



United Nations
Educational, Scientific and
Cultural Organization



ICTP - East African Institute
for Fundamental Research
under the auspices of UNESCO



2020 African School of Catalysis

20 – 24 January, 2020

ICTP-EAIFR, University of Rwanda, Kigali, Rwanda

Background and purpose

The manufacturing of many materials and products that we use today involve chemical reactions. Scientists and engineers have learned over the years to make these reactions efficient (i.e., faster and with greater yields in a given amount of time). This increased efficiency involves the use of chemicals, called catalysts, which, in general, speed up the rates of chemical reactions. Thus, we have catalysts for making fertilizers, biofuels, hydrogen for fuel and electricity, petrochemicals, medicines, and for reducing environmental pollution, for example.

An important goal will be to develop catalysts that are cheaper and more efficient, as well as design catalysts for chemical reactions for which there are currently no known catalysts. In order to achieve this goal, it is important to understand the fundamentals of catalysis: how catalysts work – at the atomic/molecular level, how to design catalysts, how to synthesize them and how to characterize them. This is the aim of the workshop. This training will introduce participants to experimental and theoretical/computational methods in the field of catalysis and also expose them to the research and activities of high-level scientists and industrialists from different parts of the world. We will be contributing to building a critical mass of researchers who are able to catalyze African development and advancement through their deep understanding and control of catalysis.

Topics covered

1. Introduction to CATALYSIS
2. Fundamentals of CATALYSIS
3. Synthesis and characterization methods for CATALYSTS
4. Introduction to computational methods for CATALYSIS and CATALYST design

Participation Information

Industrialists and researchers in physics, chemistry, biochemistry, materials science and related fields are encouraged to apply. This includes advanced undergraduate and post-graduate students (masters and doctoral levels). Women candidates are strongly encouraged to apply. Selection of participants will be based on their technical background. Priority will be given to applicants who will be presenting posters of their current work. There is no registration fee. A limited number of grants are available to support attendance of some selected participants. To apply, send your CV to: workshop20200120@eaifr.org and fill the form here: <https://forms.gle/zG15SqWdffwY9Chu9>

Deadline for application: November 24, 2019

For further information contact: info@eaifr.org or workshop20200120@eaifr.org