

TRIAD CHEMICAL TIMES



Central North Carolina Section American Chemical Society

October Local Section Meeting

Speaker: Dr. Karshak Kosaraju: "Risk Assessment Considerations for Innovative Nanoproducts"

When: Thursday, October 27th (6:30 Social, 7:00 Meeting)

Where: ITG Brands (formerly Lorillard)

ITG Brands Contact: Chair Elect Dennis Ergle: dergleacs@yahoo.com



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CNC-ACS Officers

Dr. Fenghai Guo

Chair guof@wssu.edu

Dr. Dennis Ergle

Chair Elect dergleacs@yahoo.com

Dr. John Merle

Treasurer/Secretary merlejo@wssu.edu

CNC-ACS Website:

<http://www.cnc-acs.sites.acs.org/>

Newsletter Editor: Bill Eberle

bill.eberle@syngenta.com



PRESENTATION TITLE:

Risk Assessment Considerations for Innovative Nanoproducts

SPEAKER:

Dr. Karshak Kosaraju

ABSTRACT:

Risk Assessment (RA) is the systematic scientific characterization of potential adverse health effects resulting from human exposures to hazardous agents or situations (Omenn and Faustman, 2000). RA of materials and their constituents is typically performed based on a comprehensive and combinatorial understanding of structure/activity relationship, *in vitro* and/or *in vivo* testing, epidemiological data and/or models using mechanistic assumptions with an objective to assign a probability of risk to cause a harmful effect. The current methodologies of RA employ dose-response assessment to estimate the mass or concentration of a substance that is expected to trigger an adverse response in humans on exposure. However, many studies suggest that toxicity of nanomaterials (NMs) is not only mass-dependent, but influenced by other physico-chemical characteristics such as size, shape, surface area, aspect ratio, morphology, surface functionalization, etc. These attractive properties give NMs enhanced potential not only for various applications, but also in adverse outcomes in comparison to their larger counter parts, and need to be taken into consideration for RA. Moreover, increased usage of NMs to fabricate nanoproducts (NP) in various industrial sectors increases the potential for release and exposure of NMs to humans (workers and consumers). This in combination with relatively limited information on hazard, exposure and dose-response, and novel properties poses a significant challenge to RA of NMs. This talk will focus on the factors that need to be considered in RA of NPs in comparison to the already established RA process for bulk materials.

**BIO:**

Karshak Kosaraju, PhD, serves as a Toxicologist for ITG Brands, LLC. He holds a BS in Pharmacy, a MS in Chemistry and PhD in Nanoscience. He has authored and co-authored several peer-reviewed publications and presented at various prestigious conferences nationwide on nanomaterial properties-considerations for toxicological evaluation of nanomaterials and development of methods to quantify adverse effects of nanomaterials. As a recent graduate of the Nanoscience department of University of North Carolina-Greensboro, Dr. Kosaraju started his industrial career at ITG Brands as a Toxicologist where his primary responsibilities lie in Product Stewardship.

Scenes from the September Meeting

The September Meeting was highlighted by the honoring of our 50 and 60 year ACS Members. This year the following individuals were honored for their lengthy careers in chemistry:

50 Year Members:

Dr. Mary Evelyn Stowe

Dr. Eugene Grimley III

60 Year Members:

Mr Melvin Hooper

Mr. Theodore Sulzberg

After the honoring Dr Grimley, Min Tang of the Edwards Research Group at Virginia Tech, gave a presentation on the Flint Michigan Water Crisis. The meeting was made possible by funds raised by the Analytical Group's Poster Vendor Night. The presentation was one of the best given to the Central NC ACS. The meeting also attended by colleagues from the Greensboro Water Quality Group.



CNC-ACS Councilor Election

Candidate for Councilor (2017-2019)

I seek re-election as your Councilor for the Central North Carolina (CNC) local section (LS) of the American Chemical Society (ACS). I wish to continue my participation at the national level as well as continue working on behalf of our LS to insure our needs and wishes are heard and addressed.

Some of my past LS activities include the creation of the annual Poster/Vendor Night (2001), the Analytical Sub-Group, the start-up of the Silver Circle Group (2014), and more recently, service as a Science Coach at the North Carolina Leadership Academy in Kernersville (2016 and continuing). I regularly attend LS meetings.



I've attended all the National meetings during my tenure as Councilor and attended all caucus and Council meetings as arranged by National. I participated when warranted and voted on all applicable matters that affected our LS.

I previously served as a member of the National ACS Committee for Environmental Improvement (CEI) and also as the CEI liaison to the Chemists Celebrate Earth Day (CCED) committee. This entailed writing articles and preparing PowerPoint slides on various topics as well as writing numerous articles for the International Year of Chemistry 2011 celebrations. Note that most of this work was done between National Conferences and consumed more than one hundred hours annually.

I presently serve on the National Committee for Nomenclature, Terminology, and Symbols as Chair of the Communication/Outreach sub-committee. Some of this work includes writing and conducting surveys, organizing symposia (e.g., the new definitions of the Kg and Mole), as well as a poster presentation entitled "Naming New Elements" at the fall 2016 meeting in Philadelphia.

Participation at the National level has been both enlightening and challenging and I believe it helps produce a better informed Councilor for our LS than one that does not serve at the National level.

Thank you for your support. Robert A. Yokley, Ph.D.

Silver Circle News

The date for the next SC meeting will be November 17. Our guest speaker will be Chuck Carrick from DMJ Wealth Advisers who will speak following our pot luck dinner.

CNC-ACS Executive Committee

Chair	Fenghai Guo	guof@wssu.edu	750-3158
Chair Elect	Dennis Ergle	dergleacs@yahoo.com	207-1536
Secretary/Treasurer	John Merle	merlejo@wssu.edu	750-2237
Councilor ('16)	Robert Yokley	RYokley1@triad.rr.com	558-8212
Alternate Councilor ('17)	Ed Robinson	Edwardrobinson.robinsoner@gmail.com	337-3361
Alternate Councilor ('17)	Rich Honeycutt	HERAC@aol.com	601-8117
Director ('17)	Bill Eberle	bill.eberle@syngenta.com	632-7569
Director ('17)	TJ Mayer	tj.mayer@syngenta.com	632-6079

CNC-ACS Committees

Awards	Robert Yokley	RYokley1@triad.rr.com	558-8212
Education	OPEN		
Chemistry Olympiad	OPEN		
Science Center Advisor	Jerry Walsh	jlwalsh@uncg.edu	334-5672
UNCG HS Lab Day	Jerry Walsh	jlwalsh@uncg.edu	334-5672
Earth Day	Bill Nell	williamnell@bellsouth.net	764-9322
Government Relations	Ed Robinson	Edwardrobinson.robinsoner@gmail.com	337-3361
Hospitality	OPEN		
Long Range Planning	OPEN		
National Chemistry Week	Dennis Ergle	dergleacs@yahoo.com	207-1536
	Cynthia Willard	cynthia.willard@ITGBrands.com	335-6729
Newsletter Editor	Bill Eberle	bill.eberle@syngenta.com	632-7569
Poster Vendor Night	Bill Eberle	bill.eberle@syngenta.com	632-7569
	Jill Tierney	tierney_j@bellsouth.net	430-8601
	Sameer Tyagi	sameer.tyagi@syngenta.com	
Professional Relations	Doug Tsao	dtsao@maccordmason.com	
Public Relations/Publicity	Doug Tsao	dtsao@maccordmason.com	
Science Advisor – Mark Walker	Dave MacInnes		
Science Advisor – Richard Burr	Liliana Garcia	llilianagarcia@live.com	
Student Members	OPEN		
Silver Circle	Robert Yokley	RYokley1@triad.rr.com	558-8212
Web Page	Tim Ballard	tballard@en-cas.com	785-3252
Women Chemist	Gail Webster	gwebster@guilford.edu	316-2486