AAF ALGERIAN AMERICAN FOUNDATION
for Culture, Education, Science and Technology

Biology, Biotechnology & Health Sciences Program: Methodology and Good Practices.

1-Program Team:

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2-Program Description:

Scientific, medical research, diagnosis and treatment have to follow strict principles, methodologic guidelines, rigour and adhere to ethics.
Best practices are the methodologies and techniques that have proven to be reproducible and reliable to produce accurate results through many years of research and experience.
To follow best practices is to use the knowledge and technology available to us and ensure the unbiased accuracy and rigour of given approach.
The principal objective is to adhere to the international standards and guidelines in both experimental research, clinical research and medical care.
The adherence of good practices in these areas will benefit, the patient, the medical team, the research team and the well-being of entities that are directly or indirectly affected by the outcomes of these procedures. In addition, it will ultimately benefit the validity and accuracy of the knowledge that is produced by these teams.
This program is built to complement and support present/future developments in Algeria with an emphasis on the practical and research aspects. It is also essential to learn and develop new techniques and methodologies as they arise in the fields of Biotechnology, Biomedical Engineering, Bioimaging, and Health Sciences.
The ultimate goal is to share, implement, adopt and adapt the new developments in multiple areas of basic research, in clinical research and medical treatments.

3-Covered topics:

This program is broad and will cover basic concepts, advanced techniques and most recent scientific and technological achievements in the field.
The main topics of the program will include:

- Good laboratory practices and analytical chemistry (RMN 2D, MS, IR, UV, HPLC, LC-MS, and others)
- The use of living organisms and bioprocesses in engineering, technology and medicine.
- Drug design, synthesis, development and clinical trials and requirements for registration of medicinal products.
- Genetic engineering methods and techniques
- Organic chemistry: analytical methods techniques
- In-vitro Culture (Biotech and Agriculture) and cell culture (Bioetch and Health).
- Immunology, hematology, immunohistochemistry
- Practice guidelines in Medical Imaging and patient safety: patient and staff care with radiation
- Practice guidelines in Medical Imaging and patient safety: Radiation safety, quality control, related regulations and good practices
- Translating basic research into applied science and applying for patents
- Translating applied science to the clinic
- Developing biomarker of response to therapies
- Ethics in research and clinic

4-Desired Learning Outcomes:

Participants will be exposed to the latest technologies and learn theoretical and practical knowledge on diverse relevant aspects of biology, radiotherapy, bioimaging, medical imaging modalities, radiation safety and related national and international legislations.
Instructors will guide and assist participants, working in academia, research centres and hospitals to develop their skills, and will build a network of multiple actors in various fields in Algeria and abroad in order to build future collaborative projects.

5-Who Should Attend the Course?

Biologists, oncologists, radiotherapists, radiologists, medical physicists, "Personne Compétente en Radioprotection – PCR" (i.e. RPA & RWA in UK), researchers, image scientists, biomedical engineers and related fields.
Graduate students as well as post-doctoral researchers are welcome.