Curriculum Vitae

Last name, First name: Monteiro-Riviere, Nancy **Gender**: **female**

Nationality: **USA**

Overall Scientific Expertise:

My primary area of expertise is in ultrastructural toxicology of the skin. I have focused on drug, chemical and nanomaterial skin absorption and toxicity. I have studied the safety efficacy of both active and passive transdermal drug delivery systems. These studies have employed in vitro cell culture, diffusion cell skin models obtained from human and various laboratory animals, and in vivo models. Recently, I have focused and defined the field of nanotoxicology of the skin.

Professional Experience

Years employed from – to	Title of position	Employer – name and location	Areas of professional specialisation
Aug. 2012-	Regents Distinguished & University Distinguished Professor of Toxicology Director, of the Nanotechnology Innovation Center of Kansas State (NICKS)	Kansas State University, Manhattan, Kansas, USA	Nanotoxicology, Dermal Absorption and Toxicity, in vitro and in vivo models, biomedical engineering,
July 1995- July 2012	Professor of Investigative Dermatology and Toxicology, Center for Chemical Toxicology Research	Department of Clinical Sciences, North Carolina State University, Raleigh, North Carolina, USA	Nanotoxicology, dermatology, dermal toxicity and absorption in vitro and in vivo models, biomedical engineering,
Jan 1984- July 1995	Assistant- Associate- Professor of Dermatology &Toxicology, Center for Chemical Toxicology Research	North Carolina State University, Raleigh, North Carolina, USA	Dermatology, dermal toxicity and absorption

Educational Background

Year	Degree awarded	Educational Institution – name and location	Areas of educational specialisation
Post Doctoral Fellow	1982-1984	Chemical Industry Institute of Toxicology(CIIT),Research Triangle Park, NC	Toxicology
Ph.D.	1979-1981	Purdue University, West Lafayette, Indiana, USA	Anatomy and Cell Biology
M.S.	1976-1979	Purdue University, West Lafayette, Indiana, USA	Anatomy and Cell Biology
B.S.	1972-1976	Stonehill College, North Easton, Massachusetts USA	Biology

Memberships in Scientific Advisory Bodies/Committees/Panels:

- Health and Environmental Sciences Institute (HESI), International Life Sciences Institute (ILSI) Nanomaterial Safety Subcommittee (2004). Exposure Pathways.
- United States Environmental Protection Agency (EPA), Scientific Advisory Panel Federal Insecticide, Fungicide and Rodenticide Act, (FIFRA SAP, 2004). This panel serves as the primary scientific review mechanism that provides advice, information, and recommendations to the agency on pesticides and pesticide-related issues regarding the impact of regulatory actions on health and the environment. Consultation on Dermal Sensitization Issues for Exposures to Pesticides.
- National Institute of Environmental Health Sciences (NIEHS) Scientific Advisory Committee on Alternative Toxicological Methods (SACATM), Federal Committee that is advisory to the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM), and to the National Toxicology Program (NTP). This committee provides external scientific advice and advises on priorities and directives related to the development, validation, scientific review, and regulatory acceptance of new or revised toxicological test methods and on ways to foster communication and partnerships with interested parties. (July 2002- June 2007).
- 2nd Annual National Academies Keck Futures Initiative (NAKFI) - Designing Nanostructures at the Interface between Biomedical and Physical Systems. (September 2004) Selected as one of the top 100 researchers to discuss ideas related to Nanotechnology.
- National Institute of Environmental Health Sciences (NIEHS) Special Emphasis Superfund Basic Research and Training Program Panel Reviewer. (October 2004-2005).
- Developmental Approaches for Evaluation of Toxicological Interactions of Nanoscale Materials. Focus group on "Exposure Protocols". Focus group on "Issues Assessing Dermal Uptake and Toxicity of Nanoscale Materials". ILSI/HESI (November, 2004)
- 2nd Annual National Academies Keck Futures Initiative (NAKFI) Designing Nanostructures at the Interface between Biomedical and Physical Systems. Use of biological systems to build a factory to synthesize products. (November, 2004)
- United States Environmental Protection Agency (EPA) Advisory Panel (2004-2006)
- International Life Sciences Institute (ILSI)- Risk Sciences Institute Nanomaterial Toxicity Screening Working Group. Characterizing the potential human health effects from exposure to nanomaterials. (November 2004-June 2005) This generated a report from the ILSI Research Foundation/ Risk Science Institute *entitled "Principles for characterizing the potential human health effects from exposure to nanomaterials: elements of a screening strategy*. 2005
- National Institute of Health NIH, Bioengineering Res. Partnerships Special Emphasis Panel (2005)
- Woodrow Wilson International Center for Scholars Working Conference on Engineered Nanomaterials and Human Health. Panel Member on Emerging Nanotechnologies. (April, 2006)
- International Council on Nanotechnology (ICON)- International Nanomaterial Environmental Health and Safety (Nano EHS) Research Needs Assessment. Swiss Reinsurance Company Center Global Dialogue Council in Ruschlikon, Switzerland. (June 5-7, 2007)
- Health and Environmental Sciences Institute (HESI) Nanomaterial Environmental, Health, and Safety Project Committee. (November 7-8, 2007).
- The National Academies, National Research Council Committee for Review of the Federal Strategy to Address Environmental Health and Safety Research Needs for Engineered Nanoscale Materials. Washington, DC. (March 31- April 1, 2008)
- NATO Advanced Research Workshop on Nanomaterials: Environmental Risks and Benefits and Emerging Consumer Products, Human Health Risk Working Group, Faro, Portugal. (April 27-30, 2008)

- The National Academies, National Research Council Committee for Review of the Federal Strategy to Address Environmental, Health, and Safety Research Needs for Engineered Nanoscale Materials. Washington, DC. (May 5-6, 2008)
- International Life Science Institute (ILSI)- Health and Environmental Sciences Institute (HESI). Nanomaterial Environmental Health and Safety Project Committee. Washington, DC. (May 8, 2008)
- Seventh Framework Programme Theme- Nanosciences, Nanotechnologies, Materials and New Production Technologies. Collaborative Project US Panel Member, Swiss Reinsurance Company Center Global Dialogue Council in Ruschlikon, Zurich, Switzerland. (September 10-11, 2008).
- Indian-US Government -Science & Technology Forum (IUSSTF), Smithsonian Institution in Washington, DC. Expert Review Panel for Nanomaterial Applications in Science, Engineering and Medicine. (March, 2009).
- United States Environmental Protection Agency, Nanomaterial Case Studies Workshop: Nanoscale Titanium Dioxide in Water Treatment and in Topical Sunscreens. (September 29-30, 2009).
- Seventh Framework Programme Theme- Nanosciences, Nanotechnologies, Materials and New Production Technologies. Collaborative Project US Panel Member, NANOMMUNE, Hotel Skepparholmen, Stockholm, Sweden. (September 12-13, 2009).
- Invited Expert - 2009 National Nanotechnology Initiative (NNI). Workshop on Nanomaterials and Human Health & Instrumentation, Metrology, and Analytical Methods. Nanoscale Science, Engineering, and Technology Subcommittee of the National Science and Technology Council Executive Office of the President, Arlington, VA. Session Chair (November 17-18, 2009).
- Seventh Framework Programme - Nanosciences, Nanotechnologies, Materials & New Production Technologies. Collaborative Project US Panel Member, NANOMMUNE, Karolinska Institutet, (June 14-17, 2011).
- ILSI Europe Task Force-Expert Work Group-COSMOS to support application of Thresholds of Toxicological Concerns (TTC) approach to cosmetics ingredients and the European Commission Project "Integrated *In Silico* Models for the Prediction of Human repeated Dose Toxicity of COSMetics to Optimise Safety (COSMOS) - Expert Group 2- On Evaluation of oral-to-dermal extrapolation. (September, December, 2011, November 2012).
- National Science Foundation Nano Workshop on The Safety Aspects of Nanosystems and Infrastructure for Sustainability, Orlando, Florida, December 8-9, 2011.
- Elected to the Board of Directors, The Academy of Toxicological Sciences, March 2012

Memberships in Learned Societies:

- American College of Toxicology (ACT) 2006-
- American Society of Nanomedicine (ASNM) 2009
- Elected as a Fellow-The Academy of Toxicological Sciences (ATS) 2004; recertified 2010
- Elected to the Board of Directors, The Academy of Toxicological Sciences (ATS), 2012
- Society for Investigative Dermatology (SID) 1991-
- Society of Toxicology (SOT) 1986-
- Society of Toxicologic Pathologists (STP) 1987-2012
- American Association of Pharmaceutical Scientists (AAPS)
- American Association of Veterinary Anatomists (AAVA) 1980-
- Federation of Am. Societies- Experimental Biology (FASEB)[Am. Assoc. of Anatomists (AAA)1980-
- American Chemical Society (ACS)
- World Association of Veterinary Anatomists (WAVA) 1980-

- American College of Forensic Examiners (ACFE), Lifetime Fellow
- Sigma Xi Scientific Research Society 1981-
- North Carolina Society of Toxicology (NCSOT) 1982-2012
- Central States Society of Toxicology 2012-
- NCSU Phi Zeta, Psi Chapter National Veterinary Medicine Honor Society, 2001
- KSU Phi Zeta, Sigma Chapter National Veterinary Medicine Honor Society, 2013

Memberships in Editorial Boards:

- Chair, National Society of Toxicology, Board of Publications for Toxicological Sciences (2006-2007)
- National Society of Toxicology, Board of Publications (2003-2007)
- Associate Editor-Interdisciplinary Reviews- WIREs in Nanomedicine and Nanobiotechnology (2005-2008 planning stages), 2008- present.
- Assoc. Editor-Materials Science and Engineering C: Materials for Biological Appl. (2007-present)
- Editorial Board for Nanomedicine (2010-present)
- Editorial Board for Nanotoxicology (2009-present)
- Editorial Board for the Journal of Applied Toxicology (2000-present)
- Editorial Board for Cutaneous and Ocular Toxicology (2001-present)
- Editorial Board for Research and Reports in Transdermal Drug Delivery (2011-present)
- Editorial Board for Toxicology in Vitro (2003-present)
- Editorial Board for Toxicology Mechanisms and Methods (2002-2011)
- Editorial Board for Fundamental and Applied Toxicology (1992-1998)
- Editorial Board for Toxicological Sciences (1998-2000)
- Editorial Board for Toxicology Methods (1997-2001)

List of Publications:

Selected from the last five years from 275 publications

Zhang LW, Yu WW, Colvin VL, **Monteiro-Riviere** NA: Biological Interactions of quantum dot nanoparticles in skin and in human epidermal keratinocytes. *Toxicology and Applied Pharmacology* 228:200-211, 2008. ***Certificate of Recognition- Elsevier's Top 10 Cited Articles on Scopus 2007-2008. (Listed as Elsevier's Toxicology Most Cited papers since 2007- January 2012)***

Monteiro-Riviere NA, Inman AO, Zhang LW. Limitations and relative utility of screening assays to assess engineered nanoparticle toxicity in a human cell line. *Toxicology and Applied Pharmacology* 234: 222-235, 2009. ***(Listed as Elsevier's Toxicology Most Cited papers since 2007- in January 2012)***

Monteiro-Riviere NA and Riviere JE. Interaction of nanomaterials with skin: Aspects of absorption and biodistribution. *Nanotoxicology* 3(3):188-193, 2009.

Zhang LW, **Monteiro-Riviere NA.** Mechanisms of quantum dot nanoparticle cellular uptake. *Toxicological Sciences* 110: 138-155, 2009.

Samberg ME, Oldenburg SJ**, Monteiro-Riviere NA**. Evaluation of silver nanoparticle toxicity in skin in vivo and keratinocytes in vitro. *Environmental Health Perspectives* 118, 407-413, 2010.

Xia XR, **Monteiro-Riviere NA**, Riviere JE: An index for characterization of nanomaterials in biological systems. *Nature Nanotechnology* 5: 671-675, 2010.

Monteiro-Riviere NA, Wiench K, Landsiedel R, Schulte S, Inman AO, Riviere JE. Safety evaluation of sunscreen formulations containing titanium dioxide and zinc oxide nanoparticles in UVB sunburned skin: an in vitro and in vivo study. *Toxicological Sciences* 123 (1) 264-280, 2011.