

## “Systemic Decision-Making for SDGs with Distributed Simulation on Transition to Clean and Renewable Energy”

To be presented by Global University System in the USA (GUS/USA) at the SDG Learning workshop during the 2018 High-level Political Forum on Sustainable Development Goals at the UN/HQ in NYC on July 11, 2018

A session titled “*Student engagement towards realizing the 2030 Agenda for Sustainable Development,*” which will be organized under the Higher Education Sustainability Initiative

Wednesday 11 July, 11.45 AM – 01.00 PM.

### Synopsis

We will assist universities in Africa ECOWAS developing countries to engage and attain their SDGs with the use of Decision Intelligence (DI) methodology for rational/scientific decision-making. People make decisions based on understanding how actions lead to outcomes. The DI is a discipline for analyzing the chain of cause-and-effect, and decision modeling is a visual language for representing these chains.

The coordination of policies among countries can influence the whole region due to the causal changes across borders with positive and negative effects. Education on the impacts and benefits of effective policies for transition to clean and renewable energy (SDG-7) is necessary for government officials, employers, workers, and university faculty and students. All 17 SDGs are interlinked and impacted from each other in positive and negative ways. Such ongoing plans, education, and training require new tools with rigorous simulation and online e-learning to meet each country’s SDGs. This will require regular and transparent global cooperation with collective and shared responsibilities in a democratic fashion.

We plan to achieve this cooperation first by developing a system dynamic simulation model tailored for the economic sectors important to each ECOWAS country, by working with the local universities and in-country experts. We will interlink the sector models for each of the 17 SDGs with NASA’s Distributed Observer Network to produce a single country model for each of the ECOWAS nations. Then we plan to interlink those individual countries’ comprehensive models through broadband Internet to form the “**Electronic ECOWAS**,” by constructing a virtual Beowulf super computer with inexpensive laptop computers globally interconnected via broadband Internet.

We will engage the African university students with a Carbon Challenge (similar to NYC) to use the simulation model to assess policies to reduce carbon and Green-House Gas (GHG) emissions, and meet their own country’s clean energy and interlinked SDGs. We will also coordinate development of global e-learning and e-healthcare via the use of simulator-trainer model, networking strategies, and sharing of information and ideas. We plan to use this occasion to initiate our annual workshop event.

#### Reference:

- (1) Electronic ECOWAS for Decision-Making with Distributed Simulation on Clean Energy Transition (December 18, 2017) <<http://tiny.cc/ojousy>>; We will show a demo iSDG integrated simulation model
- (2) “Electronic ECOWAS for Decision-Making with Distributed Simulation” (August 24, 2017) <<http://tiny.cc/jmousy>>

GUS/USA Team Representatives					
	<b>Mr. Gabriel F. Avgerinos</b> , Energy Mentors International LLC, Piscataway, NJ		<b>Dr. John (Jed) Shilling</b> , Millennium Institute, Washington, DC		<b>Dr. Takeshi Utsumi</b> , Global University System (GUS), Technology and Coordination, Flushing, NY

## Brief Biographies

### **Mr. Gabriel F. Avgerinos**

Senior Advisor at Energy Mentors International. Formerly Partner and General Manager of LNG and Natural Gas Consulting at Poten & Partners (NY) for 25 years. Previously with Exxon Corp/Chemicals (NJ) for six years in management and technical positions. A seasoned consultant on natural gas and renewable energy projects, strategy, marketing, and business development. Originator, developer, marketer, negotiator, and advisor on strategic energy consulting mandates. Extensive experience in clean energy technology and business for natural gas and renewable resources in industry and academia with clients globally. Gas sector expertise includes Natural Gas, LNG, and LPG. Advisor on carbon-light natural gas & LNG and sustainable development with carbon-free renewable resources for clean-tech energy projects. Clients include energy & products international & government-owned companies, US and foreign energy firms, US government & international agencies, law & finance institutions, medical centers, and universities. Strategic planning, innovative thinking, customer-centric marketing, commercial judgment, and outstanding presentation & communication skills. Advisor on negotiations, project & joint-venture evaluation, market & customer research, competition & cost analysis, new process & product design, business development, and vision & strategy. Advisor to clients on how to manage change in technology, products & services, energy supply and use, environmental sustainability, and climate change mitigation, while pursuing the UN Sustainable Development Goals (SDGs). Earned his MBA (Intl Business) from NYU Stern, MS (ChE) from MIT, and BS (ChE) from NYU Tandon.

### **Dr. John (Jed) Shilling**

John D. Shilling earned his Ph.D. in Economics from MIT, and A.B. in Philosophy and Economics from Stanford University. He taught at Boston College, advised the Moroccan Planning Ministry, and worked at the World Bank for nearly 30 years. His major work involved country modeling, sustainable development, macroeconomic policy analysis, environmental sustainability, capital flows, and financial markets, especially in Africa and Asia. He wrote *Managing Capital Flows in East Asia* (1996), which highlighted the issues that led to the 1997 Asian financial crisis. He laid the basis for the World Development Report program and helped launch the WDR on Sustainable Development for 2002. He helped create a new Bank Environment Strategy in 2000 after evaluating the Bank's environmental program. Now he consults for environmental foundations, the World Bank, UN agencies, and others on environmental economic issues. He led evaluations of the Infrastructure-Environment Nexus for the Bank and the Poverty Environment Nexus for UNDP. He has been very involved with the Millennium Institute, working on many of its country operations, building its relations with UNEP, and Chairing the Board 2006-12. MI developed an advanced system dynamics model that integrates economic, social, and environmental factors and generates long-term scenarios. It has been used by many countries to develop and implement sustainable strategic plans. He has just joined the Board of The Mountain Institute. He was on the Board of Leadership Loudon for 6 years, and the Board of the Piedmont Community Foundation for 3 years. He is currently on the Board of Friends of the Blue Ridge Mountains and the George Mason University Visual Arts Program.

### **Dr. Takeshi Utsumi**

The Founder and Vice President for Technology & Coordination of Global University System (GUS) and the Chairman of the Global Systems Analysis and Simulation Association in the U.S.A. (GLOSAS/USA). He is the 1994 Laureate of the Lord Perry Award for Excellence in Distance Education. He played a major pioneering role in extending U.S. data communication networks to other countries and deregulating Japanese telecommunication policies to allow the use of Internet for e-mail, triggering the de-monopolization and privatization of the Japanese telecommunications industry and beginning a movement emulated in many other countries, so that today there are over 4 billion email and cell phone users around the world. He conducted innovative distance teaching trials with "Global Lecture Hall (GLH)" videoconferences using hybrid delivery technologies which spanned the globe; he continues to lecture, consult, and do research in process control, management science, systems science and engineering at the University of Michigan, the University of Pennsylvania, M.I.T. and many other universities, government agencies, and large firms in Japan and other countries.

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To attend this event, please register at <https://sustainabledevelopment.un.org/hlpf>