



# **Sigma Xi, The Scientific Research Society Chapter Annual Report for Fiscal Year 2008 July 1, 2007 – June 30, 2008**

**Chapter Name:** Research Triangle Park  
**Region:** SE      **Constituency:** Area/Indus/State&Fed Labs (MI)  
**Chapter ID Number:** 302  
**Date Report Closed:** 8/22/2008

## **Statistics on 4/30/2008**

Number of active members: 163  
Number of inactive members: 184  
Number of initiates elected from July 1, 2007 June 30, 2008: 4

## **Statistics on 4/19/2007**

Number of active members: 159  
Number of inactive members: 171  
Number of initiates elected from July 1, 2006 June 30, 2007: 1

## **Good Standing status**

Officers on file: Yes  
Delegate to one of the last three annual meetings: Yes  
Last year's chapter annual report on file: Yes  
One initiate over last two years: Yes

## **Local Support Payments from Sigma Xi this year:**

No Payment on File for June  
1/31/2008 = \$564.53  
9/30/2007 = \$1,827.48

**Chapter Web site:** <http://www.rtp-sigmaxi.org/>

**Chapter Listserv:** [ch302@listserver.sigmaxi.org](mailto:ch302@listserver.sigmaxi.org)

**Chapter Officer Requested New or Updated listserv:**

**Chapter Officer Revitalization Contact with Staff:**

**Grants and Funding Received from Sigma Xi:**

no records found

**Sigma Xi Awards Received:**

no records found

**Chapter Address:**

PO Box 13068  
Research Triangle Park NC 27709

**Chapter Officers reported for FY2009 July 1, 2008 June 30, 2009****President:** Term: FY2009

**Name:** Dr. Rajagopal Vijayaraghavan  
**Home Number:** 865-406-9281  
**Business Number:** 919-380-3994  
**Fax Number:** 865-974-5483  
**E-mail Address:** raaj\_v07@yahoo.com

**Vice President:** Term: FY2009

**Name:** Mr. Robert Wright  
**Home Number:** 919-309-9622  
**Business Number:** 919-541-4502  
**Fax Number:** 919-541-4537  
**E-mail Address:** wright.bob@epa.gov

**Secretary:** Term: FY2009

**Name:** Mr. Dennis Tabor  
**Home Number:** 919-319-7653  
**Business Number:** 919-541-2686  
**Fax Number:** 919-541-3745  
**E-mail Address:** tabor.dennis@epa.gov

**Treasurer:** Term: FY2009

**Name:** Dr. Jack Bishop  
**Home Number:** 919-847-2190  
**Business Number:** 919-541-1876  
**Fax Number:** 919-316-4511  
**E-mail Address:** bishop@niehs.nih.gov

**Annual Meeting Delegate For Fiscal Year 2009 (Substitute Attendee)**

**Name:** Mr. Dennis Tabor  
**Home Number:** 919-319-7653  
**Business Number:** 919-541-2686  
**Fax Number:** 919-541-3745  
**E-mail Address:** tabor.dennis@epa.gov

**Chapter Operations:**

Identified new chapter leaders: Yes  
Increased the number of members involved in/or attending chapter activities? Yes  
Sent a student to the Sigma Xi Student Research Conference? No  
Developed or maintained a chapter web site? Yes  
Sent a newsletter or regular communication to members? No  
Sent Electronic newsletter? Yes  
Communicated with inactive members? No  
Nominated new faculty or institutional leaders for Sigma Xi membership? No

Paid initiate fees for new members? No  
Promoted Associate Members? No  
Created new chapter program? Yes  
Worked on revitalizing the chapter? Yes  
Worked with another Sigma Xi Chapter? Yes

### **Past Fiscal Year Chapter Activities:**

**ActivityName:** Science Cafe: Troubled Bridge Over Water (9/25/07)

**Participation:** 63

**Participants:** Some Sigma Xi members

**Cost:** 158

**ChapterFunds:** Yes

**YearDone:** 2-3 years

**Description:** Troubled Bridge Over Water: New research will help detect, avoid bridge collapse  
Tuesday, September 25

Tir Na Nog 218 South Blount Street, Raleigh

Speaker: Sami H. Rizkalla, PhD, North Carolina State University,  
Raleigh, NC

Last month, a stressed span of Interstate 35 in Minneapolis collapsed, plunging dozens of commuters and their cars into the murky Mississippi River or onto its banks. The tragedy killed 13 people. It calls into question the reliability of our nation's infrastructure. At some point every day, each of us is very likely to put our faith in a system of bridges and buildings. But how reliable are those bridges and buildings? How much do engineers and civic leaders really know? Come find out as an engineering professor from NC State University discusses a method he is currently developing that may accurately predict bridge deterioration.

Dr. Sami H. Rizkalla, Distinguished Professor of Civil Engineering and Construction and director of the Constructed Facilities Laboratory at NC State University, is internationally recognized for his work in design, construction and performance of reinforced and pre-stressed concrete structures and bridges. For the past 10 years, his attention has been focused on the use of fiber reinforced polymer (FRP) materials for rehabilitation, strengthening and repair of bridges and structures, as well as new construction. Rizkalla is currently leading a team of researchers on a project designed to accurately quantify and predict bridge deterioration by developing a telematic (the sending, receiving and storage of information via telecommunication devices) platform for bridge monitoring and health prognostics. The research is intended to help prevent such tragedies as the Minneapolis I-35 bridge collapse.

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Annual Banquet: Linking Basic Research to Global Problems: Broader Impacts in Energy Resources (6/24/08)

**Participation:** 40

**Participants:** Mostly Sigma Xi members

**Cost:** 2274

**ChapterFunds:** Yes

**RegFees:** Yes

**YearDone:** 6-10 years

**Description:** Annual Banquet of the Research Triangle Park Chapter of Sigma Xi, Scientific Research Society, June 24, 2008 at the Sigma Xi Center in Research Triangle Park

Professor Mark Johnson of the North Carolina Solar Center and North Carolina State University spoke on "Linking Basic Research to Global Problems: Broader Impacts in Energy Resources" about the impact that fundamental wide-bandgap semiconductor research (done by a variety of groups here in the Triangle) has on a range of projects: LEDs for energy-efficient lighting, solar-powered lanterns enabling a literacy project in India, power transistors enabling hybrid vehicle inverter drives and power rectifiers enabling the next generation of intelligent 'green grid' systems for renewable energy resources here in NC. A short chapter business meeting followed his presentation

**ScienceEducPubUnderS:** Yes

**MentorUndergrad:** Yes

**HostLect:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Dinosaurs: Rewriting the Rules of Fossilization (10/23/07)

**Participation:** 94

**Participants:** Some Sigma Xi members

**ChapterFunds:** Yes

**RegFees:** Yes

**YearDone:** 2-3 years

**Description:** Science Cafe

Dinosaurs: Rewriting the Rules of Fossilization

Tuesday, October 23, 2007

Tir Na Nog, 218 South Blount St., Raleigh, NC

Speaker: Dr. Mary Schweitzer

Dr. Mary Schweitzer studies dinosaur bones, as many paleontologists do. But recently she has been rewriting the rules of fossilization with her research at the microscopic and molecular levels. Her most fascinating finds have included preserved soft tissues, such as collagen and what appear to be ancient blood vessels, inside a 68-million-year-old T. rex. Come discover how her research has confirmed many connections between dinosaurs and birds and astonished scientists who have long believed that soft tissues would never be found inside fossilized bone.

Mary Schweitzer is the Museum's Curator of Vertebrate Paleontology and an Associate Professor of Paleontology at NC State University. Her discovery of soft tissue inside a Tyrannosaurus rex thigh bone was named the 6th most important science story of 2005 by Discover magazine. She received a PhD in Biology and a Secondary Education Teaching Certificate from Montana State University, and a Bachelor's degree in Communicative Disorders from Utah State University.

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Our Future State (11/27/07)

**Participation:** 52

**Participants:** Some Sigma Xi members

**Cost:** 200

**ChapterFunds:** Yes

**YearDone:** 2-3 years

**Description:** Science Cafe

Our Future State

Tuesday, November 27

Tir Na Nog, 218 South Blount Street, Raleigh

The governor's science advisor shares his thoughts on new technologies and economic growth in NC. What is the future for nanotechnology, alternative energy, biotechnology and other promising industries? What do these developments mean for our livelihoods and lifestyles?

Robert McMahan is Senior Advisor to the Governor of North Carolina for Science and Technology and the Executive Director of the North Carolina Board of Science and Technology. In this role he advises the Governor, the Secretary of Commerce, the General Assembly, and the Boards of Science and Technology and Economic Development about science and technology matters and supports and advises the state government on science, technology, entrepreneurship and technology-based economic development.

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Drought in NC - outlook for 2008 and beyond (1/15/08)

**Participation:** 150

**Participants:** Some Sigma Xi members

**ChapterFunds:** Yes

**YearDone:** 2-3 years

**Description:** Science Cafe

Drought in NC - outlook for 2008 and beyond

January 15, 2008

The Irregardless Café, 901 W. Morgan Street, Raleigh

A record-breaking drought has gripped much of North Carolina since early in 2007. The lack of rain has forced local communities into adopting increasingly stiffer water consumption restrictions. Join us for a discussion about the drought situation and what we can do as a community to conserve our water resources.

Ryan Boyles is the State Climatologist and Director of the State Climate Office at NC State University. The State Climate Office is a public service center with a mission to provide weather and climate research, extension and education services for North Carolina. Ryan is a native of Durham, NC with undergraduate and graduate degrees from NC State University.

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Altered States: Inside the Teenage Brain (2/19/08)

**Participation:** 85

**Participants:** Some Sigma Xi members

**ChapterFunds:** Yes

**YearDone:** 2-3 years

**Description:** Science Cafe

Altered States: Inside the Teenage Brain

Tuesday February 19, 2008

Tir Na Nog, 218 S. Blount Street, Raleigh

Teenagers sometimes act as though they are from a different planet. What can we learn from modern neuroscience to help them be the best they can be?

Dr. Wilkie Wilson is Professor of Pharmacology, Duke University and the director of BrainWorks, a Duke program for brain research and education. In the laboratory, Dr. Wilson studies the mechanisms underlying learning and memory, and the effects of drugs on those processes. He is an author of numerous scientific publications, book chapters and books. The BrainWorks team has produced a series of books including "Buzzed: The Straight Facts About the Most Used and Abused Drugs from Alcohol to Ecstasy;" "Pumped: Straight Facts for Athletes About Drugs, Supplements and Training;" and "Just Say Know: Talking With Kids About Drugs and Alcohol."

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Our Runaway Universe: From Dark Matter to Dark Energy (7/17/07)

**Participation:** 95

**Participants:** Some Sigma Xi members

**Cost:** 175

**ChapterFunds:** Yes

**YearDone:** 2-3 years

**Description:** July 17, 2007

Our Runaway Universe: From Dark Matter to Dark Energy

Dr. Richard Hammond, Theoretical physicist Army Research Office and Adjunct Professor in Physics at UNC-Chapel Hill

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Summertime Itch: Familiar Pests and New Threats (8/28/07)

**Participation:** 83

**Participants:** Some Sigma Xi members

**Cost:** 156

**ChapterFunds:** Yes

**YearDone:** Please Choose

**Description:** August 28

Summertime Itch: Familiar Pests and New Threats

Dr. Barry Engber, Medical Entomologist in the Public Health, Pest Management Section of the NC Department of Environment and Natural Resources

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Forests and Forecasts: The Effects of Trees on Climate Change (3/25/08)

**Participation:** 58

**Participants:** Some Sigma Xi members

**Cost:** 150

**ChapterFunds:** Yes

**YearDone:** Please Choose

**Description:** March 25

Forests and Forecasts: The Effects of Trees on Climate Change

Dennis Hazel and John King, NC State University Department of Forestry and Environmental Resources

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Going Green with Alternative Fuels: Not so Fast! (4/15/08)

**Participation:** 78

**Participants:** Some Sigma Xi members

**Cost:** 150

**ChapterFunds:** Yes

**YearDone:** Please Choose

**Description:** April 15

Going Green with Alternative Fuels: Not so Fast!

John Bonitz, Southern Alliance for Clean Energy, and Marc Dreyfors, The Forest Foundation

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: Genetically Engineered Insects: A New Kind of Pest Control (5/20/08)

**Participation:** 64

**Participants:** Some Sigma Xi members

**Cost:** 118

**ChapterFunds:** Yes

**YearDone:** Please Choose

**Description:** May 20

Genetically Engineered Insects: A New Kind of Pest Control

Fred Gould, PhD., William Neal Reynolds Professor of Entomology at NC State University

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** Science Cafe: One Medicine Approach to a Changing World (6/17/08)

**Participation:** 74

**Participants:** Some Sigma Xi members

**ChapterFunds:** Yes

**YearDone:** 2-3 years

**Description:** June 17

One Medicine Approach to a Changing World

Dr. Barrett Slenning, associate professor in the College of Veterinary Medicine, NC State University

**ScienceEducPubUnderS:** Yes

**ScienceGenPublic:** Yes

**actstatus:** Complete



**ActivityName:** EPA Post-Doc Networking and Leadership Training Organization: Seminar on Sigma Xi and Membership Advantages (4/08/08)

**Participants:** Some Sigma Xi members

**ChapterFunds:** Yes

**YearDone:** 1st year

**Description:** Presentation about Sigma Xi to EPA post-docs who were interested in learning about and potentially joining Sigma Xi

**actstatus:** Complete

