



McGill

Faculty of Agricultural and Environmental Sciences
Faculté des Sciences de l'agriculture et de l'environnement

December 13, 2015

Kenneth Davis,
Program Officer – Global Mercury Partnership
UNEP Chemicals Branch DTIE
11-13, chemin des Anémones
CH-1219 Châtelaine - Geneva, Switzerland
E-mail: metals.chemicals@unep.org

Re. Global Mercury Partnership Application

Dear Mr. Davis,

As discussed recently in Vancouver at the “Miners, Minerals, and Minamata” workshop, I would like to apply to join the UNEP Global Mercury Partnership (see attached). In doing so my research group at McGill University (Montreal, Canada) supports the Partnership and commits to helping the Partnership achieve its goal. Specific ways in which I can contribute to the Partnership are detailed below, with particular emphasis on Fate and Transport, as well as Artisanal and Small-Scale Gold Mining.

1. Hg Scientific Expert in Human and Ecosystem Health.

For 13 years I have focused my research activities on Hg. My research takes an ecosystem approach to community, occupational, and environmental health whereby evidence is collected, scrutinized, and compared from humans, wildlife, and ecosystem components. My research has resulted in >110 peer-reviewed papers, been supported by more than 40 grants totaling over \$25 million, and most of these efforts have focused on Hg science.

2. Fish and Wildlife Ecotoxicology

I have conducted Hg toxicology studies in dozens of fish and wildlife species from around the world, with published works from the Arctic, across Canada, Great Lakes region of North America, Ghana, India, Taiwan, and Russia among others. My research was amongst the first to document that ecologically relevant levels of Hg can be associated with (and in some cases, cause) sub-clinical neurotoxicity in a range of wildlife species. I have worked with colleagues to propose new risk thresholds or guidance values for fish and wildlife, and these have been published and cited widely.

3. Hg in the Arctic

For approximately 10 years I have been active on Hg work in the Arctic through my involvement with the Arctic Monitoring and Assessment Program (AMAP) and Canada's Northern Contaminants Program (NCP). I am a co-author of the “AMAP Assessment 2011: Mercury in the Arctic Report” serving as one of the key authors of the Biological Effects chapter. Note, this AMAP group is currently working to update the report. I remain actively involved in Hg work in the Arctic as I currently hold grants to study Hg exposure and effects in various wildlife (char, ringed seals, polar bears) and Inuit populations.

4. Artisanal and Small-Scale Gold Mining

Since 2009 I have conducted research on ASGM, mainly in Ghana. In addition to publishing ~12 research papers on ASGM, I led an Integrated Assessment of ASGM that brought together 26 Ghanaian Scientists (including leading officials from various Agencies) from 7 Institutions, 38 stakeholders from 28 Institutions, and 8 International Experts to a series of 6 meetings in Accra. The group comprised of experts in human health, natural sciences, and socioeconomics. Together they reviewed more than 300 papers and 10,000 datapoints to derive evidence-based response options that are now being discussed in several Government units. The work resulted in 18 papers just published in a special issue of the *International Journal of Environmental Research and Public Health*, and has provided a rigorous foundation to develop the country's National Action Plan (NAP).

5. Capacity strengthening in Low and Middle-Income Countries

Since 2010 I have co-led a number of environmental and occupational health capacity strengthening efforts in West Africa within which Hg science has featured prominently in terms of training, research, and outreach. We have focused on issues such as ASGM and electronic waste (E-waste). We have trained dozens of in-country postdoc and senior mentors, and have help created a community of like-minded scholars who now populate influential and important positions in academia, government, NGO, and private sectors. We have funding for the next 5 years to continue this work and establish a robust West African wide network that spans Francophone and Anglophone countries.

6. Human Exposure Assessment to Hg

I have keen interest in improving Hg exposure assessments. To this end I have conducted several epidemiological studies involving, for example, ~1,000 dental professionals as part of the American Dental Association cohort, ~500 ASGM miners in the aforementioned projects in Ghana, ~1,000 Inuit as part of the International Polar Year project, and ~1,500 mother-child pairs in Mexico City who have been followed for about 20 years. Through these efforts I have concentrated my interests to focus on: A) improving and utilizing methods to speciate Hg in human biospecimens; B) analyzing genetic polymorphisms relevant in Hg toxicokinetics to see how they influence exposure-biomarker relationships; and C) determining the bioavailability of Hg from contaminated foods.

Together these projects address the goal of the partnership, which is to "protect human health and the global environment" from Hg. Each of the above listed areas substantially concern Hg and are ones in which I remain firmly committed to and have deep scientific knowledge. I would be glad to leverage these projects and knowledge, and volunteer my time to the Partnership.

Sincerely,



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UNEP GLOBAL MERCURY PARTNERSHIP INFORMATION ON BECOMING A PARTNER

PARTNERSHIP AREA

Please check the partnership areas to which your organization intends to contribute to:

- artisanal and small scale gold mining
- mercury cell chlor alkali production
- mercury air transport and fate research
- mercury in products
- mercury releases from coal combustion
- mercury waste management
- mercury supply and storage mercury supply and storage
- mercury releases from the cement industry

Please indicate in your support letter how your organization intends to contribute to each of the indicated partnership areas.

ORGANIZATION NAME

McGill University (Environmental Health Sciences Group)

NAME, FUNCTIONAL TITLE OF REPRESENTATIVE

Niladri Basu, Associate Professor and Canada Research Chair (CRC) in E

ADDRESS OF ORGANIZATION

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TYPE OF ORGANIZATION

- Government
- Regional economic integration organization
- Non-government Organization
- Industry
- Scientific community
- Other, please specify: Academic Research Group

*UNEP Global Mercury Partnership Registration Forms are to be accompanied by a letter to UNEP signifying support for the UNEP Global Mercury Partnership and commitment to achieving the partnership goal. The support letter should specify how the organization intends to contribute to meeting the goal of the UNEP Global Mercury Partnership. Please submit the support letter and registration form to:

Head of Branch - UNEP Chemicals Branch DTIE
11-13, chemin des Anémones - CH-1219 Châtelaine - Geneva, Switzerland
E-mail: metals.chemicals@unep.org



CHEMICALS BRANCH
DIVISION OF TECHNOLOGY, INDUSTRY AND ECONOMICS
UNITED NATIONS ENVIRONMENT PROGRAMME

UNEP GLOBAL MERCURY PARTNERSHIP INFORMATION ON BECOMING A PARTNER

This information sheet provides an overview of the United Nations Environment Programme (UNEP) Global Mercury Partnership for prospective partners. Further information is available at the following web address:
www.unep.org/hazardoussubstances

GOAL OF THE PARTNERSHIP

The overall goal of the UNEP Global Mercury Partnership is to protect human health and the global environment from the release of mercury and its compounds by minimizing and, where feasible, ultimately eliminating global, anthropogenic mercury releases to air, water and land.

PARTNERSHIP AREAS

The UNEP Global Mercury Partnership is a voluntary and collaborative relationship amongst various parties, in which all participants agree to work together in a systematic way to take immediate actions to achieve the goal of the UNEP Global Mercury Partnership.

Established in 2008, the partnership supports immediate actions on mercury in parallel to the negotiations of a mercury convention.

The following partnership areas have been initiated:

- artisanal and small scale gold mining;
- mercury cell chlor alkali production;
- mercury air transport and fate research;
- mercury in products;
- mercury releases from coal combustion;
- mercury waste management;
- mercury supply and storage; and
- mercury releases from cement industry.

OUR PARTNERS

More than 100 partners from IGOs, NGOs and private sector:

- Support the overall goal of the Partnership;
- Contribute resources or expertise to the development and implementation of partnership activities;
- Network with other organizations/agencies/individuals addressing mercury issues.

BECOMING A PARTNER

To become a partner, interested entities or individuals should submit a letter to UNEP signifying their support for the UNEP Global Mercury Partnership and their commitment to achieving its goal, and specifying how they will contribute to meeting the goal of the UNEP Global Mercury Partnership.

Letters should be submitted to :

Head of Branch
UNEP Chemicals Branch DTIE
11-13, chemin des Anémones
CH-1219 Châtelaine - Geneva, Switzerland
E-mail: metals.chemicals@unep.org

In submitting this letter, UNEP requests partners to complete the registration form (see reverse). Participation in the UNEP Global Mercury Partnership will be acknowledged by UNEP. Your confirmation letter will be posted on the UNEP Chemicals Branch web site.