

## *Sigma Xi*

### The Scientific Research Society

*Sigma Xi* was founded in 1886 by a group of Cornell students and a faculty member who believed the time had come to establish an honor society for scientists and engineers. The purpose of the society was to reward excellence in scientific research as well as to encourage a sense of companionship and cooperation among scientists in all fields. The University of Michigan Chapter was established as the 16th Chapter of *Sigma Xi* in 1903 when thirty-five faculty and students were granted a charter to establish a Chapter at Michigan. The first President of the local Chapter was Professor J. Playfair McMurrich.

Since 1886, *Sigma Xi* has grown to include more than 800 Chapters throughout the world. The Society now has approximately 90,000 Members and Associate Members. Chapters are found wherever scientific research is undertaken in nations throughout the world, in universities, colleges, industrial research facilities and government laboratories.

*Sigma Xi* Pledge: "*I hereby pledge myself, in accordance with the purposes and objectives of Sigma Xi, The Scientific Research Society, to encourage original investigations in science, to foster companionship and cooperation among scientists, to maintain honor, integrity and honesty in all scientific activities, and to assume the other continuing responsibilities of membership.*"

## 2017 ANNUAL BANQUET

### *Sigma Xi*



The University of Michigan Chapter  
Weber's Inn  
Atrium Ballroom

April 19, 2017

5:30 P.M.

## OFFICERS

	2016-2017	2017-2018 Slate of Officers
<b>President</b>	Henry A. Buchtel	Henry A. Buchtel
<b>Vice-President</b>	E. Margaret Evans	E. Margaret Evans
<b>Secretary</b>	George Graham	George Graham
<b>Treasurer</b>	Richard Robertson	Richard Robertson
<b>Council Members</b>	Karen Adams	Karen Adams
	Marilee Benore	Marilee Benore
	Francine Dolins	Francine Dolins
	Elizabeth Duell	Cynthia Marcelo
	Cynthia Marcelo	Peter Woo
	Peter Woo	



Chapter Delegate Cynthia Marcelo (*center*) Accepting Chapter Awards for New Members & Excellence (November 2016)

## 2017 Science/Math Teacher of the Year Award

*Dr. Peter Woo is an organic chemist retired from pharmaceutical research and development at Pfizer Inc., which provides the funding for these awards. Dr. Woo organizes and coordinates the choice of the Teacher(s) of the Year Awards; this year he will be presenting awards to the following winner of the award.*

### Biography

**Ann Catherine Broderick** (Washtenaw Technical Middle College [WTMC]). Since 1997, Ms. Broderick has been teaching biology and chemistry to 10<sup>th</sup> graders at the middle school at WTMC. Her courses are aligned to Next Generation Science Standards using lab-based activities, field trips, guest speakers, games, music, claymation, manipulatives and movement. She obtained her BS in biology (minor: chemistry) from Eastern Michigan University in 1990 and has subsequently received postgraduate training in watershed investigations (2009), forestry science (2010), AP environmental science (2011), and student-designed labs and statistics (2016). She has a Professional Education Certificate. Prior to working at WTMC, she was a chemist at Encotech (1990-1994) and then taught at Southfield High School (1994-1997).

## **Fifty-Year Members (1967-2017)**

**Norman A. Lurie (016: Elected by the University of Michigan Chapter).**

**Nina I. McClelland (016: Elected by the University of Michigan Chapter).**

Dr. Nina McClelland, University of Toledo dean emerita, was honored by the American Chemical Society (ACS) and elected to its 2011 class of Fellows. McClelland served in multiple roles at ACS, including as chair of the board of directors. At the Fellows ceremony in Denver, ACS leaders and chemistry professionals spoke about their professional experiences working with her and the friendships that resulted. McClelland has been highly successful in the business world, spending more than 30 years with NSF International, an independent, not-for-profit organization dedicated to certifying products and writing standards for food, water and consumer goods. She served as chair of the board of directors and executive committee, and president and chief executive officer. In 1995, McClelland started her own consulting firm.

**Gordon A. Parker (090: elected by the Wayne State University Chapter).**

Dr. Parker received his Bachelor of Science Degree and a secondary high school teaching certificate from the University of Michigan in 1958. Following four years as a science and math teacher in Michigan high schools he enrolled at Wayne State University, Detroit, completing his PhD degree with chemistry emphasis in 1966. He joined the Chemistry Department at the University of Toledo, Ohio, progressing through the academic ranks. During this time, he supervised several graduate students and coauthored with them various scholarly papers. His only published book, "The Analytical Chemistry of Molybdenum" Springer Verlag, Berlin was published in 1983. He retired from UT as a full professor in 1992 returning to Michigan and was employed as a lecturer at the University of Michigan Dearborn, retiring from there in 2006. He and his wife live in Milan, Michigan, where they are involved in various community service projects.

**Richard L. Wilson (016: Elected by the University of Michigan Chapter).**

## **2017 *Sigma Xi* Banquet Address**

### **The Bristle Mammoth - Still Emerging**



**Daniel C. Fisher, Ph.D.**

**Claude W. Hibbard Collegiate Professor of Paleontology  
Director, Museum of Paleontology  
University of Michigan**

Professor Fisher's current research focuses on the paleobiology and extinction of mastodons and mammoths, using growth patterns and components of their tusks and cheek teeth from samples taken over extended time periods. Field studies associated with these projects involve many Pleistocene proboscidean sites in North America (especially the Great Lakes region) and in Siberia. There are well-preserved mastodon and mammoth skeletons in North America; some of them show evidence of human association (hunting, carcass processing). In Siberia, he has been able to study permafrost-derived carcasses of mammoths and other animals of the Mammoth Steppe; many of these have extensive soft-tissue preservation. Investigations of how teeth record details of animal physiology and life history are supported by studies of tooth formation processes in humans and other mammals.

## NEW MEMBERS & PROMOTIONS - 2017

### *Full Members*

**Timothy Chambers**  
**Daniel Fisher**  
**Ravi Samala**  
**Minden Sexton**  
**Jamie Winters**

### *Associate Members*

**Victoria Bankowski**  
**Abigail Breidenstein**  
**Fernanda Cross**  
**Spencer Dawson**  
**Hilary DeShong**

**Bryce Meerhaeghe**  
**Valencia Montgomery**  
**Kathryn Tolle**  
**Jaime Muñoz Velázquez**

## FIFTY-YEAR MEMBERS (1967-2017)

**Norman Lurie (016 UM)**  
**Nina McClelland (016 UM)**  
**Gordon Parker (090 Wayne State)**  
**Richard Wilson (016 UM)**

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The Chapter is grateful for a very generous donation from Ms. Cathleen Zepelin to establish a fund in memory of Dr. Harold Zepelin, a *Sigma Xi* member, who died in 2006. The fund helps maintain the honorary nature of election to membership by paying initiation and membership fees for new members. The Chapter is also very grateful for a grant from Pfizer Foundation (established by Pfizer Inc, the pharmaceutical company) that is used for our awards for the Teachers of the year. Finally, donations in support of Chapter activities from Henry Buchtel, Margaret Evans and Cynthia Marcelo are also gratefully acknowledged.

## PROGRAM

### *Reception & Banquet*

*Welcome* Henry (Gus) Buchtel

*Induction of New Sigma Xi Members and Sigma Xi Pledge for New (and Old) Members* Richard Robertson and Henry Buchtel

*Science Fair Awards* George Graham and Cynthia Marcelo

### *Junior Division*

**Nathan Hadjiyski** (Forsythe Middle School. Teacher: Margaret Raupp): "Piezoelectricity"

**Mazin Mehmood, Omar Azizi and Ahmed Haider** (Michigan Islamic Academy Middle School. Teacher: Shatha Mohammed): "The Blind Sensor"

**Arjun Patel** (Forsythe Middle School. Teacher: Margaret Raupp): "Let there be Light"

### *Senior Division*

**Forrest Flesher and Rohan Kheterpal** (Skyline High School. Teacher: Tom Pachera): "Horizontal locomotion in completely soft, autonomous robots"

**Cooper Klein-Kassab and Daniel Passmore** (Skyline High School. Teacher: Charles Centivany): "Jacket Closure System"

**Marlies Michielssen and Shrikant Chand** (Washtenaw International High School. Teacher: Alyson Thompson): "A Novel Zwitterionic Superparamagnetic Iron Oxide Nanoparticle Synthesis"

**Neha Seshadri** (Skyline High School. Teacher: Teresa Schneider): "A Novel Application of Microfluidic Assay to Evaluate the Role of Calponin in Platelet Function and Clot Formation"

*Science & Math Teacher of the Year Award - 2017* Peter Woo

**Ann Catherine Broderick** (Washtenaw Technical Middle College)

*Recognition of 50-year Sigma Xi Members* Karen Adams

*Approval of 2017-2018 Slate of Officers* Francine Dolins  
*Introduction of 2017 Sigma Xi Lecturer* Margaret Evans  
*Sigma Xi Banquet Lecture* Daniel C. Fisher  
*Adjournment* Henry A. Buchtel