

90-Minute Symposium at AAAS (American Assoc. for the Advancement of Science) Annual Meeting
AAAS 2009 theme is “Our Planet and its Life: Origins and Futures”
Session #090-144
Title: Thirsting For Daily Sustenance: Public-Private Partnerships for Global Water-Access
Date: Saturday, February 14, 2009, 8:30 to 10 am
Venue: Hyatt Regency Chicago, Room Grand C North

Organizer & Moderator [\[See Moderator Remarks on Page 2\]](#)

Usha R. Balakrishnan, Founder & President, CARTHA, Iowa City, Iowa
& Member, AAAS-Committee on Scientific Freedom & Responsibility (CSFR)



Co-organizer

Mark Frankel, Staff Officer, CSFR, AAAS, Washington DC

Speakers [\[Speaker Biosketches are included on Page 3\]](#)

More Affordable Handheld Water Sanitizers

Craig Just, Associate Research Engineer, IIHR-Hydroscience & Engineering, University of Iowa & Advisor, University of Iowa Chapter, Engineers for a Sustainable World

Expanding Access to Water and Sanitation Through Microfinance

Rich Thorsten, Director of International Programs, WaterPartners International, Kansas City, Missouri

Water Management: Small Interventions, Big Impact

Jay Sehgal, Managing Director, Sehgal Foundation, Gurgaon, India

Discussant

Raj Rajaram, Trustee, India Development Coalition of America, Chicago, Illinois

According to the UNICEF, a vast swath of humanity—nearly a billion men, women, and children—lack access to clean water on a daily basis, a crisis resulting from a whole host of complex factors. There are so many public and private, local and international organizations and benefactors that have joined in prominent ways to bring in a variety of resources to effectively address this issue. Can academic scientists, researchers, students, and managers, through their professional lives, seek out connections with others within and outside of academia to make a difference in the global water-access crisis?

This session takes some real-life examples from academia—including an EPA award-winning technology solution for a more affordable hand-held water sanitizer developed by a group of 15 students—to explore the types of academic-practitioner partnerships and networks that may be important to bring about actual improvements in the lives of the world's poor. By including speakers from NGOs, many of whom belong to Rotary and Lions Club, this dialogue emphasizes the need for Collaborative Doers—bridging professionals who enhance the positive impact of technological and social innovations. How can the work of Collaborative Doers be better described, supported, linked, and leveraged to help address a routine humanitarian crisis of global proportions? This session also includes a regional focus on India with speakers highlighting their experiences from ongoing program initiatives there.

Exploring solutions to the global water-access crisis via science and technology endeavors is obvious, but the translation pathways--to getting the aspirational goals of S&T innovators to actually make a difference in the lives of the world's poor--requires more diligent and thoughtful managerial approaches constructed within multisector partnerships. These partnerships need to bridge the work of professionals from both within and outside of the science community.

AAAS 2009 Panel: Usha Balakrishnan's Opening Remarks as Moderator (8:30 to 8:40 am)

Good Morning! A warm welcome to you all! I'm glad that you have chosen to attend this session despite the competing AAAS panel in the other room on "The Science of Kissing" that more appropriately celebrates Valentine's Day today☺

My name is Usha Balakrishnan and I am the Founder & President of a global nonprofit organization called CARTHA. I've served on the AAAS-Committee on Scientific Freedom & Responsibility for the past three years. As organizer of our panel today titled "Thirsting for Daily Sustenance: Public-Private Partnerships for Global Water-Access," let me share a few thoughts before introducing our wonderful panelists.

According to the UNICEF, a vast swath of humanity—nearly a billion men, women, and children—lack access to clean water on a daily basis, a crisis resulting from a whole host of complex factors. There are so many public and private, local and international organizations and benefactors that have joined in prominent ways to bring in a variety of resources to effectively address this issue. Of course, only time will tell how this issue as well as many others in the global health arena will be affected by the current financial markets turmoil which is posing challenges for every sector of our global economy.

My question for each one of us is this: Can academic scientists, researchers, students, and administrators, through their professional lives, seek out connections with others within and outside of academia to make a difference in the global water-access crisis? Especially given that we are in Chicago, I anticipate our collective answers to be a resounding *Yes We Can!* However, we need to individually and collectively be more resourceful in mulling over the question of *How We Can* help to address this dire humanitarian crisis of global proportions?

While scientifically-proven technologies may seem to offer obvious advantages, the translation pathways—that can actually make a difference in the daily lives of the world's poor—requires more diligent and thoughtful managerial approaches constructed within multisector partnerships. These partnerships need to bridge the work of professionals from both within and outside of the science and research communities who aim to enhance the positive impact of technological and social innovations. CARTHA calls such bridging professionals "Collaborative Doers." The roles, responsibilities, and contributions of Collaborative Doers—and their innovative and creative pursuits that span disciplines and sectors, regions and cultures, continents and generations--needs to be better understood, described, studied, shared, supported, and connected. Of course, there is also the significant challenge of how we empower ourselves to report impacts through the voices of those among the underprivileged populations whom we hope to help.

Developing the science and technology to assure the provision of clean water is one part of the big challenge. However, success in these realms does not by itself guarantee good health outcomes for the end-user. For example, if we are concerned about better public health outcomes through provision of clean water, we also need to observe, study, and understand the socio-cultural and behavioral contexts within which water is made accessible to--and is used for various purposes on a day-to-day basis by--a community or household. "Water-use literacy" is such an important public education movement. However, given the numerous health-effects from the quantity, quality, and social allocation and usage of water, any "water-use literacy" campaign has to be linked to health literacy efforts, both of which need to be designed and delivered in culturally-appropriate and sustainable ways. Even here, can we help address some significant communications challenges by seeking new types of technology design, development and delivery solutions, for example, through open source digital library platforms or New Media? Also, to make any kind of headway on the water-access issue, academic scientists need to know when and how to team up with social service clubs such as Rotary or Lions International which represent massive networks of coordinated humanitarian volunteers that are absolutely essential partners to reach wider populations.

[Since I saw them entering the room right now, I'm delighted to introduce Mona Younis and Jessica Wyndham from the AAAS Science & Human Rights program and have recently launched the Science & Human Rights Coalition.]

Each panelist today is a fascinating "Water Globe-Trotter," possessing a wealth of knowledge from partnership experiences in conducting water-related research and managing water-related projects in many parts of the world. I am very grateful to each of our panelists for having taken time from their hectic travel schedules to be with us today to share their perspectives.

- Our first speaker Craig Just, who is a Rotarian like me, takes a real-life example from academia and talks about an EPA award-winning technology solution for a more affordable hand-held water sanitizer developed by a group of 15 students at the Univ. of Iowa.
- Our second speaker, Rich Thorsten, will talk about the work of a nonprofit organization called WaterPartners International.
- Our session today also includes a regional focus on India. Jay Sehgal will give us important dual perspectives from his role not only from the philanthropic grant-making side but also from his keen engagement in rural development.
- As discussant, Raj Rajaram will share not only his own work as an engineer but also his efforts as a trustee of the India Development Coalition of America based here in Chicago, and as an active member of Lions Club International.

Each panelist will have 15 minutes of formal remarks, followed by 3 minutes for Q&A right after their presentation. However, in case of time constraints, I may decide to hold audience questions to the very end. Please help me in giving our panelists a warm welcome. Now, it is my great pleasure to introduce our first speaker Craig Just.

SPEAKER BIOSKETCHES

8:40 to 8:55 am: Craig Just is an associate research engineer at IIHR – Hydroscience & Engineering at the University of Iowa. Craig’s expertise lies at the interface of environmental analytical chemistry and applied engineering in support of and leading top-quality research projects in the areas of: phytoremediation of explosives; water quality and cyberinfrastructure; fate determination of contaminants during wastewater treatment; and poverty reduction and community building in Guatemala, Mexico and Haiti. He obtained his Bachelors and Masters degree in Chemistry from the University of Northern Iowa; and his doctorate in Environmental Science from the University of Iowa.

9 to 9:15 am: Rich Thorsten is Director of International Programs, WaterPartners International, Kansas City, Missouri. Rich has worked in advocacy, advisory, and research roles with the U.S. Environmental Protection Agency and several state and local government agencies. While pursuing master’s and doctoral degrees in international planning, Rich evaluated the sustainability of multiple rural water systems in Peru and Ghana on behalf of the World Bank and studied public-private water and sanitation partnerships in Asia. Rich obtained his Ph.D. and Masters in City and Regional Planning, University of North Carolina at Chapel Hill; and his B.A. from the University of Texas at Austin. He is a member of the International Water Association, World Planning Congress, American Water Works Association, and American Collegiate Society of Planning.

9:20 to 9:35 am: Jay Sehgal is the Managing Trustee and Executive Director of the Sehgal Foundation. Having sixteen years of experience in Information Technology he also directs the IT Program of the Foundation. Jay worked for six years in leading private sector organizations in USA after graduating from the University of Iowa. Prior to joining the Foundation he was Director of Information Technology at Proagro Group of Companies, India. Jay represents the Sehgal Family Foundation on the Board of Trustees for Ashoka Trust for Research in Environment and the Ecology.

9:40 to 9:55 am: Raj Rajaram is Trustee & Co-founder of the India Development Coalition of America which promotes sustainable development in India’s villages. Raj is currently an associate at Techknow Engineering LLC, an architectural and engineering firm that is involved in numerous large projects in Chicago. Rajaram is a geotechnical and environmental engineer with 34 years of experience in sustainable environmental management. He has transferred several waste management technologies from the US to India in the areas of municipal solid waste, wastewater treatment, and hazardous waste management. Rajaram has authored over 40 papers and published a book on Sustainable Mining Practices in 2005. He obtained his Ph.D. from the University of Wisconsin, and a J.D. from Illinois Institute of Technology, Kent College of Law, Chicago. Rajaram received the International Leadership Award in 2000 from the Illinois Institute of Technology. Dr. Rajaram serves on the Board of IIT Alumni Association and the University of Wisconsin Alumni Association.