AIMS | African Institute for Mathematical Sciences NEXT EINSTEIN INITIATIVE

Carnegie CORPORATION OF NEW YORK

QUANTUM LEAP AFRICA

FOUNDATIONAL METHODS IN DATA SCIENCE TRAINING SCHOOL
March 6th – April 2, 2022.
Kigali – Rwanda

Venue: University of Rwanda – Headquarters – Gikondo Campus
All lectures will be held in room 1R3 (hybrid participation).
The opening ceremony will be held in the main auditorium (in person participation only)

WEEK 1

WEEK 1 (Mar 7 – Mar 12)						
Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
0730-0800	Registration – All participants, University of Rwanda Headquarter, Gikondo Campus					
0800-0845	Opening Ceremony - Auditorium, University of Rwanda Headquarter, Gikondo Campus					
0845-0900	Group photo					
0900-1000	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Machine Learning Essentials - **Philipp Berens**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	GDI **Ingrid Lynch & Audrey Namdiero-Walsh**
1000-1030	*Coffee break*					
1030-1130	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Machine Learning Essentials - **Philipp Berens**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	GDI **Ingrid Lynch & Audrey Namdiero-Walsh**
1130-1230	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Mathematical Foundations for Data Science - **Bubacarr Bah & Leon Bungert**	Machine Learning Essentials - **Philipp Berens**	Machine Learning Essentials - **Philipp Berens**	RESEARCH TALK: Using continuum limits to understand data clustering and classification - **Franca Hoffmann**	Research I: skills course - **Selene Delport & Willemien Theron**
1230-1400	*Lunch break*					
1400-1500	Research II: The Importance of Communication - **Willemien Theron**	Research II: Planning and Organising - **Willemien Theron**	Research II: Presentation Skills and Public Speaking - **Willemien Theron**	Research I: skills course - **Selene Delport**	Research I: skills course - **Selene Delport & Willemien Theron**	Research I: skills course - **Selene Delport & Willemien Theron**
1500-1600	Research II: Why is Your Research Important and How do you Communicate It? - **Willemien Theron**	Research II: Using SMART principles - **Willemien Theron**	Research II: Presentation Skills and Public Speaking - **Willemien Theron**	Research I: skills course - **Selene Delport**	Research I: skills course - **Selene Delport & Willemien Theron**	Research I: skills course - **Selene Delport & Willemien Theron**
1600-1630	*Coffee break*					
1630-1730	Research II: Why is Your Research Important and How do you Communicate It? - **Willemien Theron**	Research II: Using the STAR method to communicate - **Willemien Theron**	Research II: Presentation Skills and Public Speaking - **Willemien Theron**	Research I: skills course - **Selene Delport**	Research I: skills course - **Selene Delport & Willemien Theron**	Research I: skills course - **Selene Delport & Willemien Theron**

AIMS African Institute for Mathematical Sciences NEXT EINSTEIN INITIATIVE

Carnegie Corporation of New York

QUANTUM LEAP AFRICA

WEEK 2

WEEK 2 (Mar 14-Mar 19)						
Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
0830:8:50	Opening Remarks – Prof. Franca Hoffmann					
0850:0900	Group photo					
0900-1000	Machine Learning Essentials - **Philipp Berens**	Machine Learning Essentials - **Philipp Berens**	Optimisation for Data Science – **Raphael Hauser**	Optimisation for Data Science – **Raphael Hauser**	Optimisation for Data Science – **Raphael Hauser**	
1000-1030	*Coffee break*					
1030-1130	Machine Learning Essentials - **Philipp Berens**	Machine Learning Essentials - **Philipp Berens**	Optimisation for Data Science – **Raphael Hauser**	Optimisation for Data Science – **Raphael Hauser**	Optimisation for Data Science – **Raphael Hauser**	Training session
1130-1230	Machine Learning Essentials - **Philipp Berens** 12:30-12:45 Information Session: The StArfrica Incubarot Program **Katharina Hartwig**	Machine Learning Essentials - **Philipp Berens**	COLLOQUIUM Chaos Theory: Determinism and Randomness in Nature and Mathematics - **Stefano Luzatto**	Optimisation for Data Science – **Raphael Hauser**	Optimisation for Data Science – **Raphael Hauser**	Training session
1230-1400	*Lunch break*					
1400-1500	Optimisation for Data Science – **Raphael Hauser**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	
1500-1600	Optimisation for Data Science – **Raphael Hauser**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	
1600-1630	*Coffee break*					
1630-1730	Training session	Training session	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Methods from Control & Dynamical Systems – **Tryphon T Georgiou**	Closing	
1730-1830	Training session	Training session		Training session		

AIMS African Institute for Mathematical Sciences NEXT EINSTEIN INITIATIVE

Carnegie Corporation of New York

QUANTUM LEAP AFRICA

WEEK 3

WEEK 3 (Mar 21-Mar 25)						
Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
0830:0850	Opening Remarks –Prof. Franca Hoffmann					
0850:0900	Group photo					
0900-1000	Statistics & Scientific Methods – **Peter J Diggle**	Problem Solving with Data Science – **David Stern**	Statistics & Scientific Methods – **Peter J Diggle**	Statistics & Scientific Methods – **Peter J Diggle**	Problem Solving with Data Science – **David Stern**	
1000-1030	*Coffee break*					
1030-1130	Statistics & Scientific Methods – **Peter J Diggle**	Problem Solving with Data Science – **David Stern**	Statistics & Scientific Methods – **Peter J Diggle**	Statistics & Scientific Methods – **Peter J Diggle**	Problem Solving with Data Science – **David Stern**	
1130-1230	Statistics & Scientific Methods – **Peter J Diggle**	Problem Solving with Data Science – **David Stern**	Guest Speaker: **Prince Osei**	Statistics & Scientific Methods – **Peter J Diggle**	Problem Solving with Data Science – **David Stern**	
1230-1400	*Lunch break*					
1400-1500	Problem Solving with Data Science – **David Stern**	Statistics & Scientific Methods – **Peter J Diggle**	Research methodology session	Problem Solving with Data Science – **David Stern**	Training session	
1500-1600	Problem Solving with Data Science – **David Stern**	Statistics & Scientific Methods – **Peter J Diggle**	Research methodology session	Problem Solving with Data Science – **David Stern**	Training session	
1600-1630	*Coffee break*					
1630-1730	Training session	Training session	Research methodology session	Training session	Closing	
1730:1830	Training session	Training session		Training session		

AIMS African Institute for Mathematical Sciences NEXT EINSTEIN INITIATIVE

Carnegie Corporation of New York

QUANTUM LEAP AFRICA

WEEK 4

WEEK 4 (Mar 28-April 1)					
Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
0900-1000	Presentations by selected training school participants	Presentations by selected training school participants	DATA SCIENCE WORKSHOP *From Theory to Practice*	DATA SCIENCE WORKSHOP *From Theory to Practice*	DATA SCIENCE WORKSHOP *From Theory to Practice*
1000-1100					
1100-1230					
1230-1400	**Lunch**		**Lunch**		**Lunch**
1400-1500	Presentations by selected training school participants	Presentations by selected training school participants	DATA SCIENCE WORKSHOP *From Theory to Practice*	DATA SCIENCE WORKSHOP *From Theory to Practice*	**Departures**
1500-1600					
1600-1730					

For details, see separate workshop schedule here https://sites.google.com/view/t2p-workshop2022/home