

BIOGRAPHICAL SKETCH

(Updated May 2006)

NAME: Gary E. Hatch

POSITION TITLE: Research Pharmacologist

EDUCATION/TRAINING

Institution	Degree	Year	Field of Study
Brigham Young University, Provo, Utah	B.S.	1969 -1972	Microbiology
Brigham Young University, Provo, Utah	M.S.	1972 -1973	Biochemistry
Univ. of Utah, Salt Lake City, Utah	Ph.D	1973 -1977	Pharmacology
Duke University, Durham, N.C.	Postdoc	1977 -1979	Toxicology

PROFESSIONAL EXPERIENCE

Branch Chief, Pulmonary Toxicology Branch, ETD, NHEERL, ORD, EPA Dec. 2005 – present
Acting Branch Chief, Pulmonary Toxicology Branch, ETD, NHEERL, ORD, EPA Feb. 2004 – Dec. 2005.
Leader, Biochemical Toxicology Group, PTB, ETD, NHEERL, ORD, EPA Aug 1979 – Feb 2005

SELECTED AWARDS AND HONORS:

Recipient of five E.P.A. Scientific and Technology Achievement Awards

INVITED LECTURES / SYMPOSIA:

1. Pulmonary Effects of Particulate Matter: Sensory Irritation, Susceptibility to Infection and Oxidative Stress”
Tsukuba, Japan. February, 2000
2. "Diets, Antioxidants and Environmental Influences" NIEHS, Res. Tri. Park, NC March 2001.
3. “Phosgene as an example of the C x T principle: The role of adaptation” Three Agency Risk Assessment
Symposium, Cincinnati, Ohio, May, 2002.
4. “Environmental Research Utilizing Oxygen-18.” Isotec Inc., Miamisburg, Ohio, May 2002.
5. "E.P.A. Studies and Research Needs in Bioterrorism," American Thoracic Society working group, Washington,
D.C., Feb 2003.
6. Society of Toxicology symposium: “Use of oxygen-18 for detection of oxidative stress.” Society of Toxicology
Symposium on Oxidative Stress. Mar, 2003.
7. University of North Carolina: Lecture: "Biomarkers of Pulmonary Toxicity" October, 2004

ASSISTANCE/ LEADERSHIP PROVIDED TO THE SCIENTIFIC COMMUNITY:

Member: Society of Toxicology working group for comparison of intratracheal instillation and inhalation study
methodologies. 1997-2000.

Duke Visiting Pulmonary Scholar Program, Organizing Committee, EPA representative, 2000-2002.

Reviewer: NIOSH program project: “Oxidant Injury to the Respiratory Tract.” Sept. 1999.

Reviewer: WHO/ IPCS Acrolein Document, June 2001

Member: E.P.A. / Industry working group on ozonation of water and bromate mode of action. May, 2002

Co-organizer of NIEHS-EPA Rfp workshop: "Antioxidants, Diets and Environmental Influences." Mar, 2003

Member: American Thoracic Society task force on Bioterrorism. March, 2003

Member: planning committee for NIEHS/ EPA study on "Biomarkers of Oxidative Stress" involving sixteen laboratories worldwide, 1997- present.

Adjunct Professor: University of North Carolina. 2002 - present. Member of thesis committees for Ph.D. candidates Brian Slezak and Deborah Burgin.

ASSISTANCE/ LEADERSHIP PROVIDED TO THE AGENCY

Member: U.S. E.P.A. Office of Research and Development "Red Team" for applying science to the response to terrorist threats. Jan. 2004 - present.

Member: Air Toxics Research Strategy planning group: 2001-2003.

Co-investigator: Homeland Security Project entitled "Assessment of Residual Public Health Risk Associated with Chemical Decontamination of Buildings." Mar. 2003 - present.

Principal Investigator: Homeland Security Project entitled "Use of Sentinel Animals in Assessing Health Effects of Chemical Treats Indoors." Apr. 2003 - present.

Member: U.S. E.P.A. Red Team for emergency scientific council. Mar. 2004 – present.

PUBLICATIONS: (Published during the last 7 years of a total of 86 papers and book chapters)

68. Plopper, CG, Hatch, G.E., Wong, V., Duan, X., Weir, A.J., Tarkington, B.K., Devlin, R.B., Becker, S., and Buckpitt, A.R. 1998 Relationship of inhaled ozone concentration to acute tracheobronchial epithelial injury, site-specific ozone dose and glutathione depletion in rhesus monkeys. *Amer. J. Respir Cell and Mol. Biol.* 19:387-399.

69. Gunnison, A.F. and Hatch, G.E. 1999. Ozone induced inflammation in pre-pregnant, pregnant, and lactating rats correlates with ozone dose estimated by oxygen-18. *Am. J. Physiol. (Lung Cell. Mol. Physiol.)* 20:: L332-L340.

70. Kadiiska, M.B., Gladen, B.C., Baird, D.D., Dikalova, A.E., Sohal, R.S., Hatch, G.E., Jones, D.P., Mason, R.P., and Barrett, J.C. 2000. Biomarkers of oxidative stress study: Are plasma antioxidants markers of CCl₄ poisoning? *Free Rad. Biol. Med.* 28:838-45.

71. Campen, M.J., Norwood, J., McKee, J.L., Mebane, R., Hatch, G.E., and Watkinson, W.P. 2000. Ozone-induced hypothermia and bradycardia in rats and guinea pigs in nose-only or whole-body inhalation systems. *J. Thermal Biol.* 25:81-89

72. Madden, M.C., Richards, J.H., Dailey, L.A., Hatch, G.E., and Ghio, A.J. 2000. Effect of ozone on diesel exhaust particle toxicity in rat lung. *Toxicol. And Appl. Pharm.* 168: 140-148.

73. Slezak, B.P., Hatch, G.E., Devito, M.J., Slade, R., Crissman, K., Hassoum, E. and Birnbaum, L.S. 2000. Oxidative stress in female B6C3F1 mice following acute and subchronic exposure to 2,3,7,8-tetrachlorodibenzo-p dioxin (TCDD). *Toxicological Sciences* 54: 390-8.

74. Kodavanti, U.P., Schladweiler, M.C., Ledgeter, A.D., Watkinson, W.P. Campen, M.J., Winsett, D.W., Richards, J.R., Crissman, K.M., Hatch, G.E., and Costa, D.L. 2000. The spontaneously hypertensive rat as a model of human cardiovascular disease: Evidence of exacerbated cardiopulmonary injury and oxidative stress from inhaled

emission particulate matter. *Toxicology and Appl. Pharmacology* 164: 250-263.

75. Driscoll, K.E., Costa, D.L., Hatch, G.E., Henderson, R., Oberdorster, G., Salem, H., and Schlesinger, R.B. 2000. Intratracheal instillation as an exposure technique for the evaluation of respiratory tract toxicity: Uses and limitations. *Toxicological Sciences* 55: 24-35.
76. Norwood, J.Jr., Ledbetter, A.D., Doerfler, D.L, and Hatch, G.E. 2001. Residual oil fly ash inhalation in guinea pigs: Influence of ascorbate and glutathione depletion. *Toxicological Sciences* 61: 144-153.
77. Samet, J.M., Hatch, G.E., Horstman, D., Steck-Scott, S.E., Arab, L., Bromberg, P.A., Levine, M., McDonnell, W.F., and Devlin, R.B. 2001. Effect of antioxidant supplementation on ozone-induced lung injury in human subjects. *Am. J. Respir. Crit. Care Med.* Sep 1;164(5):819-825.
78. Sun, G., Crissman, K., Norwood, J., Richards, J., Slade, R., and Hatch, G.E. 2001. Oxidative interactions of synthetic lung epithelial lining fluid with metal-containing particulate matter. *Am. J. Physiol Lung Cell Mol. Physiol* 281: L807-15.
79. Romieu, I., Sienra-Monge, J.J, Ramirez-Aguilar, M., Tellez-Rojo, M.M., Moreno-Macias, H., Reyes-Ruiz, N.I., Rio-Navarro, B.E., Ruiz-Navarro, X.M., Hatch, G.E., Slade, R., Hernandez-Avila, M. 2002. Antioxidant supplementation and lung functions among children with asthma exposed to high levels of air pollutants. *Am. J. Respir. Crit. Care Med.* 166: 703-709.
80. Kongerud, J., Crissman, K., Hatch, G.E., Alexis, N. 2003. Ascorbic acid is decreased in induced sputum of mild asthmatics. *Respiratory Research*, 15:101-109.
81. Hatch, G.E., Kodavanti, U., Crissman, K., Slade, R., and Costa, D. 2001. An “injury-time integral” model for extrapolating from acute to chronic effects of phosgene. *Toxicology and Industrial Health.* 17: 285-293.
82. Singh, Pramila, Mary Daniels, Darrell W. Winsett, Judy Richards, Donald Doerfler, Gary Hatch, Kenneth B. Adler, and M. Ian Gilmour. 2003. Phenotypic comparison of allergic airway responses to house dust mite in three rat strains. *Am J Physiol Lung Cell Mol Physiol* 284: L588-L598.
83. Alfaro MF, Putney L, Tarkington BK, Hatch GE, Hyde DM, Schelegle ES. 2004. Effect of rapid shallow breathing on the distribution of ¹⁸O-labeled ozone reaction product in the respiratory tract of the rat. *Inhal Toxicol.* 2004 Feb;16(2):77-85.
84. Sienra-Monge, J. J., M. Ramirez-Aguilar, H. Moreno-Macias, N. I. Reyes-Ruiz, B. E. Del Rio-Navarro, G. Hatch, K. Crissman, R. Slade, R. B. Devlin, and I. Romieu. 2004. Antioxidant supplementation and nasal inflammatory responses among young asthmatics exposed to high levels of ozone. *Clin. Exp. Immunol.* 138:317-322.
85. Kadiiska, M. B., B.C. Gladen, D.D. Baird, D. Germolee, L.B. Graham, C. E. Parker, A. Nyska, J. T. Wachsman, B. N. Ames, S. Basu, N. Brot, G. A. FitzGerald, R. A. Floyd, M. George, J. W. Heinecke, G. E. Hatch, K. Hensley, J. A. Lawson, L. J. Marnett, J. D. Morrow, D. M. Murray, J. Plataras, L. J. Roberts II, J. Rokach, M. K. Shigenaga, R. S. Sohal, J. Sun, R. R. Tice, D. H. Van Thiel, D. Wellner, P. B. Walter, K. B. Tomer, R. P. Mason, J. C. Barrett. (2005). Biomarkers of Oxidative Stress Study II. Are oxidation products of lipids, proteins, and DNA markers of CCl₄ poisoning? *Free Radical Biology & Medicine* 38 698-710.
86. Nadadur, S.S., Costa, D.L., Slade, R., Silbjoris, R., and Hatch, G.E. 2005. Acute ozone-induced differential gene expression profiles in rat lung. *Environ. Health Perspect* 113: 1717-22.