

PLENARY SPEAKERS

(Abstracts & Biosketch)

7th Engineering Research and Development for Technology

13 July 2018 | 9:00 AM – 5:00 PM

Philippine International Convention Center (Reception Hall)

DR. JAZMIN B. LLANA

Plenary Talk: Humanizing Engineering

The talk is both about and not about 'humanitarian engineering', which is already a subfield of engineering and a degree program offered in some universities – engineering that creates 'technologies that help people' or 'promotes human welfare', that is to say, 'social justice'. It is about how engineering as a field of practice is and should be 'humanitarian', which means engineering that makes human lives better, especially for the poor, the marginalized and vulnerable. And the need to strengthen the link between the humanities and engineering as a way of going forward with the humanitarian agenda is a given already articulated and debated upon in many kinds of forum or in journal articles. I will touch on this a bit. But more importantly I'd like to talk about the human in engineering, that engineering is human work embedded in and contributing to social and cultural systems of human societies, and therefore the need for humanistic and 'socio-technical' approaches to the crafting of solutions for humanitarian problems. Even in a so-called age of the posthuman. Perhaps finding and revealing the human in the engineering enterprise is key to bursting the problematic division of the disciplines, the seeming dichotomy and incommensurability of STEM and the arts and humanities. What does it mean to find the human in engineering? What method of looking is or are needed? And how do we muster forces so that the poet works with the engineer, the dancer works with the mathematician, the musician with the scientist, the craftsman with the technologist?

Jazmin Badong Llana is an associate professor of drama, theatre, and performance studies at De La Salle University, where is also the Dean of the College of Liberal Arts. She completed Doctor of Philosophy (Performance Studies) at the University of Wales /Aberystwyth University in the United Kingdom, where she was a Ford Foundation International Fellow. She has a Master of Arts degree in Theater Arts from the University of the Philippines Diliman and has participated in national theatre festivals in the Philippines both as actor and director. She was the Head of the National Committee on Dramatic Arts of the National Commission for Culture and the Arts in 2014-2016 and continues to work with NCCA as Chair of the Technical Working Group for Research on Culture and the Arts. She is convener of Performance Studies Philippines, a loose, independent network of Philippine-based academics, artists, and cultural workers in the field of performance. She sits in the Executive Board of Performance Studies international (PSi) (www.psi-web.org) as Membership Officer of the international association. She is also co-convener of the PSi research working group 'After Dwight Conquergood: Performance and Critical Social Praxis' and has started her stint as Associate Editor of the Routledge Journal on the Performing Arts, *Performance Research*. Her main research interests are in performance and politics, inaesthetics and the ethics of truth; religion and cultural performance with a focus on practices of pilgrimage. She has also recently been working on the effects of the popular and on performance, technology and innovation.

PROF. LEONARDO C. ROSETE

Plenary Talk: Arts in Engineering

Leonardo C. Rosete, 'Doi' to close associates is a Professor with the College of Fine Arts. He has held the post of the Chair, Department of Visual Communication three times since 1994 until he was assumed the post as Dean of the College of Fine Arts on October 1, 2012. He works closely with academic and creative industry people and is party to the institution of many programs in UP and other schools in the area of Visual Communication and Industrial Design. In November, 2011 he was appointed member of the Technical Committee for Fine Arts of CHED, a post he occupies to this day.

Doi has always been interested in working with various media and is fascinated with the fusion of new technologies and traditional, even indigenous techniques. Professionally trained in the areas of advertising, visual merchandising, product design, exhibition design, and digital media, his designs range from gift items to furniture, from booth displays to museums, from graphic posters to corporate graphic standards. He also creates animated videos, 3D models and virtual tours, and joins art exhibitions using his digital skills for artistic expression.

His works include designs of Philippine Pavilions in international expositions (Tsukuba '85 and Vancouver '86), Philippine booths for trade fairs in Frankfurt, Milan, Highpoint in North Carolina, Javits Center in New York, Anuga in Japan among many international and national exhibitions. He designed exhibit modules for the Mind Museum at the Bonifacio Global City and designed the Museo Maritimo, a museum for the AIMS maritime school, and the ongoing Biodiversity Museum at the Ninoy Aquino Parks and Wildlife Center.

He advocates designs that empowers the small and micro enterprises, using resources that are appropriate and sustainable. He works with the DTI, DOT, DOSTvarious LGUs, NGOs and POs in creating and teaching design to remote communities all over the Philippines, and learning with them in the process.

PROF. JERRY R. YAPO

Plenary Talk: Humanities in Engineering

Creativity fuels innovation in more ways one could imagine. The creative process possibly crossing over to the sciences is fraught with challenges attendant to the rather antithetical notion of the relationship between the humanities and the sciences.

Innovation thrives in an atmosphere of interdisciplinarity, wherein students are given some leeway in choosing elective courses outside their degree programs. Interdisciplinary centers would further explore areas of research collaboration. Collaborative efforts are continually enhanced in so-called creative commons such as interactive learning centers, design and art spaces.

Creativity and innovation commingle in and through course offerings, interdisciplinary research, and creative commons.

JERRY R. YAPO is Director of the Office for Initiatives in Culture and the Arts (OICA) and Associate Professor at the Humanities Department of the UPLB College of Arts and Sciences. He handles undergraduate and graduate courses in communication, literature, and writing. He was UPLB's Outstanding Teacher in the Social Sciences and Humanities in 1996.

FR. BIENVENIDO F. NEBRES, S.J.

Plenary Talk: Engineering for Social Change

I understand that this 7th ERDT congress "aims to instill a deeper appreciation of the dynamics of engineering, humanities and social science in shaping our society." However, to solve important problems in our society, we cannot begin from the disciplines (supply-side). We have to begin with the problems (demand-side). So I would like to go through two major problems that affect thousands, in fact millions of Filipinos, reflect on what needs to be done to make progress on them.

TRANSPORTATION

Improving transportation in our cities and across the country is clearly a major need of the country. Aside from the billions of pesos wasted each day in Metro Manila, there is the suffering, sicknesses etc of our working people. To focus on just one aspect, the Metro rail system:

- 1) If we look at a problem like the railcars from Dalian, the problems go back to the procurement. Technical incompetence on our part in checking whether the railcars met specifications.
- 2) If we look at ongoing breakdowns of MRT 3, it is clearly incompetence at maintenance and repair. And maybe upgrades.

What will it take to improve the present Light Rail System and how to do better with MRT 7.

A key ingredient is leadership. We usually attribute problems to corruption. This is real. But in my experience, an even more important concern is competence. For example, China has built an awesome system of high speed trains connecting all parts of the country in such a short time. It is not an accident that China's leaders have been almost always engineers. Xi Jinping is a Chemical Engineer from Tsinghua. Hu Jintao is a Hydroelectric engineer also from Tsinghua. Over the past decades, 80% of China's leaders have come from science and engineering. But to be noted is that Xi Jinping also did a PhD in Law. One recommendation is that DOST-ERDT could include courses for engineers that would prepare them for leadership in government decision-making circles.

MITIGATING FLOODS

We cannot prevent climate change. The increasing number of strong typhoons with ensuing floods will continue. Our challenge is MITIGATION AND ADAPTATION. An example: I work regularly with towns and mayors in Nueva Ecija. Typhoons regularly pass through Aurora and dump rains on the Sierra Madre. The water comes down and floods towns, beginning with Gabaldon, through Cabiao and neighboring towns, and eventually go out through Hagonoy to the sea. They leave a wake of destruction – destroying regularly half the rice crops along the way. What will it take for us to work together to manage the water flow, meaning

dredging rivers, building dikes etc to channel the water away from ricefields?The consequences of this regular flooding are terrible. Typically many farmers lose their crop and eventually lose their land and end up becoming squatters in the cities.

AN INITIAL RECOMMENDATION: DOST should go beyond technical courses and provide training for engineers and others to confront these challenges which affect millions of Filipinos. Not just do research, but develop the skills to actually make progress on these problems.

Fr. Bienvenido F. Nebres, S.J. served as President of the Ateneo de Manila University for 18 years 1993-2011. He was Dean of the Ateneo College of Arts and Sciences 1973-1980. He was President of Xavier University in Cagayan de Oro in the early 1990s. He was also Provincial Superior of the Jesuits in the Philippines 1983-1989.

Fr. Nebres did his early studies in classics and philosophy in Berchmans College, Cebu City, Philippines, and completed an AB and MA in philosophy. He obtained a PhD in mathematics from Stanford University.

He did extensive work to develop science and mathematics in the Philippines and in Southeast Asia beginning in the 1970s and was elected in 2011 as National Scientist by the National Academy of Science and Technology (NAST). He was conferred the award by President Benigno Aquino III in September 2011.

After retirement as President, he continues as Professor of Mathematics at the Ateneo de Manila. He also works with the Commission on Higher Education for the development of science and mathematics and faculty development. He chairs the Project Advisory Group of the Philippines-California Advanced Research Institute (PCARI). He is engaged in various programs to help overcome poverty in the country: improving public education in over 400 public schools with the Ateneo Center for Educational Development (ACED) and in over 200 municipalities, particularly in the Autonomous Region of Muslim Mindanao, with Synergeia Foundation; building homes and communities for the poor with Gawad Kalinga; and supporting young people engaged in social enterprises for poor communities.