

CURRICULUM VITA

AMINA SALAMOVA

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EDUCATION

- 2011** **Ph.D. Environmental Science**, Specialty in Environmental Chemistry, Advisor: Distinguished Professor Ronald A. Hites, Indiana University, Bloomington, Indiana, Dissertation Title: *Persistent Organic Pollutants in Various Environmental Matrices*.
- 2004** **M.S. Environmental Science**, Indiana University, Bloomington, Indiana.
- 2000** **M.S. Organic Chemistry**, Baku State University, Baku, Azerbaijan.
- 1998** **B.S. Chemistry**, Baku State University, Baku, Azerbaijan.

RESEARCH INTERESTS

- Persistent organic pollutants (POPs) in various environmental matrices (Specific interest in flame retardants)
- Global POPs occurrence
- Biomonitoring of POPs in biota and humans
- Exposure pathways and health hazards of POPs
- Emerging pollutants in the environment
- Correlation between pollutant concentrations and geographical/social factors
- Framework for environmental monitoring networks

SELECTED PROJECTS

- **Integrated Atmospheric Deposition Network Project (IADN)**. This is a bi-national environmental research effort between the United States (funded by the U. S. Environmental Protection Agency) and Canada (funded by Environment Canada). IADN measures and evaluates more than 150 organic pollutant concentrations in the atmosphere (vapor, particles, and precipitation) at several sites near the Great Lakes to assess spatial and temporal trends of these chemicals in the Great Lakes basin, as well as their atmospheric deposition into the lakes. I contribute to both *research development* and *management* of this project. Professor Ronald Hites is the Principal Investigator of the project, and I am the Project Director. My responsibilities include research planning and research communication, as well as the day-to-day administration of the project. I have contributed to writing of the IADN's proposal that led to a \$5,000,000 grant funded by the U. S. Environmental Protection Agency, and I contribute to IADN's research development by analyzing the spatial and temporal trends of

chemical analytes, expanding the list of analytes, and collaborating with other Great Lakes monitoring programs on interpretation and comparison of the results. I am also responsible for managing and overseeing all technical aspects of this project. These duties include the supervision of six laboratory and technical personnel, as well as reporting data and research results to the funding agencies. In addition, I mentor post-doctoral fellows working on IADN and other projects in the laboratory.

- **Flame retardants in human hair and nail as biomarkers of exposure:** I initiated this project in collaboration with the School of Public Health at Indiana University. The focus of this project is on the measurements of emerging and legacy flame retardants (brominated, chlorinated, and organophosphate) in human hair, nails, and blood in order to assess these human matrices as biomarkers of exposure to flame retardants. I am responsible for the planning, organization, scientific and administrative direction of this project. I supervise post-doctoral associates and laboratory technicians involved in this project and analyze and review the scientific data.
- **Indoor exposure to flame retardants in daycare centers and nursing homes in Portugal:** I initiated this project in collaboration with the Portuguese National Institute of Health. This project is focused on the measurements of emerging and legacy flame retardants in dust samples collected in Portuguese daycare centers and nursing homes to assess indoor exposure to these chemicals occurring at these facilities. I am responsible for the planning, organization, scientific and administrative direction of this project. I supervise laboratory technicians involved in this project and analyze and review the scientific data.

Technical Skills: gas chromatography, gas chromatographic mass spectrometry, environmental sample treatment (sample preparation, Soxhlet and liquid phase extraction, column and acid clean-up, analysis for air, plant, water, precipitation, sediment, soil, dust, food, serum samples).

FUNDING

- Indiana University's Collaborative Research Grants. "Human Hair and Nail Analyses as Non-Invasive Biomarkers of Exposure to Brominated and Organophosphate Flame Retardants", 04/01/2014 – 03/31/2015; \$71,581. Role: Co-PI.
- Environmental Protection Agency. Integrated Atmospheric Deposition Network (IADN) (\$5,000,000 for five years; PI: Prof. Ronald A. Hites). Role: Project Director.

HONORS AND AWARDS

- Excellence in Reviewing Award, *Environmental Science and Technology*, 2012.
- E. S. Muskie Freedom Support Act Graduate Fellowship, Bureau of Educational and Cultural Affairs, United States Department of State, 2002 – 2004.
- Graduation with Honors, Baku State University, Baku, Azerbaijan, 2000 and 1998.

PROFESSIONAL EXPERIENCE

- 2014-present** **Assistant Research Scientist**, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana.
- 2011-present** **Project Director**, Integrated Atmospheric Deposition Network, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana.
- 2011-2014** **Research Associate**, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana.
- 2004-2011** **Research Assistant**, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana.
- 2000-2002** **Senior Research Scientist**, Chemistry Department, Baku State University, Baku, Azerbaijan.

PUBLICATIONS

1. Liu, L.-Y.; **Salamova, A.**; Hites, R. A. Halogenated flame retardants in baby food from the United States and from China and the estimated dietary intake by infants, accepted to *Environmental Science and Technology*, July 21 2014.
2. **Salamova, A.**; Hermanson, M. H.; Hites, R. A. Organophosphate and halogenated flame retardants in atmospheric particles from a European Arctic site. *Environmental Science and Technology*, 2014, 48, 6133-6140.
3. Liu, L.-Y.; **Salamova, A.**; Hites, R. A. Interstudy and intrastudy temporal trends of PCBs, pesticides, and PAH concentrations in air and precipitation at a rural site in Ontario. *Environmental Science and Technology Letters*, 2014, 1, 226-230.
4. Liu, L.-Y.; Kukučka, P.; Venier, M.; **Salamova, A.**; Klánova, J.; Hites, R. A. Differences in Spatiotemporal Variations of Atmospheric PAH Levels between North America and Europe: Data from Two Air Monitoring Projects. *Environment International*, 2014, 46C, 48-55.
5. **Salamova, A.**; Ma, Y.; Venier, M.; Hites, R. A. High levels of organophosphate flame retardants in the Great Lakes atmosphere. *Environmental Science and Technology Letters*, 2014, 1, 8-14.
6. Ma, Y.; **Salamova, A.**; Venier, M.; Hites, R. A. Has the phase-out of PBDEs affected their atmospheric levels? Trends of PBDEs and their replacements in the Great Lakes atmosphere. *Environmental Science and Technology*, 2013, 47, 11457-11464.
7. **Salamova, A.**; Pagano, J. J.; Holsen, T. M.; Hites, R. A. Post-1990 temporal trends of PCBs and organochlorine pesticides in the atmosphere and in fish from Lakes Erie, Michigan, and Superior are similar. *Environmental Science and Technology*, 2013, 47, 9109-9114.
8. **Salamova, A.**; Hites, R. A. Brominated and chlorinated flame retardants in tree bark from around the globe. *Environmental Science and Technology*, 2013, 47, 349-354.
9. **Salamova, A.**; Hites, R. A. Dechlorane Plus in the atmosphere and precipitation near the Great Lakes. *Environmental Science and Technology*, 2011, 45, 9924-9930.
10. **Salamova, A.**; Hites, R. A. Discontinued and alternative brominated flame retardants in the atmosphere and precipitation from the Great Lakes Basin. *Environmental Science and Technology*, 2011, 45, 8698-8706.
11. R. A. Hites, **Salamova, A.**; Venier, M. Dechlorane Plus in Great Lakes air. *Organohalogen Compounds*, 2010, 72, 423-426.

12. **Salamova, A.**; Hites, R. A. Evaluation of tree bark as a passive atmospheric sampler for flame retardants, PCBs, and organochlorinepesticides. *Environmental Science and Technology*, 2010, 44, 6196-6201.
13. Salakhov, M.; Efendiyev, A.; **Salamova, A.**; Maharramov, A. Allakhverdiyev, M. Stereochemical terms and their interpretations. Fullerenes. *News of Baku State University, sec. Natural Sciences*, 2002, 2, 37-42.
14. Maharramov, A; Allahverdiyev, M.; **Salamova, A.** *Brief Azerbaijani-English-Russian Dictionary of Chemistry*. Baku State University Publishing House, Baku, Azerbaijan, 2001.
15. Maharramov, A.; Mamedova, R.; Aliyev, A.; **Salamova, A.**; Allakhverdiyev, M. Investigation of the reaction of 1-amino-3-ethoxy-2-propanol with various aldehydes. *News of Baku State University, sec. Natural Sciences*, 2000, 2, 25-30.
16. Aliyev, A.; **Salamova, A.**; Kurbanova, M.; Maharramov, A. New synthesis of 1,4-tetrahydrothiazine derivatives. *News of Baku State University, sec. Natural Sciences*, 1999, 2, 36-41.

Submitted publications

Pevery, A. A.; **Salamova, A.**; Hites, R. A. St. Louis, Michigan, air is still contaminated 40 years after the polybrominated biphenyl accident. Submitted to *Environmental Science and Technology*, May 2014.

PRESENTATIONS (presenter is underscored)

1. Hermanson, M. H.; **Salamova, A.**; M.; Hites R. A. "Brominated and organophosphate flame retardants in the Arctic's atmosphere", 14th Annual Workshop on Brominated and Other Flame Retardants, Indianapolis, IN, June 2014 (oral).
2. Pevery, A. A.; **Salamova, A.**; Hites, R. A. "Brominated and Chlorinated Pollutants in Tree Bark from the Center of Michigan: Velsicol Superfund Site", 14th Annual Workshop on Brominated and Other Flame Retardants, Indianapolis, IN, June 2014 (poster).
3. Liu, L. Y.; Ma, Y.; **Salamova, A.**; Venier, M.; Hites, R. A. "Spatiotemporal Trends of PBDEs and Their Replacements in the Great Lakes Atmosphere", 14th Annual Workshop on Brominated and Other Flame Retardants, Indianapolis, IN, June 2014 (poster).
4. **Salamova, A.**; Hermanson, M. H.; Ma, Y.; Venier, M.; Hites R. A. "Brominated and organophosphate flame retardants in the Arctic's atmosphere", 34th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Nashville, TN, November 2013 (oral).
5. Liu, L.; Kukučka, P.; Venier, M.; **Salamova, A.**; Klánová, J.; Hites R. A. "Differences in spatiotemporal variations of atmospheric PAH levels between North America and Europe: Data from two air monitoring projects", 34th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Nashville, TN, November 2013 (oral).
6. Venier, M.; Ma, Y.; Pevery, A.; **Salamova, A.**; Petrich, N.; Hu, D.; Spak, S.; Hornbuckle, K.; Hites R. A. "Organophosphorus flame retardants in Chicago's atmosphere", 34th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Nashville, TN, November 2013 (oral).

7. **Salamova, A.** “Flame retardants: Production and use history and environmental trends”. Environmental Science Seminar, School of Public and Environmental Affairs, Indiana University, Bloomington, IN, October 2013 (oral).
8. **Salamova, A.**; Ma, Y.; Venier, M.; Hites, R. A. “Brominated and organophosphate flame retardants in the Great Lakes atmosphere”, American Chemical Society Fall 2013 National Meeting, Indianapolis, IN, September 2013 (oral).
9. **Ma, Y.**; **Salamova, A.**; Venier, M.; Hites, R. A. “Has the phase-out of PBDEs affected their atmospheric levels? Trends of PBDEs and their replacements in the Great Lakes atmosphere”, The 33rd International Symposium on Halogenated Persistent Organic Pollutants and POPs, Daegu, Korea, August 2013 (oral).
10. **Salamova, A.**; Pagano, J. J.; Holsen, T. M.; Hites R. A. “Post-1990 temporal trends of PCBs and organochlorine pesticides in the atmosphere and in fish from the Great Lakes Basin are similar”, 56th Annual Conference on Great Lakes Research, International Association for Great Lakes Research, West Lafayette, IN, June 2013 (oral).
11. **Ma, Y.**; Petrich, N.; Venier, M.; **Salamova, A.**; Hu, D.; Spak, S.; Hornbuckle, K.; Hites R. A. “Identification and Measurement of organophosphorus flame retardants in Chicago’s atmosphere”, 56th Annual Conference of Great Lakes Research, International Association for Great Lakes Research, West Lafayette, IN, June 2013 (oral).
12. **Nettesheim, T. G.**; Hites R. A.; Venier, M.; **Salamova, A.**; Liu, L.-Y. “Are emission reduction strategies working? An assessment of PAHs data from the Integrated Atmospheric Deposition Network”, 56th Annual Conference on Great Lakes Research, International Association for Great Lakes Research, West Lafayette, IN, June 2013 (oral).
13. **Salamova, A.**; Hites R. A. “Flame retardants in tree bark from around the globe”, Flame Retardant Dilemma Symposium, Green Science Policy Institute, University of California, Berkeley, CA, April 2013 (**invited speaker**).
14. **Salamova, A.**; Hites R. A. “Brominated and chlorinated flame retardants in tree bark around the globe”, 6th International Symposium on Flame Retardants, San Francisco, CA, April 2013 (poster).
15. **Ma, Y.**; **Salamova, A.**; Venier, M.; Hites R. A. “Spatial and temporal trends of brominated flame retardants in the Great Lakes atmosphere”, 6th International Symposium on Flame Retardants, San Francisco, CA, April 2013 (poster).
16. **Salamova, A.**; Hites R. A. “Old and new flame retardants in the Great Lakes basin”, Environmental Health 2013, Boston, MA, March 2013 (oral).
17. **Hites, R. A.**; Venier, M.; **Salamova, A.** “Great Lakes pollution trends in the air”, Tribal Environmental Program Management Conference, Environmental Protection Agency, Chicago, IL, February 2013 (oral).
18. **Salamova, A.**; Hites R. A. “Dechlorane Plus in the Great Lakes’ air”, 33rd Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Long Beach, CA, November 2012 (oral).
19. **Salamova, A.**; Hites R. A. “Polychlorinated biphenyls in Great Lakes’ atmosphere”, 7th International PCB Workshop, Arcachon, France, May 2012 (**invited speaker**).
20. **Salamova, A.**; Hites R. A. “Environmental monitoring networks are important tools to assess chemical regulations: the North American Great Lakes’ Integrated Atmospheric Deposition Network”, 6th World Congress of the Society of Environmental Toxicology and Chemistry, Berlin, Germany, May 2012 (oral).

21. **Salamova, A.**; Hites R. A. “Tree bark as a green atmospheric sampler”, 6th PhD Workshop, Baku, Azerbaijan, December 2011 (**invited speaker**).
22. **Salamova, A.**; Venier, M.; Hites R. A. “Old and new flame retardants in the Great Lakes basin”, 32nd Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Boston, MA, November 2011 (oral).
23. **Venier, M.**; Ma, Y.; **Salamova, A.**; Hites, R. “Alternative flame retardants in the atmosphere near the Great Lakes”. 32nd Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Boston, MA, November 2011 (poster).
24. **Venier, M.**; Ma, Y.; **Salamova, A.**; Hites, R. “Identification of old and new flame retardants in the atmosphere: the Integrated Atmospheric Deposition Network”, 31st Symposium of Halogenated Persistent Organic Pollutants, Brussels, Belgium, August 2011 (oral).
25. **Hites, R. A.**; Venier, M.; **Salamova, A.** “New, newer, and newest flame retardants in the environment”, 12th Brominated Flame Retardants Workshop, Boston, MA, June 2011 (**keynote lecture**).
26. **Salamova, A.** “Flame retardants in the atmosphere and tree bark around the Great Lakes”. Environmental Science Seminar, School of Public and Environmental Affairs, Indiana University, Bloomington, IN, April 2011 (oral).
27. **Salamova, A.**; Hites R. A. “Levels of flame retardants, PCBs, and selected organochlorine pesticides in tree bark vs. levels in air and precipitation”, 30th Symposium of Halogenated Persistent Organic Pollutants, San Antonio, TX, August 2010 (poster).
28. **Hites R. A.**; Venier, M.; **Salamova, A.** “Something about Dechlorane Plus”, 30th Symposium of Halogenated Persistent Organic Pollutants, San Antonio, TX, August 2010 (oral)
29. **Hites, R. A.**; Venier, M.; **Salamova, A.** “Brominated flame retardants are the new PCBs”, Department of Chemistry, Southern Illinois University, Carbondale, Illinois, March 2010 (oral).
30. **Salamova, A.**; Hites R. A. “Persistent organic pollutants in the atmosphere and tree bark”, 30th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, New Orleans, LA, November 2009 (oral).
31. **Hites, R. A.**; **Salamova, A.**; Venier, M. “Spatiotemporal analyses of atmospheric concentrations of flame retardants near the U.S. Great Lakes”. 30th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, New Orleans, LA, November 2009 (oral).
32. **Salamova, A.**; Hites R. A. “Flame retardants in the atmosphere and tree bark”, 52nd Annual Conference on Great Lakes Research, International Association for Great Lakes Research, Toledo, OH May 2009 (oral).

SYNERGISTIC ACTIVITIES

- Local organizing committee, 14th Annual Workshop on Flame Retardants, Indianapolis, IN, June 22-24, 2014.
- Co-chair, session “Characterization and processes of atmospheric pollutants” at the 34th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Nashville, TN, November 17-21, 2013.
- Chair, Women in Environmental Science Program, School of Public and Environmental Affairs, Indiana University (received \$9,000 from the Office for Women’s Affairs at Indiana University to establish this program), Bloomington, IN, 2012-2013.

- Peer Reviewer for professional journals (*Environmental Science and Technology, Science of the Total Environment, Environmental Science and Pollution Research, Environmental Pollution, Chemosphere*).
- Judge for the best student paper, 56th Annual Conference on Great Lakes Research, the International Association on Great Lakes Research, West Lafayette, IN, June 2013.
- Judge for the best student paper, 14th Annual Women in Science Program Conference, Indiana University, Bloomington, IN, March 2012.

PROFESSIONAL AFFILIATIONS

- American Chemical Society
- Society of Environmental Toxicology and Chemistry
- International Association for Great Lakes Research

RESEARCH IN THE MEDIA

- Global flame retardant levels indicated in tree bark samples. IU Chemistry, Association of Indiana University Chemists Alumni Journal. Vol 58, Fall 2013.
- A breath of fireproof air? *Washington Toxics Coalition*, October 15, 2013.
- US study raises questions over organophosphate persistence. *Chemical Watch, Global Risk and Regulation News*, October 3, 2013.
- Alternative flame retardants detected in outdoor air. *Chemical and Engineering News*, October 1, 2013.
- Flame retardants in consumer products are linked to health and cognitive problems. *Washington Post*, April 15, 2013.
- Tree bark shows global spread of toxic chemicals. *Voice of America*, March 15, 2013.
- Finding pollutants in tree bark, *Chemical and Engineering News*, January 4, 2013.
- Indiana University study finds flame retardant pollutants at far-flung locations, *Indiana University News Room*, January 8, 2013.
- Indiana University study finds flame retardant pollutants at far-flung locations, *School of Public and Environmental Affairs, Indiana University*, January 8, 2013.