

Description of the UNESCO Chair Aid4GEA

The UNESCO Chair Aid4GEA on Technologies and Materials for Green and Energy Applications has just been established at the Ca' Foscari University of Venice, Italy and at the Luleå University of Technology, Sweden. The chair holder is Prof. Elisa Moretti (Ca' Foscari University of Venice) and the co-chair holder is Prof. Alberto Vomiero (Luleå University of Technology). It aims to strengthen awareness of the key role of advanced materials and technologies to promote sustainable development, especially in developing countries. The program aims to achieve two strategic objectives of UNESCO's medium-term strategy (2022-29): "Ensuring quality, equitable and inclusive education" and "Working towards sustainable societies and protecting the environment", and the five strategic objectives of the Science, Technology and Innovation Strategy Report for Africa 2024 (STISA-2024). Human activities are pervaded by materials in all aspects, from industrial production to daily life, and functional materials allow for unprecedented possibilities compared to the past. However, social development must consider a careful use of natural resources, including the strong reduction of anthropogenic effects on the climate and the environment. Materials and production technologies are central to sustainable development: they improve the quality of life and, at the same time, can offer solutions for environmental restoration and the efficient use of energy sources. Some examples: materials for hydrogen production, solar energy conversion and storage, water desalination and purification, treatment of contaminated soil. A circular life cycle is needed, in which the reuse and recycling of waste are central. Aid4GEA promotes this awareness through capacity building at the local level, creating a network of teaching/research institutions and the most authoritative global Societies in the sector. North-South-South and South-South cooperation includes the exchange of students and researchers, support for doctoral and post-doctoral researchers from developing countries, the definition of joint research and training projects, the sharing of knowledge through the organization of symposiums and multilateral workshops. Aid4GEA aims to increase awareness at a societal level through specific actions involving the public, stakeholders, and policy makers. The focus is on needs-driven requests from developing country partners. In the long term, Aid4GEA will impose a new vision of the use and reuse of materials in society through education and the development of skills towards sustainable development.

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Technologies and Materials for Green & Energy Applications (Aid4GEA)

Launch of the UNESCO Chair at the Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Italy, and the Department of Engineering Sciences and Mathematics, Luleå University of Technology, Sweden

October 15, 2024
Auditorium Scientific Campus
Via Torino, 155 - Mestre (Venice)

Technologies and Materials for Green & Energy Applications (Aid4GEA)

9.30 **Welcome to the audience**

Maurizio Selva, Department of Molecular Sciences and Nanosystems, Director

9.40

Tiziana Lippiello, Rector, Ca' Foscari University of Venice

9.50

Margareta Groth, Prefekt, Department of Engineering Sciences and Mathematics, Luleå University of Technology

10.00

Claudio Pettinari (VicePresident Italian Chemistry Society SCI, University of Camerino), *Teaching Chemistry Today: Challenge, Opportunity or Necessity?*

10.15 Coffee Break

10.45 **Samuel Partey** (UNESCO Regional Bureau for Science and Culture in Europe), *Addressing the needs of a sustainable future and the strategic role of UNESCO*

11.05 **Elisa Moretti / Alberto Vomiero** (UNESCO Chair Aid4GEA), *Aid4GEA – A bridge across the world: when hard science fertilizes sustainable development*

11.25 **Gianfranco Pacchioni** (Accademia Nazionale dei Lincei, University Milano Bicocca), *Open science, closed science. Is academic research declining?*

12.05 Lunch

13.20 **Zhong Lin Wang** (BINN-Chinese Academy of Sciences), *Triboelectric Nanogenerator (TENG) for High-entropy Energy and Systems*

13.50 **Balla Diop Ngom** (President of the African Materials Research Society, University Cheikh Anta Diop of Dakar), *Biomass derived affordable and sustainable energy storage devices*

14.20 **Malik Maaza** (UNESCO UNISA ITL/NRF Africa Chair in Nanosciences & Nanotechnology), *The UNESCO UNISA ITL/NRF Africa Chair in Nanosciences & Nanotechnology*

14.40 **Pietro Omodeo** (UNESCO Chair Water Heritage and Sustainable Development), *The UNESCO Chair Water Heritage and Sustainable Development*

14.55 Roundtable with the speakers

15.15 Closing remarks