

PROGRAM

Fifth Advanced International Colloquium on
Building the Scientific Mind
Lembang, Jawa Barat, Indonesia, May 27-31, 2013

Monday, May 27: Hands-on and down-to-earth

- 08:30 – 09:00 Arrival participants | Getting to know each other | Registration | Collecting colloquium materials
- 09:00 – 09:15 **Welcome + introductory remarks.**
- 09:15 – 09:45 **Opening of the colloquium.**
Rector Akhmaloka of the Institut Teknologi Bandung
Deputy Director of UNESCO Jakarta, Shabhaz Khan
- 09:45 – 10:00 **Brief introduction to the week's program.**
Jan Visser
- 10:00 – 10:45 **Start-off with a splash: Launching a water rocket – intro and demo.**
Aldino Baskoro, & Avivah Yamani (Indonesia)
Short description: We would like to propose a water rocket hands-on activities session with participants. There are three main components in a water rocket session: the launcher, the nozzle, and the rocket itself. In this session we introduce the launcher and actively involve the participants in building the water rockets and launch their rocket using the available launcher. Participants will experiment with several launch mechanism. We can demonstrate the water rocket using several different launchers as well as various models of the rocket itself.
- 10:45 – 11:00 **Break**
- 11:00 – 12:00 **Action Sun – Let's bring the Sun to Earth.**
Deirdre Kelleghan (Ireland)
Short description: Action Sun is an activity in which participants aim to create a solar disc on the ground using simple materials to build two of the suns atmospheres. Colored paper, PVA glue, and paint are used to drag a real time view of the sun through 93 Million miles of space and land it before the group. In this action knowledge of the beauty and importance of the sun is imparted via dialogue with the group.
- 12:00 – 12:30 **Mobile learning and community engagement – intro and demo.**
Paul Wallace (USA)
Short description: This session will focus on designing mobile learning experiences for the local community. Through service-learning, students design and construct learning activities and media that can be accessed on mobile phones in their communities. Topics include issues of the environment and sustainability, as well as history and geography. This interactive session will focus on best practices for including collaboration with community partners, planning for mobile learning, content development, and technology for developing mobile learning.
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:30 **Science through activities.**
Vidula Mhaskar (India)
Short description: This keynote lecture and demonstration focus on learning science by doing. It is argued that the experience of nature, in the form of seeing, touching, hearing, tasting, smelling; choosing, arranging, putting things together and taking things apart, is a necessary basis for true understanding. It will be demonstrated that valuable experience can result from creative tinkering with materials and objects that at no or very low cost are available in the immediate environment of teachers and students in all countries of the world. Such experience is often more valuable than what can be offered via the use of standard off-the-shelf school laboratory equipment.
- 14:30 – 15:15 **Panel discussion and exchange of experience and ideas about hands-on down-to-earth immersion in the learning experience.**
Panelists: Aldino Baskoro, Avivah Yamani, Deirdre Kelleghan, Paul Wallace, & Vidula Mhaskar
- 15:15 – 15:45 **Break**
- 15:45 – 17:30 **Get involved! A choice of workshop opportunities.**
Short description: Talk to and work with today's presenters; build and launch your own water rocket; experience mobile learning and get to know best practices for community-based mobile learning using your smart phone or alternative mobile devices; create you own 'toys from trash'; and explore further ways to bring the universe down to earth.

Tuesday, May 28: *Envisioning a different world: structure—relations—flows*

- 09:00 – 09:30 **Harmonious interaction: process, practice, and sustainable society.**
Benjamin Olshin (USA)
Short description: This talk/intervention will look at the Daoist work known as the "Zhuangzi", and see what insights this ancient text has for us in terms of creating a more naturalistic and holistic worldview. This will lead to a discussion of how we might work towards a harmonious and sustainable society drawing from Daoist principles.
- 09:30 – 10:00 **An enneagrammatic model of scientific inquiry? A cross-cultural linking of traditional (non-Western) and modern modes of knowledge building.**
Cameron Richards (Malaysia)
Short description: This paper/presentation will link a number of ideas relevant to the conference. As others have also found the 'enneagram process' provides a powerful and cross-cultural model to encourage new and innovative thinking for (scientific) inquiry and also very practical, hands-on applications. In this way we will explore a wider and cross-cultural view of 'the scientific mind' and its use for constructive learning and knowledge-building.
- 10:00 – 10:30 **Why we need to transform our thinking about science and technology.**
Arthur Kok (The Netherlands)
Short description: We tend to think that 1) scientific progress means that our understanding of the world, nature and the universe is growing; and 2) technological advancement means to control things better and to do so more efficiently. However, this understanding reduces science and technology to being nothing more than instrumental rationality under the principle of economic growth. In the vein of Kant and Hegel, I will propose a different, more humane way to think about them.
- 10:30 – 11:00 **Break**
- 11:00 – 11:30 **Building the scientific mind: Reflections (some of them personal) and questions.**
Jan Visser (France)
Short description: The idea to prioritize the building of the scientific mind as a focal area of concern for the Learning Development Institute (LDI) first emerged in 1999 during a UNESCO/LDI symposium on 'Overcoming the Underdevelopment of Learning' held in Montreal, Canada. With a view to collective thinking about the future of LDI's work, I review the history of BtSM and raise questions about 'what next.' Should BtSM continue and, if so, how, or should it, like other past work we engaged in, become a more integrated concern in a larger conceptual framework, about which I have at least one idea. In passing, I will refer to what drove me as well as others to find BtSM an important idea, and how it relates to the thematic issues of BtSM2013: beauty and harmony.
- 11:30 – 12:00 **Unity in diversity – Put theory into practice.**
Weilin Han (Indonesia)
Short description: When we talk about "Scientific Mind" it is as if when we learn Civics we put the scientific thinking process aside and it is sufficient when we use good beautiful normative words and phrases. We just come up with long blabbery sentences to memorize and recall without even thinking whether we can or want to implement it ourselves. As a result, it is no wonder Indonesia is famous for big religious adherents and at the same time the country has an ugly record of corruption and a low human development index. Assaults towards religious/ethnic minorities are ignored and even tolerated, public school policies and practices encourage and endorse bigger gaps. The proposer will share some experience in teaching ideology for university students (which is compulsory) as well as social sciences for elementary students.
- 12:00 – 12:30 **Smart applications of technology of information for a smarter society.**
Luiza Alonso (Brazil)
Short description: Development of open and smart experimental platforms to increase the quality of life experience, citizen participation, inclusion, and sustainable way of life. Major challenge is to explore "mash up" processes of data that synthesize new information in the gathering, connecting, reusing, combining and aggregating semantically disjoint data extracted from numerous sources. Platforms will help in the building of critical mass to strengthening a democratic society where the beauty of being free and responsible will be reality.
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:00 **Way to harmony: Co-editing the future.**
Evgeny Patarakin, & Vasily Burov (Russian Federation)
Short description: This presentation will be devoted to changing practices from the individual descriptions of the objects of present and past now to the collaborative construction of the future links later. This will lead to a discussion of how we might design tools and environments that will support collaborative editing of documents that govern our future.
- 14:00 – 17:30 **Panel discussion and exchange of ideas with today's presenters on the theme of 'Envisioning a different world: Structure—relations—flows,' naturally leading to self-organized small group conversations on topics of relevance and interest pertaining to the theme in question.**
Short description: Do we have reasons for asking questions about the current state of our world and therefore to think about how it could be different? If so, what are those reasons? If we want to start envisioning different worlds, what should those visions of the future look like in terms of structure, resources, flows, and other parameters? Panelists will no doubt have their say, but so have you. We expect interesting, relevant and important ideas to emerge from the panel discussion, which are worth discussing in more detail and greater depth in a self-organized small group context. Midway during the afternoon the small groups that emerge decide when it's the best moment to interrupt the work and take a break at roughly the time indicated below.
- 15:15 – 15:45 **Break**

Wednesday, May 29: Towards another world of being

- 09:00 – 10:00 ***The pedagogy of HIV: Beauty, truth, and the road to harmony in South Africa (presentation).***
James Lees (South Africa)
Short description: This session is an innovative approach to HIV education in a nation still struggling with the personal and social wounds of a violent past. It challenges the status quo of education and of HIV response through a very personal emotional journey guided by seven music videos.
- 11:00 – 11:30 **Break**
- 11:30 – 12:00 ***The pedagogy of HIV: Beauty, truth, and the road to harmony in South Africa (discussion).***
This dialogue session on 'The pedagogy of HIV' is an integral part of the presentation that took place before the break.
- 12:00 – 12:30 ***Music, creation, harmony, beauty and learning.***
Martin Gardiner (USA)
Short description: There is growing evidence that music skill learning exercises and helps develop ways of using the mind of great value beyond their value to music alone. Here I add discussion of impact of music skill learning on skills at creation, and in particular, creation that involves harmony and beauty. Relationships to creation, harmony and beauty are central to why we love music, and also to its broader human potential.
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:00 ***Economics, beauty and harmony.***
Martin de Wit (South Africa)
Short description: The field of economics is not primarily concerned with the concepts beauty and harmony. Economic theories on production, consumption, redistribution and sustainability all provide various explanations for human pursuit towards happiness, but the concept of beauty does not comfortably fit into these schemes. This begs a reassessment of a central philosophical concept that has traditionally been counted as one of the ultimate values in the field of economics. The promise the idea of beauty brings of greater awareness in a simultaneously wonderful and broken world is enticing to economic science that finds itself increasingly out of touch with reality.
- 14:00 – 14:30 ***Marx's Capital: Imbalance of values.***
Paul Cobben (The Netherlands)
Short description: Although Marx is known as a critic of bourgeois thinking, he strives after an ideal which is completely classical. Finally, he is, like Aristotle, interested in the unity of the true, the good and the beauty. This unity is an absolute one and is thematized in philosophy as the problem of the true substance. According to Marx, the true substance has to be conceived as the ideal society. In the Capital, Marx analyses the capitalist society as an alienated one, i.e. as a society in which the untrue substance becomes valid. The untrue substance is capital, a social order in which not the human being, but rather money has become the central actor. Because this untrue substance manifests itself immediately as the commodity, the Capital is the systematic development of the commodity into the concrete totality of capitalism. The lecture exposes how Marx's analysis of the commodity reveals capitalism as a society in which values are fundamentally in imbalance. The commodity has a duplicity in which capitalism's inability is reflected to balance the true and the good. In the duplicity of the commodity the conflict between autonomy and heteronomy is expressed. The critics of capitalism must show how the balance can be repaired. Therefore, Marx's project is in the tradition of Kant and Hegel.
- 14:30 – 15:00 ***Panel discussion and exchange of ideas about how we exist in our world.***
Panelists: Jim Lees, Martin Gardiner, Martin de Wit and Paul Cobben.
Short description: All presentations of the day have somehow to do with attitudes and values that regulate our way of being in the world. The aim of the afternoon discussions is to explore alternative visions, other worlds of being. After an initial dialogue with today's presenters, move on to discuss issues of relevance that emerged from the panel discussion and the prior presentations in smaller self-organized groups of interest. Don't hesitate to start such follow-up discussions already during the break.
- 15:15 – 15:45 **Break**
- 15:45 – 17:00 ***Self-organized small group discussions on issues of relevance and interest regarding today's theme.***
- 17:00 **Departure for the official colloquium dinner in Sundanese style at the Sapulidi Sawah resort.**
- 17:30 onward **Relax at the Sapulidi Sawah resort, enjoying the landscape, the conversations with your colleagues, the Sundanese music and the dishes on offer.**

Thursday, May 30: Reimagining the world of learning

- 09:00 – 9:20 ***The splendour of nature and the beauty of science: Motivating Nigerian girls for science, technology, engineering and mathematics.***
Binta Moustapha, Isah Aliyu Agale, Bachir Moustapha, & Zsolt Lipcsey (Nigeria)
Short description: A short report on the three years activity (2010-2013) of B'da Best Concepts designed to motivate Nigerian Girls on the splendour of nature and the beauty of science.
- 09:20 – 09:40 ***Scientific literacy, beautiful arts, and the harmonious transfer of learning.***
Paul Webb (South Africa)
Short description: Generally there has been very little support in the psychological literature for transfer of learning, but recent studies on short term memory and music education, as well as the findings of a number of South African studies on promoting scientific literacy, suggest that transfer does take place. It seems that what is now required is further research into which cognitive activities act on one another to produce beneficial effects, how they interact, and how they can be explained.
- 09:40 – 09:55 ***The importance of popular science.***
Lê Nguyễn Hoàng (Canada)
Short description: A major driving force of researchers in science is their passion for what they're working on. Similarly, for the development of science and the construction of the scientific mind, I believe that it is crucial that people learn science, not because it will provide them diplomas to obtain better jobs, but because they enjoy it. In this activity, I plan on stressing the crucial role of science popularization and debating on how to encourage it.
- 09:55 – 10:15 ***Incidental learning: The story of Cairo's graffiti scene.***
Hala Osman (Egypt)
Short description: Following the Egyptian revolution in January of 2011, people's sense and use of public spaces expanded in different ways, especially when it came to art and expression. Artists much like protestors, burst out into the streets to engage people in a conversation of many dimensions with the material they articulated and continue to articulate publicly. The street proved to be 'as public as public gets' and the level of expression found in the street was unprecedented when compared to other spaces. Graffiti continues to grow, more walls are being covered with murals and stencil prints, more names appear here and there signaling the presence of a new artist and with it transforming the streets of Cairo and other Egyptian cities into animated environments of communication and, along with that, making them wider spaces for learning.
- 10:15 – 10:45 ***Reaching many: Social harmony and media, co-creating the scientific mind in the public domain.***
Marten de Vries, & Jaap Swart (The Netherlands)
Short description: If the scientific mind is to be an asset for future social development, the use of interactive media communication and the arts will be essential to achieve such a "co-creation" between scientific rationality and pre-existing, grass roots knowledge in a facilitory context of social harmony. We aim to discuss the contribution media can make (or not) in achieving beauty, social harmony in the service of the public's scientific mind using MVI media concepts and social productions.
- 10:45 – 11:15 **Break**
- 11:15 – 11:30 ***'Out of Thinking': The art of seeing the truth for promoting the scientific mind.***
Narumon Rodniam (Thailand)
Short description: An obstacle of learning development is bias or prejudice, which occurs because we normally use our thinking based on previous knowledge and experiences in our memory for perceiving what we are seeing. As a result, our perception on the fact becomes biased, and our learning development is limited. This talk presents findings from applying the principle of mindfulness and a technique called "Reset to Setting" according to teachings of Buddhism as obtained from a training program.
- 11:30 – 12:00 ***The complex game of education.***
Carlo Fabricatore, & Ximena López (UK)
Short description: "The Complex Game of Education" explores the development of a study programme informed by complexity science and game research, and its impacts on student engagement and the broader educational system within which the programme was run. The lens of complexity science provides perspectives important to deal with interwoven challenges and constraints common in formal education systems. The lens of game research allows understanding conditions facilitating motivation and engagement in challenging activities pivoting around meaningful learning.
- 12:00 – 12:30 ***Homo academicus: Quo vadis?***
Jan Servaes (Hong Kong)
Short description: Cultural institutions like universities no longer challenge us or encourage us to question what we know.
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:00 ***Creating a counter narrative about children's and middle adolescence learning.***
Paul Heckman, Richard Roberts, Sally Roberts, & Viki Montera (USA)
Short description: A prevailing narrative about learning and development influences a Mental Model about schooling, in the U.S., and other nations. This session will examine the narrative and Mental Model. It will also provide a counter narrative, suggesting new guides and practices for learning and development based on the science of learning, cognition, and development. A very different set of learning conditions from those usually used in schooling will be explored in this session.
- 14:00 – 17:30 ***Panel discussion and exchange of ideas with today's presenters on the theme of 'Reimagining the world of learning,' naturally leading to self-organized small group conversations on topics of relevance and interest pertaining to the theme in question.***
Short description: Today's speakers have collectively contributed diverse ideas about how we learn and what makes us learn in a life-long, life-wide and life-deep perspective. Can we use these ideas and our own imagination and creativity to envision different worlds of learning? Midway during the afternoon groups use the opportunity for taking a break at roughly the time indicated below.
- 15:15 – 15:45 **Break**

Friday, May 31: Beauty and harmony in the service of science and technology

09:00 – 10:00

Beauty and harmony in the service of science and technology

Matthew Colless (Australia)

Short description: In reversing the title of BtSM 2013, I am emphasising the role of beauty and harmony in the lived experience of scientific and technological research. Effective scientists develop a clear sense of scientific beauty as a heuristic and emotional response to the fitness problem of selecting amongst competing hypotheses and paradigms. I will discuss my personal experiences and offer an analysis of scientific beauty in terms of 'natural selection' before opening the session to discussion.

10:00 – 10:45

As yet unplanned activities

Short description: This timeslot is deliberately left open. At the end of our four and a half days together there may be a need to revisit issues that didn't receive the full attention they deserved or issues that were, unjustly, never touched upon. This then is the opportunity to attend to such issues, possibly in small parallel group sessions.

10:45 – 11:15

Break

11:15 – 12:40

Building the scientific mind and a better world: What have we learned? What's our next destination?

Facilitator TBD

Short description: Through group activities and plenary dialogue we review and assess the impact of our collaborative work over the four and a half days of the colloquium—and for those who also participated in previous BtSM activities, during the past decade. Collectively we explore our intentions and commitments regarding ways ahead.

12:40 – 12:45

Closing statement and farewell.

12:45 – 13:45

Closing lunch