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Engineering for the Developing World: From Crisis to Development

Tuesday, March 29, 2011

9:15 am - 10:15 am

Zoellner Arts Center, Baker Hall



Bernard Amadei is a professor of Civil Engineering at the University of Colorado at Boulder whose initial research and teaching interests were in rock mechanics and engineering geology. His current interests include sustainability and international development. Recently elected as a member of the U.S. National Academy of Engineering, he is also the Founding President of Engineers Without Borders-USA and cofounder of Engineers Without Borders-International. Dr. Amadei's goal is to promote sustainable development, appropriate technology, service learning, and system thinking in the curriculum and research of civil and environmental engineering programs. He earned his MaSc in Civil Engineering from the University of Toronto and his Ph.D. in Civil Engineering from the University of California, Berkeley.

In the next two decades, almost two billion additional people are expected to populate the Earth, 95% of them in developing or underdeveloped countries. This growth will create unprecedented demands for energy, food, land, water, transportation, materials, waste disposal, earth moving, health care, environmental cleanup, telecommunication, and infrastructure. The role of engineers will be critical in fulfilling those demands at various scales, ranging from remote small communities to large urban areas, and mostly in the developing world. In particular, we need to train a new generation of engineers who could better meet the challenges of the developing world and address the needs of the most destitute people on our planet; the other 90%.

The lecture will present the challenges and opportunities associated with practicing engineering in the developing world over a wide spectrum ranging from immediate responses following a crisis to sustainable community development. What does engineering practice and education for the other 90% look like? There is a potential for a new golden age for the engineering profession where engineering solutions are more global and multidisciplinary. As we enter the first half of the 21st century, the engineering profession must embrace a new mission statement—to contribute to the building of a more sustainable, stable, and equitable world.

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