

BIOGRAPHICAL SKETCHES

Ali B. Ishaque, Ph.D.

University of Maryland Eastern Shore

Department of Natural Sciences

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Appointments:

- **Professor** of Environmental Science University of Maryland Eastern Shore, Princess Anne, MD 2015-
- **Associate Professor** of Environmental Science University of Maryland Eastern Shore, Princess Anne, MD 2005-2015
- **Assistant Professor** of Environmental Science, University of Maryland Eastern Shore, Princess Anne, MD 2003-2005
- **Lecturer** of Environmental Science, University of Maryland Eastern Shore, Princess Anne, MD, 2001-2003
- **Postdoctoral Fellow**, Jackson State University, Jackson, MS, 1999-2001
- **Postdoctoral Fellow**, Free University of Brussels, Belgium, 1998-1999
- **Research Associate**, Free University of Brussels, Belgium, 1992-1998

Education:

- Free University of Brussels, Belgium (PhD), Ecotoxicology, 1998
- Free University of Brussels, Belgium (MS), Marine Ecology, 1992
- University of Science & Technology, Ghana (BS), Chemistry, 1988

Memberships of Professional Societies:

1. Member of the American Association for the Advancement of Science (AAAS)
2. Editorial Board Member, Journal of Marine Science: Research & Development- Open Access
3. Active Member Society of Toxicology
4. Member American Association for Cancer Research (AACR)

National, State, and Regional Committee Services:

Campus:

1. Member Biosafety committee (2010-2012)
2. Campus wide Promotion and Tenure committee (2011-2012 academic year)
3. Campus wide Promotion and Tenure committee (2012-2013 academic year)
4. Campus wide Promotion and Tenure committee (2013-2014 academic year)
5. Campus-wide Faculty Grievance committee (2010-2012 academic years)
6. DNS Activity coordinator- Title III

7. Graduate Toxicology Coordinator
8. Group Leader ENVS
9. ORAU counselor
10. Departmental and Search committees
11. Graduate students thesis and dissertation committees

Inter-Campus Committee Assignment(s):

- UMES-SU Dual Degree Program coordinator

USM Committee Assignment(s):

- Member University System of Maryland Environmental Scholarship Steering Committee

State Assignment(s):

Board Member Maryland Coastal Bay Foundation

LIST OF OTHER COLLABORATORS WITHIN PAST 48 MONTHS

Dr. Katheleen Squibb University of Maryland School of Medicine, Baltimore MD

Dr. John Ondov, University of Maryland College Park

Grants Awarded (Past)

- Molecular, Analytical, Computational and Environmental Risk Assessment Studies (MACERAC) Project using Tri-Nitro Toluene (TNT) and its congeners/metabolites; Army Research Office, Director of Defense Research and Engineering, **DOD: 09/30/02-09/30/04** \$130,000.00 Co-Investigator
- UMES MARC/U* (STAR) Program, May 10 2003 – June, 1 2006 NIH/NIGMS Co-Authors \$2,500,000
- UMES MBRS RISE Program, April 1 2004- June, 1 2007 (NIH) Co-Authors \$2,000,000
- **University of Maryland Partnership in Cancer Research and Outreach (U56): Interactive Effects of Hormonally Active Agents on Expression of Estrogen Responsive Genes: Role in Carcinogenesis. National Cancer Institute Sept 27th , 2004 to June 30th 2006 Co-Investigator \$300,000.00**

Grants Awarded (current):

1. Minority Access to Research Careers Undergraduate Student Training in Academic Research. \$2,254,805 National Institutes of Health, *June 2009-May 2014* Preceptor- 5 % Efforts
2. Minority Biomedical Research Support Research Initiative for Scientific Enhancement. \$1,681,082, National Institutes of Health, *April 2009-May 2013* Preceptor
3. CREST Center for the Integrated Study of Coastal Ecosystem Processes and Dynamics in the mid-Atlantic Region. Total Amount: \$4,995,234; Funding Agency: NSF; Funding Period: 9/1/10 to 8/31/15 Co-Investigator- 10 % Efforts

4. Establishing a Network of Cooperative Science Centers for Training High School Students in Geosciences; \$500,000 ; Funding Agency: NSF; Funding Period: 2012 to 2015; Co-PI – 10% Efforts

Publications:

1. **I.B. Ali**, C.R. Joiris, L. Holsbeek (1997). Total and Organic Mercury in the Polychaete *Maldanes sarsi* and the Starfish *Ctenodiscus crispatus* from the Barents Sea. *Sci. Tot. Environ* 201: 189-194.
2. **I. B. Ali**, C.R. Joiris, L. Holsbeek (1997). Polychlorinated Biphenyls in Barents and Greenland Seas Fish. *Bull. of Environ. Contam. And Toxicol.* 58: 885-892.
3. L.Holsbeek, C.R. Joiris, V. Debacker, **I.B. Ali**, P. Roose, J.N. Nellissen, S. Gobert, J.M. Bouquegneau and M. Bossicart (1999). Heavy Metals, Organochlorines and Polycyclic Aromatic Hydrocarbons in Sperm Whales Stranded in the Southern North Sea during the 1994/1995 winter. *Mar. Poll. Bull* 38:304-313.
4. P.B. Tchounwou, B. Wilson and **A. Ishaque** (1999). Important Considerations in the Development of Public Health Advisories for Arsenic and Arsenic-Containing Compounds in Drinking Water. *Review on Environ. Health.* 14 (4): 211-229.
5. P.B. Tchounwou, B. A. Wilson, **A. B. Ishaque** and D. Sutton (2000). Toxicity evaluation of Arsenic Trioxide and Atrazine to Three Developmental Stages of Japanese Medaka (*Oryzias latipes*). In *Metal Ions in Biology and Medicine*. J.A. Centeno, Ph. Collery, G. Vernet, R.B. Finkelman H. Gibb, J.C. Etienne (Eds) 6:18-20
6. P.B. Tchounwou, B. A. Wilson, **A. B. Ishaque**, J. Schneida, (2001). Transcriptional activation of stress genes, and cytotoxicity in human liver carcinoma cells (HepG2) exposed to 2,4,6- Trinitrotoluene, 2,4-Dinitrotoluene, and 2,6- Dinitrotoluene. *Environmental Toxicology* 16: 209-216.
7. P.B. Tchounwou, B. Wilson and **A. Ishaque** (2001). Embryotoxicity of Arsenic Trioxide and Atrazine to Japanese Medaka (*Oryzias latipes*), and Cytotoxicity to Human Liver Cells (HepG2). *Environmental Toxicology and Risk Assessment: Science, Policy and Standardization – Implications for Environmental Decisions: Tenth Volume, ASTM STP 1403:* 83-95.
8. P.B. Tchounwou, B. A. Wilson, **A. B. Ishaque**, and J. Schneider (2001). Atrazine Potentiation of Arsenic Trioxide-Induced Cytotoxicity and Gene Expression in Human Liver Carcinoma Cells (HepG₂). *Molecular and Cellular Biochemistry* 222:49-59.
9. P.B. Tchounwou, **A. B. Ishaque**, and J. Schneider (2001). Cytotoxicity and Transcriptional Activation of Stress Genes in Human Liver Carcinoma Cells (HepG₂) Exposed to Cadmium Chloride. *Molecular and Cellular Biochemistry* 222:21-28
10. P.B. Tchounwou, **A. B. Ishaque**, and E. Shen (2001). Cytotoxicity and Stress Genes in Human Liver Carcinoma Cells (HepG₂) Exposed to Lead Nitrate. Special Issue, Abstracts of the IXth International Congress of Toxicology, 8-12 July, 2001- Brisbane, Australia. Vol. 164 nos. 1-3: 65. Guest Editor: P.F.A Wright.

11. Rowshan A. Begum, Ibrahim O. Farah, **Ali B. Ishaque** (2002). Pifithrin- α (PFT- α) caused differential protection of rat liver cells and hepg2 cell line in response to the selective cytotoxicity of arsenic and cadmium. *Biomedical Sciences Instrumentation*. 38:41-46
12. P.B. Tchounwou, **A. B. Ishaque**, D. Sutton, Nanuli Ninashvili and Elaine Shen (2002). Biomarkers of Sensitivity and effect associated with cadmium and mercury toxicity in human liver carcinoma (HepG2) cells. In *Metal Ions in Biology and Medicine*. L. Khassanova, Ph. Collery, I. Maynard, Z. Khassanova, J.C. Etienne (Eds) 7:132-137.
13. Waneene C. Dorsey, Paul B. Tchounwou, **Ali B. Ishaque**, and Elaine Shen (2002). Transcriptional Activation of Stress Genes and Cytotoxicity in Human Liver Carcinoma (HepG₂) Cells Exposed to Pentachlorophenol *Int. J. Mol. Sci.* 3, 992-1007.
14. Paul B. Tchounwou, Cecilia Newsome, Konsuela Glass, Jose A. Centeno, Jerzy Leszczynski, Joseph Bryant, Joseph Okoh, **Ali Ishaque**, and Marius Brow (2003) Environmental Toxicology and Health Effects Associated with Dinitrotoluene Exposure. *Review on Environ. Health* Vol 18:3, 203-229.
15. **Ali B. Ishaque**, Paul B. Tchounwou, Barbara A. Wilson and Teresa Washington (2004) Developmental arrest in Japanese medaka (*Oryzias latipes*) embryos exposed to sublethal concentrations of atrazine and arsenic trioxide; *Journal of Environmental Biology* 25:1, 1-6
16. Paul B. Tchounwou, Clement G. Yedjou, Dominique N. Foxx, **Ali B. Ishaque**, Elaine Shen (2004). Lead-induced cytotoxicity and transcriptional activation of stress genes in human liver carcinoma (HepG₂) cells. *Molecular and Cellular Biochemistry* 255:161-170.
17. **Ali B. Ishaque**, Christine Timmons, Frederick V. Ballard, Carine Hupke, Kalpana Dulal, Linda R. Johnson, Tonya M. Gerald, Dwayne Boucaud, Paul B. Tchounwou (2005). Cytotoxicity of Dinitrotoluenes (2,4-DNT, 2,6-DNT) to MCF-7 and MRC-5 Cells *Int. J. Environ. Res. Public Health* 2(2), 304-307
18. **Ali B. Ishaque**, Eugene L. Bass, Roman Jesien, Steven Hughes, and Carine Hupke (2005) A better method for standardizing vitellogenin content of fish tissue; *Journal of Environmental Biology* 26 (1) 1-5
19. **Ali B. Ishaque**, Linda R. Johnson, Tonya M. Gerald, Dwayne Boucaud, Joseph Okoh, Paul B. Tchounwou (2006). Assessment of Individual and Combined Toxicities of Four Non-Essential Metals (As, Cd, Hg and Pb) in the Microtox. *Int. J. Environ. Res. Public Health* 3 (1) 118-120.
20. Farah IO, Begum RA, **Ishaque AB** (2007). Differential protection and transactivation of P53, P21, Bcl2, PCNA, cyclin G, and MDM2 genes in rat liver and the HepG2 cell line upon exposure to pifithrin. *Biomed Sci Instrum* 43 : 116-21.
21. **Ali B. Ishaque** and Tito I. Aighewi (2008). Dose-Response. In Sven Erik Jergensen and Brian D. Fath (Editor-in-Chief), *Ecotoxicology*. Vol [2] of *Encyclopedia of Ecology*, 5 vols. Pp. [957-967] Oxford: Elsevier.

22. Charles K. Klutse, Mack Kelly; Squibb, Katherine, **Ishaque, Ali (2009)**. Differential toxicological interaction among arsenic, cadmium, lead and mercury on MCF 7 cell line. Scholarly Research Exchange, Volume 2009 • Article ID 789636 • doi:10.3814/2009/789636
23. NOSAKHARE, O.K.; AIGHEWI, I.T.; CHI, A.Y.; ISHAQUE, A.B., and MBAMALU, G., 2012. Land use land cover changes in the lower Eastern Shore watersheds and coastal bays of Maryland: 1986–2006. *Journal of Coastal Research*, 28(1A), 54–62. West Palm Beach (Florida), ISSN 0749-0208
24. **Aighewi, I.T.**, Osarodion K. Nosakhare and Ali B. Ishaque 2012. Land Use-Land Cover Changes and Sewage Loading in the Lower Eastern Shore Watersheds and Coastal Bays of Maryland: Implications for Water Quality. **Journal of Coastal Research**; doi: 10.2112/JCOASTRES-D-11-00195.1.
25. **Egbe Egiebor, Adam Tulu, Nadia Abou-Zeid, Isoken Aighewi and Ali Ishaque** 2013. The Kinetic Signature of Toxicity of Four Heavy Metals and Their Mixtures on MCF7 Breast Cancer Cell Line *Int. J. Environ. Res. Public Health* **2013**, 10(10), 5209-5220; doi:10.3390/ijerph10105209; <http://www.mdpi.com/1660-4601/10/10/5209/>
26. Aighewi, I., Ishaque, A. and Nosakhare, O. (2014) Geospatial Evaluation for Ecological Watershed Management II: Changes in Land Use—Land Cover Influence on Ecosystems Services. *Journal of Geographic Information System*, 6, 246-257. <http://dx.doi.org/10.4236/jgis.2014.63023>
27. Ishaque A.B., and Aighewi I.T, Dose–Response, Reference Module in Earth Systems and Environmental Sciences, Elsevier, 2014. 03-May-14 doi: 10.1016/B978-0-12-409548-9.09092-8.
28. Tulu A, Ishaque A, Egiebor E, Chambers C, Jagus R (2014) Separate and Joint Effects of Polycyclic Aromatic Hydrocarbons (PAH) and Polychlorinated Biphenyls (PCB) on Aromatase CYP19A Transcription Level in Atlantic Tomcod (*Microgadus tomcod*). *J Marine Sci Res Dev* 4: 151.doi:10.4172/2155-9910.1000151
29. Charles K. Klutse, Egbe S. Egiebor, Isoken T. Aighewi, and Ali B. Ishaque: The Effect of L-Buthionine Sulfoximine on the Toxicities and Interactions of As, Cd, Hg, and Pb and Their Composite Mixture on MCF 7 Cell Line (in press). DOI: 10.9734/BJAST/2015/13509
30. Shuiwang Duan, Nianhong Chen, Sujay S. Kaushal, Paulinus Chigbu, Ali Ishaque, Eric May, Ozuem F. Oseji. Dynamics of dissolved organic carbon and total dissolved nitrogen in Maryland's coastal bays Estuarine, Coastal and Shelf Science 164 (2015) 451e462
31. Abou-Zeid, Nadia; Timmons, Christine; Mack Kelly; Squibb, Katherine, **Ishaque, Ali**. Genotoxicity Effect of Atrazine, Arsenic, Cadmium and Nitrate, Individually or in Mixtures at Maximum Contaminant Level on Breast Cell Lines (**in preparation**).

Awards:

- 2009 AACR Minority –Serving Institution Faculty Scholar in Cancer Research Award
- 2011 AACR Minority –Serving Institution Faculty Scholar in Cancer Research Award

Doctoral Dissertation, Toxicology

Egbe Sandra Egiebor, Katherine Squibb, Anthony Nyame, Douglas Ruby, Joseph Pitula and **Ali Ishaque**. Cytotoxicity: The Underlying Mechanisms of Cell Death induced by four heavy metals (As, Cd, Hg and Pb) and their mixture on MCF7 cells (May 2011).

Nadia Abou-Zeid, Katherine Squibb, Anthony Nyame, Douglas Ruby, Joseph Pitula and **Ali Ishaque**. Interactive Effects of Endocrine Disruptors (Atrazine, Cadmium, Arsenic and Nitrate) at Environmentally Relevant Concentrations on Breast Cell Lines (December, 2012)

Maryam Taboodi, Katherine Squibb, Laundetta Jones, Jurgen Schwarz , Kelly Mack, **Ali Ishaque** (2012). Cytotoxic Effect of Naringenin on Human Breast Cancer Cells ER (+) MCF-7 and ER (-) MDA-MB-468 (December, 2012).

Doctoral Dissertation; MEES

Adam Tulu, Rosemary Jagus, Andrea Johnson, Jeannine Harter-Dennis, Yan Waguespak **Ali Ishaque** (2011), THE SEPARATE AND JOINT EFFECTS OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) AND POLYCHLORINATED BIPHENYLS (PCBs) ON HEPATIC CYTOCHROME-1A (CYP1A) AND OVARIAN CYTOCHROME-19A (CYP19A) EXPRESSION IN ATLANTIC TOMCOD (*Microgadus tomcod*) (December, 2011)

MS Thesis; MEES

Charles Kofi Klutse, Shawn R. White, Anthony K. Nyame. Ali B. Ishaque (2007).

Evaluation of Individual and Combined Cytotoxicity of Arsenic, Cadmium, Mercury, and Lead on MCF 7 cell lines Using in vitro Cellular Systems.

