



Spring/Summer 2009

## UPCOMING EVENTS

### In Partnership

Along with the Catawba College Center for the Environment, the NRI welcomes Dr. Miroslav Styblo from the UNC Gillings School of Global Public Health to present "Nutrition and Environment: Could Arsenic In Our Water Be Causing Diabetes?" Watch for the autumn event on the NRI's calendar at [www.uncnri.org/calendar.asp](http://www.uncnri.org/calendar.asp)

## NRI PODCASTS ON THE WEB

### VIDEOS

[Dr. Zeisel's appearance on Oprah](#)

[Dr. Zeisel's Atwater Lecture](#)

### AUDIO

[Dr. Zeisel's People's Pharmacy interview](#)

[Dr. Melinda Beck: Nutrition & Viruses](#)

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## Economic development and outreach programs keeping the Nutrition Research Institute busy

In addition to the goal of improving human health, the NRI is committed to involvement in the local community through jobs, services, and outreach.

The NRI has contributed to the area's economy. Since January 2007, the NRI has hired 34 employees, paying them a salary on par with the national average. Nine of the NRI's employees purchased or built homes in or near Kannapolis since starting to work here.

Many NRI staff who relocated to Kannapolis restarted their households from scratch. Together these employees spent more than \$250,000 on home goods and services, vehicles, electronics, furniture, appliances, and more.

When possible—and as allowed

by North Carolina regulations—the NRI itself shops area businesses such as local stationers, business services providers, rental compa-

nies, groceries, restaurants, and caterers.

Apart from helping the local economy, the Institute also provides outreach and services. In addition to its ongoing Appetite for Life Academy (see page 2), the NRI sponsored an art competition and exhibit in which 600 pieces of artwork were submitted by school-aged children. Several pieces currently hang in the NRI's building.

In early 2009, the NRI hosted more than 2,300 elementary students to hear scientists discuss research and to enjoy the hands-on science projects created by fellow students and placed on display throughout the NRI.

Outside of the NRI's facility, the Institute takes an active part in promoting wellness by participating in community health fairs and other health-oriented events. NRI staff were on the committee to plan CMC-NorthEast's HARVEST community health fair and took part by providing speakers, an information booth, and hands-on activities for toddlers.

NRI employees also participated in the Kannapolis YMCA Healthy Kids Day by offering interactive, hands-on activities on diet and nutrition.

The NRI has been a partner in the North Carolina Research

Photo: NRI



Johnson & Wales Chef Peter Reinhart teamed up with retired Panther Mike Rucker and Dr. Zeisel to discuss and prepare healthy foods at the Appetite for Life cooking demonstration last autumn.

Photo: NRI



More than 600 school-aged children contributed art to the NRI's inaugural art contest. The winners' art is on display at the NRI.

Photo: NRI



Dr. Carol Cheatham addresses students during the KCS science fair. More than 2,300 children visited the NRI during Science Week.

Campus for less than a year. In time our team will grow to more than 100 employees, each of whom will contribute to the local economy through direct purchases, community service, and research innovation.



**From the  
Director's  
Desk**

**Steven H. Zeisel, M.D., Ph.D.**

The NRI is closing in on its first year on the North Carolina Research Campus, and I am pleased to report that our work in science and service are firmly underway.

Our mission, in short, is to pursue nutritional individuality using the new sciences of nutrigenomics, epigenetics, and metabolomics. With this goal in mind, we have brought on board some of the best researchers in nutrition science.

Dr. Carol Cheatham, a child psychologist and neuroscientist, joined our team in late 2008. She has already begun a study of brain development in toddlers.

Dr. Mihai Niculescu, an expert in epigenetics, is studying—among other topics—obesity in pregnant women and whether it causes permanent changes to the child's genetic profile.

And we are happy to have Dr. Sangita Sharma on our team. She is a well-known nutritional epidemiologist whose research takes place all over the world.

Also, the NRI's goal of providing economic development and outreach continues, with additional staff hires and local spending, the Appetite for Life Academy, an art contest and science fair, and engagement in local events.

As the NRI struggles through the current tough economy, we're depending on donors and supporters to help us continue our work. Thank you for your ongoing interest in the NRI, I look forward to reporting growth in the next newsletter.

## Second Annual Appetite for Life Academy continues a tradition of excellence

The NRI's second annual Appetite for Life Academy speaker series, Frontiers in Nutrition, was as successful as the first. In fact, the audience topped 300 for the most popular presentation: *Fat or Thin: How Metabolism Works* with Dr. Rosalind Coleman.



More than 400 participants registered to take part in the 2009 Appetite for Life Academy Frontiers in Nutrition speaker series.

Photo: NRI

In addition to Dr. Coleman's lecture, Dr. Margaret Bentley presented *The Hand that Rocks the Cradle*, a discussion of infant and toddler health and feeding practices in the North Carolina and beyond.

Dr. Melinda Beck, a viral immunologist in

UNC's Department of Nutrition, spoke on how nutrition can affect viruses.

More than a recommendation of which foods to eat while sick, Dr. Beck explained her research which is showing how nutrition—or lack of it—can help viruses become more virulent.

The last presentation of the series brought Dr. Barry Popkin to Kannapolis to discuss his new book, *The World is Fat*.

Dr. Popkin's lecture focused on the global obesity epidemic, drawing attention to the increased intake of sweetened beverages, the increased availability of edible oils in China, the relative low cost of high-fat meat, and decreased need for activity, among other topics.



Barry Popkin's explanation of global obesity included discussion of modern diet, modern transportation, and modern work styles.

## Sponsor Spotlight: Appetite for Life depends on the kindness of donors

The Appetite for Life Academy Frontiers in Nutrition speaker series and other efforts of the NRI are made possible by the generous support of several corporate sponsors.

Carolinas Medical Center NorthEast has continued its support from last year, helping to fund the Appetite for

Life series and by providing some of the refreshments.

The North Carolina Biotechnology Center also

continued its support of the NRI's outreach efforts with a financial contribution to underwrite some

of the series costs, in particular the cost of bringing speakers into Kannapolis for the event.

Other supporters-in-kind include Dole Foods and the North Carolina Research Campus which contributed refreshments as well as location and staff support.



**Carolinas Medical Center  
NorthEast**



**North Carolina  
Biotechnology Center**

*For information on supporting the Academy, please contact Beverly Jordan at 704-250-5008.*

## NRI faculty members begin launching their research programs

The Nutrition Research Institute is improving human health by studying why people's metabolism and nutrient requirements differ from person to person. In time, as scientists, physicians, and healthcare practitioners better understand nutritional individuality, they will be able to enhance human health, improve brain development, and more effectively treat diseases like obesity and cancer.

In pursuit of that goal, NRI researchers remain hard at work, investigating how healthy fats affect brain development of babies and toddlers, how a pregnant woman's weight can cause changes in her baby before it is born, and how diet can affect a person's risk of cancer or other diseases.



Photo: NRI

You won't see Carol Cheatham in a lab coat. Her research with toddlers has taught her to dress like a friend, not a physician.

Dr. Carol Cheatham has begun recruiting toddlers for her study of whether flax seed oil increases their cognition or thought process. Sixteen-month-old babies will receive flaxseed oil or a control, then play with toys while being observed by Dr. Cheatham and her staff.

Dr. Mihai Niculescu, an expert in epigenetics, is exploring the roles that maternal weight play in the brain development of offspring. In particular, his laboratory is investigating whether a mother's obesity during pregnancy causes permanent developmental delays in her baby as a result of epigenetic changes.

Research in Dr. Steven Zeisel's laboratory includes work on fetal development and how the lack of choline in a mother's diet can damage the normal growth of the baby's blood vessels. Their research is showing that only slight changes in gene expression caused by low dietary choline can damage this process, possibly leading to defective brain development.



Photo: NRI

Dr. Sharma's research takes place all over the world. Arctic team members visited in January.

Dr. Sangita Sharma's expertise is in assessing the relationships among nutrition, ethnicity, and disease, focusing on why different ethnic groups have unique risk factors and rates of chronic disease. Her research staff is working to reduce dietary risk factors for obesity and diabetes in partnership with Native North American communities.

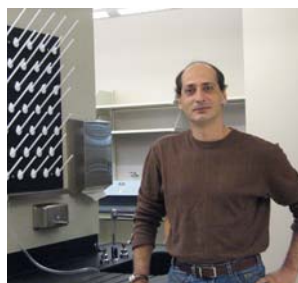


Photo: NRI

Mihai Niculescu's laboratory focuses on the new science of epigenetics.

As the number of research faculty increases and as funding permits, the NRI's research program will broaden. We will continue to share the work and accomplishments of NRI faculty and hope you enjoy learning about the important advances they are making in improving human health.

## Building Our Board

Our distinguished Board of Advisors is working diligently to position the NRI for continued growth and achievement. The board is comprised of an elite group of individuals from across the state of North Carolina with a broad range of experience and a common goal of elevating the NRI to world class stature.

**Dr. James G. Martin**  
Chair, NRI Board of Advisors  
Mooresville, North Carolina

**Dr. Roger Billingsley**  
Monterey, California

**Mr. Fred Brown**  
Charlotte, North Carolina

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Kannapolis, North Carolina

**Ms. Ellen Ruff**  
Charlotte, North Carolina

**Mr. Tom Smith**  
Salisbury, North Carolina

**Dr. James H Woodward**  
Charlotte, North Carolina

### Gifts that Make a Difference

The NRI is pleased to acknowledge the Duke Energy Foundation for its generous unrestricted gift.



Gifts of this kind are especially valuable because they allow the NRI's director to target resources to the area of greatest need. The NRI is committed to using these donations judiciously to facilitate ground-breaking research, deliver community programs and maintain an environment for learning.

Thank you, Duke Energy!

## Visionaries Needed to Invest in the Future!

Have you ever wondered what it would've been like to be at the start of what the world recognizes as one of the greatest centers of scientific research?

We intend to join the ranks of these exceptional institutions and make the NRI the best in the world. As our researchers unravel the mystery of individualized nutrition, they will simultaneously be providing solutions to some of our greatest health challenges including the prevention of diseases like diabetes and cancer and increasing brain development.

You have a unique opportunity to join us on the ground floor of discovery and invest in the future health of our community, nation and the world. Make your gift to the NRI today and become part of the solution!

Gifts to the NRI are tax deductible, as allowed by law. To discuss how a gift to the NRI can make a difference, contact Beverly Jordan at [beverly\\_jordan@unc.edu](mailto:beverly_jordan@unc.edu) or at 704-250-5008.

## A Place For You in the Patron's Plaza

Purchasing a brick in Patron's Plaza is an easy way to make your mark in the world and support the NRI at the same time.

Whether a gift for a friend or loved one, recognition of an important date, or simply a sign of your personal support, a brick in Patron's Plaza will leave a permanent imprint on the NRI.

Each brick costs \$100 and can contain up to three

lines of text; each line can contain up to 20 characters (including spaces).



To purchase a brick, contact Lisa Canada at [lisa\\_canada@unc.edu](mailto:lisa_canada@unc.edu) or at 704-250-5012.



**UNC**  
NUTRITION  
RESEARCH INSTITUTE

500 Laureate Way  
Kannapolis, North Carolina  
28081

Phone: 704-250-5000  
Fax: 704-250-5001  
[www.uncnri.org](http://www.uncnri.org)

### Exploring Nutritional Individuality

## USDA honors Zeisel with Atwater Award

NRI Director Steven Zeisel, MD, PhD, was selected to deliver the 2009 W.O. Atwater Lecture, awarded by the U.S. Department of Agriculture's Agricultural Research Service (ARS). Zeisel delivered his presentation at the Experimental Biology meeting in New Orleans on April 21.

His lecture, *Individualized Nutrition: How Genes, Epigenetics and Sex Interact to Create a Dietary Requirement for the Nutrient Choline*, will likely introduce the NRI's mission—to individualize the study of human nutrition—to the more than 8,000 participants expected at the conference. [Watch the lecture.](#)

The ARS established the Atwater Lecture in 1968 to honor Wilbur Olin Atwater (1844-

1907) and to recognize scientists who have made unique contributions toward improving the diet and nutrition of people around the world. Zeisel's work not only has improved the health of individuals, but also has furthered the study of nutrition as a science.

In addition to directing the NRI on the North Carolina Research Campus, Zeisel also runs both the Clinical Nutrition Research Unit and the Center of Excellence in Children's Nutrition in Chapel Hill, and he maintains research projects in multiple laboratories. He is perhaps most widely known for his work in the study of the nutrient choline, in particular its importance in human health and fetal brain development.