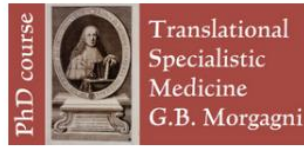# PhD course in Translational Specialistic Medicine 'G.B. Morgagni'

*"Shaping a World-Class University"*

## ARTIFICIAL INTELLIGENCE IN BIO-MEDICAL RESEARCH IN AFRICA. SHAPING THE FUTURE OF SCIENCES

## October 17-20, 2023

### October 17, 2023 – 04:00-06:20 pm C.E.S.T. Time

### Topic 1: *"Artificial intelligence, biomedical research and the regulatory environment: the African and European experience"*

Moderators:

**Corrado Lanera,** *Assistant Professor - University of Padova, IT*

**Alberto Zanatta,** *Assistant Professor - University of Padova, IT*

Initial greetings:

**Cristina Basso**, *Vice Rector for International Relations, University of Padua Professor of Pathology, University of Padua - Director, Cardiovascular Pathology Unit - Azienda Ospedaliera, IT*

| | |
|---|---|
| 04:00–04:30 pm | Talk 1: "The policy of the University of Padova for international collaborations with emerging countries: a bridge to Africa"<br>**Piergiorgio Sonato,** *Advisor for Africa and International Cooperation, Full Professor, University of Padova* |
| 04:30–05:00 pm | Talk 2: "The global experience from CUAMM"<br>**Don Dante Carraro**, *Doctors with Africa CUAMM, IT* |
| 05:00–05:30 pm | Talk 3: "The African experience in research"<br>**Francesca Tognon**, *Doctors with Africa CUAMM, IT* |
| 05:30–06:00 pm | Talk 4: "Artificial Intelligence, Machine Learning in a limited resource bio-medical research setting"<br>**Dario Gregori**, *Full Professor of Medical Statistics – University of Padova, IT* |
| 06:00–06:20 pm | Floor discussion |

## October 18, 2023 – 04:00-06:00 pm C.E.S.T. Time

### Topic 2: *"Artificial Intelligence in Geographical Epidemiology"*

Moderators:

**Annibale Biggeri,** *Professor of Medical Statistics – University of Padova, IT*
**Giovanni Putoto, Francesca Tognon,** *Doctors with Africa CUAMM, IT*
**Elena Pegoraro,** *Professor of Neuroscience, University of Padova, IT*

| | |
|---|---|
| 04:00–04:30 pm | Talk 1: "Increasing the Clinical Relevance of Observational, Population-based Studies using Machine Learning in Genomics"<br>**Luca Vedovelli,** *Assistant Professor, University of Padova, IT* |
| 04:30–05:00 pm | Talk 2: "Picturing spread of diseases: the contribution of machine learning to geo-spatial modeling"<br>**Dolores Catelan,** *Associate Professor, University of Padova, IT* |
| 05:00–05:30 pm | Talk 3: "Pollution and health monitoring via machine learning: thinking big on a large scale"<br>**Cristina Canova,** *Associate Professor, University of Padova, IT* |
| 05:30–06:00 pm | Floor discussion |

## October 19, 2023 – 04:00-06:00 pm C.E.S.T. Time

### Topic 3: *"Artificial Intelligence in Cardiac and Pulmonary Pathology: Clinics and Research"*

Moderators:

**Honoria Ocagli,** *Post-Doc Researcher, University of Padova, IT*
**Tawadod Abdelgader Abdalla Mohamed,** *Scholar at Risk fellow, DCTV, University of Padova, IT*

| | |
|---|---|
| 04:00–04:30 pm | Talk 1: Digital pathology and AI in cardiovascular pathology"<br>**Annalisa Angelini,** *Professor of Cardiovascular Pathology – University of Padova, IT* |
| 04:30–05:00 pm | Talk 2: "AI in Pulmonary Medicine: Current Status and Future Directions"<br>**Muhammad Lawan Jibril**, *University of Kashere, Gombe-Nigeria* |
| 05:00–05:30 pm | Talk 3: "AI for Health Equity: Addressing Bias and Diversity in Cardiology and Pneumology"<br>**Christian Domilongo Bope,** *University of Kinshasa, DR Congo* |
| 05:30–06:00 pm | Floor discussion |

## October 20, 2023 – 04:00-06:00 pm C.E.S.T. Time

### Topic 4: *"Ph.D. Students meet Africa"*

Moderators:

**Annalisa Angelini,** *Professor of Cardiovascular Pathology – University of Padova, IT*
**Dario Gregori,** *Professor of Medical Statistics – University of Padova, IT*

| | |
|---|---|
| 04:00–04:20 pm | Talk 1: "Machine learning models to create an Expert system to predict major cardiac events in monitoring heart transplant |

patients"

**Diego Perazzolo,** *Ph.D. Student, PhD Course in Translational Specialistic Medicine "G.B. Morgagni", University of Padova, IT*

| | |
|---|---|
| 04:20–04:40 pm | Talk 2: "Monitoring sedation of children during anesthesia: hybrid approaches between biostatistics and machine learning" |

**Noor Muhammad Khan**, *Ph.D. Student, PhD Course in Translational Specialistic Medicine "G.B. Morgagni", University of Padova, IT*

04:40–05:00 pm    Talk 3: "Machine Learning for Omics Data Analysis in Neuroscience (GWAS for DMD)"

**Sara Ahsani-Nasab,** *Ph.D. Student, PhD Course in Translational Specialistic Medicine "G.B. Morgagni", University of Padova, IT*

05:00–05:20 pm    Talk 4: "The effectiveness of the maternity waiting home in reducing perinatal mortality. A case-control in study in Ethiopia"

**Teresa Dalla Zuanna,** *Ph.D. Doctor, PhD Course in Translational Specialistic Medicine "G.B. Morgagni", University of Padova, IT*

05:20-05:40 pm    Talk 5: "Improving risk stratification in pediatric intensive care units: a head-to-head comparison between classical models and machine learning"

**Maria Vittoria Chiaruttini,** *Ph.D. Student, PhD Course in Translational Specialistic Medicine "G.B. Morgagni", University of Padova, IT*

05:40–06:00 pm    Floor discussion