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CURRICULUM VITAE

AGNES B. KANE

PERSONAL DATA

Business Address: Department of Pathology and Laboratory Medicine, Brown University, Box G-E534, Providence, Rhode Island 02912
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EDUCATION

B.A.	Swarthmore College, Zoology	1968
M.D.	Temple University School of Medicine	1974
Ph.D.	Temple University School of Medicine, Experimental Pathology	1976

PROFESSIONAL APPOINTMENTS

1996-2017	Chair, Department of Pathology & Laboratory Medicine, Brown University, Providence, RI
1995-present	Professor, Department of Pathology & Laboratory Medicine, Brown University, Providence, RI
1992-present	Director, Training Program in Environmental Pathology, Brown University, Providence, RI
1987-95	Associate Professor, Department of Pathology & Laboratory Medicine, Brown University, Providence, RI
1982-87	Assistant Professor, Department of Pathology & Laboratory Medicine, Brown University, Providence, RI
1979-82	Staff Pathologist, Temple University Hospital, Philadelphia, PA
1977-82	Assistant Professor, Department of Pathology and Fels Research Institute, Temple University School of Medicine, Philadelphia, PA
1977-78	Resident in Anatomic Pathology, Temple University Hospital
1976-77	Postdoctoral Fellowship, National Research Service Award under Dr. Nils R. Ringertz, Medical Cell Genetics, Karolinska Institute, Stockholm, Sweden
1975-76	Resident in Anatomic Pathology, Temple University Hospital

SPECIALTY BOARD CERTIFICATION

1979 Anatomic Pathology

PROFESSIONAL LICENSES

Pennsylvania, Rhode Island (inactive)

HONORS AND AWARDS

Graduated with Distinction, Swarthmore College, 1968
Phi Beta Kappa, 1968; Sigma Xi Research Society, 1968
General Motors Scholarship, Swarthmore College, 1965-68
University Fellow of Temple University, 1971-73
Lucretia Mott Graduate Fellowship, 1969-71
Research Career Development Award, National Institutes of Health, 1981-86
Distinguished Teaching Award, Brown University Medical School Graduating Class, 1986, 1987
Mary Putnam-Jacobi Award, Brown University Women in Medicine, 1986
Senior Citation, Brown University Medical School Graduating Class, 1988
Honorary Citation, Brown University Association of Women Medical Faculty and the Office of Women in Medicine, 1996
Burroughs Welcome Visiting Professorship in the Basic Medical Sciences, 1998
Temple University School of Medicine Alumni Achievement Award, 1999
Dean's Excellence in Teaching Award, Brown Medical School, 2001, 2003- 2010
De Trana Endowed Lectureship in Pathology, University of Illinois Medical School, 2004
Brown University and Women & Infants' Hospital National Center of Excellence in Women's Health, Outstanding Faculty Mentor Award, 2008
Fellow, American Association for the Advancement of Science, 2011
Certificate of Recognition for Exemplary Teaching in General Pathology, 2016

PROFESSIONAL SOCIETIES

American Society for Investigative Pathology: Women's Committee (1987-93); Chair (1990-93) Program Committee (1990-96); Meritorious Awards Committee (1996); Council (1997-00); Publications Committee (1997-00)
FASEB Women's Excellence in Science Award Committee (1991-93)
FASEB Experimental Biology Cell Injury Theme Committee: Chair (1991-93)
International Academy of Pathology
American Association for the Advancement of Science
Rhode Island Society of Pathologists
American Chemical Society

OTHER PROFESSIONAL ACTIVITIES

1982-85	Member of the editorial board of Cell Biology International Reports
1982-present	Reviewer for Experimental Cell Research, Laboratory Investigation, Journal of Cellular Physiology, American Journal of Pathology, Science, The FASEB Journal, Cancer Research, American Journal of Respiratory Cell and Molecular Biology, Experimental Lung Research, Toxicology Applied Pharmacology, Environmental Health Perspectives, Chemical Research in Toxicology
1984	Member of Task Force III for National Institute of Environmental Health Sciences: Molecular and Cellular Mechanisms of Environmental Injury
1984-88	Member of Medical Research Service Merit Review Board for Basic Sciences: Veterans Administration
1988-92	Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences
1991	Organizer and Moderator for the Workshop on *Grantsmanship in Competitive Times* sponsored by the AAP Women's Committee at the Annual Meeting of FASEB in Atlanta, GA on April 24, 1991

1990-91	Organizing Committee for the Workshop on *Approaches to Evaluating Toxicity and Carcinogenicity of Man-Made Fibers* held in Durham, NC on November 11-13, 1991
1991	Panelist for the Academic Advancement Breakfast, Association of Women Medical Faculty, Brown University
1991	Moderator for *Women's Health Care Issues Discussed by Women Researchers,* Women in Medicine, Brown University
1991, 1994	Ad Hoc Reviewer, Health Effects Institute
1992	Organizer and Moderator for the Workshop on *Combining Research and Practice in Pathology,* sponsored by the AAP Women's Committee at the Annual Meeting of FASEB in Anaheim, CA on April 8, 1992
1992-96	Associate Editor, The American Journal of Pathology
1992, 1994	Ad Hoc Reviewer, American Cancer Society, Carcinogenesis and Nutrition Study Section
1992	Invited Participant in the Workshop on *Women in Biomedical Careers: Dynamics of Change* sponsored by the Office of Research on Women's Health, National Institutes of Health in Bethesda, MD on June 11-12, 1992
1993-95	Research Review Committee, Bureau of Mines
1993	Organizer for the Workshop on *Research Opportunities in Women's Health*, sponsored by the ASIP Women's Committee at the Annual Meeting of FASEB in New Orleans, LA on March 31, 1993
1993	Organizer and Moderator for the *Faculty Development Workshop for Women Medical Faculty, Residents and Fellows* sponsored by the Office for Women in Medicine and the Association of Women Medical Faculty, Brown University
1993	Ad Hoc Member, Task Force on Medical Schools, American Association of University Professors
1993-96	Mine Health Research Advisory Committee, National Institute for Occupational Safety and Health
1994	Invited Participant in a Workshop on *International Cooperative Research on the Assessment of Toxicology of Man Made Fibers* sponsored by the French Ministries of Health, Labor, Environmental and Industry in Paris, France on September 14, 1994
1995	Scientific Advisor to the International Agency for Research on Cancer, World Health Organization, Lyon, France: January 1-20 and March 5-April 5, 1995
1995	Lecturer on Cell Injury in *Pathobiology for Basic Scientists* sponsored by the American Society for Investigative Pathology in Atlanta, GA on April 9, 1995
1996-99	External Review Committee for the Environmental Health Science Center,

University of Rochester, January 22-23, 1996 and April 21-22, 1999

1996 Co-Chair with Dr. Rudolpho Saracci: Workshop on Mechanisms of Mineral Fiber Carcinogenesis, International Agency for Research on Cancer, World Health Organization, Lyon, France, January 9-11, 1996

1996 Vice-Chair, IARC Working Group on Silica, Some Silicates, Coal Dust and *para*-Aramid Fibrils, International Agency for Research on Cancer, World Health Organization, Lyon, France, October 15-22, 1996

1996-04 Member of the editorial board of Toxicology and Applied Pharmacology, The American Journal of Pathology

1997 Invited Participant in a Workshop on *Non-Animal Tests for Evaluation of the Toxicity of Solid Xenobiotics* sponsored by the JRC Environment Institute of the European Commission in Angera, Italy on October 23-31, 1997.

1998 Chair, Symposium on *Molecular Genetics and Gene Therapy of Human Malignant Mesothelioma* at the 87th Annual Meeting of the United States and Canadian Academy of Pathology in Boston, March 1, 1998

1998 Guest Speaker and Judge for Student Awards at the First Annual Laboratory Medicine and Pathobiology Research Day, University of Toronto, Canada, March 18, 1998

1998 Invited Participant in a Workshop on *Relevance of the Rat Lung Response to Particle Overload for Human Risk Assessment* sponsored by the International Life Sciences Institute, Washington, DC, March 23-24, 1998

1998-99 Invited Participant, Subcommittee on Manufactured Vitreous Fibers, Committee on Toxicology, National Academy of Sciences/National Research Council

1999 Invited Participant, IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, vol. 74: Foreign Bodies, Surgical Implants and Prosthetic Devices, International Agency for Research on Cancer, World Health Organization, Lyon, France, February 2-March 2, 1999

1999 Invited Participant, MMMF Conference, Vienna, Austria, June 9-11, 1999

2000 Chair, NIOSH Review Committee on *Effects of Mixed Dusts on Pulmonary Inflammation, Airway Reactivity and Susceptibility of Pulmonary Infection*, Alexandria, VA, July 26, 2000

2001 Chair, IARC Working Group on Man-Made Vitreous Fibres, Vol. 81, International Agency for Research on Cancer, World Health Organization, Lyon, France, October 8-16, 2001

2002 Invited Speaker, New Directions and Needs in Asbestos Research, National Institute of Environmental Health Sciences, University of Montana – Missoula, MT, June 24-25, 2002.

2002	Co-Chair, Plenary Session 1: How does a mesothelial cell become cancerous? 6th Meeting of the International Mesothelioma Interest Group, Perth, Western Australia, December 1-4, 2002
2003	Invited Participant, Workshop on Genetically Modified Rodent Models for Cancer Hazard Identification, National Toxicology Program, Washington, DC, February 21, 2003
2003	Invited Participant, Working Group on Testing of Fibrous Particles: Short-term Assays, ILSI Risk Science Institute and U.S. Environmental Protection Agency, Washington, DC, March 6-7, 2003.
2004-10	Member of the editorial board of Laboratory Investigation
2003-07	Member of the Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences
2004	External Reviewer, Graduate Program in Laboratory Medicine and Pathobiology, University of Toronto, Canada, April 29-30, 2004
2004	Invited Participant, Developmental Approaches for Evaluation of Toxicological Interactions of Nanoscale Materials, US EPA, NTP, NIOSH, NSF, Gainesville, FL, November 2-4, 2004.
2005	Guest editor, Carbon.
2005-present	Member of the editorial board of The International Journal of Nanomedicine.
2005	Phase I and Phase II Reviewer for Superfund Basic Research Program Grants, October 17-20, 2005.
2005-06	Member, Committee on Asbestos: Selected Health Effects, Institute of Medicine.
2006-12	Member of the U.S. Environmental Protection Agency Science Advisory Board.
2007-08	Chair, IARC Working Group on Burden of Cancer Caused by Asbestos, World Health Organization.
2007	Invited Participant, International Council on Nanotechnology (ICON) Panel to establish priorities for nanotechnology research, Zurich, Switzerland, June 5-7, 2007.
2006	NanoBusiness Alliance Public Policy Tour, Washington, D.C., January 30-31, 2007.
2008	Co-Chair and Organizer, Symposium on Environmental and Human Health Impacts of Nanomaterials, 236th National Meeting of the American chemical Society, Philadelphia, Pennsylvania, August 20, 2008.

2008-present	Member of the editorial board of Particle Fibre Toxicology.
2008-present	Member of the editorial board of Chemical Research in Toxicology.
2008	Invited Speaker, Symposium on Present and Future Directions in Nanotechnology, AAAS Annual Meeting, Chicago, February 12-16, 2009.
2009	Member, Workshop on Asbestos MOA, NIEHS, North Carolina, December 16-17, 2009.
2010	Invited Speaker and Session Chair, International Conference on Biomedical and Environmental Sciences & Technology, Beijing, China, May 9-12, 2010.
2011	Invited Participant, Gordon Research Conference on Environmental Nanotechnology, Waterville Valley, NH, May 29- June 3, 2011.
2011	Invited Participant, NSF Workshop on Nanomaterials and the Environment: The Chemistry and Materials Perspective, Arlington, VA, June 27-29, 2011.
2011	Invited Participant, Nano Carb11: Carbon Nanotubes and Related Materials-From Physico-Chemical Properties to Biological and Environmental Effects, Acquafredda di Maratea, Italy, September 6-11, 2011.
2011	Invited Speaker and Session Chair, Libby Amphibole Research Symposium, October 13-15, 2011.
2012	Chair, Peer Review of Draft IRIS Assessment of Libby Amphibole Asbestos, U.S. EPA.
2012	Invited Speaker, Environmental Health and Technology, STEM Symposium for Underrepresented Minority Students, University of Pennsylvania, October 12-13, 2012.
2013	External Advisory Committee, UCLA Center for Environmental Implications of Nanomaterials.
2013-16	Invited Participant, UCLA-CEIN Workshop on Alternative Testing Strategies for Carbon Nanotubers, January 16-17, 2013.
2014	Keynote Speaker, International Conference on Monitoring and Surveillance of Asbestos-Related Diseases 2014, Finnish Institute of Occupational Health, Helsinki, Finland, February 11-13, 2014.
2014	Invited Participant, Categorization Strategies for Engineered Nanomaterials in a Regulatory Context, Woodrow Wilson Center, Washington, D.C., May 19-20, 2014.
2014	Oil Spill Science Seminar for Journalists, Metcalf Institute for Marine and Environmental Reporting, January 27-29, 2014

2014 Keynote Speaker, International Conference on Monitoring and Surveillance of Asbestos-Related Disease 2014, Finnish Institute of Occupational Health, Helsinki, Finland, February 11-13, 2014

2014 Invited Participant, Categorization Strategies for Engineered Nanomaterials in a Regulatory Context, Woodrow Wilson Center, Washington, D.C., May 19-20, 2014

2014 Instructor on Environmental Health and Safety of Engineered Nanomaterials at an Eagleson Institute Occupational Health Colloquium, Providence, R.I., June 8-9, 2014

2014 Chair, International Agency for Research on Cancer, World Health Organization, Evaluation of the Carcinogenicity of Fluoro-edenite Asbestos, Silicon Carbide Fibers and Whiskers, and Carbon Nanotubes, Lyon, France, September 30-October 7, 2014

2014 Invited Speaker and Participant, National Science Foundation, Workshop on NanoEHS: Fundamental Science Needs, Boston, M.A., November 1, 2014

2016 Invited Speaker, Nanomat 2-D Materials Workshop, Dubendorf, Switzerland, March 21-23, 2016

2017 Invited Speakers, The Monticello Conference on Elongated Mineral Particles, Monticello, Virginia, October 16-20, 2017.

UNIVERSITY ACTIVITIES

Freshman Academic Advisor (1983-85)
Medical Admissions Committee (1982-85)
M.D.-Ph.D. Program, Co-Director (1988-89)
Committee on the Status of Women (1983-85)
Reviewer for ACS Institutional Grant (1983-90)
Faculty Advisor for Women in Medicine (1983-present)
Summer Research Assistantship Committee (1986)
R.I. - Brown Science Collaborative (1985-86)
Co-Founder of the Association of Women Medical Faculty of Brown University (1986); Faculty Coordinator (1986-93)
Chair, Admissions Committee for the Graduate Program in Molecular Biology, Cell Biology and Biochemistry (1986-87)
Committee on Faculty Reappointment and Tenure (1987-89)
Affirmative Action Monitoring Committee (1991-92)
Member of the Board of Environmental Studies (1991-97)
Steering Committee, Postdoctoral Research Training Program in Pathophysiology of Pulmonary Disease (1988-94)
Search Committee for the Dean of Medicine and Biological Sciences (1991-92)
Medical School Curriculum Committee (1991-93)
Program Director, Training Grant in Environmental Pathology (NIH T32 ES 07272, 1992-present)
Chair, Medical School Mission Statement Committee (1994)
Steering Committee, M.D., Ph.D. Program (1994-present)
Wriston Grant Selection Committee (1994)
Campus Advisory Committee, Search for the President of Brown University (1997)
Faculty Seminar: The Scholarship of Teaching, Sheridan Center (1999)

Advisory Board: Office of Women in Medicine (2003-present)
Translational Research Committee, RIH COBRE Center for Cancer Research Development (2003 –2007)
Research Advisory Board, Brown University (2004-2008)
Brown – Lifespan Oncology Council (2008 – 2009)
Leader, Nanohealth Working Group for Institute for Molecular and Nanoscale Innovation
Director, Training Core for Superfund Research Program (2005-present)
Co-Director, GAANN Training Grant: Interdisciplinary Training in Applications and Implications of Nanotechnology, Department of Education (2009-present)
Member, Search Committee for Chair of Obstetrics and Gynecology (2012)
Member, Strategic Planning Committee on Re-imagining the Brown Campus (2012-2013)
Strategic Planning Partner, School of Public Health (2014)
IBES Faculty Fellow and Leader, Human Health and Wellbeing Theme (2015 – present)

COMMUNITY SERVICE

Scientific Consultant for the Rhode Island Commission for Safety and Occupational Health (1986-present)

Commission to Identify Occupational Diseases which Pose a Major Health Threat to Workers in Rhode Island (1987-90)

PUBLICATIONS

1. **Kane A**, Basilico C and Baserga R: Transcriptional activity and chromatin structural changes in a temperature-sensitive mutant of BHK cells blocked in early G_1. *Exp. Cell Res.* 94 165-173 (1976).

2. Rossini M, **Kane A** and Baserga R: Nuclear control of cell proliferation pp 177-190 **In**: Drewinko B. and Humphrey RG eds., Growth Kinetics and Biochemical Regulation of Normal and Malignant Cells. *Williams and Wilkins Co., Baltimore*, 1977.

3. Ringertz NR, Bols N, Ege T, **Kane A**, Krondahl U, Linder S and Shelton K: Reconstruction of viable cells from cell fragments, pp 444-488, **In**: Brinkley BR and Porter KR eds., *International Cell Biology* 1976-1977, *Rockefeller University Press, New York*, 1977.

4. Bols NC, **Kane AB** and Ringertz NR: Restoration of metabolic cooperation in heterokaryons between HGPRT-deficient mouse A9 fibroblasts and chick embryo erythrocytes. *Somatic Cell Genetics* 5: 1045-1059 (1979).

5. Schanne FAX, **Kane AB**, Young EE and Farber JL: Calcium dependence of toxic liver cell death: A final common pathway. *Science* 206: 700-702 (1979).

6. **Kane AB** and Bols NC: A study of metabolic cooperation with rat peritoneal macrophages. *J. Cell. Physiol.* 102: 385-393 (1980).

7. **Kane AB**, Young EE, Schanne FAX and Farber JL: Calcium dependence of phalloidin-induced liver cell death. *Proc. Natl. Acad. Sci., USA* 77: 1177-1180 (1980).

8. **Kane AB**, Stanton RP, Raymond EG, Dobson ME, Knafelc ME and Farber JL: Dissociation of intracellular lysosomal rupture from the cell death due to silica. *J. Cell Biology* 87: 643-651 (1980).

9. Russo MA, **Kane AB** and Farber JL: Ultrastructural pathology of phalloidin-intoxicated hepatocytes in the presence or absence of extra-cellular calcium. *Am. J. Path.* 109: 133-144 (1982).

10. Abrams WR, Diamond LW and **Kane AB**: A flow cytometric assay of neutrophil degranulation. *J. Histochem. Cytochem.* 31: 737-744 (1983).

11. Idell S, Meltzer M, Knafelc E, **Kane A**, Meyers AR and Berney S: Primary systemic amyloidosis with a retroperitoneal mass. *Clin. Exp. Rheum.* 2: 181-184 (1984).

12. **Kane AB**, Petrovitch DR, Stern RO and Farber JL: ATP depletion and the loss of cell integrity in anoxic hepatocytes and silica-treated $P388D_1$ macrophages. *Am. J. Physiol* 249: C256-C266 (1985).

13. Macdonald JL and **Kane AB**: Identification of asbestos fibers within single cells. *Lab. Invest.* 55: 177-185 (1986).

14. Goodglick LA and **Kane AB**: The role of reactive oxygen metabolites in crocidolite asbestos toxicity to macrophages. *Cancer Res.* 46: 5558-5566 (1986).

15. Moalli PA, Macdonald JL, Goodglick LA and **Kane AB**: Acute injury and regeneration of the mesothelium in response to asbestos fibers. *Am. J. Path.* 128: 426-445 (1987).

16. Dobson ME, Stern RO and **Kane AB**: Selective purine release from $P388D_1$ macrophages injured by silica. *J. Cell Physiol.* 135: 244-252 (1988).

17. Branchaud RM, Macdonald JL and **Kane AB**: Induction of angiogenesis by intraperitoneal injection of asbestos fibers. *The FASEB J.* 3: 1747-1752 (1989).

18. Goodglick LA, Pietras LA and **Kane AB**: Evaluation of the causal relationship between crocidolite asbestos-induced lipid peroxidation and toxicity to macrophages. *Am. Rev. Resp. Dis.* 139: 1265-1273 (1989).

19. Gleva GF, Goodglick LA and **Kane AB**: Altered calcium homeostasis in irreversibly-injured $P388D_1$ macrophages. *Am. J. Path.* 137: 43-58 (1990).

20. Goodglick LA and **Kane AB**: Cytotoxicity of long and short crocidolite asbestos fibers in vitro and in vivo. *Cancer Res.* 50: 5153-5163 (1990).

21. McClellan RO, Miller FJ, Hesterberg TN, Warheit DB, Bunn WB, Dement JM, **Kane AB,** Lippman M, Mast RW, McConnell EE and Reinhardt CF: Approaches to evaluating the toxicity and carcinogenicity of man-made fibers. *Regulatory Toxicology and Pharmacology* 16: 321-364 (1992).

22. Macdonald JL and **Kane AB**: Regulation of mesothelial cell proliferation by the extracellular matrix *in vivo*. *Eur. Resp. Rev.* 3: 123-125 (1993).

23. Cora EM and **Kane AB:** Alterations in a tumor suppressor gene, p53, in mouse mesotheliomas induced by crocidolite asbestos. *Eur. Resp. Rev.* 3: 148-150 (1993).

24. Branchaud RM, Garant LJ and **Kane AB**: Pathogenesis of mesothelial reactions to asbestos fibers: monocyte recruitment and macrophage activation. *Pathobiology* 61: 154-163 (1993).

25. Moyer VD, Cistulli CA, Vaslet CA and **Kane AB**: Oxygen radicals and asbestos carcinogenesis. *Environmental Health Persp*. 102:131-136 (1994).

26. Cistulli CA, Sorger T, Marsella JM, Vaslet CA and **Kane AB**: Spontaneous *p53* mutation in murine mesothelial cells: increased sensitivity to DNA damage induced by asbestos and ionizing radiation. *Toxicol. Appl. Pharmacol*. 141:264-271 (1996).

27. Marsella JM, Liu BL, Vaslet CA and **Kane AB**, Susceptibility of *p53*-deficient mice to induction of mesothelioma by crocidolite asbestos fibers. *Environ. Health Persp*. 105:1069-1072 (1997).

28. Goodglick LA, Vaslet CA, Messier NJ and **Kane AB**, Growth factor responses and protooncogene expression of murine mesothelial cell lines. *Toxicologic Pathology* 25:565-573 (1997).

29. Macdonald JL and **Kane AB**: Mesothelial cell proliferation and biopersistence of wollastonite and crocidolite asbestos fibers. *Fundam. Appl. Toxicol*. 38:173-183 (1997).

30. Yano N, Endoh M, Fadden K, Yamashita H, **Kane A**, Sakai H and Rifai A: Comprehensive gene expression profile of the adult human renal cortex: Analysis by cDNA array hybridization. *Kidney International* 57:1452-1459 (2000).

31. Yano N, Habib NA, Fadden KJ, Yamashita H, Mitry R, Jauregui H, **Kane A**, Endoh M and Rifai A: Profiling the adult human liver transcriptome: Analysis by cDNA array hybridization. *J Hepatology* 35:178-186 (2001).

32. Vaslet CA, Messier NJ and **Kane AB**: Accelerated progression of asbestos-induced mesotheliomas in heterozygous $p53^{+/-}$ mice. *Toxicol Sciences* 68:331-338 (2002).

33. Kellerman LC, Valeyrie L, Fernandez N, Opolon P, Sabourin J-C, Maube E, LeRoy P, **Kane AB**, Legrand A, Abina MA, Descamps V and Haddada H: Regression of AK7 malignant mesothelioma established in immunocompetent mice following intratumoral gene transfer of interferon gamma. *Cancer Gene Therapy* 10:481-490 (2003).

34. Yuan ZL, Guan YJ, Wang LJ, Wei W, **Kane AB** and Chin YE: Central role of the threonine residue within the p+1 loop of receptor tyrosine kinase in STAT3 constitutive phosphorylation in metastatic cancer cells. *Mol Cell Biol* 24: 9390-9400 (2004).

35. Altomare DA, Ramos-Nino ME, Xiao G-H, Wang HQ, Skele KL, DeRienzo AD, Mossman BT, **Kane AB** and Testa JR: The AKT/PKB pathway is frequently activated in human murine mesotheliomas and can be targeted to inhibit mesothelioma cell growth. *Oncogene* 24: 6080-6089 (2005).

36. Altomare DA, Vaslet CA, Skele KL, DeRienzo A, Devarajan K, Jhanwar SC, McClatchey AI, **Kane AB** and Testa JR: A mouse model recapitulating molecular features of human mesothelioma. *Cancer Res* 65:8090-8095 (2005).

37. **Kane AB**: Animal models of malignant mesothelioma. *Inhalation Toxicol*. 18: 1001-1004 (2006).

38. Hurt RH, Monthioux M and **Kane A**: Toxicology of carbon nanomaterials: Status, trends, and perspectives on the special issue. *Carbon* 44:1028-1033 (2006).

39. Yan A, Lau BW, Weissman BS, Külaots I, Yang NYC, **Kane AB** and Hurt RH: Biocompatible, hydrophilic, supramolecular carbon nanoparticles for cell delivery. *Advanced Materials* 18: 2373-2378 (2006).

40. Liu X., Gural V., Morris D., Murray, D., Zhitkovich A., **Kane AB**., Hurt R.H. Bioavailability of nickel in single-wall carbon nanotubes. *Advanced Materials* 19:2790-96, (2006).

41. Guo L., Liu X., Sanchez V., Vaslet C., **Kane AB.,** and Hurt RH: A window of opportunity: designing carbon nanomaterials for environmental safety and health. *Mater. Sci. Forum* 544/545:511-516 (2007).

42. Guo L., Morris DG., Liu X., Vaslet C., Hurt RH., **Kane AB**: Iron bioavailability and redox activity in diverse carbon nanotubes samples. *Chem. Mater.* 19: 3472-78 (2007).

43. Pietruska JR and **Kane AB**: SV40 oncoproteins enhance asbestos-induced DNA double-strand breaks and abrogate senescence in murine mesothelial cells. *Cancer Res.* 67: 3637-45 (2007).

44. Yan A, von dem Bussche, A, **Kane AB,** Hurt RH: Tocopheryl polyethylene glycol succinate as a safe, antioxidant surfactant for processing carbon nanotubes and fullerenes. *Carbon* 45: 2463-70 (2007).

45. Liu X, Guo L, Morris D, **Kane AB**, Hurt, RH: Targeted removal of bioavailable metal as a detoxification strategy for carbon nanotubes. Carbon 46: 489-500 (2008).

46. Miselis N, Wu Z, Van Rooijen N, **Kane AB**: Targeting tumor-associated macrophages in an orthotopic murine model of diffuse malignant mesotheliomas. *Mol. Cancer Ther.* 7: 788-799 (2008).

46. Guo L, von dem Bussche A, Buechner M, **Kane AB,** Hurt RH: Adsorption of essential micronutrients by carbon nanotubes and its implications for nanotoxicitiy testing. *Small* 4: 721-727 (2008).

47. **Kane AB** and Hurt RH: Nanotoxicology: The asbestos analogy revisited. *Nat. Nanotech.* 3: 378-379 (2008).

48. Hoover E, Brown P, Averick M, **Kane AB** and Hurt R: Teaching small and thinking large: Effects of including social and ethical implications in an interdisciplinary nanotechnology course**.** *J. of Nano Education* 1: 1-10 (2008).

49. Altomare DA, Menges CW, Pei J, Zhang L, Skele KL, Carbone M, **Kane AB** and Testa JR: Activated TNFα/NFκB pro-survival signaling via down regulation of fas-associated factor in asbestos-induced mesotheliomas from *arf* knock-out mice. *Proc. Natl. Acad. Sci. USA.* 106: 3420-3425 (2009).

50. Sanchez, VC, Pietruska JR, Miselis NR, Hurt RH, and **Kane AB**: Biopersistence and potential adverse health impacts of fibrous nanomaterials; what have we learned from asbestos? *Wiley Interdiscip Rev. Nanomed Nanobiotechnol* 1: 511-529 (2009).

51. Sarin L, Sanchez VC, Yan A, **Kane AB** and Hurt RH: Selenium-carbon bifunctional nanoparticles for the treatment of malignant mesothelioma. *Advanced Materials.* 10: 5207-5211 (2010).

52. Miselis NR, Lau, BW, Wu Z and **Kane AB**: Kinetics of host cell recruitment during dissemination of diffuse malignant peritoneal mesothelioma, *Cancer Microenvironment* DOI: 10.1007/s12307-010-0048-1 (2010).

53. Lau BW and **Kane AB**: SDF1/CXCL12 is involved in recruitment of stem-like progenitor cells to orthotopic murine malignant mesothelioma spheroids. *Anticancer Res.* 30: 2153-2160 (2010).

54. Pietruska JR, Johnston T, Zhitkovich A, **Kane AB**: XRCC1 deficiency sensitizes human lung epithelial cells to genotoxicity by crocidolite asbestos and Libby amphibole. *Environ. Health Perspect.*118:1707-1713 (2010).

55. Liu X, Hurt RH, **Kane AB**: Biodurability of single-walled carbon nanotubes depends on surface functionalization. *Carbon* 48:1961-1969 (2010).

56. Broaddus VC, Everitt JI, Black B, **Kane AB**: Non-Neoplastic and neoplastic pleural endpoints following fiber exposure, *J. Toxicol. Environ. Health, Part B Crit. Rev.* 14: 153-178 (2011).

57. Sanchez VC, Weston P, Yan A, Hurt RH, and **Kane AB:** A 3-dimensional in vitro model of epithelioid granulomas induced by high aspect ratio nanomaterials. *Part Fibre Toxicol*, *8*, 17 (2011).

58. Liu X, Sen, S Liu, J Kulaots, I, Geohegan, D. **Kane A**, Puretzky, A, Rouleau, C, More, K, Palmore, G, and Hurt, R: Antioxidant deactivation on graphenic nanocarbon surfaces. *Small* 7: 2775-2785 (2011).

59. Pietruska JR, Liu X, Smith A, McNeil K, Weston P, Zhitkovich A, Hurt R and **Kane AB**: Bioavailability, intracellular mobilization of nickel, and HIF-1α activation in human lung epithelial cells exposed to metallic nickel and nickel oxide nanoparticles. *Toxicol. Sci*. 124: 138-148 (2011).

60. Shi X, von dem Bussche A, Hurt RH, **Kane AB** and Gao H: Cell entry of one-dimensional nanomaterials occurs by tip recognition and rotation. *Nat. Nanotechnol*. 6: 714-719 (2011).

61. Sanchez VC, Jachak A, Hurt RH and **Kane AB**: Biological interactions of graphene-family nanomaterials: An interdisciplinary review. *Chem. Res. Toxicol*. 25:15- 34 (2012).

62. Chen Y, Guo F, Jachak A, Kim SP, Datta D, Liu J, Vaslet C, Jang HD, Huang J, **Kane A**, Shenoy VB, and Hurt RH: Aerosol synthesis of cargo-filled graphene nanosacks. *Nano Lett*. 12: 1996-2002 (2012).

63. Jachak A, Creighton M, Qui Y, **Kane AB**, Hurt RH: Biological interactions and safety of graphene materials. *MRS Bulletin* 37:1307-1313 (2012).

64. Liu J, Wang Z, Liu FD, **Kane AB**, Hurt RH: Chemical transformations of nanosilver in biological environments. *ACS Nano*. 6:9887-9899 (2012).

65. Sanchez VC, Jachak A, Hurt RH, **Kane AB**: Biological interactions of graphene-family nanomaterials: an interdisciplinary review. *Chem Res Toxicol*. 25:15-34 (2012).

66. Creighton M, Rangel-Mendez R, Huang J, **Kane AB**, Hurt RH: Graphene induced adsorptive and optical artifacts during *in vitro* toxicology assays . *Small* 9:1921-1927 (2013).

67. Li Y, Yuan H, von dem Bussche A, Creighton M, Hurt RH, **Kane AB**, Gao H: Graphene microsheets enter cells through spontaneous membrane penetration at edge asperities and corner sites. *Proc Natl Acad Sci U S A* 110:12295-12300 (2013).

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3. ECVAM Workshop Report 30: Non-animal Tests for Evaluating the Toxicity of Solid Xenobiotics, JRC Institute for Health & Consumer Protection, Ispra, Italy, 1998.

4. **IARC Monograph Volume 74: Surgical Implants and Other Foreign Bodies**, IARC Press, Lyon, 1999.

5. ILSI Risk Science Institute Workshop, The Relevance of the Rat Lung Response to Particle Overload for Human Risk Assessment: A Workshop Consensus Report. Inhalation Toxicology 12:1-7, 2000.

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INVITED EDITORIALS

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2. **Kane AB**: Asbestos bodies: clues to the mechanisms of asbestos toxicity? Human Pathology 34: 735-736 (2003).

3. Hurt RH, Monthioux M and **Kane AB**: Toxicology of carbon nanomaterials. Carbon 44: 1028-1033 (2006).

INVITED SEMINARS

Carbon 44: 1028-1033 (2006).

Teaching Program in Orthopaedic Science, Rhode Island Hospital, December 17, 1982 and March 10, 1985

Department of Surgery, Rhode Island Hospital, December 16, 1983

Department of Medicine, Brown University, July 6, 1984

Department of Pathology, New York University Medical College, December 5, 1984

R. I. Society of Pathologists, November 19, 1985

Grand Rounds at Hahnemann University School of Medicine, December 1, 1985

Joint Graduate Program in Toxicology Seminar Series, Rutgers Medical School, December 18, 1985

Department of Pathology, The University of Vermont School of Medicine, September 18, 1986

Department of Biochemistry, Dartmouth Medical School, November 12, 1986
Program in Respiratory Biology, Harvard School of Public Health, November 18, 1986

Occupational Health Program, Roger Williams General Hospital, January 21, 1987

Department of Pathology, Rhode Island Hospital, November 11, 1987

Division of Pulmonary Medicine, Brown University, February 3, 1988

Department of Microbiology and Immunology, Eastern Virginia Medical School, March 30, 1988

Medical Oncology Seminars in Basic Research, Rhode Island Hospital, April 21, 1988

Dana Seminar Series, Mount Sinai Environmental Health Sciences Center, December 2, 1988

Brown University Chest Conference, June 16, 1989

Institute of Environmental Medicine, New York University Medical Center, November 22, 1989

Chemical Industry Institute of Toxicology, July 30, 1990

INSERM and University of Rennes, France, September 26, 1991

National Institute of Occupational Safety and Health, Division of Respiratory Disease Studies, March 17, 1992

Pulmonary Grand Rounds, Bellevue Hospital, New York University Medical Center, November 10, 1992

The Brown Biomedical Collegium, Brown University, December 9, 1992

Pathology Grand Rounds, Medical College of Virginia, April 16, 1993

Joint Seminar Series, Fels Research Institute and Department of Pathology, Temple University School of Medicine, June 3, 1993

Pediatric Research Colloquium, Brown University, November 5, 1993

Department of Pathology, McGill University, December 10, 1993

Work in Progress Seminar, Mount Sinai Environmental Health Sciences Center, May 13, 1994

Science and Math Seminar Series, Roger Williams University, October 19, 1994

Toxicology Scholars Colloquium, University of Connecticut, March 21, 1997

Seminar Series in Tumor Biology, Institute for Cancer Research and the University of Turin, October 27, 1997

Seminar on Asbestos Fibers, The Academy of Science, Turin, Italy, October 11, 1999

Lecture for Pathology Residents: Mesothelioma Case Study, Brown University, September 19, 2005

Green Nanotechnology through Collaborative Research on the Mechanisms of Nanomaterial Toxicity, Superfund Seminar Series, December 7, 2005.

Murine Models of Asbestos-Induced Malignant Mesothelioma, Brigham and Women's Hospital, Harvard Medical School, March 17, 2006.

Nanotechnology and Nanotoxicology, University of Connecticut Toxicology Graduate Program, November 8, 2006.

Promises and Perils of Nanotechnology for Nanomedicine, Albert Einstein College of Medicine, May 17, 2011.

The Asbestos/Carbon Nanotube Analogy, Distinguished Scientist Seminar Series, Earth Sciences Division, Lawrence Berkeley National Laboratory, December 9, 2011.

A 3D Human Lung Microtissue Model of Pulmonary Fibrosis, Lifespan Pathology Research Seminar, November, 2015

Environmental Contaminants and Environmental Justice in Rhode Island, Bryant University, 2017.

Environmental Contaminants in Rhode Island and the Brown Superfund Research Program, Women & Infants' Hospital, Providence, 2017.

INVITED PRESENTATIONS AT MEETINGS AND WORKSHOPS

Pathogenesis of Mesotheliomas Induced by Asbestos Fibers, The Renato Baserga Symposium, Philadelphia, Pennsylvania, May 6-7, 1988.

The Role of Fiber Length in Crocidolite Asbestos Toxicity <u>*In Vitro*</u> *and* <u>*In Vivo*</u>, VIIth International Conference on the Pneumoconioses, Pittsburgh, Pennsylvania, August 23-26, 1988.

Transforming Growth Factor-Beta: A Potential Mediator of Asbestos-Induced Disease, VIIth International Conference on the Pneumoconioses, Pittsburgh, Pennsylvania, August 23-26, 1988.

Altered Calcium Homeostasis and Mineral Dust Toxicity, Fourth International Workshop on Effects of Mineral Dusts on Cells, Orford, Quebec, Canada, September 21-23, 1988.

New Methods in the Study of Pneumoconioses and *Molecular Biology Studies on Pneumoconioses,* Respirable Dust Center Meeting, Generic Mineral Technology Center for Respirable Dust, Bureau of Mines, Coraopolis, Pennsylvania, October 5-6, 1988.

Mechanisms of Asbestos Carcinogenesis, Gordon Research Conference on Cancer, Newport, R.I., August 21-25, 1989.

Asbestos: Mechanisms of Lung Injury, Toxicology Update '89: Current Concepts in Inhalation Toxicology, The Johns Hopkins School of Hygiene and Public Health,

Department of Environmental Health Sciences, April 24-26, 1989.

Oxidants as Mediators of Asbestos Toxicity, Minisymposium on Free Radical Injury, 74th Annual Meeting of FASEB, Washington, D.C., April 5, 1990.

Proliferation and Inflammation in the Mesothelium after Injury, National Heart, Lung, and Blood Institute Workshop on Pleural Cell Biology in Health and Disease, Bethesda, Maryland, October 1-2, 1990.

Fiber Dimensions and Mesothelioma: A Reappraisal of the Stanton Hypothesis, NATO Advanced Research Workshop and the Mechanisms of Fibre Carcinogenesis, Albuquerque, New Mexico, October 22-25, 1990.

Physical and Chemical Determinants of Fiber Carcinogenicity, Mini-symposium on Environmental Pathology, 75th Annual Meeting of FASEB, Atlanta, GA, April 22-25, 1991.

Regulation of Mesothelial Cell Proliferation by the Extracellular Matrix in vivo and *Alterations in a Tumor Suppressor Gene, p53, in Mouse Mesotheliomas Induced by Crocidolite Asbestos,* International Conference on Mesothelial Cell and Mesothelioma, Paris, France, September 30-October 2, 1991.

Asbestos-Related Diseases, Environmental and Occupational Disease Conference, Universities Associated for Research and Education in Pathology, Warren, Vermont, October 18-19, 1991.

Pathogenesis of Fiber-Induced Disease, Workshop on Approaches to Evaluating the Toxicity and Carcinogenicity of Man-Made Fibers, Durham, North Carolina, November 11-13, 1991.

Human Health Hazards of Dusts and Fibers, Advanced Workshop on Whiskers and Particles in Composite Materials Technology, United Nations Industrial Development Organization, Trieste, Italy, October 5-9, 1992.

Particle and Fiber-Induced Lesions - An Overview, 4th International Inhalation Symposium on Toxic and Carcinogenic Effects of Solid Particles in the Respiratory Tract, Hanover, Germany, March 1-5, 1993.

Oxygen Radicals and Asbestos Carcinogenesis, Oxygen Radicals and Lung Injury, West Virginia University School of Medicine, Morgantown, West Virginia, August 30-September 2, 1993.

Cellular and Molecular Alterations in the Genesis of Mesothelioma, International Congress on Occupational Health, Nice, France, September 26-30, 1993

Genetic Alterations in Murine Mesotheliomas Induced by Crocidolite Asbestos, 5th International Workshop on the Effects of Mineral Dusts on Cells, Paris, France, October 11-13, 1993.

Silica Biology and Mechanisms of Silicosis and Neoplasia, Panel on Research Needs and Areas of Focus, Second International Symposium on Silica, Silicosis, & Cancer, San Francisco, California, October 28-30, 1993.

Epidemiology and Pathology of Asbestos-Related Diseases, Health Effects of Mineral Dusts, The Mineralogic Society of America, Nantucket, Massachusetts, October 22-24, 1993.

Growth Regulation of Murine Mesothelial Cells, Minisymposium on Oncogenes and Tumor Suppressor Genes, Experimental Biology '94, Anaheim, California, April 26, 1994.

Regulation of Mesothelial Cell Proliferation in Vitro and in Vivo, 5th International Inhalation Symposium on Correlations between *In Vitro* and *In Vivo* Investigations in Inhalation Toxicology, Hanover, Germany, February 20-24, 1995.

Molecular Mechanisms of Asbestos Carcinogenesis, 5th International Conference on Environmental and Occupational Lung Disease, Orlando, Florida, March 2-5, 1995.

Mesothelial Cell Proliferation and Biopersistence of Mineral Fibers, British Association for Lung Research, Edinburgh, United Kingdom, September 11-12, 1995.

Biomarkers of Response to Asbestos, Third International Mesothelioma Conference, Paris, France, September 12-15, 1995.

Susceptibility of p53-Deficient Mice to Induction of Mesothelioma by Crocidolite Asbestos Fibers, Sixth International Meeting on the Toxicology of Natural and Man-Made Fibrous and Non-fibrous Particles, Lake Placid, New York, September 15-18, 1996.

Epidemiology and Pathology of Mineral Dust-Related Diseases, Symposium on Mineral Dusts, Society for Mining, Metallurgy, and Exploration, Washington, D.C., September 19-20, 1996.

Emerging Pathobiology Programs, Graduate Training Programs in Pathology Workshop, Experimental Biology '97, New Orleans, Louisiana, April 6, 1996.

Mechanisms of Asbestos Carcinogenesis, University of Texas Medical Branch at Galveston, Department of Pathology, June 11, 1998.

Inactivation of p15, p16, and p19 in Murine Mesothelioma Cell Lines, The Fifth Meeting of the International Mesothelioma Interest Group, Grantham, England, October 5-8, 1999.

Oncogenes and Tumour Suppressor Genes in the Carcinogenicity of Fibres and Particles, Keynote Address, 7th International Symposium on Particle Toxicology, Maastricht, The Netherlands, October 12-15, 1999.

Mechanisms of Asbestos Carcinogenesis, Asbestos Health Effects Conference, Environmental Protection Agency, Oakland, California, May 24-25, 2001.

Molecular Pathogenesis of Diffuse Malignant Mesothelioma, 6th Meeting of the International Mesothelioma Interest Group, Perth, Western Australia, December 1-4, 2002.

Mechanisms of Fiber Carcinogenesis, International Symposium on Health Hazard Evaluation of Fibrous Particles Associated with Taconite and Adjacent Duluth Complex, International Environmental Research Foundation, St. Paul, Minnesota, March 30 – April 1, 2003.

Transgenic Models and Relationships to Malignant Mesothelioma, 7th Meeting of the International Mesothelioma Interest Group, Brescia, Italy, June 24-26, 2004.

Are Nanomaterials a Potential Human Health Hazard? From Asbestos to Nanoparticles: Past Experience for Future Challenges and Needs in Particle Toxicology, Turin, Italy, June 28-30, 2004.

Keynote Lecture: *Are Nanomaterials a Potential Human Health Hazard*? Carbon 2004, Providence, Rhode Island, July 11-16, 2004.

Physical and Chemical Determinants of Nanofiber/Nanotube Toxicity, Nanotechnology and the Environment II, US EPA, Philadelphia, Pennsylvania, August 18-20, 2004.

Nanomedicine Concept Development Plan Meeting, NIH, Gaithersburg, Maryland, March 10-11, 2005.

Animal Models of Malignant Mesothelioma, Directions and Needs in Asbestos Research: New Insights, Missoula, Montana, July 28-29, 2005.

Toxicologically Relevant Characterization of Carbon Nanomaterials, Nanotoxicology International Conference, Venice, Italy, April 19-21, 2007.

Nanotechnology: Solutions, Challenges and Implications for Superfund, NARPM 17th Annual Training Conference, Baltimore, Maryland, May 22, 2007.

Nanoparticles: Human Toxicology and Risk Assessment, Superfund Risk-e-Learning internet seminar, September 12, 2007.

Human Health Impacts of Nanotechnology, 12th International Battery Materials Recycling Seminar, Fort Lauderdale, Florida, March 18, 2008.

Effects of Surface Functionalization on Carbon Nanotube Interactions with Murine Hepatocytes, International Environmental Nanotechnology Conference, US Environmental protection Agency, Chico, Illinois, October 7-9, 2008.

Applications and Implications of Nanotechnology for Human Health and the Environment, RI Safe Coalition, Providence, Rhode Island, November 21, 2008.

Impact of Nanotechnology on Health and the Environment, Rhode Island State Nurses' Association, May, 2009.

Human Health Impacts of Nanotechnology, Materials Research Society, November, 2009.

Nanotechnology-Human Health and Environmental Impacts, NEWMOA Webinar with Robert Hurt, May, 2012.

Applications and Implications of Nanotechnology, 25th Superfund Annual Meeting, October, 2012.

The Asbestos/Carbon Nanotube Analogy, International Mesothelioma Interest Group, September, 2012.

Risks and Benefits of Nanotechnology for Biomedical Applications, Mini Med School, The Warren Alpert Medical School, September, 2013.

Biological Interactions and Safety of Graphene-Family Nanomaterials, NSF Environmental Implications of Nanotechnology Program Webinar, May, 2013.

Safe Design of Oil Dispersants – Interdisciplinary Research, Oil Spill Science Seminar for Journalists, Metcalf Institute for Marine and Environmental Reporting, January 27-29, 2014.

Challenges in Assessing Environmental Health Impacts of ENMs, UC Center for the Environmental Implications of Nanotechnology, March, 2015.

The Asbestos-Carbon Nanotube Analogy: An Update, University of Pennsylvania Superfund Research Program, January 7, 2016.

Alternative Toxicity Testing of Chemicals and Nanomaterials Using 3D Microtissues, Toxicology Forum, February 8-10, 2016

Alternative Toxicity Testing of Nanomaterials Using 3D Microtissues, Nanotoxicology, June 3-4, 2016.

UNIVERSITY TEACHING ROLES

Biomed 184 General Pathology
Biomed 279 and 280 Systemic Pathology
Biomed 390B Gender and the Health Care Delivery System
Biomed 129 Cancer Biology
Biomed 283 Environmental Hazards and Human Disease;
Molecular Basis of Disease
Biomed 209 Special Topics in Respiratory Physiology
Biomed 286 Molecular Mechanisms of Disease
ENGN 29102 / BIOL 28406 Small Wonders
ENGN 2910S Cancer Nanotechnology – guest lecturer, Spring 2014
Medical Student Focus Group on One Health – history of environmental justice and community activism in Rhode Island, Fall, 2016

Educational Faculty Development

Beyond PowerPoint: Presentation Style for Medical Educators, October 23, 2012
How to Effectively Facilitate Small-Group Learning, November 13, 2013

I have served as Course Leader for the General and Systemic Pathology courses and the graduate seminars in Molecular Basis of Disease, Environmental Hazards and Human Disease, Molecular Mechanisms of Disease, and Small Wonders: Science, Technology, and Human Health Impacts of Nanomaterials.

Undergraduate Trainees

The following undergraduates have completed independent study research projects in my laboratory since 1983: Karen Warman, John Nash, Bryan Ho, Douglas Rahner, Gretchen Misselbeck, Lynn Snyder, Steven Sola, Pamela Moalli, Ruth Branchaud, George Gleva, Sung Yon Jung, Brenda Liu, Margaret Tsien, Alexandra Asrow, and Shannon Terkell.

Graduate Trainees

In 1988, Lee Goodglick completed his doctoral thesis and Robert Crausman completed his master's thesis based on research conducted in my laboratory. Nathan Miselis and Jodie Pietruska completed their doctoral theses in 2007 and Bonnie Lau is an MD-PhD student who defended her thesis in 2009. Vanesa Sanchez completed her thesis in 2010. I was co-advisor for Lin Guo in collaboration with Dr. Robert Hurt in the Division of Engineering; who received her Ph.D. in 2008. I am co-mentor with Dr. Robert Hurt for Megan Creighton who was a Ph.D. student in the School of Engineering. April Rodd and Alysha Simmons are Pathobiology graduate students working in my laboratory.

Summer Students

Chiwan Kim, B.A. - 1987-89
Altagracia Tolentino, Early Identification Program - 1989
Kimberlyn Langley, Early Identification Program - 1990
Rye-Ji Kim, PLME Program – 2006
Ambar Jimenez – Leadership Alliance Program - 2016

Graduate Student Thesis Committees

Nancy Hayner, Ph.D., Biology, 1985
Paul Randazzo, M.D.-Ph.D., Biology, 1986
Janet Mead, Ph.D., Biology, 1988
Michele Goyette, Ph.D., Biology, 1989
Diana Goth, Ph.D., Biology, 1989
Grace Kooper, M.S., M.D., Biology, 1989
Joan Lemire, Ph.D., Biology, 1990
Marvyn Steele, Ph.D., Biology, 1992
Sok-Hong Kho, Ph.D., Biology, 1993
Jordan Orange, M.D.-Ph.D., Pathobiology, 1995
Lisa Edelman Stevens, Ph.D., Pathobiology, 1998
Gary Pien, M.D.-Ph.D. Pathobiology, 2000
Michelle Embree, Ph.D. Pathobiology, 2000
Niki Hawk, M.D.-Ph.D. student
Yi Song, Ph.D. student
Stephanie Thompson, M.D. – Ph.D. student
Elizabeth Petersen, Ph.D. student
Jennifer Louten, Ph.D. student
Matthew B. Kerby, Biomedical Engineering Ph.D. student
Michele Avissar, Ph.D. student
Brock Christensen, Ph.D. student, Harvard School of Public Health
Marguerite Vantangoli, Pathobiology graduate student
Megan Creighton, Engineering graduate student
Michael Godfrin, Biomedical engineering graduate student
Yang Qui, Engineering graduate student
Susan Leggett, Pathobiology graduate student

Other Advisory Committees

Dr. Linda Nici, Department of Medicine, Brown University - Advisory Committee for Clinical Investigator Development Award (1992-94)
Dr. Jean M. Daley, Department of Surgery, Brown University – Mentoring Committee for NIH Grant Supplement to Promote Reentry into Behavioral and Biomedical Research Careers

Postdoctoral Trainees

Dr. Isabelle Morel, University of Rennes, France - 1991
Dr. Elsa Cora, University of Puerto Rico - 1990-91, supported by T32 HL 07725 Training Program in Pathophysiology of Pulmonary Disease
Dr. Ling Xia, Resident in Pathology – 1999
Dr. Annette von dem Busssche, 2007- 2010
Dr. Nathan Miselis, 2007- 2009
Dr. Jodie Pietruska, 2007- 2010
Dr. Ashish Jachak, 2011- 2012

Dr. Pranita Katwa, 2012 – 2015
Dr. Cynthia Browning, 2016 – present
Dr. April Rodd, 2017

Visiting Professors

Dr. Angelina Carvalho, Department of Medicine, Brown University, 1993-94
Dr. Thomas Sorger, Roger Williams University, 1994.

Ongoing Research Support

P42 ES013660 Boekelheide (PI) 04/18/05-03/31/20
NIH/NIEHS
Toxicant Exposures in Rhode Island: Past, Present and Future

This program has 4 research projects and 5 cores.
Role: Leader of Research Project 2 and the Training Core. The goal of Project 2 is to address potential adverse human health impacts of emerging engineered nanomaterials.

T32 ES007272 Kane (PI) 07/01/02-06/30/22
NIH/NIEHS
Training in Environmental Pathology

The major goal of this training grant is to prepare our predoctoral and postdoctoral trainees for research careers in environment pathology and toxicology.

P200A150037 (Hurt), Kane (Co-PI) 08/01/15-07/31/18
US Department of Education
DOE: GAANN-Interdisciplinary Training in Applications and Implications of Nanotechnology

The goal of this training grant is to develop, administer, and evaluate a new interdisciplinary Ph.D. training program in nanotechnology, nanotoxicology, and nanomedicine.

MA-2014-01684 Boekelheide (PI), Kane and Morgan (Co-I) 11/26/14-09/30/18
Unilever
Developing fit-for-purpose predictive biology platforms for in vitro toxicity testing

This research agreement between Brown University and Unilever support the further development and validation of unique 3-dimensional in vitro predictive biology platforms for toxicity testing.

IU01ES028184 (Boekelheide, PI), Kane (Co-I) 09/15/17-07/31/22
NIH/NIEHS
Human Microtissues for Toxicity Testing via Integrated Imaging, Molecular and Functional Analysis

The Brown University Bioengineering Research partnership improves upon traditional animal-based approaches for toxicity testing by developing in vitro 3D microtissue predictive biology platforms based on integrated imaging, molecular and function analysis. These novel assays for the prostate, ovary, lung, brain and heart are designed to address the unmet need for safety assessment of large numbers of environmental chemicals and emerging toxicants, thus reducing adverse human health impacts and improving public health.

Completed Research Support

RD-833862201 Hurt (PI) Kane (Co-PI) 08/01/08-07/31/11
EPA
Bioavailability, Environmental Transformation, and Detoxification of Core/Shell Nanomaterials

The goal of this grant was to develop and validate chemical screening assays for bioavailability assessment, data on environmental degradation, and toxicant release throughout product lifecycle. Practical protocols for material detoxification were developed.

RO1 ES016178 Kane (PI), Hurt (Co-PI) 09/20/07-05/31/12
NIH/NIEHS
Chemical, Structural, and Superstructural Determinants of Nanocarbon Toxicity

The goal of this grant was to determine the properties of nanomaterials responsible for production of lung granulomas and fibrosis.

100028-D NIH Grand Opportunity Grant (RC2)
Elder and Oberdorster (Co-PIs), Kane (Brown U. PI) 09/30/09-09/29/12
University of Rochester (National Institute of Health)
Hazard Assessment and Risk Estimation of Inhaled Nanomaterials

The goal of this grant is to address long-term consequences associated with human occupational exposures to engineered nanomaterials.

ECCS – 1057547 Hurt (PI), Kane and Pennell (Co-PIs) 09/01/10-08/31/13
NSF
Exposure Pathways, Dissolution Kinetics, and Fate of Nanosilver in the Environment

The goal of this grant was to assess fate, transport, and bioaccumulation of silver nanoparticles in the aquatic environment.

CBET 1132446 Hurt (PI), Kane (Co-PI) 07/01/11 – 06/30/14
NSF
Cellular and Biomolecular Interactions of Graphene-Family Nanomaterials

This interdisciplinary research project will characterize adsorption of micronutrients to a panel of well-characterized graphene-family materials and their interactions with macrophages as initial target cells using generation of reactive oxygen species and GSH depletion as endpoints.

Gulf of Mexico Research Initiative John (PI) 10/01/11 – 09/30/14
Tulane University
Kane and Hurt (Co-PIs, subcontract to Brown University)
The Science and Technology of Dispersants as Relevant to Deep Sea Oil Releases

The Brown subcontract will develop novel particle-based alternatives to chemical dispersants and evaluate their potential toxicity to marine organisms.

P200A090076 Hurt (PI), Kane (Co-PI) 08/15/09-08/14/15
US Department of Education
DOE: GAANN-Interdisciplinary Training in Applications and Implications of Nanotechnology

The goal of this training grant is to develop, administer, and evaluate a new interdisciplinary Ph.D. training program in nanotechnology, nanotoxicology, and nanomedicine.

CBET 1344097 Hurt (PI), Kane (Co-PI) 11/01/13-/10/31/16
NSF
INSPIRE Track1: Computational Design for the Safe Development of High-Aspect Ratio Nanomaterials

The goal of this grant it to identify the fundamental design rules that will allow the safe development of high-aspect ratio nanomaterials.