are present in, or are used to process, a wide variety of industrial, medical and consumer products that satisfy basic human needs in a modern society. Yet, there is little awareness of the ubiquity and utility of these compounds even among members of the chemistry community. The presentation seeks not only to increase awareness, but also to impart appreciation of the enhancement of value in the final products that arise from the use of silicon-containing additives. Emphasis will be placed on the applications and the fundamental principles or properties, which enable the use of silicon compounds in the ordinary and extraordinary applications that will be illustrated.

BIOGRAPHY:

Dr. Kenrick Martin Lewis is a Corporate Research Fellow with Momentive Performance Materials in Tarrytown, NY. He joined the Linde Research Dept. of Union Carbide in January, 1977 and has been at the Tarrytown Technical Center since then. Dr. Lewis's research interests encompass both process and materials chemistry. In process chemistry, he has contributed to the fundamental understanding and technological exploitation of the catalytic transformations of silicon and silicon compounds. These include direct syntheses of silanes from silicon, hydrosilylation, hydrogenolysis of disilanes, redistribution/disproportionation reactions of organosilicon compounds, the use of transition metal complexes of silylenes, and silylene insertion reactions. He has investigated new methods of producing

electronic and solar grade silicon, surface-chemical studies (XPS, AUGER, TPD) of intermediates in heterogeneous catalysis, and the use of nanosized materials (particularly copper and copper compounds) in catalysis. His materials chemistry interests are focused on structure-property relationships among siloxane-polyether copolymers, especially silicone surfactants for stabilizing polyurethane foams, surface modification of polysiloxanes, and addition-cure polysiloxanes and their use in medical, dental, electronic and urethane foam applications.

Dr. Lewis was born in Grenada, West Indies, and completed his secondary education there. His degrees are from the University of Alberta (Edmonton), BS (first class honors in chemistry), and from the University of Massachusetts (Amherst), Ph.D. (Inorganic Chemistry). Dr. Lewis has been the recipient of many scholarships, prizes and awards from his studentship to the present time. These include the Latimer and Langmuir Awards at General Electric Co., Caribbean Icon of Science and Technology from the Caribbean Council for Science and Technology, and a Key Contributor to the 1999 Kirkpatrick Award for Innovation in the Direct Synthesis of Trimethoxysilane.

Dr. Lewis has worked on a broad range of silicone products and has contributed to the understanding of how silicones perform in numerous applications such as consumer and industrial detergents, personal care products, rubber and plastic fabrication, polyurethane foams, inks and coatings, textiles and food preparation, among others. He has been a major contributor to our understanding of the chemistry of silicon, silanes and silicones, studying both synthesis and application, particularly of functionalized silanes, silane coupling agents, silicone surfactants and silicone polymers. He has worked for about forty years in Tarrytown, NY and has been given numerous awards and honors. He is a member of several professional organizations, including ACS, and has done much professional volunteer work, including co-editing *Catalyzed Direct Reactions of Silicon* (Elsevier, 1993). He has nearly one hundred publications, presentations and patents.

**Pace University
861 Bedford Road – Entrance #2, Pleasantville, NY 10570**

**The Campus Center, Butcher Suite
Directions attached
(914)-773-3200**

**Cost: Students \$20
All Others \$30**

RSVP Required – pwrc@earthlink.com

For more information, contact Paul Dillon:
E-Mail PaulWDillon2@hotmail.com
Phone 1-914-393-6940

or Anthony Durante
E-Mail: anthony.durante@bcc.cuny.edu
Phone: 1-718-289-5542 or 5569

For Pace University information:
eweiser@pace.edu

Westchester Chemical Society Webpage:
http://www.newyorkacs.org/sub_west.php

Directions To Pace Campus

Saw Mill River Parkway– Northbound

Take exit 26, "Taconic State Parkway." The first exit on the Taconic Parkway is for Pace University at Pleasantville – Route 117. At the end of the exit there is a traffic light. Entrances one and two to the campus are directly in front of you, straight across the intersection. If you turn right at the light and proceed east on Rte 117, entrance three is 2/10 of a mile on the left. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

Saw Mill River Parkway- Southbound

Take Exit 29, "Manville Road/Pleasantville." At the stop sign, turn left onto Manville Road. Travel 2/10 of a mile. At the stop sign, turn right onto Route 117 (Bedford Road). The campus is 3/10 of a mile on the right. You will see three entrances, marked three, then two, then one. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

Sprain Brook Parkway and the Taconic State Parkway – Northbound

Take the Sprain Brook Parkway northbound. At the Hawthorne interchange, the Sprain Brook will lead directly onto the Taconic State Parkway. The first exit on the Taconic Parkway is for Pace University at "Pleasantville – Route 117." At the end of the exit there is a traffic light. Entrance one and two to the campus are directly in front of you, straight across the intersection. If you turn right at the light and proceed east on Rte 117, entrance three is 2/10 of a mile on the left. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

Taconic State Parkway– Southbound

Take the exit "Pleasantville Road/Pleasantville." At the end of the exit, at the light, turn left and proceed under the Taconic Parkway. Continue on Pleasantville Road to the third traffic light. Turn right at this light and proceed 2/10 of a mile. At the stop sign turn right onto Route 117 (Bedford Road). The campus is 3/10 of a mile on the right. You will see three entrances, marked three, then two, then one. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

Cross Westchester Expressway – Route 287 –Westbound

Take exit 3 to the Sprain Brook Parkway northbound and proceed north as above.

Tappan Zee Bridge and Cross Westchester Expressway – Route 287 –East

After paying the toll on the Tappan Zee Bridge, stay in the right lane and proceed south on Route 87 (New York State Thruway). Get off at Exit 8A, which is marked: Route 87South/Rte 119/SawMill Parkway NORTH. Remain in the right lane as the exit splits. Follow the Saw Mill River Parkway North and get off at exit 26, "Taconic State Parkway." The first exit on the Taconic Parkway is for Pace University at Pleasantville – Route 117. At the end of the exit there is a traffic light. Entrance one and two to the campus are directly in front of you, straight across the intersection. If you turn right at the light and proceed east on Rte 117, entrance three is 2/10 of a mile on the left. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

From Manhattan and Bronx:

Major Deegan – New York State Thruway -Route 87 - Northbound

Take exit 7A "Saw Mill River Parkway North" and follow the directions above.

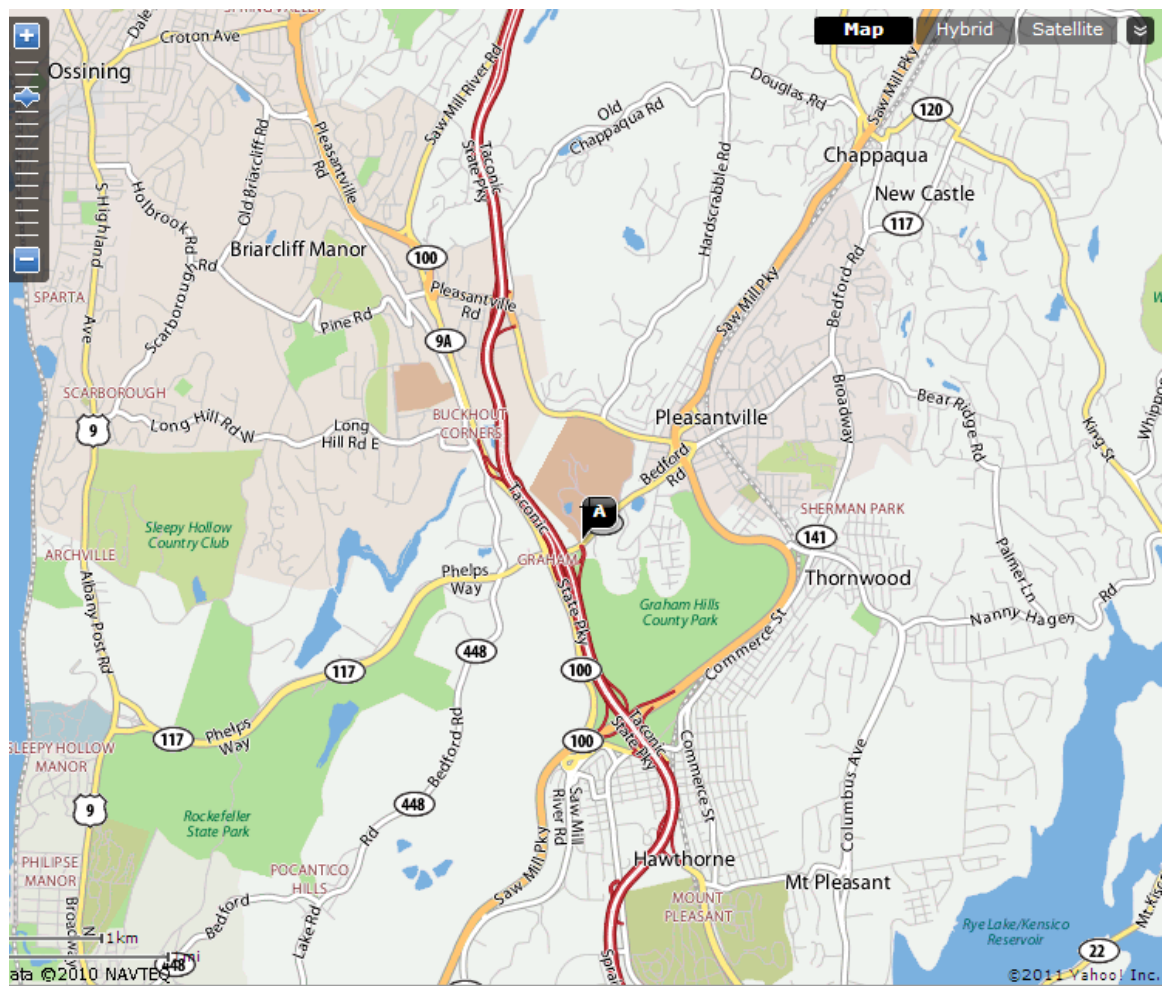
Route 9A – Northbound

Follow Rte 9A north and exit at "Route 117/Sleepy Hollow/Pleasantville." This will be a left lane exit. At the end of the exit, at the traffic light, turn right and proceed under the Taconic State Parkway to the first traffic light. Turn left into entrance one and two, or proceed east 2/10 of a mile to entrance three. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

Route 9A – Southbound

Follow Route 9 into Croton on Hudson and take the exit for Route 9A "Briarcliff Manor." Exit at Route 117/Sleepy Hollow/Pleasantville. This will be a left lane exit. At the top of the exit, at the light, turn left and proceed under the Taconic State Parkway to the first traffic light. Turn left for entrance one and two, or proceed 2/10 of a mile east and turn left into entrance three. Entrance three is the most popular entrance with access to our residence halls and administrative buildings.

Map next page. Campus Map last page.



Campus Map

