**WAYNE STATE UNIVERSITY**

**Professional Record**

NAME: **MARK M. BASKARAN** Date prepared: 14 September 2023

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E-Mail: Baskaran@wayne.edu url:<https://clasprofiles.wayne.edu/profile/AG4231>

**DEPARTMENT/COLLEGE:** Geology/Liberal Arts and Sciences

**PRESENT RANK & DATE OF RANK:** Professor – 8/2007-present; Chair, Department of Environmental Science and Geology: 7/1/2018 - present

**WSU APPOINTMENT HISTORY:**

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| --- | --- |
| Year Appointed/Rank | 1999/Senior Lecturer |
| Year Promoted to Associate Professor | 2000 |
| Year Awarded Tenure | 2004 |
| Year Promoted to Full Professor | 2007 |

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| --- | --- |
| **PLACE OF BIRTH:** | Watrap, Tamilnadu (India) |
| **CITIZEN OF:** | United States |

**EDUCATION** (Give name of institution, place and date of degree)

|  |  |
| --- | --- |
| **Baccalaureate:** | V.H.N.S.N. College, Virudhunagar, India, Physics (Major) Chemistry and Mathematics (Minor), May 1977. |
| **Graduate:** | M.S. Madurai-Kamaraj University, Madurai, India, Physics, May 1979.  Ph.D. Physical Research Laboratory, Ahmedabad, India, Isotope Geochemistry, August  1985. |
| **Postdoctoral:** | Physical Research Laboratory, Ahmedabad, India, August 1985-July 1987. University of Alaska, Fairbanks, AK, August 1987-September 1988. |

**APPOINTMENTS AT OTHER INSTITUTIONS (Years):**

Research Scientist, Texas A&M University at Galveston (TAMU-G) 1/1995-6/1999.

Senior Lecturer, Texas A&M University at Galveston, 9/1992-5/1999 Lecturer, Texas A&M University at Galveston, 10/1988-8/1992.

**CONSULTANCIES:**

* IAEA, Technical Consultant, 9-13 July 2018 Monaco Marine Environmental Radioactivity Laboratory
* Radiation Expert, Citizens Group in Southern Georgia, 2016-2017
* International Atomic Energy Agency (IAEA): Technical Working Group for **Thorium in the Environment** (5/2012 – 2013)
* Radiation Measurement Consultant, U.S. Geological Survey, 2008
* Radiation Expert, Talus Resources, Houston, Texas, 2008-2010
* Radiation Monitoring Consultant, APIA, Anchorage, Alaska, 2006-2008
* Served as a Radiation expert to the “*Concerned Citizens of Lake Township*” group on the Industrial Excess Landfill, Uniontown, Ohio (2005-2006)
* Selected as an Independent Consultant to assess the data on the Mixed Waste Landfill adjoining Sandia

National Laboratory, New Mexico and to make recommendations for the future of the Landfill (yr-2000)

**PROFESSIONAL SOCIETY MEMBERSHIP(S) and EDITORSHIP:** 

* American Association for the Advancement of Science (2019-present)
* Associate Editor – Journal of Environmental Radioactivity (2016 –2022)
* Associate Editor – Estuarine, Coastal and Shelf Science (2014 - present)
* Indian Society for Radiation Physics – 2015 - lifetime member
* Geochemical Society 2010-present
* American Geophysical Union, 1988-present
* Sigma-Xi, 1987-1988

**HONORS/AWARDS:**

* *Distinguished Graduate Faculty* award, Wayne State University 2023
* Member, *Honors and Recognition Committee*, AGU 2022-2023
* Elected to *Wayne Academy of Scholars* 2021-lifetime
* Member, Fulbright National Screening Committee 2019-2021
* Chair*, Devendra Lal Memorial Medal* selec.comm. *–* Union-level Medal at AGU 2017-2021
* *Senior Fulbright U.S. Scholar*, Turkey (September – December 2015) 2015
* *Distinguished Visiting Professor*, East China Normal University 2014 - 2016
* *Board of Governors Faculty Recognition* award, Wayne State University 2013
* *Board of Governors Distinguished Faculty Fellow*, Wayne State University 2010-2012
* Elected as *Visiting Research Fellow,* St. Anne’s College, Oxford University 2009
* Valedictorian, awarded Gold Medal, M.Sc. 1977-1979
* Valedictorian awarded Gold Medal, B.Sc. 1974-1977

**BIOGRAPHICAL CITATIONS** (National/Regional or Professional Directories):

* Listing: WHO’S WHO in South and Southwest 1996/1997 onwards;
* WHO’S WHO in Science and Engineering 1996/1997 onwards;
* WHO’S WHO in America 1996/1997 onwards;
* WHO’S WHO in the World 1997 onwards

I. **TEACHING**

1. Since Fall 1999
2. Years at Other Colleges/University (Please list): 11 years at Texas A&M University **C.** Courses Taught at Wayne State in Last Five Years

**1. Undergraduate**

* GEL-1000 - Geology and the Environment
* GEL 1010 - Geology: The Science of the Earth
* GEL-1050 – Oceanography (Online Course)
* GEL-1370 - Meteorology: The Study of Weather (Online Course)
* GEL 4850 - Research in Geology
* GEL-5993 - Writing Intensive

**2. Graduate**

* GEL-5080 – Environmental Isotope Geochemistry.
* GEL-5120 – Environmental Geochemistry
* GEL-5510 – Environmental Fate and Transport of Pollutants
* GEL-6400 – Geochronology/Nuclear Geology/
* ESG-6400 – Isotopes: Applications in Geological and Environmental Sciences
* GEL-7970 – Research in Geology
* GEL-7990 – How to Build a Habitable Planet – Directed Study

3. Graduate Professional School: None

**D.** Essays/Theses/Dissertations Directed

1. Students by Name, Level, Title of Project, Year **Wayne State:**

**Master’s thesis mentored to graduation:**

Daphne McNeary, M. S. thesis (Dept. of Geology - Chair), 4/5/2002, entitled: “The Depositional Characteristics of 7Be, 210Pb, and 210Po in Southeastern Michigan.”

Sarah Trimble, M. S. thesis (Dept. of Geology - Chair), 5/13/2003, entitled: “The Distribution of uranium and thorium series radionuclides in the Canada Basin, Arctic Ocean.”

Elizabeth Garver, M. S. thesis (Dept. of Geology - Chair), 7/29/2003, entitled: “Mechanisms of release of uranium and thorium-series radionuclides from a suite of natural minerals.”

Jason Jweda, M.S. thesis (Department of Geology – Chair), entitled: “Short-lived radionuclides as tracers of particle dynamics in a river system in Southeast Michigan.” August 2007.

Marty Eakin, M.S. (Dept. of Geology, June 2014; co-chair), entitled: “Radon loss from zircon: Emanation and diffusion as a function of grain size, temperature, and fission track density.”

Ayowale Emmanuel Ayodele, M.S. (Dept of Geology, June 2014; Chair), entitled: “Changes in the lead concentration in air and soil during house desconstruction and demolition: case study from Springwells, Detroit, Michigan.”

Jenna Hage-Hassan, M.S. (Dept of Geology, June 2015, Chair), entitled: “Impacts of anthropogenic watershed activity on the sedimentary records of dams from the Midwestern United States: A case study from Michigan and Indiana.”

John Niedermiller, M.S. (Dept of Geology, April 2017, Chair), entitled: “Comparison of the scavenging intensities, remineralization and residence time of 210Po and 210Pb at key interfaces (Biotic, sediment-water interface and hydrothermal) of the GEOTRACES East Pacific Zonal Transect.”

Katie Krupp, M.S. (Dept of Geology, July 2017; Chair), entitled “Using 210Po/210Pb disequilibria to characterize the biogeochemistry and quantify the dynamics of sea ice in the Arctic.”

Dawn Niedermiller, M.S. (Dept of Geology, December 2019; Chair).

Kristina Vanchick (Revels), M.A. (Dept of Geology, December 2019; Chair)

Max Denny, M.S. (Department of Environmental Science and Geology, May 2021; Chair)

Gozde Alper, M.S. (Department of Environmental Science and Geology, August 2021; Chair)

Denada Planaj, M.S. (Department of Environmental Science and Geology, November 2022; Chair)

Paul Manion, M.S. ((Department of Environmental Science and Geology, August 2020-present; Chair)

**Incomplete thesis/dissertation:**

Thomas Novell (Incomplete thesis work; M.S.)

Lynn Katrib, Ph.D. (Co-Chair, discontinued from her Ph.D. program in Civil and Environmental Engineering)

**Member in master thesis committees:** Curt Lichy, Andy Frahm, Shannon Molaroni, Lauren Bugdalski,

Brenden O’Leary, Mary Carnegie, Laura Robles, Brittany Watling

**Member in Ph.D. thesis committees:** Anton Puvirajah (Education), David Brackney (Education), Allison

Muhamed (Anthropology), Rajalakshmi Mudbidre (Co-advisor, Oakland University), Joydeep Roy (Physics), Sahar Ghazawi (Education, currently enrolled, 2018)

**Undergraduate students mentored:** Andrea Bartlett, Linda Fah, Max Denny, Kenneth Nash,

Vanessa Ibrahim, Michelle Blundell, Andrew Camilleri, Sabrina Good, Marie Muhammed, Emily Seifert, Pedor Pacheco, Katie Krupp, Jack Press, Noor Soboh

**External Examiner for Ph.D. Thesis outside United States:**

Selvaraj, M., Ph.D. Madras University, India 1998

Jonathan, M.P., Ph.D. Madras University, India 1999

Kannan, V., Ph.D. Anna University, India 2002

Ramachandran, S., Ph.D. Anna University, India 2005

Kumar, A. Ph.D., Anna University, India 2007

Nitika Chauhan, Ph.D., NIT, Kurukshetra, India 2015

Silvia Perez-Moreno, University of Huelva, Spain 2017

1. **Course or Curriculum Development**

GEL 5080 - 3 Credit Course - Environmental Isotope Geochemistry GEL-6400 - 4 Credit Course – Geochronology

GEL-5510 - 4 Credit Course – Fate and Transport of Contaminants

GEL-1370 - Online Meteorology Course (jointly with American Meteorological Society) GEL-1050

– Online Oceanography Course (jointly with American Meteorological Society)

1. Course Materials Unpublished - None

II. **RESEARCH**

1. **Research in Progress, Not Funded**

1. **Funded Research:**

**Wayne State University:**

* PI: “Geochronological study of sediment cores using excess Pb-210”, **$ 39,500**, 12 November 2021 – 31 May 2022, Anchor QEA, Seattle, Washington.

* PI: “Investigation of Rn-222 and its progeny (Pb-210 and Po-210) in Environmental samples in proximity to the gas development industry in Southern Pennsylvania”, **$ 48,000**, 21 February 2021 – 20 February 2023, Physicians for Social Responsibility, Pennsylvania.

* PI: “Assessment of sources and accumulation rates of sediments accumulating in a range of aquatic environments using Be-7, Pb-210 and Po-210”, **$ 55,692**, January 2020 – September 2021, USACE.

* PI: “RAPID: Investigating the incorporation of elements into ice in Lake St. Clair during extreme weather conditions: an analogy for chemical cycling in the Arctic Ocean”, Co-PI: Gi-Hoon Hong, **$ 117,336**, 1 March 2019 – 28 February 2022, National Science Foundation.

* PI: “Dating of Lake sediments using Pb-210”, **$ 23,200**, University of California – Berkeley (contract work), September 2018 – December 2019.

* PI: “GEOTRACES Arctic section: Application of 210Po and 210Pb distribution at contrasting interface regimes of Western Arctic”, $ **297,060**, October 15, 2014 – September 30, 2019, National Science Foundation.

* Co-PI: “Sediment Yield and Dam Capacity in the Great Lakes Watershed”, **$ 487,180** (Geology portion: **$ 277,320**), PI: Carol Miller, USACE, September 2014 – April 2016.

* PI: “Acquisition of a low-level beta counter’, $ **39,180**, 1 January, 2015 – 31 December, 2015, Research Equipment Program, Office of the Vice-President for Research, Wayne State University.

* PI: “Assessment of Changes in the Environmental Lead levels from Demolition of Houses from a Systematic Sampling of Air and Soil at Demolition Sites”, **$ 90,254**, September 12, 2013 – 30 June 30, 2014, NextEnergy Center.

PI: “Workshop to Assess the Recent Changes in the Biogeochemistry of the Great Lakes System (BOGLS)”, **$ 25,000**, February 1, 2013 – January 31, 2014, National Science Foundation.

* PI: “Dating of Sediments from Lake Huron and Saginaw Bay” $ **30,000**, March – December 2013, CILER (NOAA via University of Michigan).

* PI: ‘Collaborative Research: GEOTRACES – 210Po and 210Pb distribution at Eastern Pacific Interface Regimes”, **$ 189,844**, August 1, 2012 – July 31, 2015 – National Science Foundation.

* PI: “Geophysical Parameters Optimization in Oil-Well Industry”, **$ 19,000**, Co-PI: Nagesh Kulkarni, June 29, 2012 – December 31, 2012, QARC.

* Co-PI: “Sediment Yield and Dam Capacity in the Great Lakes Watershed: Reconnaissance and Laboratory Analysis”, **$ 428,147** (Geology portion: **$ 157,291**), PI: Carol Miller, USACE, September 2010 – August 2012.

* PI: “Acquisition of Additional Counting Instruments for Radiochemical Research at Wayne State University”, **$ 30,700**, August 31, 2010 – August 31, 2011 – National Science Foundation.

* PI: “Collaborative Research: GEOTRACES-Application of 210Pb and 210Po distribution at North Atlantic Interface regimes”, **$ 101,284**, April 1, 2010 – March 31, 2014 - National Science Foundation.

* PI: “Collaborative Research: GEOTRACES-Methods development and Intercalibration for the 210Pb and 210Po radionuclide pair”, **$ 85,000**, July 15, 2009 – July 31, 2012 - National Science Foundation.

* PI: “Source Identification of Lead Using its Isotopic Ratios: Implications to the Children’s Health Issue in an

Urban Laboratory”, **$ 20,979**, June 15, 2009 – November 15, 2010, President’s Research Enhancement Program

– Urban Research, Wayne State University. PI: “Assessment and Compilation of Data for the Digital Library for Urban Environmental Data and Watershed Management”, **$ 9,950**, November 11, 2008 – November 10, 2009, Office of Vice- President for Research, Wayne State University.

* PI: Observatory of Submerged Sinkhole Ecosystems in Thunder Bay National Marine Sanctuary, Lake

Huron: Habitat Exploration, Life Inventory, and Hydrologic Monitoring, National Oceanic

Atmospheric Administration, **$ 32,256** (Total funding: $ 285,551; jointly with NOAA-GLERL, Grand Valley State University, University of Wisconsin, University of Michigan), 5/2008-4/2010.

* PI: Developing a New Online Course: Introduction to Oceanography”, **$ 5,000**, April 24, 2008 – April 23, 2009, Educational Development Grant, Wayne State University.

* PI: United States Geological Survey, ‘Analytical Services: Radiochemical Analysis of sediment and water samples’, **$ 9,860,** 9/2007 - 7/2008.

* PI: PSI Consulting (Funding from the Department of Environment, State of Florida), ‘Tracer Investigations to Identify the Source(s) of Contaminants at the Sub-Surface Contaminated Site at Fuller Heights, Mulberry, Florida’, **$ 63,204,** 11/2006 - 10/2007.

* PI: Aleutian/Pribilof Islands Association Inc., Anchorage, Alaska, ‘Radiochemical investigations on subsistent food chain in the Arctic and sub-arctic regions’, **$ 12,000,** 06/2006 - 5/2007.

* PI: U.S. Civilian Research and Development Foundation, ‘Estimation of Submarine Groundwater Discharge of Groundwater and Nutrients in the Coastal Waters off the Caspian Sea, Adjoining Azerbaijan, Using Ra and Rn isotopes’, **$ 9,100** (Total amount $45,500, jointly with Geology Institute of Azerbaijan), 10/2005 - 9/2007.

* PI: United States Geological Survey (Co-operative Agreement), ‘Characterization of Submarine Groundwater Discharge in Tampa Bay, Florida, Using a set of Radiochemical Tracers’, **$ 90,500,** 5/2003 - 9/2007.

P.I: United States Geological Survey, ‘Analytical Services: Radiochemical Analysis of sediment and water samples’, **$ 15,000,** 9/2004 - 10/2005.

* P.I: United States Geological Survey, ‘Radiochemical Analysis of sediment samples’, **$ 10,000,** 9/2003 - 9/2004.

* PI: Oakland University (US EPA-Funded), ‘Clinton River AOC Preparation for sediment remediation- chemical and radiochemical analysis,’ **$ 24,500,** 3/2004 - 9/2005.

* P.I: Michigan Department of Environmental Quality (through Wayne County Department of Environment), ‘Quantification of the Reduction in Nutrient Loading and Development of New Diagnostic Tracers in the Elimination of Illicit Connections in the Ecorse Creek Watershed’, **$ 108, 787**, 9/2002 - 12/2004.

* PI: Open University, U.K., ‘Analysis of Radium and radon Isotopes in groundwater samples from a sandy aquifer in Australia’, **$ 4,025,** 04/2004 - 08/2004.

* P.I: United States Geological Survey, ‘Analytical Services: Radiochemical Analysis of sediment and water samples,’ **$ 12,000,** 9/2003 - 9/2005.

* PI: CALTECH, ‘Analysis of radium in groundwater samples’, **$3,000,** 06/2003 - 12/2003.

* P.I: AMEC Earth and Environmental Inc. (supported by Electric Power Research Institute), ‘Geochronological and sedimentological investigations on Lake sediments from Georgia, USA’, **$ 48,196,** 12/2001 - 12/2003.

* P.I: City of St. Clair (Macomb County), ‘Dating Sediment cores from Lake St. Clair, Michigan’, **$ 5,000,** 11/2002 - 6/2003.
* P.I: CALTECH, ‘Measurements of radium and radon in groundwater samples from South Dakota’, **$ 3,000,** 8/2002 – 7/2003.

* P.I: National Science Foundation, ‘The behavior and distribution of particle-reactive radionuclide tracers in particulates, colloids and solution in the Canada Basin of the Arctic Ocean’, **$ 120,163,** 07/99 - 04/2002.

* P.I: University of Alaska, Fairbanks, ‘Dating of sediment core from Elson Lagoon in the Northern Alaska’, **$ 2,000,** 12/2001 - 02/2002.

* P.I: CALTECH, ‘Measurements of radium and radon in groundwater samples from New Mexico’, **$ 6,000,** 03/2001 - 11/2001.

* P.I: Alaska Department of Fish and Game, ‘Radiochemical Investigations on Caribou and Muskox tissues from Alaska’, **$ 8,000**, 05/2001 - 11/2001.

* P.I.: Aleutian/Pribilof Islands Association, Inc., Anchorage, Alaska, ‘Radionuclide Analyses of Sea Otter skull tissue – A pilot Study to investigate the sources of radionuclides to areas adjoining Amchitka Island’, **$ 12,240,** 07/1999 - 04/2000.

* P.I.: University of Alaska, Fairbanks, AK, ‘Dating of Alaskan Lake sediments using 210Pb and 137Cs. University of Alaska’, **$ 6,000,** 7/00 - 6/2001.

* Various Sources: Radiochemical Analytical Work **$ 8,000** ($2,000 from University of Alaska (02/2002); $1,000 from Stockholm University (12/2001); $5,000 from U.S. Geological Survey (at various times from 1/2000 - 8/2002).

**At Texas A&M University at Galveston:**

* PI: National Science Foundation, ‘The behavior and distribution of particle-reactive radionuclide tracers in particulates, colloids and solution in the Canada Basin of the Arctic Ocean’**,** 11/97 to 06/99, **$186,004**.

P.I.: Aleutian/Pribilof Islands Association, Inc., Anchorage, Alaska, ‘Radionuclide Analyses of Sea Otter skull tissue – A pilot Study to investigate the sources of radionuclides to areas adjoining Amchitka Island’, 12/98- 06/99, **$ 9,792**.

* P.I.: University of Alaska, Fairbanks, ‘Dating of Alaskan Lake sediments using 210Pb and 137Cs’, 8/97–6/00, **$ 26,000**.

* P.I: National Science Foundation, ‘Acquisition of State-of-the-Art High-Efficiency, High Resolution, Gamma Ray Detector’, 2/98-1/99, $ **30,000**.

* P.I.: California Institute of Technology, ‘Aquifer transport of Th, U, Ra and Rn in solution and on colloids, Subcontract from California Institute of Technology (DOE Grant)’ - 11/96-10/99, $ **25,000**.

* P.I: Office of Naval Research, ‘Fate and mobility of naturally occurring and anthropogenic radionuclides in the Barents and Kara Seas’, 6/93-11/96, $ **330,000**.

* P.I.: “A molecular and carbon isotopic carbon isotopic record of ecosystem response to changes in water availability and CO2 levels, 7/95-6/96, $ (subcontract amount: $**15,000**), total grant: $ 128,000.

* Co-P.I: Department of Energy, ‘The production of colloids in the benthic boundary layer and particle-particle interactions, 6/92-5/97, $ **1,368,260**.
* Co-P.I.: ‘Historical contamination of Mississippi River delta and Galveston Bay sediments’ 9/93-12/94, $ **55,000**, National Oceanic Atmospheric Administration.

* PI: Reconstruction of historical contamination in San Francisco Bay, 7/93-6/94, U.S. Geological Survey, **$10,725**.

* P.I.: Plant pigments and radionuclides as tracers of organic carbon flux in the Sabine-Neches estuary. 1/92 – 8/94, **$ 98,000** (jointly with Tom Bianchi), Advanced Research Grant, State of Texas.

* Co-P.I.: Processes which control the cycling of the toxicant lead in Galveston Bay, Texas Sea-Grant, 9/91 – 8/93, **$ 105,147**.

* Co-P.I: ‘The production of colloids in the benthic boundary layer and particle-particle interactions’, 07/91-06/94, **$ 531,654** National Science Foundation.

1. **Fellowships/Grants/Special Awards:**
   * + - 1. Graduate Research Assistantship for Daphne McNeary (1999-2001)
         2. Excellence in Research - $10,000 award from the office of the Vice-President for Research for the purchase of Gamma Ray Detector, $5,000 from the Dean of the College of Science (2000).
         3. Board of Governors Distinguished Faculty Fellowship Award $ 6500/year for two years.
         4. Graduate Research Assistantship for Lynn Katrib (2013-2014)

1. **Pending Grant Proposals:** None
2. **VISITING SCIENTISTS HOSTED:**
   * Ms. Juan Du, East China Normal University, China (6/1/16 – 30/11/2016; 2/6/2017-2/7/2018)
   * Mr. Jinlong Wang, East China Normal University, China (2/14/15-2/14/16)
   * Ms. Zhou, Jing, East China Normal University, China (3/1/15-9/1/15)
   * Mr. B. Ramalingeswara Rao, National Institute of Oceanography, Goa (6 November – 6 December, 2013)
   * Prof. Jinzhou Du, East China Normal University, China (1-5 December 2013)
   * Prof. Luis Barbero, University of Cadiz, Spain (1 March – 30 April, 2012)
   * Gi-Hoon Hong, Professor, Korea Ocean Research and Development, Ansan,

S. Korea (August 2008 – July 2009)

* + - * Ma Qiang, Visiting Scholar, Xiamen University, China (October 2008-

October 2009)

* + - * Profs. Chingiz Aliyev and Akper Fazeyullah, Geological Institute, National Academy of Azerbaijan
      * Ms. Huseynova Sevinj Tariverdi, Geological Institute, National Academy of Azerbaijan
      * Dr. D. V. Borole, National Institute of Oceanography, Goa, India
      * Sandra Domatto from IPEN-Sao Paulo, 6-months visit on an IAEA Fellowship

1. **Ocean Expeditions**
   * + - Participant, BERINGIA-2005 in Ice-Breaker ODEN,-Leg-II, Arctic Ocean, July 20-August 18, 2005
       - Chief Scientist, USCGC POLAR STAR, AWS-2000, 2 weeks in the Western Arctic Ocean, 2000.
       - Participant, USCGC POLAR STAR, 4 weeks in the Western Arctic Ocean, 1998.
       - Chief Scientist, R/V GYRE 93G12 in the Gulf of Mexico, 1993.
       - Chief Scientist, R/V GYRE 92G7 in the Gulf of Mexico, 1992.
       - Chief Scientist, R/V GYRE 91G4 in the Gulf of Mexico, 1991.
       - Participant, R/V GYRE 90G7 in the Gulf of Mexico, November 1990.
       - Participant, R/V GYRE 89G15 in the Gulf of Mexico, Novmber 1989.
       - Participant, R/V Sagar Kanya in the Arabian Sea, May 1986.
       - Participant, R/V SURVEYOR, Chuckchi Sea, Bering Sea, August-September 1987. Participant, R/V METEOR, North Sea, 6 weeks (Analysis of Cs and Am onboard), 1982.
       - Participant, Geophysical Cruise in the Baltic Sea (from Kiel), one week, 1982.
       - Participant, R/V Gaveshani, Training Cruise for students, Bay of Bengal, 1981.

III. **PUBLICATIONS**

**A. Scholarly Books Published**

1. *Radon: A Tracer for Geological, Geophysical and Geochemical Studies* – Springer, M. Baskaran – August 2016 (Book DOI: 10.1007/978-3-319-21329-3; ISBN: 978-3-319-21328-6; ISBN 978-3-319-213329-3 eBook).
2. Co-Authored: None

* + 1. **Chapters Published:** (included in the publication list below)

* + 1. **Editorships of Books/Proceedings:**

*Handbook of Environmental Isotope Geochemistry* – Springer, Mark Baskaran (Editor) – 2- set Volume with 40 articles, ranked in the top 25% of all the books published by Springer in this field consistently since 2011 to present. Edited Proceedings from Mangalore Conference (2013), Turkey conference (2015), and Shanghai Conference

* + 1. **Journal Volumes Edited:**

Marine Chemistry (2007)

Journal of Environmental Radioactivity (2014)

Journal of Environmental Radioactivity (2017)

Estuarine, Coastal and Shelf Science (2020)

Journal of Environmental Radioactivity (2020)

* + 1. **Journal Articles Published:** **Refereed Articles:**

**Published peer-reviewed research articles (Journals and Book Chapters): 162** (Cumulative Science

Citation Index - WebofScience): 6,518 (on 14 September 2023); h-index: 47; Google Scholar: Cumulative Citations: 10,589; h-index: 61 (14 September 2023)) (key: graduate students from WSU: G ; outside: O

* 1. **Baskaran, M.**, M. M. Sarin, and B. L. K. Somayajulu (1984). Composition and mineral fractions of the Narbada and Tapti estuarine particles and the adjacent Arabian Sea sediments off Western India. Chem. Geol. 45: 33-51.

* 1. Krishnaswami, S., **M. Baskaran**, S. W. Fowler and M. Heyraud (1985). Comparative role of Salps

and other zooplankton in the cycling and transport of selected elements and natural radionuclides in Mediterranean Waters. Biogeochemistry 1: 353-360.

* 1. **Baskaran, M.** and B. L. K. Somayajulu (1986). Mineralogy of Saurashtra Miliolites. J. Geol. Soc. 27(1): 63-89.

* 1. **Baskaran, M.**, S. Krishnaswami and N. Bhandari (1986). The Geochemical significance of uranium and thorium in the salt lakes and adjacent groundwaters of Rajasthan. J. Geol. Soc. 27: 90-101.

* 1. **Baskaran, M.**, A. R. Marathe, S. N. Rajaguru and B. L. K. Somayajulu (1986). Geochronology of Paleolithic cultures in the Hiran Valley, Saurashtra, India. J. Arch. Sci. 13: 505-514.

* 1. **Baskaran, M.**, B. Sahai, R. K. Sood and B. L. K. Somayajulu (1987). Geochronological studies of strandline miliolites of Saurashtra, India, detected by remote sensing techniques. Int. J. Remote Sensing 8(2): 169-176.

* 1. Fisher, N. S., J. L. Teyssie, S. Krishnaswami and **M. Baskaran** (1987). Accumulation of Th, Pb, U and Ra in marine phytoplankton and its geochemical significance. Limnol. Oceanogr. 32(1): 131-142.

* 1. **Baskaran, M.**, S. V. Deshpande, S. N. Rajaguru and B. L. K. Somayajulu (1989). Geochronology of Miliolite Rocks of Kutch, Western India. Jour. Geol. Soc. 33: 588-593.

* 1. Chakrabarti, A. and **M. Baskaran** (1989). Biogenic Fecal Pellet Mounds in Quaternary Miliolites of Saurashtra, India. Paleogeogr., Paleoclimatol., Paleoecol. 73: 311-315.

* 1. **Baskaran, M.**, G. Rajagopalan and B. L. K. Somayajulu (1989). 230Th/234U and 14C Dating of the Quaternary Carbonate Deposits of Saurashtra, India. Chem. Geol. 10(1): 65-82.

* 1. Gosink, T. A., **M. Baskaran** and D. F. Holleman (1990). Radon in the Body from Drinking Water. Health Physics 59(6): 919-924.

* 1. **Baskaran, M.** and B. L. K. Somayajulu (1990). Clay Mineral Distributions in Dated Miliolites of the Late Quaternary from Saurashtra and Kutch, Gujarat. Jour. Geol. Soc. 35: 471-479.

* 1. Chakrabarti, A., **M. Baskaran** and B. Kumar (1991). Do surface textures of quartz grains always indicate the final depositional environments?:A case study from the miliolitic rocks of Saurashtra, Gujarat, India. Geol. Soc. Special Publication No. 16: 77-83.

* 1. **Baskaran, M.**, J. J. Kelley, A. S. Naidu and D. F. Holleman (1991). Environmental Radiocesium in Subarctic and Arctic Alaska following Chernobyl. Arctic 44(4): 346-350.

* 1. Krishnaswami, S., R. Bhushan and **M. Baskaran** (1991). Radium Isotopes and 222Rn in Shallow Brines, Kharagoda (India). Chem. Geol. (Isotope Geoscience Section) 87: 125-136.

* 1. **Baskaran, M.**, G. Rajagopalan, and B.L.K. Somayajulu (1991). 230Th/234U and 14C dating of Quaternary carbonate deposits of Saurashtra, India – Reply. Chem. Geol. 86: 179-186.

* 1. **Baskaran, M.**, P. H. Santschi, G. Benoit and B. D. Honeyman (1992). Scavenging of thorium isotopes by colloids in seawater of the Gulf of Mexico. Geochim. Cosmochim. Acta 56: 3375-3388.

* 1. **Baskaran, M.**, C. H. Coleman and P. H. Santschi (1993). Atmospheric depositional fluxes of 7Be and 210Pb at Galveston and College Station, Texas. J. Geophys. Res. 98: 20,555-20,571.

* 1. Chakrabarti, A., B. L. K. Somayajulu, **M. Baskaran** and B. Kumar (1993). Quaternary Miliolites of Kutch and Saurashtra, Western India: Depositional environments in the light of physical sedimentary structures, biogenic structures and geochronological setting of the rocks. Senckenbergiana Maritima 23: 7-28.

* 1. **Baskaran, M.**, D. J. Murphy, P. H. Santschi, J. C. Orr and D. R. Schink (1993). A method for rapid in- situ extraction and laboratory determination of Th, Pb and Ra isotopes from large volumes of seawater. Deep-Sea Res. 40(4): 849-865.

* 1. **Baskaran, M.** and T. M. Iliffe (1993). Age determination of recent cave deposits using excess 210Pb- A new technique. Geophys. Res. Lett. 20(7): 603-606.
  2. **Baskaran, M.** and R. V. Krishnamurthy (1993). The 13C of cave deposits: A potential indicator of the

13C of atmospheric CO2. Geophys. Res. Lett. 20: 2905-2908.

* 1. **Baskaran, M.** and P.H. Santschi (1993). The role of particles and colloids in the transport of radionuclides in coastal environments of Texas. Mar. Chem. 43: 95-114.

* 1. Santschi, P. H., L. Guo, **M. Baskaran**, S. Trumbore, J. Southon, T. S. Bianchi, B. D. Honeyman, and

L. Cifuentes (1995). Isotopic and biochemical evidence for the recent origin of colloidal organic matter in the ocean. Geochim. Cosmochim. Acta 59: 625-631.

* 1. Ravichandran, M., **M. Baskaran**, P. H. Santschi, T. S. Bianchi (1995). History of trace metal pollution in Sabine-Neches Estuary, Beaumont, Texas. Environ. Sci. Technol. 29: 1495-1503.

* 1. **Baskaran, M.,** S. Asbill, P.H. Santschi, T. Davis, J.M. Brooks, M. Champ, V. Makeyev and V.

Khlebovich (1995). Distribution of 239,240Pu and 238Pu concentrations in sediments from the Ob and Yenisey Rivers and the Kara Sea. App. Radiat. Isot. 46(11): 1109-1119.

* 1. Bianchi, T. S., C. Lambert, P. H. Santschi, **M. Baskaran** and L. Guo (1995). Plant pigments as biomarkers of particulate and colloidal organic carbon in the Gulf of Mexico. Limnol. and Oceanogr. 40: 422-428.

* 1. **Baskaran, M.** (1995). A search for the seasonal variability on the depositional fluxes of 7Be and 210Pb. J. Geophys. Res. 100: 2833-2840.

* 1. Guo, L., P. H. Santschi, **M. Baskaran** and A. Zindler (1995). Distribution of dissolved and particulate 230Th and 232Th in seawater from the Gulf of Mexico and off Cape Hatteras as measured by SIMS. Earth Planet. Sci. Lett. 133: 117-128.

* 1. **Baskaran, M.** (1995). Origin of Quaternary carbonate deposits (miliolites): A quantitative approach. J. Geol. Soc. Mem. 32: 360-371.

* 1. Krishnamurthy, R. V., K. Syrup, **M. Baskaran** and A. Long (1995). Late Glacial Climate Record of Midwestern United States from the hydrogen isotope ratio of lake organic matter. Science 269: 1565- 1567.

* 1. **Baskaran, M.** and A. S. Naidu (1995). 210Pb-derived chronology, and the fluxes of 210Pb and 137Cs isotopes into continental shelf sediments, East Chukchi Sea, Alaskan Arctic. Geochim. Cosmochim. Acta 59: 44354448.

* 1. **Ravichandran, M.**, M. Baskaran, P. H. Santschi, and T. S. Bianchi (1995). Geochronology of sediments in the Sabine-Neches Estuary, Texas, U.S.A. Chem. Geol. 125: 291-306.

* 1. Bianchi, T. S., A. Demetropoulos, M. Hadjichristophorou, M. Argyrou, **M. Baskaran** and C. Lambert (1996). Plant pigments as biomarkers of organic matter sources in sediments and coastal waters of Cyprus (Eastern Mediterranean). Est. Coast. She. Sci. 42: 103-115.

* 1. **Baskaran, M.**, P. H. Santschi, L. Guo, T. S. Bianchi and C. Lambert (1996). 234Th:238U disequilibria in the Gulf of Mexico: the importance of organic matter and particle concentration. Conti. Shelf. Res. 16(3): 353-380.
  2. Bai, Z., W. G. Wan, C. Wang, X. Wan, R. Huang, P. H. Santschi and **M. Baskaran** (1996). 7Be distribution in surface soil of central Guizhou karst region and its erosion rate. Prog. In Natural Sci., 6: 700710.

* 1. **Baskaran, M.,** S. Asbill, P.H. Santschi, J.M. Brooks, M. Champ, D. Adkinson, M.R. Colmer and V.

Khlebovich (1995). et al. (1996) Pu, 137Cs, and excess 210Pb in Russian Arctic Sediments. Earth Planet. Sci. Lett. 140: 243-257.

* 1. Naidu, A. S., A. S. Blanchard, J. M. Hameedi, J. J. Kelley, J. J. Goering and **M. Baskaran** (1997). Heavy metal contents in sediments of North-East Chukchi Sea, Alaskan Arctic. Mar. Pollu. Bull. 35: 260269.

* 1. Bianchi, T. S., **M. Baskaran** and M. Ravichandran (1997). Carbon cycling in a shallow turbid estuary of southeast Texas: The use of plant pigments as biomarkers. Estuaries 20: 404-415.

* 1. Guo, L., P. H. Santschi and **M. Baskaran** (1997). Interactions of thorium isotopes with colloidal organic matter in oceanic environments. Colloids and Surfaces 120: 255-271.

* 1. **Baskaran, M.**, M. Ravichandran and T. S. Bianchi (1997). Cycling of 7Be and 210Pb in a high DOC, shallow, turbid estuary of southeast Texas. Estuar. Coast. Shelf Sci. 45, 165-176.

* 1. Porcelli, D., P. Andersson, G. J. Wasserburg, J. Ingri and **M. Baskaran** (1997). The importance of colloids and mires for the transport of U isotopes through the Kalix River watershed and Baltic Sea. Geochim. Cosmochim. Acta 61: 4095-4113.

* 1. Bianchi, T. S., **M. Baskaran** and M. Ravichandran (1998). Is the Sabine-Neches estuary net heterotrophic or autotrophic? A reply to the comment by Finn et al. Estuary 21: 839-841.

* 1. Kim, S. H., G.-H. Hong, **M. Baskaran**, K. M. Park, C.S. Chung, and K. H. Kim (1998). Wet removal of atmospheric 7Be and 210Pb at the Korean Yellow Sea coast. The Yellow Sea 4: 58-68.

* 1. **Baskaran, M.** (1998). Particle-reactive radionuclides as tracers of biogeochemical processes in estuarine and coastal waters of the Gulf of Mexico. In: Biogeochemistry of Gulf of Mexico Estuaries, T. S. Bianchi, J. R. Pennock and R. Twilley (eds), Wiley, 381-404.

* 1. McKee, B. A. and **M. Baskaran** (1998). Sedimentary Processes of Gulf of Mexico Estuaries. . In: Biogeochemistry of Gulf of Mexico Estuaries, T. S. Bianchi, J. R. Pennock and R. Twilley (eds), Wiley, 63-85.

* 1. Van Geen, A., N. J. Valette-Silver, S. N. Luoma, C. C. Fuller, **M. Baskaran**, F. Tera and J. Klein (1999). Constraints on the sedimentation history of San Francisco Bay from 14C and 10Be. Mar. Chem. 64: 29-38.

* 1. Fuller, C. C., A. vanGeen, **M. Baskaran** and R. Anima (1999). Chronology of recent sediments in San Francisco Bay defined by 210Pb, 234Th, 137Cs, and 239,240Pu for interpreting contaminant profiles. Mar. Chem. 64: 7-27.

* 1. Santschi, P. H., L. Guo, I. D. Walsh, M. S. Quigley and **M. Baskaran** (1999). Boundary exchange and scavenging of radionuclides in continental margin waters of the Middle Atlantic Bight: Implications for organic carbon fluxes. Continent. Shelf Res. 19: 609-636.

* 1. Hong, G.-H., S. K. Park, **M. Baskaran**, S. H. Kim, C. S. Chung, and S. H. Lee (1999). Lead-210 and polonium-210 in the winter well-mixed waters in the mouth of the Yellow Sea. Continent. Shelf Res. 19: 1049-1064.

* 1. Hong, G.-H., S. H. Lee, S. H. Kim, C. S. Chung, and **M. Baskaran** (1999). Sedimentary fluxes of Sr- 90, Cs-137, Pu-239, Pu-240 and Pb-210 in the East Sea (Sea of Japan). Science of the Total Environ. 238: 225240.

* 1. Naidu, A.S., B.P. Finney, and **M. Baskaran** (1999). 210Pb- and 137Cs-based sediment accumulation rates in inner shelves and coastal lakes of subarctic and Arctic Alaska: A synthesis. GeoResearch Forum 5: 185-196.

* 1. **Baskaran, M.,** S. Asbill, J. Schwantes, P.H. Santschi, M.A. Champ, J.M. Brooks, D. Adkinson, and

V. Khlebovich (2000). Concentrations of 137Cs, 239,240Pu and 210Pb in sediment samples from the Pechora Sea and biological samples from the Ob and Yenisey Rivers and Kara Sea. Mar. Pollu. Bull. 40: 830-838.

* 1. **Baskaran, M.** (2001). Scavenging of thorium isotopes in the Arctic regions: implications to the fate of particle-reactive pollutants. Mar. Pollu. Bull. 42(1): 16-22.

* 1. **Baskaran, M.** and G. E. Shaw (2001). Residence time of arctic haze aerosols using the concentrations and activity ratios of 210Po, 210Pb, and 7Be. J. Aerosol Sci. 32(4): 17-26.

* 1. Tricca, A., G. J. Wasserburg, D. Porcelli and **M. Baskaran (2001).** The transport of U- and Th-series nuclides in a sandy unconfined aquifer. Geochim. Cosmochim. Acta 65: 1187-1210.

* 1. Santschi, P. H., B. J. Presley, T. L. Wade, B. Garcia-Romero and **M. Baskaran** (2001). Historical contamination of PAHs, PCBs, DDTs, and heavy metals in Mississippi River Delta, Galveston Bay and Tampa Bay sediment cores. Marine Environ. Res. 52: 51-79.

* 1. Filley, T. R.O, K. H Freeman, T. S. Bianchi, **M. Baskaran**, L. A. Colarusso, and P. G. Hatcher (2001). An isotopic biogeochemical assessment of shifts in organic matter input to Holocene sediments from Mud Lake, Florida. Organic Geochem. 32: 1153-1167.

* 1. Porcelli, D., P. S. Andersson, **M. Baskaran** and G. J. Wasserburg (2001). The transport of U- and Th- series nuclides in a Baltic watershed and the Baltic Sea. Geochim. Cosmochim. Acta 65: 2439-2459.

* 1. Krishnamurthy, R. V., M. MachavaramO, **M. Baskaran**, M. Champ and J. M. Brooks (2001). Organic carbon flow in the Ob, Yenisey Rivers and Kara Sea of the Arctic Region. Mar. Pollu. Bull.42: 726- 732.

* 1. **Baskaran, M**. and P. H. Santschi (2002). Particulate and dissolved 210Pb activities in the shelf and slope regions of the Gulf of Mexico waters. Continent. Shelf Res. 22: 1493-1510.

* 1. Bianchi, T. S., E. Engelhaupt, R. Elmgren, B. A. McKee, S. Miles, R. Elmgren, S. Hajdu, C. Savage, and **M. Baskaran** (2002). Do sediments from coastal sites accurately reflect time trends in water column phytoplankton? A test from Himmerfjarden Bay (Baltic Sea proper). Limnology and Oceanography 47(5): 1537-1544.

* 1. **Baskaran, M.,** G.-H. Hong, S. Dayton, J. L. Bodkin, and J. J. Kelley. (2003). Temporal variations of natural and anthropogenic radionuclides in sea otter skull tissue in the North Pacific Ocean. J. Environ. Radioact. 64: 1-18.

* 1. Reynolds, B. C., G. J. Wasserburg, and **M. Baskaran** (2003). The transport of U- and Th-series radionuclides in sandy confined aquifers. Geochim. Cosmochim. Acta 67: 1955-1972.

* 1. Krishnamurthy, R. V., D. Schmitt, E. A. AtekwanaO, and **M. Baskaran** (2003). Isotopic investigations of carbonate growth on concrete structures. Appl. Geochem. 18: 435-444.

* 1. GMcNeary, D. and **M. Baskaran** (2003). Depositional characteristics of 7Be and 210Pb in Southeastern Michigan. Jour. of Geophys. Res. 108, D7, 15 pages, 4210, doi:10.1029/2002JD003021.

* 1. Moon, D.-K., G.-H. Hong, Y. Kim, Y., **M. Baskaran**, C.-S. Chung, S.H. Kim, H.-J. Lee, S.-H. Lee, H. Petterson, S. Mulsow, and P. Povinec (2003). Accumulation of artificial and natural radionuclides in the bottom sediments of the Northwest Pacific Ocean. Deep-Sea Res. II 50: 2649-2673.

* 1. **Baskaran, M.**, P. W. Swarzenski, and D. Porcelli (2003). Role of colloidal material in the removal of

234Th in the Canada Basin of the Arctic Ocean. Deep-Sea Res. I 50: 1353-1373.

* 1. **G**Trimble, S. M., **M. Baskaran**, and D. Porcelli (2004). Scavenging of thorium isotopes in the Canada Basin of the Arctic Ocean. Earth Planet. Sci. Lett. 222: 915-932.

* 1. GGarver, E. and **M. Baskaran** (2004). Effects of heating on the emanation rates of radon-222 from a suite of natural minerals. Appl. Radia. Isot. 61: 1477-1485.

* 1. Routh, J., P. A. Meyers, O. Gustafsson, R. Hallberg, **M. Baskaran** and A. Scholdrstrom (2004). Sedimentary geochemical characteristics of Lake Brunnsviken, Sweden, record human-induced environmental changes in the watershed. Limnol. Oceanogra. 49: 1560-1569.

* 1. Hong, G.-H., **M. Baskaran**, and P. P. Povinec (2004). Artificial radionuclides in the Western North Pacific: A review. In: Global Environmental Change in the Ocean and on Land, Eds., M. Shiyomi et al., pp. 147-172.

* 1. Benitez-Nelson and Th-234 Group (M. Baskaran + 43 authors). Future applications of Thorium-234 in aquatic ecosystems. EOS 407, 85 (45), 9 November 2004.

* 1. GTrimble, S.M. and **M. Baskaran** (2005). The role of suspended particulate matter in 234Th scavenging and 234Th-derived export fluxes of POC in the Canada Basin of the Arctic Ocean. Mar. Chem. 96: 1- 19.

* 1. **Baskaran, M.** (2005). Interaction of sea ice sediments and surface water in the Arctic Ocean: Evidence from excess 210Pb. Geophys. Res. Lett. 32: L12601, doi:10.1029/2004GL022191.

* 1. **Baskaran, M.**, G.-H. Hong, S.-H. Kim, and W.J. Wardle (2005). Reconstructing seawater column 90Sr based upon 210Pb/226Ra disequilibrium dating of mollusk shells. Appl. Geochem. 20: 1965-1973.

* 1. Woo, K.S., G.-H. Hong, D.W. Choi, K.N. Jo, **M. Baskaran**, and H.M. Lee (2005). A reconnaissance on the use of the speleothems in Korean limestone caves to retrospective study on the regional climate change for the recent and geologic past. Geosci. Jour. 9: 243-247.

* 1. Waples, J.T., C. Benitez-Nelson, N. Savoye, M.R. van der Leoeff, **M. Baskaran**, and O. Gustaffson (2006). An introduction to the application and future use of 234Th in aquatic systems. Mar. Chem. 100: 166-189.

* 1. Rutgers-van-der Loeff, M., M.M. Sarin, **M. Baskaran**, et al. (2006). A review of present techniques and methodological advances in analyzing 234Th in aquatic systems. Mar. Chem. 100: 190-212.

* 1. Santschi, P.H., J.W. Murray, **M. Baskaran**, et al. (2006). Thorium speciation in seawater. Mar. Chem. 100: 250-268.

* 1. Hong, G.H., C.S. Chung, S.H. Lee, S.H. Kim, **M. Baskaran**, H.M. Lee, Y.I. Kim, D.B. Yang and C.K. Kim (2006). Artificial radionuclides in the Yellow Sea: Inputs and redistribution. Radioactivity in the Environment 8: 96-133.

* 1. Swarzenski, P.W., W.G. Orem, B.F. McPherson, **M. Baskaran**, and Y. Wan (2006). Biogeochemical transport in the Loxahatchee River estuary, Florida: The role of submarine groundwater discharge. Mar. Chem. 101: 248-265.
  2. Routh, J., P. A. Meyers, T. Hjorth, **M. Baskaran** and R. Hallberg (2006). Sedimentary geochemical record of recent environmental changes around Lake Middle Marviken. Sweden. J. Paleolimnol. DOI 10.1007/s10933-006-9032-7.

* 1. Swarzenski, P.W., **M. Baskaran**, R.J. Rosenbauer and W.H. Orem (2006). Historical trace element distribution in sediments from the Mississippi River delta. Estuaries and Coasts 29: No. 6B, 1094- 1107.

* 1. GMcNeary, D. and **M. Baskaran** (2007) Residence times and temporal variations of 210Po in aerosols and precipitation from Southeastern Michigan, USA. J. Geophys. Res. 112, D04208, doi:10.1029/2006JD007639.

* 1. Swarzenski, P.W., K. Yates, **M. Baskaran**, and C.S. Henderson (2007). Tampa Bay as a model estuary for examining the impact of human activities on biogeochemical processes: An introduction. Mar. Chem. 104, 1-3.

* 1. **Baskaran, M.** and P.W. Swarzenski (2007). Seasonal variations on the residence times and partitioning of short-lived radionuclides (234Th, 7Be and 210Pb) and depositional fluxes of 7Be and 210Pb in Tampa Bay, Florida. Mar. Chem. 104, 27-42.

* 1. Swarzenski, P.W. and **M. Baskaran** (2007). Uranium distribution in the coastal waters and pore waters of Tampa Bay, Florida. Mar. Chem.104, 43-57.

* 1. Swarzenski, P.W., C. Reich, K.D. Kroeger, and **M. Baskaran** (2007). Ra and Rn isotopes as natural tracers of submarine groundwater discharge in Tampa Bay, Florida. Mar. Chem. 104, 69-84.

* 1. Anderson, M.B., C.H. Stirling, D. Porcelli, A.N. Halliday, P.S. Andersson, and **M. Baskaran** (2007). High precision 234U/238U measurements of Arctic seawater and rivers: Implications for the transport and behavior of riverine U in the marine environment. Earth Planet. Sci. Lett. 259, 171-185.

* 1. Hong, G.-H., **M. Baskaran**, H.-K.Lee, and S.-H. Kim (2008). Sinking fluxes of particulate U-Th radionuclides in the East Sea (Sea of Japan). Journal of Oceanography 64, 267-276.

* 1. Hong, G.-H., Y.-I. Kim, **M. Baskaran**, S.-H. Kim, and C.-S. Chung (2008). Distribution of 210Po and export of organic carbon from the euphotic zone in the Southwestern East Sea (Sea of Japan). Journal of Oceanography 64, 277-292.

* 1. GJweda, J., **M. Baskaran**, E. Van Hees and L. Schweitzer (2008). Short-lived radionuclides (7Be and 210Pb) as tracers of particle dynamics in a river system in southeast Michigan. Limnol. Oceanogr. 53(5), 19341944.

* 1. **Baskaran, M.**, P.W. Swarzenski, B. Biddanda (2009). Constraints on the utility of MnO2-cartridge method for the extraction of radionuclides: A case study using Th-234. Geochemistry, Geophysics, Geosystems 10, Q04011, doi:10.1029/2008GC002340.

* 1. Porcelli, D., P.S. Andersson, **M. Baskaran**, M. Frank, G. Bjork, and I. Semiletov (2009). The distribution of neodymium isotopes in Arctic Ocean basins. Geochim. Cosmochim. Acta 73, 2645- 2659.

* 1. Zimmerman, B., D. Porcelli, M. Frank, P.S. Andersson, **M. Baskaran**, D.-C. Lee and A.N. Halliday (2009). Hafnium isotopes in Arctic Ocean water. Geochim. Cosmochim. Acta 73, 3218-3233.

* 1. **Baskaran, M.**, G.-H. Hong and P.H. Santschi (2009). Radionuclide analysis is seawater. In.: “Practical Guidelines for the analysis of seawater” *In:* Practical Guidelines for the Analysis of Seawater, *Ed. Oliver Wurl, CRC Press, 259-304.*

* 1. Frank, M., D. Porcelli, P.S. Andersson, **M. Baskaran**, G. Bjork, P.W. Kubik, B. Hatterdorf, and D. Guenther (2009) The dissolved beryllium isotope composition of the Arctic Ocean. Geochim. Cosmochim. Acta 73, 6114-6133.

* 1. **Baskaran, M.** (2011) Po-210 and Pb-210 as atmospheric tracers and global atmospheric Pb-210 fallout:

a Review. Journal of Environmental Radioactivity *doi:10.1016/j.jenvrad.2010.10.007*, 102, 500-513.

* 1. **Baskaran, M.** (2011) *Environmental Isotope Geochemisry* – Past, Present and Future. ***In: Handbook of Environmental Isotope Geochemistry***, (Ed. M. Baskaran), p. 3-10, Springer (ISBN: 978-3-642- 10636-

1).

* 1. Porcelli, D. and **M. Baskaran** (2011) An overview of Isotope Geochemistry in Environmental Studies. ***In: Handbook of Environmental Isotope Geochemistry, (***Ed. M. Baskaran***),*** p. 11-32, Springer (ISBN: 978-3-642-10636-1).

* 1. Kaste, J.M. and **M. Baskaran** (2011) Meteoric 7Be and 10Be as process tracers in the environment.

***In: Handbook of Environmental Isotope Geochemistry***, (Ed. M. Baskaran), p. 61-86, Springer (ISBN: 9783-642-10636-1).

* 1. Du, J.Z, J. Zhang, and **M. Baskaran** (2011) Applications of short-lived radionuclides (7Be, 210Pb, 210Po, 137Cs and 234Th) to trace the sources, transport pathways, and deposition of particles/sediments in rivers, estuaries and coasts. ***In: Handbook of Environmental Isotope Geochemistry***, (Ed. M. Baskaran), p. 305330, Springer (ISBN: 978-3-642-10636-1).

* 1. Hong, G.-H., T.F. Hamilton, **M. Baskaran**, and T.C. Kenna (2011). Applications of anthropogenic radionuclides as tracers to investigate marine environmental processes. ***In: Handbook of Environmental Isotope Geochemistry***, (Ed. M. Baskaran), p. 367-394, Springer (ISBN: 978-3-642- 10636-1).

* 1. Lal, D. and **M. Baskaran** (2011). Applications of cosmogenic isotopes as atmospheric tracers. ***In: Handbook of Environmental Isotope Geochemistry*,** (Ed. M. Baskaran), p. 575-590, Springer (ISBN: 9783-642-10636-1).

* 1. **Baskaran, M.** (2011). Dating of biogenic and inorganic carbonates using 210Pb-226Ra disequilibrium method – A review. ***In: Handbook of Environmental Isotope Geochemistry***, (Ed. M. Baskaran), p. 789810, Springer (ISBN: 978-3-642-10636-1).

* 1. Hong, G.-H., **M. Baskaran**, S.M. Molaroni\*, H.-M. Lee, and J. Burger (2011). Anthropogenic and natural radionuclides in Caribou and Muskoxen in the western Alaskan Arctic and marine fish in the Aleutian Islands in the first half of 2000s. Science of the Total Environ. 409, 3638-3648.

* 1. GJweda, J. and **M. Baskaran** (2011). Interconnected riverine-lacustrine systems as sedimentary repositories: A case study in southeast Michigan using excess 210Pb- and 137Cs-based sediment accumulation and mixing models, Journal of Great Lakes Research 37, 432-446.

* 1. OLazano, R.L., E.G. San Miguel, J.P. Bolivar, and **M. Baskaran** (2011) Depositional fluxes and concentrations of 7Be and 210Pb in bulk precipitation and aerosols at the interface of Atlantic and Mediterranean coasts in Spain. Jour. Geophys. Res. 116, D18231, doi:10.1029/2011JD015675.

* 1. Bonotto, D.M., I. Karmann, **M. Baskaran** (2012). Growth rates in modern speleothems from Santana Cave, Brazil, by the 210Pb method. Radiation Measurements 47, 168-177.

* 1. Hernández-Ceballos, M.A., G.H. Hong, R.L. Lozano, Y.I. Kim, H.M. Lee, S.H. Kim, S.-W. Yeh, J.P. Bolivar and **M. Baskaran** (2012). Tracking the complete revolution of surface westerlies over Northern Hemisphere using radionuclides emitted from Fukushima. Science of the Total Environ. 438, 80-85.

* 1. Church, T.M., S. Rigaud, **M. Baskaran**, A. Kumar, J. Friedrich, P. Masque, V. Puigcorbé, G. Kim, O. Radakovitch, G. Hong, H.-Y. Choi and G. Stewart (2012). Inter-calibration studies of 210Po and 210Pb in dissolved and particulate sea water samples. Limnol. Oceanogr. (Methods), 10, 776-789.

* 1. Hong, G.-H., M.A. Hernandez-Ceballos, R.L. Lozano, Y.I. Kim, H.M. Lee, S.H. Kim, S.-W. Yeh, J.P. Bolivar, **M. Baskaran** (2012). Radioactivity impact in South Korea from the damaged nuclear reactors in Fukushima: evidence of long and short range transport. J. Radiol. Prot. 32, 397-411.

* 1. Kim, K.J., **M. Baskaran**, \*J. Jweda\*, A.A. Feyzullayev, C. Aliyev, H. Matsuzaki, A.J.T. Jull (2013).

Investigation of the Dashgil mud volcano (Azerbaijan) using Beryllium-10. Nuclear Instru. Methods Phys. Res. B 294, 606-610.

* 1. **Baskaran, M.**, T.M. Church, G.-H. Hong, A. Kumar, M. Qiang, H. Choi, S. Rigaud, K. Maiti (2013).

Effects of flow rates and composition of the filter, and decay/in-growth correction factors involved with

the determination of in-situ particulate 210Po and 210Pb in seawater. Limnol. Oceanogr. (Methods), 11, 126140.

* 1. Hong, G.-H., **M. Baskaran**, T.M. Church and M. Conte (2013). Scavenging, cycling and removal fluxes of 210Po and 210Pb at the Bermuda Time-series Study. Deep-Sea Res. II 93, 108-118, doi:10.1016/j.dsr2.2013.01.005.

* 1. Swarzenski, P.W., **M. Baskaran**, R.J. Rosenbauer, B.D. Edwards and M. Land (2013). A combined radio- and stable-isotopic study of a California coastal aquifer system. Water 5(2), 480-504, doi:10.3390/w5020480.

* 1. Lee, H.M., G.-H. Hong, **M. Baskaran**, S.H. Kim, Y. I. Kim, and K.C. Cho (2014). Evaluation of plating conditions on the recovery of 210Po onto the Ag planchet. Applied Radiat. Isot. 90, 170-176.

* 1. Rodrigo, J.F., M. Cass-Ruiz, J. Vidal, L. Barbero, **M. Baskaran** and M.E. Ketterer (2014).

Application of 234U/238U activity ratios to investigations of subterranean groundwater discharge in the Cadiz coastal area (SW Spain). J. Environ. Radioact. 130, 68-71.

* 1. Karunakara, N. and **M. Baskaran** (2014). Special issue of Journal of Environmental Radioactivity on 2nd International Conference on Po and radioactive Pb isotopes. 138, 341-342.

* 1. Barbero, L., M.J. Gazquez, J.P. Bolivar, M. Casas-Ruiz, A. Hierro, **M. Baskaran** and M.E. Ketterer (2014). Mobility of Po and U-isotopes under acid mine drainage conditions: an experimental approach with samples from Rio Tinto area (SW Spain). J. Environ. Radioact. 138, 384-389.

* 1. \*Mudbidre, R., **M. Baskaran** and L. Schweitzer (2014). Investigations of the partitioning and residence times of Po-210 and Pb-210 in a riverine system in Southeast Michigan USA. J. Environ. Radioact. 138, 375-383.

* 1. **Baskaran, M.**, J. Nix, C. Kuyper and N. Karunakara (2014). Problems with the dating of sediment core using excess 210Pbxs in a freshwater system impacted by large scale watershed changes. J. Environ. Radioact. 138, 355-363.

* 1. Rigaud, S., G. Stewart, **M. Baskaran**, D. Marsan, and T.M. Church (2015). 210Po and 210Pb distribution, dissolved-particulate exchange rates, and particulate export along the North Atlantic US GEOTRACES GA03 section. Deep-Sea Res. II 116, 60-75.

* 1. **Baskaran, M.**, C.J. Miller, A. Kumar, E. Andersen, G J. Hui, J.P. Selegean, C.T. Creech, and J. Barkach (2015). Sediment Accumulation Rates and Sediment Dynamics Using Five Different Methods in a well-constrained Impoundment: Case Study from Union Lake, Michigan. Journal of Great Lakes Research 41, 607-617.

* 1. Du, J., J. Du, **M. Baskaran**, Q. Bi, D. Huang and Y. Jiang, 2015. Temporal variations of atmospheric depositional fluxes of 7Be and 210Pb over 8 years (2006-2013) at Shanghai, China and Synthesis of global fallout data. Journal of Geophysical Research, 120, doi:10.1002/2014JD022807.

* 1. Mawji, E., R. Schlitzer et al. (total of 135 authors, 68 institutions), 2015. The GEOTRACES Intermediate Data Product 2014. Mar. Chem. 177, 1-8.

* 1. Wang, J., J.Z. Du, **M. Baskaran** and J. Zhang, 2016. Mobile mud dynamics in the East China Sea elucidated using 210Pb, 137Cs, 7Be and 234Th as tracers. Jour. Geophys. Res. 121(1), 224-239.

* 1. GEakin, M., S.J. Brownlee, **M. Baskaran** and L. Barbero, 2016. Mechanisms of radon loss from zircon: Microstructural controls on emanation and diffusion. Geochim. Cosmochim. Acta 184, 212- 226.

* 1. Kumar, A., GJ. Hage-Hassan, **M. Baskaran**, C.J. Miller, J.P. Selegean and C.T. Creech, 2016. Multiple sediment cores from reservoirs are needed to reconstruct recent watershed changes from stable isotopes

(13C and 15N) and C/N ratios: case studies from the midwestern United States. J. Paleolimnology 56, 15-31, doi: 10.1007/s10933-016-9888-0.

* 1. OBrooks, Y., M.M. Baustian, **M. Baskaran**, N. Ostrom and J. Rose, 2016. Historical associations of molecular measurements of Escherichia coli and Enterococci to anthropogenic activities and climate variables in freshwater sediment cores. Environmental Science and Technology 50(13), 6902-6911, DOI:

10.1021/acs.est. 6b01372.

* 1. **Baskaran, M.,** T. Novell, K. Nash\*, S.A. Ruberg, T. Johengen, N. Hawley, J.V. Klump and B.A. Biddanda, 2016. Tracking the seepage of subsurface sinkhole vent waters into Lake Huron using radium and stable isotopes of oxygen and hydrogen. Aquatic Geochemistry 22, 349-374.

* 1. Alighalehbabakhani, F., C.J. Miller, J.P. Selegean, J. Barkach, S.M.S. Abkenar, T. Dahl and **M. Baskaran**, 2017. Estimates of sediment trapping rates for two reservoirs in the Lake Erie watershed: Past and present conditions. J. Hydrology 544, 147-155.

* 1. **Baskaran, M**. and R. Ramesh, 2017. Memorium: Bhamidipati Lakshmidhara Kanakadri Somayajulu (1937-2016). Current Science 112, 414-415.

* 1. Wang, J., **M. Baskaran**, X. Hou, J.Z. Du and J. Zhang, 2017. Historical changes in 239Pu and 240Pu sources in sedimentary records in the East China Sea: Implications for provenance and transportation. Earth Planet Sci. Lett. 466, 32-42.

* 1. Gorgun, A. and **M. Baskaran,** 2017. Special issue of Journal of Environmental Radioactivity on 3rd International Conference on Po and radioactive Pb isotopes. Journal of Environmental Radioactivity 174, 1-2.
  2. **Baskaran, M.**, T.S. Bianchi and T.R. Filley, 2017. Inconsistencies between 14C and short-lived radionuclides-based sediment accumulation rates: effects of long-term remineralization. Journal of Environmental Radioactivity. 174, 10-16.

* 1. Su, K., J.Z. Du, **M. Baskaran** and J. Zhang, 2017. 210Po and 210Pb disequilibrium at the PN section in the East China Sea. Journal of Environmental Radioactivity 174, 54-65.

* 1. Krupp, K., **M. Baskaran** and S.J. Brownlee, 2017. Variations of radon emanation coefficients of several minerals: How they vary with physical and mineralogical properties. American Mineralogist 102, 1375-1383.

* 1. Pradhan, S., J. Zhang, **M. Baskaran**, P.V. Shirodkar, Y. Wu and U.K. Pradhan, 2017. Investigations on the spatial and temporal variations of Sr and Nd isotopes in sediments from two Indian Rivers: Implications to source identification. Geochem. Geophys. Geosyst. 18(4), 1520-1536.

* 1. Wang, J., **M. Baskaran** and J. Niedermiller, 2017. Mobility of 137Cs in freshwater lakes: A mass balance and diffusion study of Lake St. Clair, Southeast Michigan, USA. Geochem. Cosmochim. Acta 218, 323-342.

* 1. Alighalehbabakhani, F., C.J. Miller, **M. Baskaran**, J.P. Selegean, J.H. Barkach, T. Dahl and S.M.S. Abkenar, 2017. Forecasting the remaining reservoir capacity in the Laurentian Great Lakes watershed. J. Hydrology 555, 926-937.

* 1. Schlitzer, R. et al. (with >150 authors), 2018. Chemical Geology, 493, 210-223, doi: 10.1016/ j.chemgeo.2018.05.040.

* 1. Wang, Xilong, **M. Baskaran**, K.J. Su and J.Z. Du, 2018. The important role of submarine groundwater discharge (SGD) to derive nutrient fluxes into River dominated Ocean Margins – The East China Sea. Marine Chemistry 204, 121-132, doi:10.1016/j.marchem.2018.05.010.

* 1. Wang, Jinlong, W. Zhang, **M. Baskaran**, J.Z. Du, F. Zhou and H. Wu, 2018. Fingerprinting sediment transport in River-dominated Margins using combined mineral magnetic and radionuclide methods. Journal of Geophysical Research: Oceans, 123.https://doi.org/10.1029/2018JC014174.

* 1. Hayes, C.T, E.E. Black, R.F. Anderson, **M. Baskaran**, K.O. Buesseler, M.A. Charette, H. Cheng, J.K. Cochran, R.L. Edwards, P. Fitzgerald, P.J. Lam, Y. Lu, S.O. Morris, D.C. Ohnemus, F.J. Pavia, G. Stewart and Y. Tang, 2018. Flux of particulate elements in the North Atlantic Ocean constrained by multiple radionuclides. Global Biogeochemical Cycles 10.1029/2018GB005994.

* 1. GNiedermiller, J. and **M. Baskaran**, 2019. Comparison of the scavenging intensity, remineralization and residence time of 210Po and 210Pb at key zones (biotic, sediment-water and hydrothermal) along the East Pacific GEOTRACES transect. J. Environ. Radioact. 198, 165-188.

* 1. OKurz, A.Y., J.D. Blum, S.P. Washburn and **M. Baskaran**, 2019. Changes in the mercury isotopic composition of sediments from a remote alpine lake in Wyoming, USA. Science of the Total Environment 669, 973-982.

* 1. Wang, Jinlong, Q. Zhong, **M. Baskaran** and J.Z. Du, 2019. Investigations on the time-series partitioning of 210Pb, 207Bi and 210Po between marine particles and solution under different salinity and pH conditions. Chem. Geology 528 (2019) 119275.

* 1. Howard, J., J. Weyhrauch, G. Loriaux, B. Schultz and **M. Baskaran**, 2019. Contributions of artifactual materials to the toxicity of anthropogenic soils and street dusts in a highly urbanized terrain. Environmental Pollution 255 (2029) 113350.

* 1. Du, J., **M. Baskaran** and J. Du, 2019. Atmospheric deposition of 7Be, 210Pb and 210Po during typhoons and thunderstorm in Shanghai, China and global data synthesis. Science China Earth Sciences, 62, https://doi.org/10.1007/s11430-019-9481-9

* 1. Kim, T.-J., G.H. Hong, D.G. Kim and **M. Baskaran**, 2019. Iron fertilization with enhanced phytoplankton productivity under minimal sulfur compounds and grazing control analysis in HNLC region. American Journal of Climate Change 8, 14-39.

* 1. Bam, W., K. Maiti, **M. Baskaran**, K. Krupp, P.J. Lam and Y. Xiang, 2020. Variability of 210Pb and 210Po partition coefficients (Kd) along the US GEOTRCES Arctic Transect. Marine Chemistry 219(2020)103749.

* 1. Baustian, M., OY. M. Brooks, **M. Baskaran**, P.R. Leavitt, B. Liu, N. Ostrom, R.J. Stevenson and J.B. Rose, 2020. Paleo-environmental evidence of ecosystem change in Lake St. Clair region of Laurentian Great Lakes basin: contrasting responses to land-use change and invasive mussels. J. Paleolimnology <https://doi.org/10.1007/s10933-019-00108-x>

* 1. **Baskaran, M.**, R. Mudbidre and L. Schweitzer, 2020. Quantification of Po-210 and Pb-210 as tracer of sediment resuspension rate in a shallow riverine system: case study from Southeast Michigan, USA. Journal Environmental Radioactivity, [http://doi.org/10.1016/j.jenvrad.2020.106339.](http://doi.org/10.1016/j.jenvrad.2020.106339)

* 1. Wang, J., **M. Baskaran**, A. Kumar, et al., 2020. Reconstruction of temporal variations of metal concentrations using radiochronology (239+240Pu and 137Cs) in sediments from Kizilirmak River, Turkey. J. Paleolimnology 10.1007/s10933-020-00154-W.

* 1. Behbehani, A., S. Uddin and **M. Baskaran**, 2020. 210Po concentration in different size fractions of aerosol likely contribution from industrial sources. Journal of Environmental Radioactivity 222 (2020) 106323.

* 1. \*Knight, C.A., **M. Baskaran**, M.J. Bunting, M. Champagne, M.D. Potts, D. Wahl, J. Wanket and J.J.

Battles, 2021. Linking modern pollen accumulation rates to biomass: Quantitative vegetation reconstruction in the western Klamath Mountains, NW California, USA. The Holocene 1-16, doi:

10.1177/0959683620988038

* 1. Zhang, F., Jinlong Wang, **M. Baskaran**, Q. Zhong, Y. Wang, J. Paatero and J.Z. Du, 2021. A global dataset of atmospheric 7Be and 210Pb measurements: annual air concentration and depositional flux. Earth Syst. Sci. Data, 13, 296-2994.

* 1. **Baskaran, M.** and K. Krupp, 2021. Novel application of 210Po-210Pb disequilibria to date snow, melt pond, ice core, and ice-rafted sediments in the Arctic Ocean. Front. Mar. Sci. 8:692631, doi:10.3389/fmars.2021.692631.

* 1. Bam, W., K. Maiti and **M. Baskaran**, 2021. 210Po and 210Pb as tracers of particle cycling and export in the Western Arctic Ocean. Front. Mar. Sci. 8:697444, doi:10.3389/fmars.2021.697444.

* 1. **Baskaran, M.**, K. Krupp, W. Bam and K. Maiti, 2022. Climate Change Impacts to the Arctic Ocean revealed from high resolution GEOTRACES 210Po-210Pb-226Ra disequilibria studies. Journal of Geophysical Research: Oceans, 127, e2021JC018359. [https://doi.org/10.1029/2021JCO018359.](https://doi.org/10.1029/2021JCO018359)

* 1. Denny, M., **M. Baskaran**, C. Walsh and V. Ibrahim, 2022. Investigation of self-attenuation of 210Pb (46 keV) gamma ray in sediment, certified reference material and high-density minerals: Implication to precise measurement of 210Pb. Jourrnal of Environmental Radioactivity 249 (2022) 106888.

* 1. Denny, M., **M. Baskaran**, S. Burdick, C. Tummula and T. Dittrich, 2022. Investigation of pollutant metals in road dust in a post-industrial city: Case study from Detroit, Michigan. Front. in Environ. Sci. 10:974237, doi:10.3389/fenvs2022.974237.

* 1. Wang, J., **M. Baskaran**, N. Cukrov and J.Z. Du, 2022. Geochemical mobility of 137Cs in marine environments based on laboratory and field studies. Chemical Geology 614 (2022) 121179.

* 1. Hong, G.-H., S.-H. Kim and **M. Baskaran**, 2022. Environmental and climate proxies embedded in coral skeletons. In: *Coral Reefs of the Western Pacific Ocean in a Changing Anthropocene* (ed. J. Zhang, T. Yeemin, R.J. Morrison and G.H. Hong, Springer (pp. 135-178).
  2. Denny, M. and **M. Baskaran**, 2023. Investigation of chemical partitioning of 7Be, 210Pb and 137Cs and novel dating of road sediment by 210Po:210Pb disequilibrium method. *Science of the Total Environment*, 892 (2023)164738.
  3. Planaj, D. and **M. Baskaran**, 2023.

**Non-refereed Journals: None**

**E. Papers Published in Conference Proceedings and Submitted Reports:**

1. **Baskaran, M.** and J. Bratton and Steering Committee Members (2014). A Report of the Workshop entitled “Recent Biogeochemical Changes in the Biogeochemisry of the Great Lakes System (BOGLS)”, pp. 42. Available at:<http://bogls.science.wayne.edu/>
2. **Baskaran, M.** and J. Bratton (2013). Investigating human-induced changes of elemental cycles in the Great Lakes. EOS 94(28), 9 July 2013.
3. Karunakara, N. and **M. Baskaran** (2013). Proceedings of the International 2nd International Conference on Po and Radioactive Pb Isotopes, pp. 270.
4. Schweitzer, L., **M. Baskaran**, E. van Hees and ECT (2006) Clinton River AOC Preparation for Sediment Remediation. Report submitted to USEPA CLNPO, p. 105.
5. Hong, G.-H., **M. Baskaran**, and P. Povinec (2004). Artificial radionuclides in the western North Pacific: Current understanding and a proposal for the future research. Article presented at the International Workshop on Terrestrial and Ocean Environment – Present and Future – 19-21 January 2004.
6. Swarzenski, P.W. and **M. Baskaran** (2004). Is the extraction of thorium onto MnO2-coated filter cartridges uniform. USGS Open File Report 2004-1421.
7. **Baskaran, M.**, G. H. Hong, S. Dayton, J. Bodkin, and J. J. Kelley (2000). Radionuclide analyses of sea otter skull tissue – a pilot study to investigate the sources of radionuclides to areas adjoining Amchitka Island. Final Report submitted to the Aleutian Pribilof Islands Associations, Inc. p. 14.
8. **Baskaran, M.** (2000). Mixes Waste Landfill Review. Report submitted to the Citizens’ Advisory Group for the Sandia National Laboratory Mixed Waste Landfill, Albuquerque, New Mexico, p. 28. Bianchi, T. S., K.

H. Freeman, P. G. Hatcher and **M. Baskaran** (1996). Paleoclimatic and paleoecologic change: a molecular and carbon isotopic record of ecosystem response to change in water availability and CO2-levels (Mud Lake, FL). Report submitted to the Southcentral Regional Center National Institute for Global Environmental Change, Department of Energy, p. 1- 26.

1. Presley, B. J., T. L. Wade, P. H. Santschi and **M. Baskaran** (1996). Historical contamination of Mississippi River delta, Tampa Bay and Galveston Bay sediments. Report submitted to the NOAA, Silver-Spring, MD, p. 1-65.
2. Champ, M. A., J. M. Brooks, V. V. Makeyev, T. L. Wade, M. C. Kennicutt, and **M. Baskaran** (1995). Preliminary results of studies of industrial and nuclear contaminants in the Yenisey River and Kara Sea. In: Proc. of the Ocean Pollution session of the conference “Bridges of Science Between North America and the Russian Far East”, p. 28-65.
3. **Baskaran, M.**, S. Asbill, P. H. Santschi, T. Davis, J. M. Brooks, M. A. Champ, V. Makeyev and V. Khlebovich (1995). Concentrations and inventories of 137Cs and 239,240Pu in sediment and biological samples from Ob, Yenisey Rivers and Kara Sea. In: Prof. of the Workshop on Monitoring of Nuclear Contamination in Arctic Seas, by ed. Steven E. King, May 1995, p. (IV) 2-15.
4. Brooks, J. M., M. A. Champ, **M. Baskaran**, W. Bryant, N. Slowey, P. H. Santschi, M. C. Kennicutt, T. L. Wade, N. L. Guinasso and V. Makeyev (1995). Radionuclide contaminants released to the Russian Arctic from landbased and subsea sources. In: J. Morgan and L. Codispoti, Eds., Department of Defense Arctic Nuclear Waste Assessment Program, FY’s 1993-1994. Office of Naval Research Report ONR 322-95-5, Arlington, Virginia.
5. Santschi, P. H., **M. Baskaran**, B. D. Honeyman and T. S. Bianchi (1994). The production of colloids in the benthic boundary and particle-particle interactions. Report submitted to the Ocean Margins Program, Department of Energy, DE-FG-05-92ERG1421.
6. **Baskaran, M.**, J. J. Kelley, A. S. Naidu and D. Holleman (1988). Radiocesium and Radiopotassium concentrations in Alaskan Arctic Soils, Plants and Animals. Report No. R88-1, submitted to the Institute of Marine Science, University of Alaska Fairbanks, Fairbanks, Alaska.
7. Feder, H. M., A. S. Naidu, **M. Baskaran**, K. Frost, J. M. Hameedi, S. C. Jewett, W. R. Johnson, J.

Raymond, and D. Schell (1990). Bering Strait-Hope Basin: Habitat Utilization and Ecological Characterization. p.465, Report submitted to the National Oceanic and Atmospheric Administration (NOAA)Ocean Assessment Division.

1. **Translation of Other Authors Published: None**

* 1. Books: None

* 1. Articles or Creative Works: None

1. **Abstracts Published in Academic Journals**

***Abstracts/Papers Presented in National and International Meetings:***

**Baskaran, M. Invited Paper:** Presented at Goldschmidt 2023, Lyon, France July 10-14, 2023, entitled: “Investigations of Incorporation of Elements into ice in Lake St. Clair, SE Michigan, During Extreme Weather Conditions: An Analogy for Chemical Cycling in the Arctic Ocean.”

**Baskaran, M.** and M. Denny (2023). A novel technique to date road sediment using 210Po:210Pb disequilibria: Case study from an urban area, Detroit, MI. Paper presented at the Joint 72nd Annual Southeastern/58th Annual Northeastern Section Meeting, 17th March, 2023.

**Baskaran, M.** (2019). Lead-210 and Polonium-210: Applications as Tracers and Chronometer in

Environmental Systems – Past, Present and Future. Keynote address presented at 4th International Conf.

on Polonium and Radioactive Pb Isotopes, April 8-11, 2019, Shanghai, China, Abstract IT-03.

GiHoon Hong, S.-H. Kim and **M. Baskaran** (2019). On the role of 210Bi in the apparent disequilibrium of 210Pb-210Po at sea. Same as above, Abstract IT-05.

Wang, Jinlong, Q. Zhong, **M. Baskaran** and J.Z. Du (2019). Variations in the partitioning behavior of 210Pb, 207Bi and 210Po during sorption to a wide range of marine particles. Same as above, IT-07.

Du, Juan, **M. Baskaran** and J.Z. Du (2019). The study on the residence time of atmospheric aerosols by the equilibrium of 210Pb-210Bi-210Po at the southeastern Michigan, United States. Same as above, ATM-05.

Behbehani, Montaha, S. Uddin and **M. Baskaran** (2019). 210Po concentration of in different size fractions of aerosol over Kuwait – A likely contribution from fossil fuel burning. Same as above, ATM-06.

Mudbidre, R., **M. Baskaran** and L. Schweitzer (2019). An insight into the riverine sediment resuspension using 210Po and 210Pb as tracers. Same as above, MIS-06.

Bam, W., K. Maiti, **M. Baskaran** and K. Krupp (2019). Paper presented at ASLO-2019.

Denny, M., **M. Baskaran** and S.J. Brownlee (2018). Raman spectroscopic study of the effect of radiation damage on radon emanation from zircon. Paper presented at the GAS Annual Meeting, Indianapolis, Indiana, 14-18 November, 2018, Paper# 10-3.

Hayes, C.T., E.E. Black, R.F. Anderson, **M. Baskaran** and 6 others. (2018). Flux of particulate elements in the North Atlantic Ocean constrained by multiple radionuclides. Paper presented at the Ocean Sciences Meeting, Portland, OR, 11-16 February, 2018.

Krupp, K. and **M. Baskaran** (2017). Quantifying ice-flow dynamics and constraining the residence time of icerafted sediments using 210Po/210Pb disequilibria. Paper presented at the ASLO Meeting, 26 February – 3 March, 2017, Honolulu, HI.

Bam, W., K. Krupp, K. Maiti and **M. Baskaran** (2017). Lead-210 and Polonium-210 disequilibria along the US Arctic GEOTRACES section (2017). Paper presented at the ASLO Meeting, 26 February – 3 March, 2017, Honolulu, HI.

Krupp, K. and **M. Baskaran** (2016). 210Po/210Pb activity ratios as a ‘dating tool’ of ice cores and ice-rafted sediments from the Western Arctic Ocean – Preliminary results. Paper presented at the Ocean Sciences Meeting, 21-26 February, New Orleans, LA.

**Baskaran, M.** (2015). Pushing the detection limits of measurements of environmental radioactivity: Case studies from the applications of radon in atmospheric studies – Lessons learned and Future Challenges. Invited talk presented at the 20th Radiation in the Environment National Symposium, 26-29th October, Mangalore University, India.

**Baskaran, M.** (2015). Po-210-Pb-210-Ra-226 disequilibria in the Global Oceans – a review. Invited talk presented at the 3rd International Conference on Po and Radioactive Pb isotopes’, Kusadasi, Turkey, 11-14 October, 2015.

**Baskaran, M.**, T.S. Bianchi and T.R. Filley (2015). A discordancy between short-term sedimentation rate using 210Pb, 137Cs and Pu and long-term sedimentation rate using 14C. Paper presented at the 3rd International Conference on Po and Radioactive Pb isotopes’, Kusadasi, Turkey, 11-14 October, 2015.

Niedermiller, J., **M. Baskaran**, Y. Tang and G. Stewart (2014). Contrasting scavenging intensities of 210Po and 210Pb at key interfaces of the GEOTRACES Eastern Pacific Zonal transect. OS23E-1264, Paper presented at Fall-2014 American Geophysical Union Meeting, San Francisco, CA.

**Baskaran, M.** and G.-H. Hong (2014). Why there are variations in the 134Cs/137Cs activity ratios of the global data set of Fukushima-derived radiocesium? Paper presented at Goldschmidt2014, Sacromento, CA, June 8-13, 2014.

Brownlee, S.J., M. Eakin, **M. Baskaran** (2014). Effects of microstructure on 222Rn diffusion from zircon.

Paper presented at Goldschmidt2014, Sacromento, CA, June 8-13, 2014.

**Baskaran, M.**, T.M. Church, G. Stewart and S. Rigaud (2014). Contrasting scavenging of Po-210 and Pb- 210 at hydrothermal and benthic layer interfaces during the GEOTRACES North Atlantic section transect. Abstract presented at the Ocean Sciences Meeting in Honolulu, HI, 23-28 February 2014.

Stewart, G., T.M. Church, **M. Baskaran** and S. Rigaud (2014). Particulate Po-210 and Pb-210 along the North Atlantic GEOTRACES transect: bioreactive and particle reactive tracers. Abstract presented at the Ocean Sciences Meeting in Honolulu, HI, 23-28 February 2014.

Mudbidre, R., **M. Baskaran** and L. Schweitzer (2013). 210Po and 210Pb as tracers of particle cycling and resuspension in a dynamic freshwater system: case study from the Clinton River, Southeast Michigan.

Abstract OS22A-06 presented at the Fall-2013 AGU meeting in San Francisco, 8-13 December 2013. Eakin, M., S.J. Brownlee, **M. Baskaran**, L. Barbero and C.N. Walsh (2013). Radon loss from zircon:

emanation and diffusion as a function of grain size, temperature and fission track density. Abstract V53B-2799 presented at the Fall-2013 AGU meeting in San Francisco, 8-13 December 2013.

Walsh, C.N., **M. Baskaran**, S.J. Brownlee and M. Eakin (2013). Self-attenuation of gamma rays in titanite, zircon and apatite. Abstract OS53C-1706 presented at the Fall-2013 AGU meeting in San Francisco, 8-

13 December 2013.

Barbero, L., M.E. Ketterer, **M. Baskaran**, A. Hierro, J.P. Bolivar and M. Casas-Ruiz (2013). U-behaviour under acid mine drainage conditions: Preliminary results from an experimental approach in Rio Tinto area (Spain). Paper presented at Goldschmidt2013, Florence, Italy August 26-30, 2013, doi:10.1180/min/mag.2013.077.5.27.

**Baskaran, M.** and E. Garver (2013). Effects of heating on the leaching of U-Th series radionuclides in a suite of natural minerals. Paper presented at Goldschmidt2013, Florence, Italy August 26-30, 2013, doi:10.1180/min/mag.2013.077.5.27.

Hong, G.H., H.M. Lee, **M. Baskaran**, S.H. Kim, Y.I. Kim and C.J. Kim (2013). Distribution, fluxes in the water column and early diagenesis in the bottom sediments of 210Po and 210Pb in the sea. Paper presented at Goldschmidt2013, Florence, Italy August 26-30, 2013, doi:10.1180/min/mag.2013.077 .5.27.

Eakin, M., S. Brownlee and **M. Baskaran** (2012). Radon emanation from zircon as a function of grain size, temperature and track density. Paper presented at the Fall-2012 AGU Meeting, San Francisco, CA. Rigaud, S., T.M. Church, **M. Baskaran**, G. Stewart (2012). 210Po and 210Pb along North Atlantic US GEOTRACES sections to assess bioactive and particle active scavenging and export rates. Paper presented at the Fall-2012 AGU Meeting, San Francisco, CA.

Rigaud, S., T.M. Church, **M. Baskaran**, G. Stewart, Y. Choi, V. Puigcorbe and P. Masque (2012) Tracing particulate fluxes scavenging fluxes using 210Po and 210Pb during North Atlantic GEOTRACES cruises. Paper presented at the 22nd V.M. Goldschmidt 2012 Conference, Montreal, Canada, June 20-24, 2012.

Bratton, J.F., M**. Baskaran** (2012) Recent advances in understanding of biogeochemical and hydrological processes in the Great Lakes Basin using natural and anthropogenic tracers. Paper presented at the 55th International Association for Great Lakes Research Conference (IAGLR), Cornwall, ON Canada, May 13-17, 2012.

Katrib, L., **Baskaran, M**., C.M. Miller and J.F. Bratton (2012). Use of the radium quartet (223Ra, 224Ra, 226Ra and 228Ra) and stable isotopes ( D & 18O) as tracers of groundwater and surface water interaction. Paper presented at the 55th IAGLR, Cornwall, ON Canada, May 13-17, 2012.



Kumar, A., **M. Baskaran**, C.J. Miller, J.P. Selegean and C.T. Creech (2012). Sediment dynamics in three dams in Michigan and Indiana using excess 210Pb and 137Cs as chronometers. Paper presented at the 55th IAGLR, Cornwall, ON Canada, May 13-17, 2012..

**Baskaran, M**., A. Kumar, R.L. Heichel, C.M. Miller, J.P. Selegean and C.T. Creech (2012).

Reconstruction of land use changes using carbon and nitrogen isotopes in sediment cores from Dams in Michigan. Paper presented at the 55th IAGLR, Cornwall, ON Canada, May 13-17, 2012.

**Miller, C.M.**, E. Andersen, C. Creech, M. Baskaran, J.P. Selegean, J. Hui and J. Barkach (2012).

Anthropogenic impacts on sediment production in the Great Lakes Watershed. Paper presented at the 55th IAGLR, Cornwall, ON Canada, May 13-17, 2012.

**Baskaran, M**., T. Novell, S. Ruberg, B. Biddanda, T. Johengen, N. Hawley and V. Klump (2011) Seepage of subsurface brines into a major Lake System using Ra and stable isotopes of oxygen and hydrogen: A case study

from Lake Huron. Paper presented at the 21st V.M. Goldschmidt 2011 Conference, Prague, Cech Republic, August 15-19, 2011.

Ketterer, M., A. Hierro, L. Barbero, M. Olias, J.P. Bolivar, M. Casas-Ruiz and **M. Baskaran** (2011) 230Th- 234U-238U disequilibria along the river catchments from the Iberian Belt (Spain) affected by acid mine drainage (AMD). Paper presented at the 21st V.M. Goldschmidt 2011 Conference, Prague, Cech Republic, August 15-19, 2011.

Martinez-Ramos, C., E. Cuesta, M. Casas-Ruiz, J.P. Bolivar, E.G. San Miguel, L. Barbero and M. **Baskaran** (2011) Preliminary estimation of scavenging rates in the Guadalete Estuary (Bay of Cadiz, Spain) base don U-Th disequilibrium series. Paper presented at the 21st V.M. Goldschmidt 2011 Conference, Prague, Cech Republic, August 15-19, 2011.

Kim, K.J., **M. Baskaran**, J. Jweda, A. A. Feyzullayev, C. Aliyev, H. Matsuzaki (2011). Investigation of Dashgil mud volcano using Beryllium-10. Paper presented at the 12th AMS Conference at Wellington, New Zealand.

**Baskaran, M.,** T.M. Church, G.-H. Hong, Q. Ma, K. Maiti and K. Buesseler (2010). Intercalibration of dissolved and particulate 210Po and 210Pb and effects of filter composition and flow rates on the particulate 210Po and 210Pb activities. Paper presented at the Ocean Sciences Meeting, Portland, OR, 22- 26 February, 2010.

**Baskaran, M. (2009)** Pb-210 and Pb-210 as Atmospheric Tracers. Plenary Session Talk at the International Topical Conference on Po and Radioactive Pb isotopes, 26-28 October 2009, Seville, Spain.

**Baskaran, M.,** T.M. Church, G.H.. Hong, A. Bahrou, C. Hill and M. Conte (2009). Scavenging, cycling and removal fluxes of 210Po and 210Pb at the Bermuda Time Series Site (BATS) in the Western Sargasso Sea. Paper presented at the International Topical Conference on Po and Radioactive Pb isotopes, 26-28 October 2009, Seville, Spain.

Ma, Q., M. Chen, **M. Baskaran**, Y. Weifeng and R. Zhang (2009). Profiles of 210Pb and 210Po in the

northeastern Pacific Ocean and their implications. Paper presented at the International Topical Conference on Po and Radioactive Pb isotopes, 26-28 October 2009, Seville, Spain.

**Baskaran, M.,** T. Church, and L. Hill (2006). Export of Particulate Organic Carbon Using 210Po as a Metric – A

Case Study from Bermuda Atlantic Time Series (BATS), Posted presented at the Ocean Carbon

Biogeochemistry – Workshop, 10-13 July 2006, Woods Hole Oceanographic Institution, Woods Hole, MA.

**Baskaran, M.,** T.R. Filley, T.S. Bianchi, K.H. Freeman, and P.G. Hatcher (2006). Discordancy between short-term sedimentation rate using Pb-210, Cs-137 and Pu and long-term sedimentation rate using C- 14. Paper OS15B-15, presented at the Ocean Sciences Meeting, Honolulu, HI, 20-24 Feb. 2006.

Jweda, J., **M. Baskaran**, E.H. van Hees, and L. Schweitzer (2006). Pb-210 and Be-7 as tracers of sediment resuspension rates in Clinton River in southeastern Michigan. Paper OS15B-12, presented at the Ocean Sciences Meeting, Honolulu, HI, 20-24 Feb. 2006.

Hill, C., **M. Baskaran**, and T. Church (2006). Export of biogenic particulate matter as traced by preferential scavenging of 210Po at the Bermuda Atlantic Time Series. Paper OS15B-16, presented at the Ocean Sciences Meeting, Honolulu, HI, 20-24 Feb. 2006.

Church, T., M. Sarin, N. Hussain and **M. Baskaran** (2006). A prospective review on 222Rn and its daughters as geochemical metrics for atmosphere and ocean processes. Paper OS13A-01, presented at the Ocean Sciences Meeting, Honolulu, HI, 20-24 Feb. 2006.

Porcelli, D., P.S. Andersson, M. Frank and **M. Baskaran** (2006). Arctic Ocean Nd isotope compositions, water mass distributions, and freshwater inputs. Paper presented at the 16th Annual V.M. Goldschimdt Conference, S11-3, 27 Aug. – 1 Sept., 2006, Melbourne, Australia.

Andersen, M.B., C.H. Stirling, D. Porcelli, A.N. Halliday, P.S. Andersson, and **M. Baskaran** (2006).

Tracing riverine 234U/238U inputs into the Arctic Ocean. Paper presented at the 16th Annual V.M.

Goldschimdt Conference, S11-3, 27 Aug. – 1 Sept., 2006, Melbourne, Australia.

Pogge Von Strandmann, P., B. Reynolds, D. Porcelli, R. James, P. Van Calsteren, **M. Baskaran** and K. Burton (2006). Assessing continental weathering rates and actinide transport in the Great Artesian Basin. Paper presented at the 16th Annual V.M. Goldschimdt Conference, S9-03, 27 Aug. – 1 Sept., 2006, Melbourne, Australia.

**Baskaran, M.** (2005). Utility of particle-reactive radionuclides to determine the residence and transit times of sea ice sediments in the Arctic Ocean. Paper presented at the National Workshop entitled “Sea Ice Mass Balance in the Arctic Ocean (SIMBA)” at Seattle, Washington, 28 Feburary – 2 March. 2005.

Jweda, J., **M. Baskaran**, and L. Schweitzer (2005). Sediment accumulation and mixing rates in Clinton River and Lake St. Clair using Excess Pb-210 and Cs-137. Paper presented at the American Geophysical Union, Fall Meeting 2005, Abstract #H23J-02

Swarzenski, P.W., W.G. Orem, B.F. McPherson, **M. Baskaran**, and Y. Wan (2005). Biogeochemical transport in the Loxahatchee river estuary: The role of submarine groundwater discharge. Paper presented at the American Geophysical Union Joint Meeting in New Orleans, LA.

**Baskaran, M.** and P.W. Swarzenski (2004). Is the extraction of thorium onto MnO2-coated filter cartridges uniform. Paper presented at the “Future Applications of Thorium-234 in Aquatic Ecosystems (FATE)” at the Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, 16- 19 August 2004.

Jaffe, L.A., D.R. Hilton, D. Porcelli, P.W. Swarzenski, **M. Baskaran**, J.T. Kulongoski (2004). U-Th-Ra- Rn-He relationships in Mojave River Basin groundwaters. Paper presented at the 9th Annual V.M. Goldschimdt Conference.

Andersson, P.S., **M. Baskaran**, D. Porcelli, M. Frank, J. Ingri, and O. Gustafsson (2004). The isotopic composition of Sr and Nd in Arctic Ocean ice rafted sediments: implications for provenance and transport. Paper presented at the 8th Annual V.M. Goldschimdt Conference.

Swarzenski, P, M. **Baskaran, M** and J. Martin (2003). Groundwater-surface water exchange in Tampa Bay: Results from a geophysical and geochemical survey. The Fourth Tampa Bay Area Scientific and

Information Symposium. Oct. 27-30, Sunspree Resort Conference Center, St. Petersburg. p 24.

Zimmerman, B. E., D.-C. Lee, D. Porcelli, M. Frank, A. N. Halliday, P. S. Andersson, and **M. Baskaran** (2002). The concentration of Hafnium in seawater: a comparison between the Arctic Ocean and the Northwest Pacific Ocean. Poster presented at the American Geophysical Union Meeting, San Francisco, California, OS11B-0224, December 2002.

**Baskaran, M.,** Trimble, and D. Porcelli (2002). Role of colloids in the scavenging of particle-reactive radionuclides in the Arctic Ocean. Paper presented at the Arctic Science Summit, Groningen, Netherlands, 4/21-4/26/2002.

**Baskaran, M.**, S. M. Trimble, and D. Porcelli (2002). Distribution of thorium and protoactinium in the water column of the deep Canada Basin, Arctic Ocean. Paper presented at the Ocean Sciences/ASLO Meeting, Honolulu, Hawaii, OS21T-09, February 11-15, 2002.

Trimble, S. M., **M. Baskaran**, and D. Porcelli (2002). 234U-238U disequilibria in the Canada Basin of the Arctic Ocean.

Paper presented at the Ocean Sciences/ASLO Meeting, Honolulu, Hawaii, OS12ET-180, February 11-15, 2002.

**Baskaran, M.**, A. Walter, P. W. Swarzenski, and D. Porcelli (2000). Role of colloidal material in the removal of 234Th in the Arctic Ocean. Paper presented at the Ocean Sciences Meeting, January 24-28, 2000, San Antonio, Texas, EOS OS32P-07.

**Baskaran, M.** and G. E. Shaw (2000). Residence time of arctic haze aerosols using short-lived radionuclides. Paper presented at the International Conference on Heavy Metals in the Environment, 6- 10 August 2000, Ann Arbor, MI, Contribution # 1322.

McNeary, D. and **M. Baskaran** (2000). The depositional fluxes of 210Pb, 7Be and 210Po in Detroit, Michigan. Paper presented at the International Heavy Metals in the Environment Conference, August 7th and 8th , 2000, Ann Arbor, MI, Contribution # 1271.

McNeary, D. and **M. Baskaran** (2000). Atmospheric depositional characteristics of Pb-210, Po-210 and Be-7 in Detroit, Michigan. Paper presented at the American Geophysical Union Fall Meeting, San Francisco, California, O552D-10, F621, December 15-19, 2000.

**Baskaran, M.** and G. E. Shaw (2000). Residence time of arctic haze aerosols using short-lived radionuclides. Paper presented at the International Conference on Heavy Metals in the Environment, 6-10 August, 2000, Ann Arbor, MI, Contribution # 1322.

McNeary, D. and **M. Baskaran** (2000). The depositional fluxes of 210Pb, 7Be and 210Po in Detroit, Michigan. Paper presented at the International Heavy Metals in the Environment Conference, August 7th and 8th , 2000, Ann Arbor, MI, Contribution # 1271.

McNeary, D., and **M. Baskaran** (2000). The depositional fluxes of 210Pb, 7Be and 210Po and concentrations of these nuclides in aerosols in Detroit, Michigan. Paper presented at the Michigan Geological Society Meeting, Lansing, MI, March 13, 2000.

Krishnamurthy, R. V., D. Schmitt, E. Atekwana, and **M. Baskaran** (2000). Multiple isotopic studies of calcite growth in concrete structures. Paper presented at the International Mass Spectrometry Conference, Hyderabad, India, January 2000.

Schmitt, D. M., R. V. Krishamurthy, E. A. Atekwana, and **M. Baskaran** (1999). Multiple isotopic studies of calcite growths in concrete structures. Paper presented in Spring American Geophysical Union Meeting, Baltimore, MD, EOS S348 1999.

Tricca, A., D. Porcelli, G. J. Wasserburg, **M. Baskaran**, and J. Naidu (1998). Transport of U- and Th-series radionuclides in groundwater. Paper presented at the Goldschmidt Geochemistry Conference, Germany.

**Baskaran, M.** B. J. Presley and P. H. Santschi (1998). Reconstruction of historical contamination of trace metals in Mississippi River delta, Tampa Bay, and Galveston Bay sediments. Paper to be presented at the Ocean Sciences Meeting, Feb. 8-13, 1998, San Diego, CA.

Schwantes, J., **M. Baskaran** et al. (1998). Distributions of Cs-137 and Pu concentrations and activity ratios of Pu in waters over the Siberian Shelf. Paper to be presented at the Ocean Sciences Meeting, Feb. 8-13, 1998, San Diego, CA.

Bianchi, T. S., E. Engelhaupt, R. Elmgren, S. Blomqvist, J. Risberg, and **M. Baskaran** (1997). Reconstruction of a long-term historical record of cyanobacterial blooms in the Baltic Sea using fossil plant pigments as paleoindicators. Paper presented at the 1997 ASLO Aquatic Sciences Meeting.

Porcelli, D., P. S. Anderson, G. J. Wasserburg, J. Ingri and **M. Baskaran** (1996). Sources and colloid transport of 234U-238U in the Baltic Sea and Kalix River watershed. Paper presented at the Goldschmidt Geochemical Society Conference, Germany, April 1996.

**Baskaran, M.**, M. Ravichandran and T. S. Bianchi (1996). Carbon cycling in a shallow, turbid estuary of southeast Texas II: The effects of DOC on radionuclide residence times. EOS 76(3), p. 190.

Bianchi, T. S., **M. Baskaran** and M. Ravichandran (1996). Carbon cycling in a shallow, turbid estuary of southeast Texas I: the use of plant pigments as biomarkers. EOS 76(3), p. 190.

**Baskaran, M.**, S. Asbill and P. H. Santschi (1995). 210Pb and 239,240Pu-based chronology of sediments from Mississippi Delta and Galveston Bay. Paper presented at the 13th International Estuarine Research Federation, Corpus Christi, TX. Abstract 22.I 3 O I, p.5.

Presley, B. J., **M. Baskaran** and P. N. Booth (1995). Historical trends of metals in sediment at two coastal locations. Paper presented at the 13th International Estuarine Research Federation, Corpus Christi, TX. Abstract 22.1 4 O I, p.105.

Garcia-Romero, B., T. Wade, J. Alcala-Herrera, B. J. Presley, **M. Baskaran** and C. Alexander (1995). Historical contamination trends recorded in estuarine and coastal sediment cores. Paper presented at the 13th International Estuarine Research Federation, Corpus Christi, TX. Abstract 22.1 5 O I S, p.46.

Luoma, S. N., A. Van Geen, M. Hornberger, C. Fuller, W. Pereira, F. Hostettler, K. Kvenvolden, R. Anima, P. Ritson,

A. R. Flegal, I. Venkatesan, and **M. Baskaran** (1995). Records of contaminant input to San Francisco Bay. Paper

presented at the 13th International Estuarine Research Federation, Corpus Christi, TX. Abstract 22.2 4 O I, p.81.

Bianchi, T. S., M. Argyrou, M. Lambert, A. Demetropoulos, M. Hadjichristophorou, **M. Baskaran** (1995).

Plant pigments as biomarkers of organic matter sources in sediments and coastal waters of Cyprus (Eastern Mediterranean). Paper presented at the 13th International Estuarine Research Federation, Corpus Christi, TX. Abstract 20 1 P-3, C S, p.8.

**Baskaran, M.** and P. H. Santschi (1994). Particulate and Dissolved 210Pb activities in the Gulf of Mexico Waters. Paper presented at the American Geophysical Union Fall Meeting at San Francisco, California.

EOS 75(44) O11F-9, p. 312.

Santschi, P. H., L. Guo and **M. Baskaran** (1994). Comparison of Th and Pb nuclide cycling in the Atlantic Ocean off Cape Hatteras and in the Gulf of Mexico. Paper presented at the American Geophysical Union Fall Meeting at San Francisco, California. EOS 75(44) O21B-17, p. 328.

Krishnamurthy, R. V., K. A. Syrup, **M. Baskaran** and A. Long (1994). The use of D/H of kerogen in Paleoclimatic studies. Paper presented at the American Geophysical Union Fall Meeting at San Francisco, California. EOS 75(44) O21D-10, p. 334.

Guo, L., P. H. Santschi and **M. Baskaran** (1994). Organic carbon cycling in the Atlantic Ocean off Cape Hatteras. Paper presented at the American Geophysical Union Fall Meeting at San Francisco, California. EOS 75(44) O21B-8, p. 327.

Bianchi, T. S., C. Lambert, P. H. Santschi, **M. Baskaran**, L. Guo (1994). Plant pigments and lignin-phenols as tracers of particulate and high-molecular-weight dissolved organic carbon (HMW DOC) in the Gulf of Mexico. Paper presented at the American Geophysical Union Fall Meeting at San Francisco, California. EOS 75(44) O11F-9, p. 312.

Ravichandran, M., **M. Baskaran**, and P. H. Santschi (1994). Investigation on the sediment chronology and trace metal accumulation in Sabine-Neches Estuary, Beaumont, Texas. Geological Society of America Abstracts 26(7), p. 19-20.

**Baskaran, M.**, S. Asbill, P. H. Santschi, T. Davis, J. Brooks, M. Champ, V. Makeyev and V. Khlebovich (1994). Distribution of 239,240Pu and 238Pu concentrations in sediments from the Ob and Yenisey Rivers and the Kara Sea. Paper presented at the International Conference on Plutonium, 6-8 July, 1994, Ottawa, Canada. **Baskaran, M** and T. M. Iliffe (1994). Dating of speleothems using excess 210Pb: implications to their usefulness as proxy paleoclimatic recorders. Paper presented at the Eighth International Conference on Geochronology, Cosmochronology and Isotope Geology, Berkeley California, June 5-11, 1994, p.22.

Syrup, K. A., R. V. Krishnamurthy, **M. Baskaran** and A. Long (1994). Implications of a high resolution 13C and C/N record from lake core sediments. Paper presented at the American Geophysical Union Meeting at Baltimore. EOS 75(16) H11A-6, p.143.

**Baskaran, M.** and P. H. Santschi (1994). The distribution of 228Ra/226Ra Activity Ratio in the Gulf of Mexico waters. Paper presented at the Ocean Sciences Meeting at San Diego, California. EOS 75(3) O21A-15, p. 65.

Santschi, P. H., L. Guo, **M. Baskaran**, and B. D. Honeyman (1994). Isotopic and biochemical evidence for the recent origin of colloidal organic matter in the ocean. Paper presented at the American Chemical Society Meeting, San Diego, California, March 1994.

Ravichandran, M., **M. Baskaran**, P. H. Santschi, T. Bianchi (1994). Accumulation rate of sediments and trace metals in Sabine-Neches estuary, Beaumont, Texas. 1994. Paper presented at the Ocean Sciences Meeting at San Diego, California. EOS 75(3) O32M-10, p. 144.

Naidu, A. S. and **M. Baskaran** (1994). 210Pb- and 137Cs-Derived chronology and the fluxes of two isotopes in the continental shelf regions of the eastern Chukchi sea, Alaskan Arctic. Paper presented at the Ocean Sciences Meeting at San Diego, California. EOS 75(3) O42E-4, p. 176.

Fuller, C. C., A. Van Geen, and **M. Baskaran** (1994). Records of contaminant input to San Francisco Bay: 3.

Sediment chronology from 210Pb, 137Cs, 239,240Pu, 234Th activity profiles. Paper presented at the Ocean Sciences Meeting at San Diego, California. EOS 75(3) O52M-4, p. 233.

Santschi, P. H., L. Guo and **M. Baskaran** (1994). Association of 234Th with suspended particles and colloids in the Gulf of Mexico and the Atlantic Ocean. Paper presented at the Ocean Sciences Meeting at San Diego, California. EOS 75(3) O52N-6, p. 235.

**Baskaran, M.** and R. V. Krishnamurthy (1993). Speleothems at Proxy for 13C composition in the atmospheric CO2. Paper presented at the American Geophysical Union Meeting at San Francisco. EOS 74(43) H31A- 17, p.267.

Santschi, P. H., **M. Baskaran**, L. Guo, T. Bianchi, and C. Lambert (1993). 234Th:238U disequilibria in the Gulf of Mexico: the importance of Organic Matter. Paper presented, American Geophysical Union Meeting

at San Francisco. EOS 74(43) O12D-1, p.327.

**Baskaran, M**. and A. S. Naidu (1993). Sediment inventory of 137Cs in the Chukchi Sea and Kotzbue Sound of the continental shelf regions of the Alaskan Arctic. Paper presented at the Conference on “Radioactivityand Environmental Security in the Oceans: New Research and Policy Priorities in the Arctic and North Atlantic” held at the Woods Hole Oceanographic Institution, Woods Hole, June 14-17, 1993.

Bianchi, T. S., **M. Baskaran**, and J. DeLord (1993). Carbon cycling in a shallow turbid estuary of southeast Texas. Abstract presented at the National Estuarine Conference.

Lawrence, J. R., **M. Baskaran**, P. H. Santschi, and S. D. Gedzelman (1993). 18O - 7Be- 210Pb Relationships in Southeast Texas Precipitation. Paper presented at the American Geophysical Union at Baltimore, EOS, 74, A22A-6.

**Baskaran, M.**, C. H. Coleman and P. H. Santschi (1992). Atmospheric depositional fluxes of 7Be and 210Pb at Galveston and College Station, Texas. Paper presented at the American Geophysical Union at San Francisco, O21E-12.

Naidu, A. S. and **M. Baskaran** (1992). 210Pb based sediment accumulation rates in continental shelves and selected coastal regions of Alaska. Abstract presented at 25th SIL International Congress, Barcelona, Spain. **Baskaran, M.** and P. H. Santschi (1992). Residence times of colloidal material in the surface ocean waters.

American Geophysical Union, Abstract Presented at the Ocean Sciences Meeting, New Orleans, O32F-2.

Santschi, P. H., **M. Baskaran** and C. H. Coleman (1992). Interfacial processes in estuarine and coastal marine environments. American Geophysical Union, Abstract Presented at the Ocean Sciences Meeting, New Orleans, O12D-4.

**Baskaran, M.** (1991). 228Ra/226Ra Activity ratio as a tracer of sediment dynamics in Baffin Bay Sediments. Paper presented at the Southern Regional Geochemists Meeting, Port Aransas, Texas, September 27-28, 1991

Santschi, P. H. and **M. Baskaran** (1991). The role of particles and colloids in the transport of radionuclides and trace metals in estuarine and coastal environments. Paper presented at Second Int. Sympo. on the Biogeochemistry of Model estuaries: Estuarine Processes and Global change, Jekyll Island, Georgia, USA, April 14-20, 1991.

Santschi, P. H., **M. Baskaran**, G. Benoit, C. H. Coleman, S. Asbill, A. Cantu, M. Hood, S. Oktay and P. Shannon (1991). The role of colloids in removing trace metals from estuarine waters. Presented at the Texas Academy of Science, 94th Annual Meeting, S. F. Austin State University, Nacogdoches, TX, March 1-2, 1991.

Shannon, P., **M. Baskaran** and P. H. Santschi (1991). Radioactive isotopes as tracers of sediment erosion. Paper presented at the Texas Academy of Science, 94th Annual Meeting, S. F. Austin State University, Nacogdoches, TX, March 1-2, 1991.

**Baskaran, M.**, C. H. Coleman and P. H. Santschi (1991). Natural radionuclides as tracers of the self-cleaning capacity of Galveston Bay. Presented at the Galveston Bay Characterization Workshop, Houston, Feb. 21- 23, 1991

**Baskaran, M.**, P. H. Santschi and G. Benoit (1990). Th isotope measurements on colloids in surface water.

American Geophysical Union, Abstract Presented at the Ocean Sciences Meeting, San Francisco, OC51C- 10.

**Baskaran, M.** (1991). Deposition of Pb and Be isotopes in Galveston, Texas as tracers of atmospheric processes. Paper presented at the Southern Regional Geochemists Meeting, College Station, Texas, May 4, 1990.

**Baskaran, M.**, C. Coleman, G. Benoit and P. H. Santschi (1990). Natural radionuclides in Texas Estuaries.

American Geophysical Union, Abstract Presented at the Ocean Sciences Meeting, New Orleans, OS11E-5.

Santschi, P. H., **M. Baskaran** and G. Benoit (1990). Coagulation control of radionuclide and trace metal removal from coastal waters. American Geophysical Union, Abstract Presented at the Ocean Sciences Meeting, New Orleans, OS11E-1.

Griffin, L. L., **M. Baskaran**, A. Cantu and P. H. Santschi (1989). Determination of Uranium in natural waters by ICP-MS. Abstract presented at the 45th Southwest Regional Meeting of the American Chemical Society, Dec. 1989.

Naidu, A. S., H. M. Feder, M. J. Hameedi and **M. Baskaran** (1988). Aquatic biogeochemistry/Ecology of Marine Macrophytes. American Geophysical Union, Abstract Presented at the San Francisco Meeting, AS22H-123.

**Baskaran, M.**, B. Sahai, R. K. Sood and B. L. K. Somayajulu (1986). Age and origin of Saurashtra miliolites from strandlines detected by remote sensing techniques. Natl. Seminar on the Applications of Remote Sensing to Geology, Space Applications Center, Ahmedabad, India.

**Baskaran, M.**, G. Rajagopalan and B. L. K. Somayajulu (1986). 230Th/234U and 14C ages of Saurashtra (India) miliolites. ICOG VI, Cambridge, UK.

**Baskaran, M.** (1986). 230Th/234U ages of Kutch miliolites. Natl. Workshop on Quaternary Carbonate and Miliolite Problems of Gujarat.

**Baskaran, M.** (1986). Mineralogical and Chemical studies of Saurashtra Miliolites. Natl. Workshop on Quaternary Carbonate and Miliolite Problems of Gujarat.

**Baskaran, M.**, G. Rajagopalan and B. L. K. Somayajulu (1986). Age determination of Saurashtra miliolites by 230Th/234U and 14C methods. Natl. Workshop on Quaternary Carbonates and miliolites problems of Gujarat.

**Baskaran, M.** and B. L. K. Somayajulu (1986). A Generalized Model for the Origin and Occurrence of Saurashtra Miliolites. National Workshop on Quaternary Carbonates and Miliolite Problems of Gujarat.

**Baskaran, M.**, S. K. Bhattacharya, M. V. S. Guptha G. Rajagopalan and B. L. K. Somayajulu (1985). Radio and stable isotope systematics in marine carbonate deposits of Saurashtra, India. Int. Conf. on Isotopes in Sedimentary cycle, Obernai, France.

**Baskaran, M.**, A. R. Marathe, S. N. Rajaguru and B. L. K. Somayajulu (1983). Dating of Hiran Valley miliolites by uranium series methods: implications to geoarchaeology. ISPQS Symposium, Pune, India.

Sood, R. K., B. Sahai , **M. Baskaran** and B. L. K. Somayajulu (1983). Pleistocene sea level changes based on

Landsat imagery studies of coastal deposits. Natl. Seminar, NMRS, Hyderabad, India.

**Baskaran ,M.**, M. V. S. Guptha, and B. L. K. Somayajulu (1982). Multidisciplinary studies on Saurashtra miliolites: mineralogy and paleontology. Micropalaeo and Stratigraphy Symposium, Pune, India.

**Baskaran, M.**, M. M. Sarin, and B. L. K. Somayajulu (1981). Narbada and Tapti estuarine suspended matter and sediments: major and trace metal composition of different fractions. Estuaries Symposium, Goa, India.

1. **Book Reviews Published**
   1. Academic Journals: None
   2. In Magazines/Newspapers: None
2. **Creative Shows/Exhibits** None
3. **Creative Performances**: None

1. **Instructional Materials Formally** **Published:** None

* + 1. Textbooks
    2. Study Guides/Laboratory Workbooks
    3. Other Published Materials: Revision of Instructor’s Manual and Test Bank Questions for Physical Geology Text Book (Chernicoff and Whitney, 4th Ed.).

1. **Papers Presented**

1. **Invited and/or Refereed Internationally or Nationally**

All the relevant information is given in Papers presented section. Some of the papers listed above are refereed and most of them are presented in National/International meetings.

1. Invited and/or Refereed

Locally/Regionally. (Information given above)

**M. Invited Seminars/ Lectures Presented and Workshops Attended:**

* **Invited Seminar:** Delivered a seminar at the *Indian Institute of Technology*-Gandhinagar, India on 21st July 2023
* **Invited Seminars:** Delivered a colloquium at the *Physical Research Laboratory* (PRL) at Ahmedabad, India on 19th July 2023, entitled: “82\_PRL Ka Amrut Vyakhyan.” ; Second talk delivered at PRL on 20th July 2023
* **Invited Seminar:** Delivered a talk at the *Indian Institute of Science Education and Research* (IISER) at Pune, India on 17th July 2023
* **Invited Seminar:** Delivered a talk at the *Indian Institute of Tropical Meteorology*, Pune, India 0n 14th July 2023
* **Invited Seminar:** Delivered three seminars, one each day during 27-29 May 2019 at the Indian Institute of Science, Bengaluru, India.
* **Invited:** Conducted GIAN (*Global Initiative for Academic Networking*, Government of India)

Workshop for 2 weeks (14 – 24 May 2019) entitled “Applications of Nuclear Technniques in the

Investigation of Monsoon Dynamics and Atmospheric Pollutants” at Mangalore University, India, with 28 participants from different parts of India (sponsored by the Government of India).

* **Keynote Speaker:** ‘4th International Conference on Po and Radioactive Pb Isotopes’, East China Normal University, Shanghai, China, 8-11 April 2019.
* **Invited Workshop:** “Expert Meeting on capacities gap analysis and action planning for assistance in sustainable marine and coastal management to LAC”, 9-13 July 2018, MEL-IAEA, Monaco.
* **Invited Seminar:** Delivered three seminars, 27 June 2018, Stellenbosch University, Cape Town, S. Africa
* **Keynote Speaker:** 13th Annual AfricaArray Workshop, 24-27 June 2018, The University of the Witwatersrand, Johannesburg, S. Africa
* **Invited Seminar:** Delivered two talks: i) Guest lecture in “*Environmental Oceanography*” course (for undergraduates); and ii) College-wide seminar to all the students/faculty/staff, College of Earth and Environmental Sciences, Seoul National University, South Korea, Dec. 4-5, 2017.
* **Invited Seminar at the International Seminar on Ocean Science and Technology:** Korea Ocean Science and Technology Institute (KIOST), Dec. 4-5, 2017, Busan, Republic of Korea.
* **Invited Seminar:** Department of Earth and Environmental Science, University of Michigan, Ann Arbor, 10 November 2017.
* **Invited Talk:** ECSA 2017 Conference, 16-20 October 2017, Shanghai, China.
* **Invited Workshop:** “Data Synthesis Workshop, Miami, FL, 23-26 October 2017.
* **Invited Seminar:** Institute of Earth and Environment – Chinese Academy of Science, Xi’an, China, 29th July 2017.
* **Keynote Speaker at the International Seminar**: *New Ocean Observation Initiatives and New Applications of Ocean Sciences for Sustainable Development*, Nov. 30 – Dec. 02, 2016, KIOST, Ansan, Republic of Korea.
* **Invited Workshop:** “SKLEC 3rd International Consultation Meeting and the Workshop on Estuarine and Coastal Research, Shanghai, China (October 19 – 21, 2016).
* **Invited Workshop:** “GEOTRACES: Alaska-Tahiti Planning Workshop, La Jolla, CA, 5-7, 2016.
* **Invited Workshop:** “GEOTRACES: Data Synthesis Workshop, New York, August 1-4, 2016.
* **Invited Seminar:** National Institute of Oceanography, Dona Paula, Goa, 30th October, 2015.
* **Invited Talk:** 20th Radiation in the Environment National Symposium, Mangalore University, India, 2629th October.
* **Invited Talk:** ‘3rd International Conference on Po and Radioactive Pb Isotopes’, Kusadasi, Turkey, 1114 October, 2015.
* **Invited Talk:** ENVIRAD2015, Thessaloniki, Greece, 21-25 September 2015.
* **Invited Seminar:** Health Physics Society of the Great Lakes Chapter, Dearborn, Michigan, September 4, 2015.
* **Invited Talk:** State Key Laboratory for Estuarine and Coastal Research Institute, East China Normal University, Shanghai, China, August 4, 2014.
* **Invited Talk:** Goldschmidt2014, Sacramento, CA, 8-13 June, 2014.
* **Invited Seminars:** Delivered 3 seminars at Ege University, Izmir, Turkey (one each at Nuclear Science Institute; Center for Environmental Studies; and Science and Technology Research Center)
* **Plenary Session Speaker** at the Second International Conference on Po and Radioactive Pb isotopes, 1113 February 2013, Mangalore, India.
* **Invited Talk:** Two seminars at the Department of Geology, Anna University, Chennai, India on 8th Feb. 2013.
* **Invited Talk:** Case Western Reserve University – Earth and Environmental Science Department, Ocotber 5, 2012.
* **Invited Workshop:** “GEOTRACES: Arctic Implementation Plan Workshop, Arlington, VA, June 13-15, 2012.
* **Invited Workshop:** “GEOTRACES: Arctic Implementation Workshop,” Arlington, VA, June 12-10, 2010.
* **Invited Seminar:** Universitad de Huelva, Spain on July 27, 2010 (*Nuclear Clocks: Major Advances in Earth Sciences*).
* **Invited Seminar:** Universitad de Cadiz, Spain on July 21, 2010 (*Applications of U-Th-Isotopes as Tracers and Chronometers in Marine System*).
* **Invited Workshop:** “GEOTRACES: Intercalibration Workshop,” Norfolk, VA, March 8-10, 2010.
* **Plenary Session Speaker** at the International Topical Conference on Po and Radioactive Pb isotopes, 2628 October 2009, Seville, Spain.
* **Invited International Workshop:** “GEOTRACES: Arctic Ocean Planning Workshop,” Dormenhorst, Germany, June, 2009 and served as a Rapporteur for one of the three working groups.
* **Invited Seminar:** Oxford University (Department of Earth Sciences) on March 11, 2009
* **Invited Seminar:** Swedish Museum of Natural History (University of Stockholm) on March 8, 2009
* **Invited Seminar:** Anna University, Chennai, India (Department of Earth and Environmental Science) on August 25, 2008.
* **Invited Seminar:** Indian Institute of Science, Bangalore, India (Center for Earth Sciences and Center for Ocean and Atmospheric Sciences), Two seminars on August 21, 2008.
* **Invited Seminar:** Physical Research Laboratory, Ahmedabad, India on August 19, 2008.
* **Invited Workshop:** “GEOTRACES: Intercalibration Workshop,” San Francisco, CA, December 8-9, 2007.
* **Invited International Workshop:** “GEOTRACES: Indian Ocean Planning Workshop,” Goa, India, October 24- 26, 2007 and served as a Rapporteur for one of the three working groups.
* **Invited National Workshop:** “AMS/NOAA/NSF Online Weather Studies MSI Faculty Workshop,” Kansas City, MO, May 21-25, 2007.
* **Invited National Workshop:** “Arctic System Synthesis Workshop: New Perspectives through Data Discovery and Modeling” (workshop sponsored by the National Science Foundation through ARC SS Science Management

Office), 2-4 April, 2007 at the Bell Harbor Conference Center, Seattle.

* **Invited Seminar:** Department of Geology, University of Toronto, Canada, on October 5, 2006.
* **Invited National Workshop:** “Ocean Carbon Biogeochemistry” 10-13 July 2006, Woods Hole Oceanographic Institution, Woods Hole, MA and presented a Poster.
* **Invited Talk at the public forum at Uniontown, Ohio:** “Evidence for Anthropogenic Activity at the Industrial Landfill, Uniontown, Ohio” 23rd May, 2006.
* **Invited National Workshop:** Bering Sea Drilling Workshop, June 20-22, 2005, Fairbanks, Alaska; presented a paper (workshop sponsored by Joint Oceanographic Institution Inc.).
* **Invited National Workshop:** “Paleoenvironmental reconstruction using Clam Shells” 7th July 2005 at St. Petersburg, Florida (sponsored by U.S. Geological Survey).
* **Invited Seminar:** College of Marine Studies, University of Delaware (Newark) on May 6th, 2005 (Title: Role of Colloids in the Removal of Particle-Reactive Radionuclides in the Arctic Ocean).
* **Invited Seminar:** Annis Water Resources Institute, Grand Valley State University, Muskegon, MI, on March 17th, 2005 (Title: Applications of short-lived radionuclides as tracers and chronometers in a freshwater system).
* **Invited National Workshop:** “Sea Ice Mass Balance in the Arctic Ocean (SIMBA)” – NSF-Sponsored Meeting, Applied Physics Laboratory, University of Washington, Seattle, 28 Feb.-2 March, 2004.
* **Invited Seminar:** Western Michigan University on 15th November 2004 (Title: Role of colloidal and particulate matter in thorium scavenging in the Canada Basin of the Arctic Ocean).**Invited Seminar:** Chemistry

Department in Oakland University on 27th October 2004 (Title: Short-lived Radionuclides as Tracers of Atmospheric Processes).

* **Invited International Workshop:** “Future Applications of 234Th in Aquatic Ecosystems Workshop” – NSF Sponsored Workshop at Woods Hole Oceanographic Institution, Woods Hole, MA, August 16-19, 2004.
* **Invited Seminar:** Indian Institute of Technology (Madras) on 5th August 2004, entitled “Radionuclides as Tracers and Chronometers in Environmental Problems.”
* **Invited Seminar:** National Institute of Oceanography, Goa (India) on 29 July 2004, entitled “Scavenging of Particle Reactive Radionuclides in the Arctic Ocean”.
* **Invited National Workshop:** “The Amerasian Basin and its Margins” – NSF-Sponsored Meeting, Washington D.C., at the Joint Oceanographic Institutions, 8-9 June, 2004.
* **Invited Seminar:** Korea Oceanographic and Developmental Research Institute (KORDI) on March 6, 2003.
* **Invited Presentation:** The American Chemical Society, Analytical Chemistry Division, Detroit, Michigan, Two presentations on 21 November 2002.
* **Invited Workshop:** University of Alaska, Fairbanks, AK – Amchitka Island Long-term Stewardship Workshop, Fairbanks, AK, presented three talks, February 12-14, 2002. Served as a Reporter for one of the three Technical Working Groups (Marine Science and Radioecology).
* **Invited National Workshop:** Arctic Research Workshop – NOAA - Presented a paper entitled “Reconstruction of historical contaminants and particle flux in the Arctic Ocean” in the Arctic Research Workshop held at the NOAA Headquarters in Washington D.C. on July 25-26, 2001.
* **Invited Talk:** Oakland University, Rochester, Michigan, November 13, 2001.
* **Invited presentations:** American Chemical Society, Analytical Chemistry Division, Detroit, Michigan, Two presentations on 16 November 2000.
* **Invited Talk:** Barrow Arctic Science Consortium, Barrow, Alaska – Invited to present a paper at the

National Press Conference for Women, sponsored by the National Science Foundation, August 2000.

* **Invited talks** – Two talks at the Korea Oceanographic and Developmental Research Institute (KORDI) on March 14 & 15, 2000.
* **Invited Seminar:** Institute of Marine Science, University of Delaware, April 1999.
* **Invited Seminar:** Department of Geology, University of Nevada, January 1999.
* **Invited Seminar:** Pacific Northwest National Laboratory, March 1999.
* **Invited Seminar:** Savannah River Ecological Laboratory March 1999.
* **Invited Seminar:** Idaho Engineering National Laboratory, February 1999.
* **Invited Seminar:** Western Michigan University, March 1999.
* **Invited Seminar:** Center for Environmental Research and Monitoring, State University of New Mexico March 1999.
* **Invited Seminar:** Universidade Estadual Paulista, Rio Claro, Brazil, October 1997.
* **Invited Conference:** 5th International Congress of the Brazilian Geophysical Society, Sao Paulo, Brazil October 1997.
* **Invited Seminar:** Kalpakkam Atomic Research Center July 1996.
* **Invited Seminar:** Madras University, July 1996.
* **Invited Seminar:** Anna University, July 1996.
* **Invited Seminar:** Madurai University, July 1996.
* **Invited Seminar:** A series of Invited Talks at the Korea Oceanographic and Developmental Research Institute, Seoul, Korea, (June 3-14, 1996).
* **Invited Seminar:** California Institute of Technology, December 1994.
* **Invited Speaker:** International Symposium Conference on Plutonium at Ottawa, Canada, as a speaker and International Expert, (1994).
* **Invited Seminar:** Center for Nuclear Waste Regulatory Analyses, Southwest Research Institute, San Antonio, Texas (1994).

**Talks given at Wayne State University (outside the Department only):**

* 1. Seminar entitled “Energy, Sustainability and Impacts of Nuclear Accidents on Human Society”,
  2. Seminar entitled “Tracking the Sources, Pathways, and Transport of Lead in the Environment Using Lead Isotopes: A Case Study from Detroit, Michigan” Wayne State University, 6th March, 2013.
  3. Seminar entitled “Connecting Worlds: Untrodden Paths of Geology Through Physics” delivered at the 6th Undergraduate Physics Research Conference at Wayne State University, 16 Nov., 2012.
  4. Seminar entitled “Anatomy of Fukoshima Nuclear Accident: Source Tracking and Atmospheric Transport of Radionuclides” Wayne State University, 11 January, 2012.
  5. Delivered a talk entitled “Lead Isotopes and Source Determination” at the Institute of Environmental Health Science Research on 07 January 2010.
  6. Delivered a Colloquium entitled “Nuclear Clocks: Major Advances in Earth Sciences” at the Physics Department, Wayne State University, January 15, 2009.
  7. Delivered a Seminar entitled “How Old the Humans and Earth Are? – A Divisive Line Among the Christians” at the Religion-Science Conference, Wayne State University, April 21, 2006.
  8. Applications of U-Th series radionuclides as Geochronometers: An Overview. Colloquium given on November 21, 2002 at the Physics Department, Wayne State University.
  9. Applications of short-lived radionuclides in Earth Sciences – A Review. Seminar delivered on 24 September at the Chemistry Department, Wayne State University.

III. **SERVICE**

1. **Administrative Appointments at Wayne State in Last Five Years: N/A**

1. **Administrative Appointments at Other College/University in Last Five Years: N/A**

1. **Committee Assignments in Last Five Years**

1. University Committees Chaired: None

1. University Committee Membership:

Selection committee for the *Board of Governors Faculty Recognition* Award (2014, 2016, 2018, 2019) Reviewer, UROP Proposals at Wayne State University, 2015.

Selection committee for the *Board of Governors Distinguished Faculty Fellow* award (2011) Academic Senate (2004-2007); FSST - Senate sub-committee (2004-2007).

1. College/Department Committees Chaired: Chaired two search committees in 2001 and 2002.
   1. Have been serving as the contact-person for the Department since July 1, 2001; responsibilities include scheduling off-campus (2001- present), and on-campus courses (2001 – present), assigning part-time instructors for teaching the courses (2001 – present), assignments for Geology- 1010 lab instructors (with Dave Lowrie – 2001-2008), evaluation of transfer of credit applications (2001 – Sept. 2013).
   2. Coordination with Geology faculty on the outreach program, and arranging field courses for the specialized geology courses (2001 – 2008).
   3. Graduate Advisor in the Department (August 2001 – September 2008).
   4. Undergraduate Advisor in the Department (August 2001 – September 2013).
   5. Faculty liaison (1999-2001) for the Geology Club, run mainly by the students.
   6. Served as the search committee Chair for two faculty positions (Ed van Hees and Larry Lemke).

**College/Department Committee Membership**

* + - Chair, English Department Chair search committee, February-April 2019 - Promotion and Tenure (2012-2018) - College of Liberal Arts & Sciences Committee - Faculty Council, College of Liberal Arts and Sciences, 2008-2011.
    - Invited to participate College of Science Retreat (October 2001) and shared my vision for our department, to develop an active research-oriented, environmental science program.
    - Served as a member in the Strategic Plan Workshop (College of Science) – Facilities core group on December 16, 1999.
    - Department salary committee (1999-present)

1. **Positions Held in Professional Associations in Last Five Years None**

1. **Memberships/Offices Held in Public or Private Agencies Related to Discipline in Last Five Years.** American Geophysical Union, American Chemical Society, Geochemical Society

**3. Testimony before Public Bodies:**

Two presentations were made to the Public on the Radiation issue at the Mixes Waste Landfill site in Uniontown, Ohio; Two presentations were made at Albuquerque, New Mexico in 2000 on the radiation issue in the Mixed Waste Landfill adjoining Sandia National Laboratory, Albuquerque, New Mexico.

1. **Consulting to Public Agencies, Foundations, Professional Associations.**
   1. Volunteer Teaching 2nd Year College-level Physics to upper Middle and High School students at the Indus Center of Academic Excellence, a non-profit organization, on Saturdays, every week (2004- 2013).
   2. Served as a Board Member (2005-2009) at the Indus Center of Academic Excellence, a non-profit organization to promote excellence in Science and Math in Southeast Michigan (**website: www.icae.org**) iii) Served as a Volunteer for the Concerned Citizens of Lake Township on the Industrial Excess Landfill, Uniontown, Ohio on the nuclear contamination in the groundwater system. My interview appeared in the NBC-Cleveland, Ohio as well in the local newspapers, and radio station from November 01- February 02.
2. **Consulting to Private Enterprises:** Quarkonics (2012-2015)

1. **Journal/Editorships**
   1. Associate Editor: i) *Estuarine, Coastal and Shelf Research* (2014-present);
   2. ii) Journal of Environmental Radioactivity (2016-2022)

* 1. Editor, ***Handbook of Environmental Isotope Geochemistry***, Springer-Verlag, 2-Set Volume with 40 Articles – Publication Date: September 2011.

* 1. Editorships: Served as a Guest Editor to the following: i) *Journal of Environmental Radioactivity* (special volume entitled: “Special issue of journal of Environmental Radioactivity of 2nd International Conference on

Po and radioactive Pb isotopes” – published in December 2014 (jointly with N. Karunakara, Mangalore

University, India); ii) *Journal of Environmental Radioactivity* (special volume entitled: “Special issue of

Journal of Environmental Radioactivity of 4th International Conference on Po and radioactive Pb isotopes – Published in July 2017 (jointly with Aysun Ugur); and iii) *Marine Chemistry* (Special volume entitled:

“*Biogeochemical Cycling in Tampa Bay, Florida*” – published in spring 2007 (jointly with Peter W. Swarzenski, U.S. Geological Survey, St. Petersburg, Florida).

1. **Other Professionally Related Service:**

**Served as a Reviewer for the following Professional Journals:**

Nature, American Mineralogist, Applied Radiation and Isotopes, Aqueous Geochemistry, Atmospheric Environment,

Chemical Geology, Continental Shelf Research, Deep-Sea Research, Earth and Planetary Science Letters, Earth

Surface Processes and Landforms, Environmental Science and Technology, Environmental Monitoring and

Assessment, Estuaries, Geochemical Journal, Geophysical Research Letters, Geochimica et Cosmochimica Acta,

Journal of Geophysical Research, Marine Chemistry, Marine Geology, Marine Pollution Bulletin, Progress in Oceanography, Science of the Total Environment, Solar and Terrestrial Physics, Tellus, Water Resources Research **I typically review 12-15 papers/year to professional journals in my field.**

**Served as a Reviewer for the following Funding Agencies:**

National Science Foundation – Chemical Oceanography, National Science Foundation – Earth System Science,

Atmospheric Science, Hydrology, Office of Polar Programs., U.S. Civilian Research and Development Foundation

(CRDF), DOE and NOAA, Sea Grant (Texas, New York and Wisconsin Sea Grant Programs), National Research Council – UK, National Research Council, Canada., Israel Science Foundation (2017), National Science Foundation in Poland (2016), Romania (2016), Japan (2017), Kuwait (2018). **I typically review 2-5 proposals/year.**

**Other Professionally Related Service:**

* Convened at Townhall Meeting (BOGLS; with Val Klump and Ostrom Nathaniel) at Fall-2013 AGU in San Francisco on 12 December, 2013
* Convened a Community Forum (BOGLS; with Greg Dick) at Goldschmidt2013 (Geochemical Society Meeting) in Florence, Italy on 28th August, 2013
* Convened a Community Forum at the International Association of the Great Lakes Research (IAGLR) on 5th June, 2013 at Purdue University at West Lafayette, Indiana
* Convened a National Workshop entitled “Recent Changes in the Biogeochemistry of the Great Lakes System” where about 70 researchers from mostly Great Lakes States attended (11-13 March 2013)
* Served as an External Reviewer for the selection of candidates for the *Indian National Science Academy Fellows, August 2010.*
* Served as a Reviewer for three Physical Geology Text books: 1) Physical Geology – 10th, 11th and 12th Editions, Plummer, McGeary and Carlson, McGraw Hill Publisher; 2) Geology – 4th Edition, Chernicoff and Whitney, Pearson Eduction/Prentice Hall; and 3) The Essential Earth – Jordan and Grotzinger, Freeman Publisher.
* Convened a session at the first Asia Oceania Geosciences Society Meeting at Singapore entitled “Biogeochemical Cycling in Estuaries and Coastal Waters” July 5-9, 2004.
* Have served as an expert to several public organizations and citizens groups on the Environmental Radioactivity. Ids:

1) Web of Science Researcher ID: [AAN-2253-2020](https://publons.com/researcher/AAN-2253-2020/)