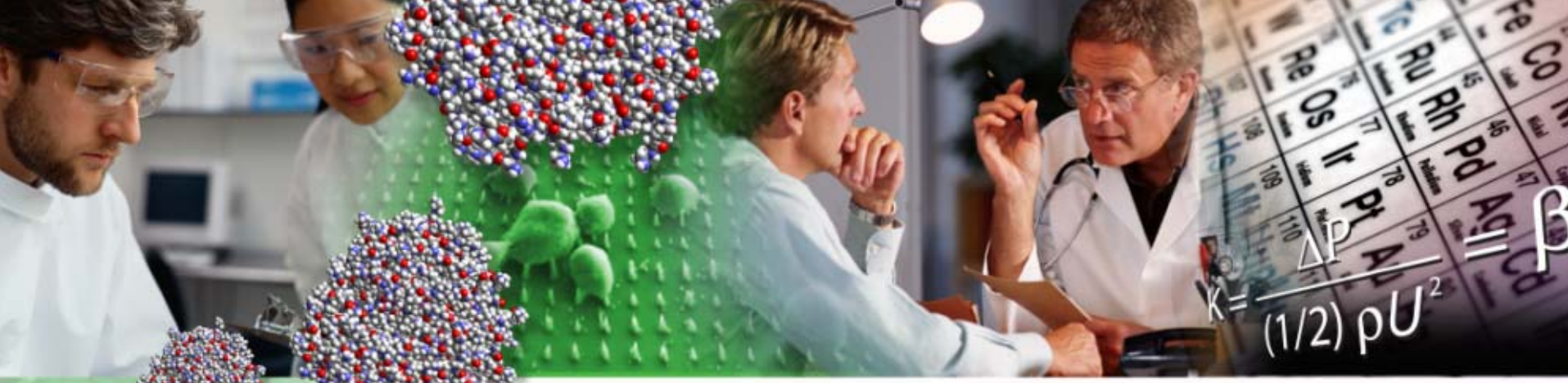


NCI Alliance for Nanotechnology in Cancer

Nanotechnology and Cancer Research: Technical and Clinical Perspectives

Scientific Roundtable | September 13, 2004

Mauro Ferrari, Ph.D.
Special Expert on Nanotechnology, NCI
Professor, The Ohio State University

Nanotechnology is already in the clinic!

NCI Alliance for Nanotechnology in Cancer

- Liposomes
- DNA chips
- Proteomic nanotechnology
- Imaging contrast agents

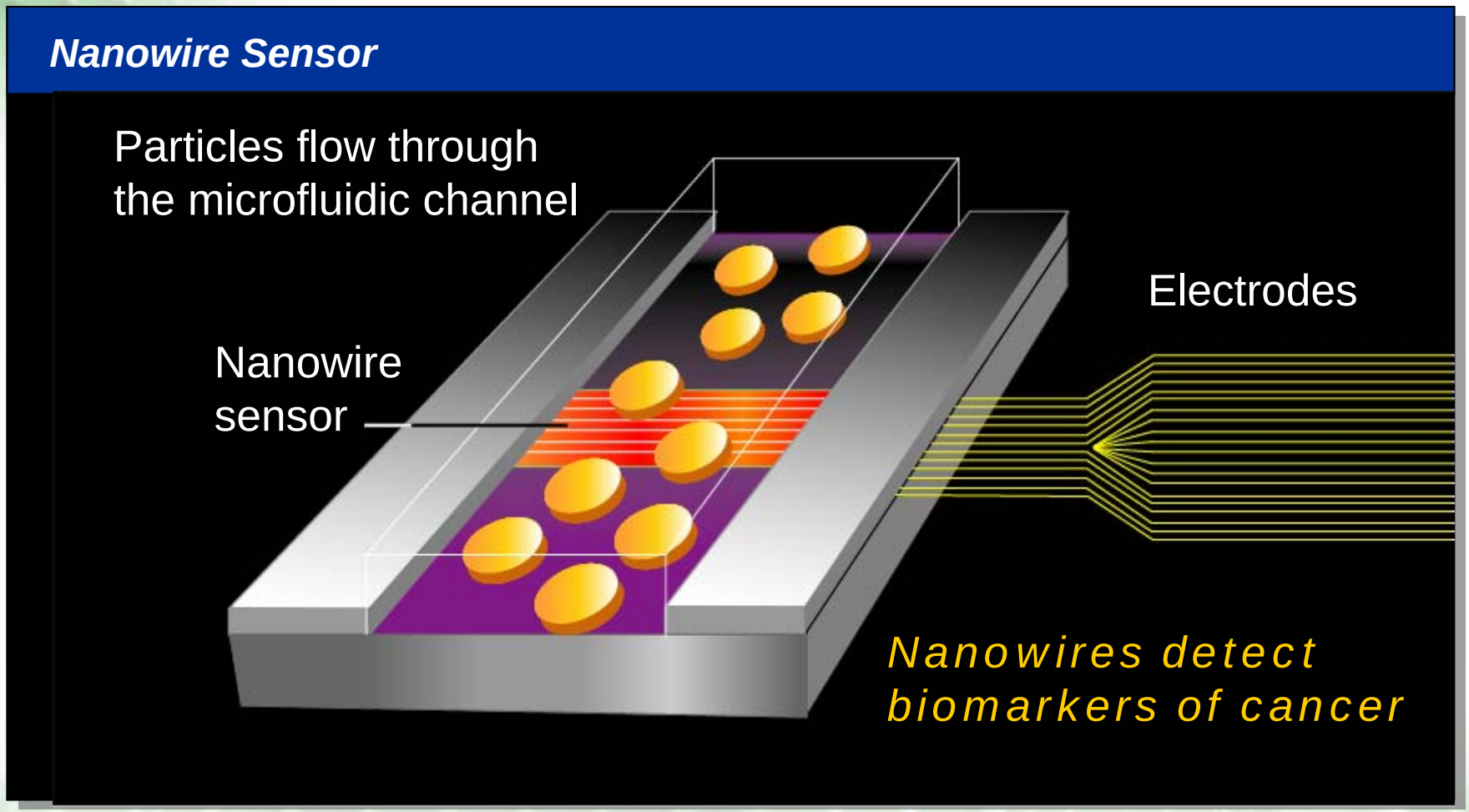
Nanotech capabilities are applicable to cancer research and clinical needs

NCI Alliance for Nanotechnology in Cancer

- Identify the signs of disease early
- Visualize the development of the disease
- Capture early signals of drug efficacy
- Deliver improved cancer therapy
  - Increased therapeutic effectiveness
  - Reduced side effects
  - Personalized medicine
- Improve quality of life

Nanotechnology enables early detection of cancer

NCI Alliance for Nanotechnology in Cancer



Jim Heath, California Institute of Technology

Nanotech detects multiple molecular signatures

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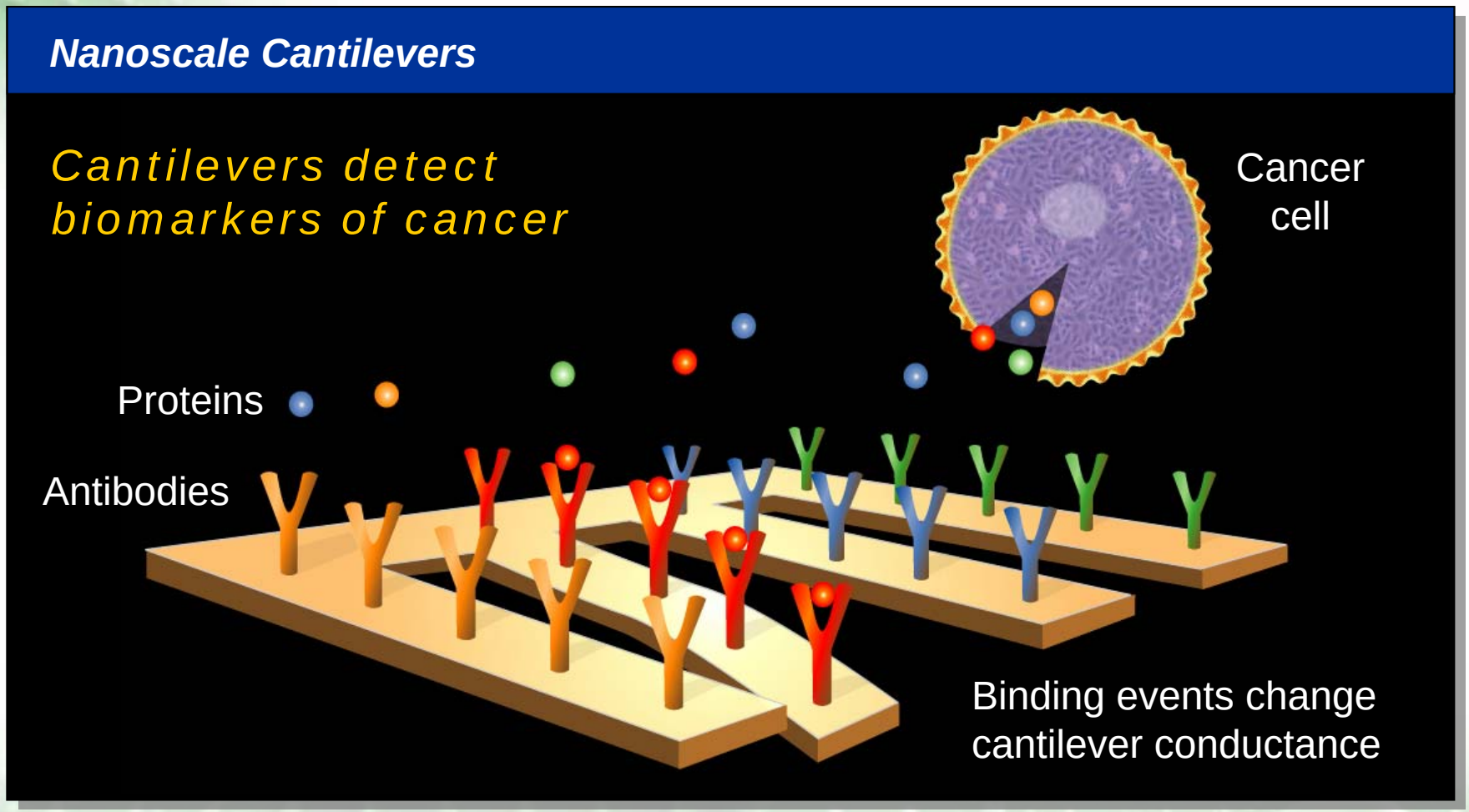

Arun Majumdar, University of California at Berkeley

Nanotech allows visualization of cancer lesions and monitoring of therapeutic response

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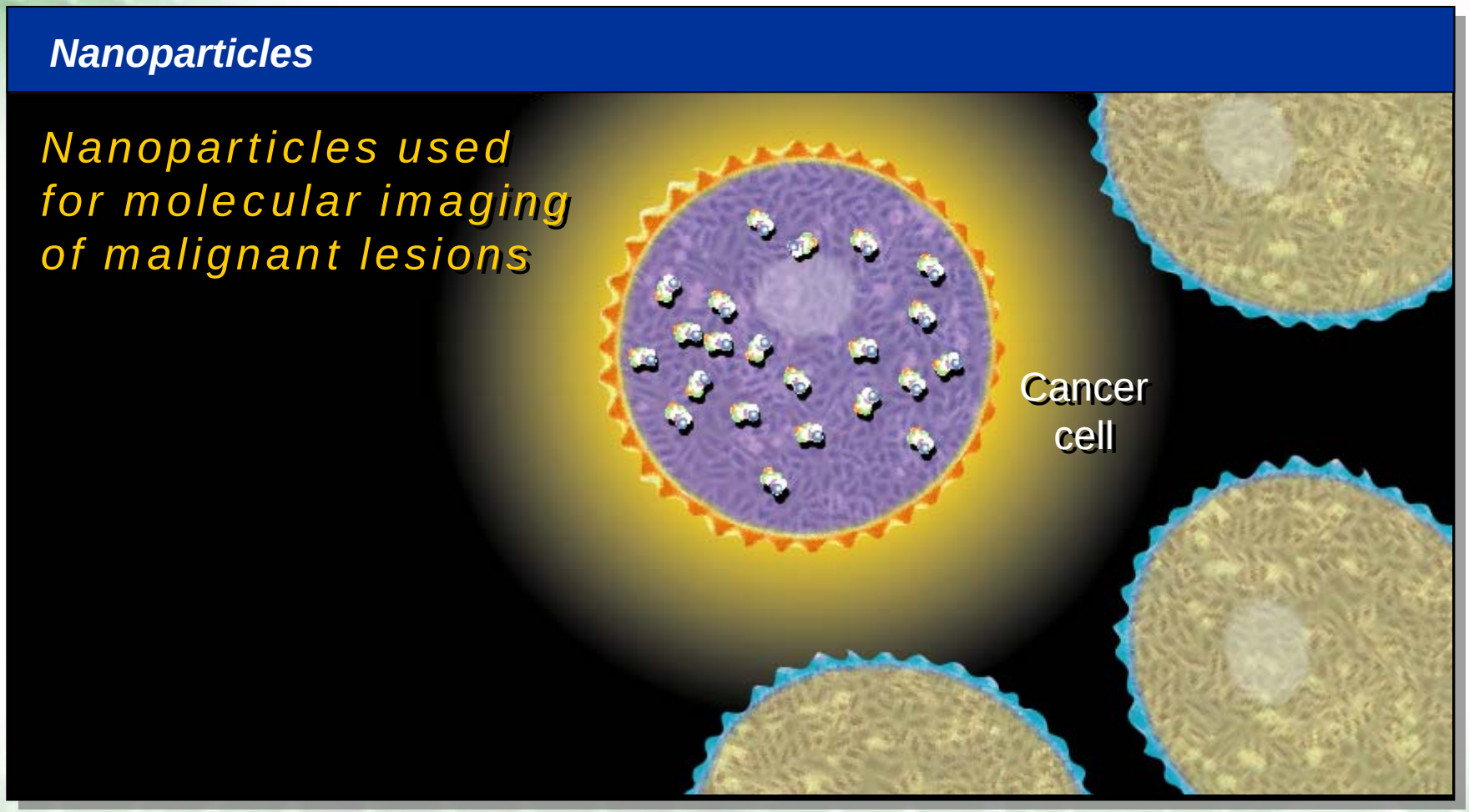

Ed Neuwelt, Oregon Health Sciences University

Nanotech enables targeted delivery of therapeutics

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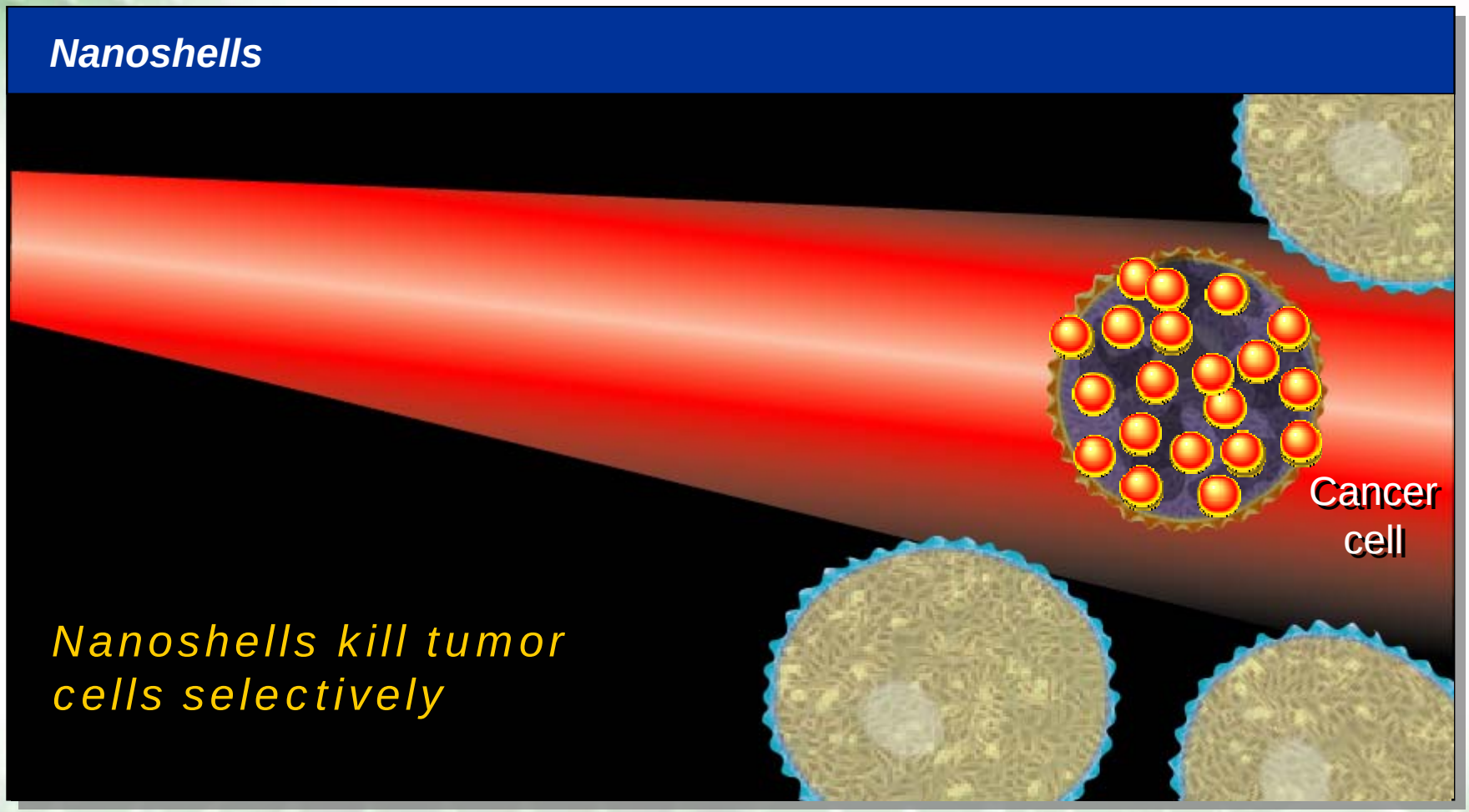

Jennifer West, Rice University

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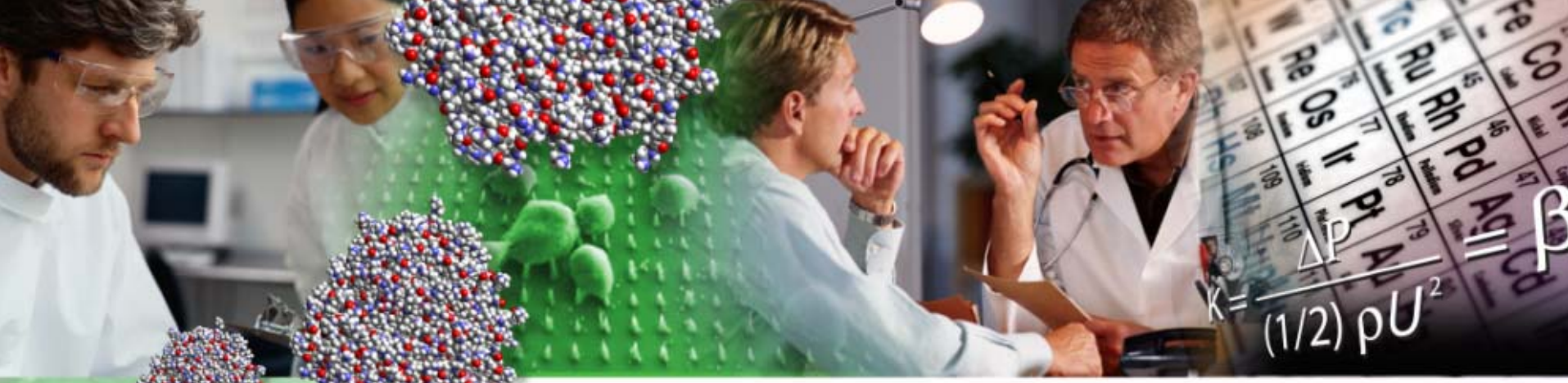
Keys to Success in Cancer Nanotechnology

NCI Alliance for Nanotechnology in Cancer

- Focus on solving significant problems in cancer
- Translate technologies for clinical application
- Establish interdisciplinary, problem-solving teams
- Conduct cross-disciplinary education and training
- Identify opportunities for integration with private sector
- Consider regulatory issues in the context of clinical development
- Develop consensus on technology standardization



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