

# Mercury Legacy in Artisanal and Small-Scale Gold Mining



Date

October 30, 2022

Venue

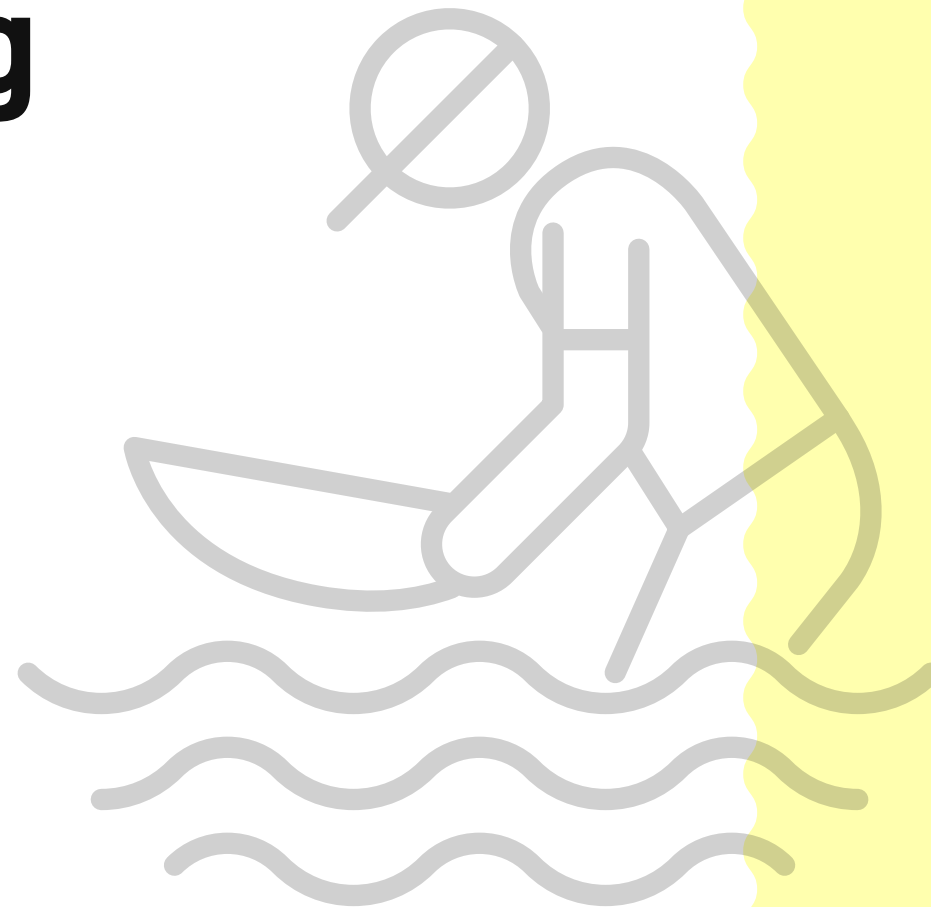
Fukuoka Convention Center,  
Fukuoka, Japan

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<https://www.ecobalanceconference.org/conference/2022/index.html>



## Speakers and Topics

Inconsistencies of mercury flow in global trade concerning artisanal and small-scale gold mining activity

**Yingchao Cheng** National Institute for Environmental Studies

Exploring illegal trade of mercury from discrepancy with trade statistics

**Masaaki Fuse** Hiroshima University

Monitoring Artisanal and Small-Scale Gold Mining using Satellite Images

**Kazuyo Hirose** Japan Space Systems

Tailings management as a key challenge to curb mercury dissemination in and around ASGM sites

**Satoshi Murao** Daiichi Institute of Technology

Human health risk assessment of mercury vapor around ASGM area - perspective from field measurement

**Koyomi Nakazawa** Toyama Prefectural University

Mercury mitigation in artisanal and small-scale gold mining: cyanide emissions and the need for retorted mercury management as unintended consequences

**Shoki Kosai** Ritsumeikan University

Novel refining procedure of gold in ASGM and the hurdle of its spreading

**Akihiro Yoshimura** Chiba University

## Discussants

### Tatiane Marin

Post-doctoral senior researcher, Adolfo Ibañez University

### Jacopo Seccatore

Professor, Adolfo Ibañez University

### Eisaku Toda

Senior Programme Officer, Secretariat of the Minamata Convention on Mercury, UN

### Marcello M. Veiga

Professor Emeritus, University of British Columbia

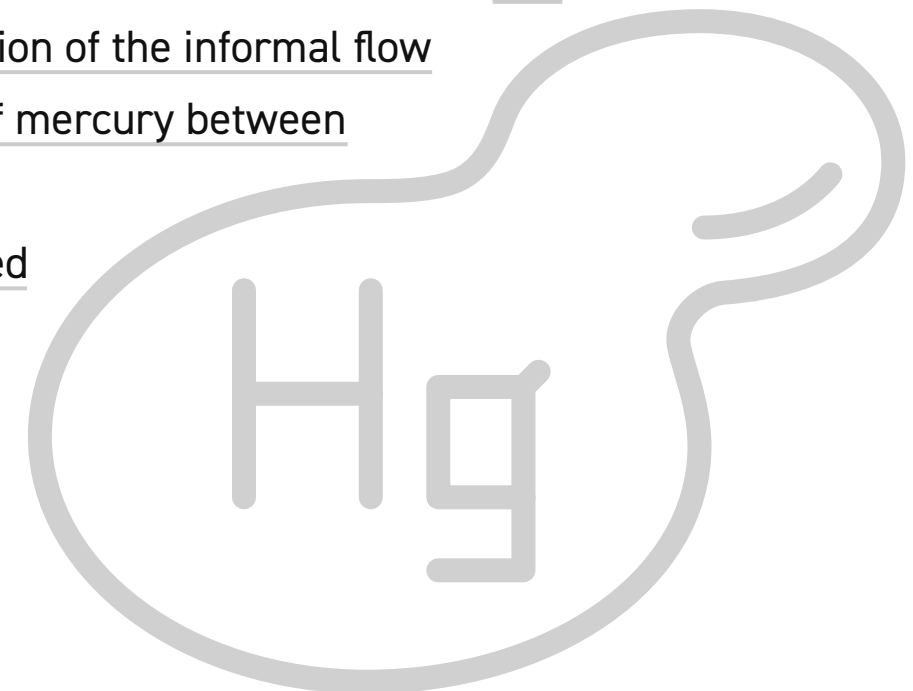
### Hitoshi Yoshizaki

Deputy Director, Ministry of the Environment, Japan

## Outline

Artisanal and small-scale gold mining (ASGM), or gold mining by low-income families or small enterprises, is widespread across the globe. It is estimated that over 25 million people, including women and children, are involved with ASGM in more than 50 countries. Despite the small-scale activity of any individual ASGM site, each site is significantly important to its local economy and collectively, to the global economy. Nonetheless, ASGM has been the biggest contributor to global mercury emissions. Mercury is a toxic element that has numerous wide-ranging deleterious effects on humans, biota, and the environment. In response to the global issues associated with mercury, the Minamata Convention on Mercury entered into force on the 16th of August, 2017 to solve the mercury problem.

However, there are still many issues in ASGM that should be addressed. This would include site detection using geological information and remote sensing, detection of the informal flow of mercury from global trade to the ASGM sector, illegal trading of mercury between countries despite the phasing out of mercury, risk assessment of mercury contamination from ASGM, and identification of unintended consequences of mercury mitigation. To achieve sound mercury management in ASGM, this side event aims at providing the grounds for researchers to collaborate on decreasing the use, the flow, and the emissions from mercury in the ASGM sector.



# Timetable

**13:30 - 13:33 Opening**  
**Yingchao Cheng** (co-chair), Research Associate, National Institute for Environmental Studies

**13:33 - 13:46 Project overview**

5 min | [Environment Research and Technology Development Fund]  
 Intervention scenarios and global mercury modelling for effectiveness evaluation of the Minamata Convention on Mercury  
**Masaki Takaoka**, Professor, Kyoto University

5 min | [JST-Mirai Program]  
 System development of Resource Logistics toward minimizing supply chain risks of mineral resources  
**Kazuyo Matsubae**, Professor, Tohoku University

3 min | Announcement  
**Kenichi Nakajima** (Chair), Chief Senior Researcher, National Institute for Environmental Studies

**13:46 - 14:15 Topic 1: Mercury Use and Trade**

7 min | Inconsistencies of mercury flow in global trade concerning artisanal and small-scale gold mining activity  
**Yingchao Cheng**, Research Associate, National Institute for Environmental Studies

7 min | Exploring illegal trade of mercury from discrepancy with trade statistics  
**Masaaki Fuse**, Associate Professor, Hiroshima University

15 min | Comments from discussant  
**Hitoshi Yoshizaki**, Deputy Director, Ministry of the Environment, Japan

**14:15 - 14:51 Topic 2: Monitoring and Detection**

7 min | Monitoring Artisanal and Small-Scale Gold Mining using Satellite Images  
**Kazuyo Hirose**, Director General, Japan Space Systems

7 min | Tailings management as a key challenge to curb mercury dissemination in and around ASGM sites  
**Satoshi Murao**, Professor, Daiichi Institute of Technology

7 min | Human health risk assessment of mercury vapor around ASGM area - perspective from field measurement  
**Koyomi Nakazawa**, Assistant Professor, Toyama Prefectural University

15 min | Comments from discussant (tentative)  
**Marcello M. Veiga**, Professor Emeritus, University of British Columbia

**14:51 - 15:20 Topic 3: Measures and Effect**

7 min | Mercury mitigation in artisanal and small-scale gold mining: cyanide emissions and the need for retorted mercury management as unintended consequences  
**Shoki Kosai**, Associate Professor, Ritsumeikan University

7 min | Novel refining procedure of gold in ASGM and the hurdle of its spreading  
**Akihiro Yoshimura**, Assistant Professor, Chiba University

15 min | Comments from discussant  
**Jacopo Seccatore**, Professor, Adolfo Ibañez University

**15:20 - 15:30 Coffee Break**

**15:30 - 16:10 Discussion**

10 min x 2 | Overall comments from discussant  
**Tatiane Marin**, Post-doctoral senior researcher, Adolfo Ibañez University  
**Eisaku Toda**, Senior Programme Officer, Secretariat of the Minamata Convention on Mercury, UN

20 min | Discussion and Networking

**16:10 - 16:13 Closing Shoki Kosai** (co-chair), Associate Professor, Ritsumeikan University