

# Agenda

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**Tuesday, November 29, 2011**

7:30 a.m. - 8:00 a.m.

**Registration**

8:00 a.m. - 8:30 a.m.

**Welcome and Framing the Issues:  
Goals and Anticipated Outputs From the Workshop**

Sharon Ross, Ph.D., M.P.H.  
National Cancer Institute, NIH

Barnett Kramer, M.D., M.P.H.  
Director, Division of Cancer Prevention  
National Cancer Institute, NIH

Pamela E. Starke-Reed, Ph.D.  
Division of Nutrition Research Coordination, NIH

Hongda Chen, Ph.D., M.S.  
National Institute of Food and Agriculture, USDA

Martin A. Philbert, Ph.D.  
University of Michigan

Steven J. Zullo, Ph.D.  
National Institute of Biomedical Imaging and Bioengineering, NIH

8:30 a.m. - 10:30 a.m.

**SESSION 1  
Knowledge Gaps in Effective Nutrition and Disease Prevention**

Moderator: Etta Saltos, Ph.D., M.N.S.  
National Institute of Food and Agriculture, USDA

8:30 a.m. - 8:50 a.m.

***Changing Nutrition Paradigms of the 21st Century***

Robert M. Russell, M.D.  
Tufts University  
Office of the Director, NIH

8:50 a.m. - 9:10 a.m.

***Preclinical Models for Developing Prevention Strategies***

Stephen Hursting, Ph.D., M.P.H.  
The University of Texas at Austin

9:10 a.m. - 9:30 a.m.

***Bioavailability of Nutrients and Bioactive Constituents: How Can  
Nanotechnology Address This Problem?***

Carl Keen, Ph.D.  
University of California, Davis

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| 9:30 a.m. - 9:50 a.m.   | <b><i>The Problem of the “U”-Shaped Curve: How Can Nanotechnology Address This Problem?</i></b><br>Patsy M. Brannon, Ph.D., R.D.<br>Cornell University  |
| 9:50 a.m. - 10:05 a.m.  | <b>BREAK</b>  |
| 10:05 a.m. - 10:30 a.m. | <b>Q&amp;A and Discussion</b><br>Moderator: Etta Saltos, Ph.D.<br>National Institute of Food and Agriculture, USDA  |
| 10:30 a.m. - 2:20 p.m.  | <b>SESSION 2</b><br><b>Applications of Nanotechnology To Enhance Nutrition for Disease Prevention</b><br>Moderator: Pamela E. Starke-Reed, Ph.D.<br>Division of Nutrition Research Coordination, NIH        |
| 10:30 a.m. - 11:00 a.m. | <b><i>Nanotechnologies for Enabling Molecular Nutrition Discoveries</i></b><br>Martin A. Philbert, Ph.D.<br>University of Michigan  |
| 11:00 p.m. - 11:30 a.m. | <b><i>Nanocomplex-Based Delivery Systems</i></b><br>Bruce R. Hamaker, Ph.D., M.S.<br>Purdue University  |
| 11:30 a.m. - 12:30 p.m. | <b>LUNCH</b>  |
| 12:30 p.m. - 1:00 p.m.  | <b><i>Characterization of Nanoparticles for Medical Applications: Lessons Learned From NCI’s Nanotechnology Characterization Laboratory</i></b><br>Scott E. McNeil, Ph.D.<br>National Cancer Institute, NIH |
| 1:00 p.m. - 1:30 p.m.   | <b><i>Dosimetry and Micronutrient Delivery Issues for Nanoparticle-Based Delivery Systems</i></b><br>Joel G. Pounds, Ph.D.<br>Pacific Northwest National Laboratory   |
| 1:30 p.m. - 2:00 p.m.   | <b><i>Pharmacokinetics and Pharmacodynamics Issues in Nanotechnology</i></b><br>David Grainger, Ph.D.<br>The University of Utah   |
| 2:00 p.m. - 2:20 p.m.   | <b>Q&amp;A and Discussion</b><br>Moderator: Pamela E. Starke-Reed, Ph.D.<br>Division of Nutrition Research Coordination, NIH  |
| 2:20 p.m. - 2:35 p.m.   | <b>BREAK</b>  |

2:35 p.m. - 5:00 p.m.

### **SESSION 3**

#### **Opportunities and Challenges for Nanotechnologies in the Food Sciences**

Moderator: Hongda Chen, Ph.D., M.S.

National Institute of Food and Agriculture, USDA

2:35 p.m. - 3:05 p.m.

#### ***Opportunities and Challenges for Nanotechnologies in the Food Sciences***

Frans Kampers, Ph.D.

Wageningen University and Research Centre, The Netherlands

3:05 p.m. - 3:35 p.m.

#### ***Enhancing Bioavailability of Polyphenols Through Rational Design of Nanocapsules***

Qigrong Huang, Ph.D.

Rutgers University

3:35 p.m. - 4:05 p.m.

#### ***Polymeric Nanoparticles as Bioactive Delivery Systems for Disease Prevention and Treatment***

Cristina M. Sabliov, Ph.D.

Louisiana State University

4:05 p.m. - 4:35 p.m.

#### ***Nucleic-Acid-Based Hydrogel Delivery Systems***

Dan Luo, Ph.D.

Cornell University

4:35 p.m. - 5:00 p.m.

#### **Q&A and Discussion**

Moderator: Hongda Chen, Ph.D., M.S.

National Institute of Food and Agriculture, USDA

5:00 p.m.

#### **ADJOURNMENT**

**Wednesday, November 30, 2011**

- 8:00 a.m. - 8:30 a.m.           **Registration**
- 8:30 a.m. - 8:40 a.m.           **Welcome, Recap of Day 1, and Outline of Day 2**  
Sharon Ross, Ph.D., M.P.H.  
National Cancer Institute, NIH
- 8:40 a.m. - 11:30 a.m.       **SESSION 4**  
**Ethical, Legal, and Societal Implications of Nutritional Nanotechnology**  
Moderator: David W.K. Acheson, M.D.  
Leavitt Partners, LLC
- 8:40 a.m. - 9:10 a.m.           **Broader Issues of Toxicity Management: Safe By Design**  
Nina Shapley, Ph.D.  
Rutgers University
- 9:10 a.m. - 9:40 a.m.           **Nanotechnology Applications for the Food Sector: Implications for Consumer Safety and Regulatory Controls**  
Annette McCarthy, Ph.D.  
U.S. Food and Drug Administration
- 9:40 a.m. - 10:10 a.m.       **Ethical Issues in Research and Early Development of Nutritional Nanotechnology**  
Rebecca Dresser, J.D., M.S.  
Washington University in St. Louis
- 10:10 a.m. - 10:30 a.m.       **BREAK**
- 10:30 a.m. - 11:00 a.m.       **Consumer Acceptance of Revolutionary Technologies for Foods**  
Christine M. Bruhn, Ph.D.  
University of California, Davis
- 11:00 a.m. - 11:30 a.m.       **Q&A and Discussion**  
Moderator: David W.K. Acheson, M.D.  
Leavitt Partners
- 11:30 p.m. - 12 noon       **Closing Discussion and Next Steps**  
John A. Milner, Ph.D.  
National Cancer Institute, NIH  
  
Hongda Chen, Ph.D., M.S.  
National Institute of Food and Agriculture, USDA
- 12 noon                           **ADJOURNMENT**