



12th Jointed ISN-IBRO sponsored UM5 Africa Neuroscience School on
“Neuroplasticity During Lifespan: From Early Development to Age-related
Degeneration and Repair”

April 3rd – April 16th, 2025

Committees

Organizers:

Professor Nouria Lakhdar-Ghazal, Africa Center for Advanced Training in Neuroscience, Faculty of Sciences, Mohammed V University, Rabat, Morocco

Professor Evelyne Sernagor, Newcastle University, Newcastle Upon Tyne, UK

Scientific Committee:

Professor Nouria Lakhdar-Ghazal, Africa Center for Advanced Training in Neuroscience, Faculty of Sciences, Mohammed V University, Rabat, Morocco

Professor Evelyne Sernagor, Newcastle University, Newcastle Upon Tyne, UK

Assistant Professor Nezha Bouhaddou, Laboratory of Physiology and Pathophysiology, Faculty of Sciences, Mohammed V University, Rabat, Morocco

Assistant Professor Hicham Farsi, Agronomic and Veterinary Institute Hassan II, Rabat, Morocco

Professor Nilesh Patel, Faculty of Health Sciences, Nairobi, Kenya

Secretariat:

Ayoub Garouat, PhD student, Department of Biology, Faculty of Sciences, Mohammed V University, Rabat, Morocco

Oumaima Zanik, PhD student, Department of Biology, Faculty of Sciences, Mohammed V University, Rabat, Morocco

This school was dedicated to Professor Evelyne Sernagor who was the co-organizer of the school, but passed away on March 2nd 2025.

Venue:

The 12th ISN Advanced School on “Neuroplasticity Across the Lifespan: From Early Development to Age-related Degeneration and Repair” was co-sponsored by IBRO. It has been organized at the faculty of Sciences (11 days) and The Agronomic and Veterinary Institute for

technical workshops (3 days). The mix between the two sites was an added value to the training; students have had a basic training given simultaneously by the research professors and the veterinary clinicians, with an active participation to clinical applications.

Purpose of the school

The school proposed to develop skills on neurodevelopment, neuroplasticity and neurodegenerative diseases. It will last 2 weeks. It will take place between 3 and 16 April 2025. The first week will take place from 3 to 9 April 2025. During this first week, technical workshops will be held in the laboratories of the University of Rabat and those of the Agronomic and Veterinary Institute from 3rd to 7th April 2025. The 2nd week will run from 9th to 16th April. After that, the school will move to Marrakesh to attend the International Conference of SONA in April 17th 2025. The choice of these dates is based on the fact that the school will be a pre-conference activity of the SONA (Society of Neuroscientists of Africa International Conference).

Students Selection: The announcement of the school was done through IBRO site and the website of faculty of sciences of Rabat. We have received 79 finalized applications. We selected 28 students taking in account academic profile and the quality of the application and CV, the recommendation letters, gender and country equilibrium. Selection criteria also included that applicants must be studying and be resident in Africa and be enrolled for PhD studies or as Post Doc in African institution as well as those starting their carrier as young neurologist, teachers, pharmacist, lecturers. We selected 18 students from outside Morocco and payed their air tickets. We had 15 women and 13 males coming from Nigeria, Cameroon, Ethiopia, Ghana, Tunisia, South Africa, Sudan, Brazil with students leaving in Morocco and Morocco. The selection was made by the members of the scientific committee of the school.

List of Selected students

| First Name | Last Name | Email | Gender | Nationality |
|------------------|------------------|--|--------|-------------|
| MASSOP WAMBA NDE | Christelle | christellemassop4@gmail.com | Woman | Cameroon |
| Savo Mbeboh | Franklin | savombe@gmail.com | Man | Cameroon |
| Stève Brunel | Ngoufack Kenfack | stevebrunel36@gmail.com | Man | Cameroon |
| Rudig Nikanor | DJIKEM TADAH | Rudig25@gmail.com | Man | Cameroon |
| Yodit | Molla | yoditalex1@gmail.com | Woman | Ethiopia |
| Richmond | Arthur | arthurrichmond9@gmail.com | Man | Ghana |
| John | Senanu | johnsenanu36@gmail.com | Man | Ghana |
| Jennifer | Leoncio | jencleonio@gmail.com | Woman | Brazil |
| SARA | EL IDRISI | sara.elidrissi@um5r.ac.ma | Woman | Morocco |
| kaoutar | Aalilouch | kaoutar.lst.ba@gmail.com | Woman | Morocco |
| SOUKAINA | BENTAYBI | soukaina_bentaybi@um5.ac.ma | Woman | Morocco |
| HANANE | EL FATIMI | helfatimi@um6ss.ma | Woman | Morocco |
| Manal | BOUELKHAIR | manalblkr@gmail.com | Woman | Morocco |
| Oussama | Duieb | oussama.duieb@uit.ac.ma | Man | Morocco |
| Noufel | Hachimi | Noufel.hachimi@um5s.net.ma | Man | Morocco |
| younes | beniaich | y.beniaich@iav.ac.ma | Man | Morocco |

| | | | | |
|-------------|-----------------|------------------------------|-------|--------------|
| Mounir | Cherkaoui | mounirchr373@gmail.com | Man | Morocco |
| Rachael | Henry | henryrachel99@gmail.com | Woman | Nigeria |
| Toluwanimi | Afolabi | afolabitoluwanimi1@gmail.com | Woman | Nigeria |
| Joseph | Enya | enyaj@babcock.edu.ng | Man | Nigeria |
| Abbas | Nasidi | abbasnasidi@basug.edu.ng | Man | Nigeria |
| OLALEKAN | OLADIMEJI | oladimejjerry21@gmail.com | Man | Nigeria |
| Arietarhire | Leviticus | Arietarhirel@babcock.edu.ng | Man | Nigeria |
| Patience | Mamali | patie.mamali@gmail.com | Woman | South Africa |
| Alice | Efuntayo | efuntayoalice@gmail.com | Woman | South Africa |
| Rayan | Abubaker Siddig | rayanabubaker@gmail.com | Woman | Sudan |
| Zeineb | Fridhi | zeinebfridhi@gmail.com | Woman | Tunisia |
| Ben slimen | Sabrina | sabrinebenslimene1@gmail.com | Woman | Tunisia |

The faculty: The program of this school attracted very qualified scientists and researchers in the field of neurodevelopment and neurodegeneration. The lecturers came from France, United Kingdom, USA, Italy, Koweit and Morocco

A total of 16 teachers participated to all the activities of the school including lectures, clinical workshop, journal club, student's presentations, technical workshops and social activities

List of Faculty Members

Majlinda Washington: Newcastle University Newcastle upon Tyne, UK:
majlinda.lako@newcastle.ac.uk

Philippe de Deurweardère: Bordeaux Neurocampus, Bordeaux University, France :
philippe.de-deurwaerdere@u-bordeaux.fr

Alain Chédotal : Institut of Vision of Paris, INSERM, Paris, France: alain.chedotal@inserm.fr

Laura Cancedda: Italian Institute of Technology, Genova, Italy: laura.cancedda@iit.it

Andrew Trevelyan: Newcastle University Newcastle upon Tyne, UK:
Andrew.trevelyan@newcastle.ac.uk

Raj Kalaria: Newcastle University Newcastle upon Tyne, UK/Kenya:
raj.kalaria@newcastle.ac.uk

Mahmoud Mania: University of Sussex Brighton, UK/Nigeria: M.Bukar-Maina@sussex.ac.uk

Peter Wenner: Emory University School of Medicine, Atlanta, USA: pwenner@emory.edu

Mimoun Azzouz, University of Sheffield, UK: m.azzouz@sheffield.ac.uk

Tracy Bale: University of Maryland School of Medicine, USA: TBale@som.umaryland.edu

Scott Thompson: University of Maryland School of Medicine, USA:
scott.m.thompson@cuanschutz.edu

Nouria Lakhdar Ghazal: Africa Center for Advanced Training in Neuroscience, UM5, Rabat, Morocco: nlakhdarghazal@gmail.com

Yassine Ait Bali : Ecole Normale Supérieure Takkaddoum, UM5, Rabat, Morocco :

Nezha Bouhaddou, Africa Center for Advanced Training in Neuroscience, UM5, Rabat, Morocco: n.bouhaddou@um5r.ac.ma

El Allali Khalid, Agronomic and Veterinary Institute, Rabat, Morocco: k.elallali@iav.ac.ma

We took advantage of the presence of Willias Masocha: Koweit City University, Koweit/Zimbabwe and Roberto Furlan: University Hospital Saint Raphael, Milano, Italy who organized a CAEN ISN school at the same time at the faculty of sciences to ask them to contribute to the program of the school. The president of IBRO came to visit the school together with her husband and then we invite her to give a conference at the end of the school.

Technical Workshop Supervisors:

Nouria Lakhdar-Ghazal, Africa Center for Advanced Training in Neuroscience, Faculty of Sciences, Mohammed V University, Rabat, Morocco

nlakhdarghazal@gmail.com

Hicham Farsi, Agronomic and Veterinary Institute Hassan II, Rabat, Morocco

h.farsi@iav.ac.ma

Younès Benaich, Agronomic and Veterinary Institute Hassan II, Rabat, Morocco

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Description of the school

The 12th ISN Advanced School on “Neuroplasticity Across the Lifespan: From Early Development to Age-related Degeneration and Repair” was co-sponsored by IBRO has been organized at the faculty of Sciences (11 days) and The Agronomic and Veterinary Institute (3 days). The mix between the two sites was an added value to the training; students have had a basic training given simultaneously by the research professors and the veterinary clinicians, with an active participation to clinical applications.

The school started with 3 full days of technical workshops which took place at the laboratory of anatomy of the Agronomic and Veterinary Institute (AVI). Every day, students took the train town to reach the AVI. To illustrate the whole theoretical part of the program students followed three great technical workshops: How to perfuse a brain with fixative solution which was explained with a video recording followed by cutting fixed brains on a cryostat. Then on those slides immunohistochemistry was performed using Biotinylated GnRH antibody. At the end of these experiments, students moved to a microscope to observe the results obtained by comparing juvenile brain to adult brain. Students approached neuroplasticity also in vivo by recording sleep electroencephalogram on baby camel and his mother. They then analyzed the electroencephalograms and compared the profile of sleep in the two animals pointing out the more profound sleeping in juvenile than his mother. After that Nouria Lakhdar-Ghazal gives the first lecture on “The basis of Immunohistochemistry “followed by the Organization of the brain and cells of the nervous system: anatomy and function” including a part of nervous system embryology.

After the technical workshops, the school welcomed the other lecturers. The opening of the school was ensured by Professor Nouria Lakhdar-Ghazal on April 6th. She started by presenting

and explaining the objective of IBRO as well as those of ISN. She pointed out the importance of all IBRO and ISN program that can benefit to students, and then presented the school program. The lectures started in April 6th with two talks given by Alain Chedotal (France). The first one in morning on “Basis of axon guidance” and the second one on evening on “Axon guidance disorders”. At the end of the day, students were divided in working groups, and remained in the classroom until 7.00 pm working on the scientific papers for the “Journal Club” session. On April 7th Peter Wenner (USA) started the day with a lecture on plasticity at the level of neuronal circuitry followed by a very nice and interesting talk of Alain Chedotal (France) on 3D analysis of nervous system development using tissue clearing and light-sheet microscopy. Then Peter Wenner explained the neuroplasticity of GABA system by comparing juvenile and mature brain. The day was closed by 2 hours’ students working groups on journal club. April 8th started with Andrew Trevelyan (UK) who explained how the cortex “arealizes” during evolution from rodents to human. He completed this lecture the next day with Activity dependent refinement of cortical circuits in early development. Peter Wenner give a lecture on the development of motor system while Majlinda Washington (UK) started the retinal development by explaining the retinal development cell by cell followed by Laura Cancedda (Italy) with GABA receptors plasticity and chloric ionic channels implication. Laura Cancedda started the lectures days on Wednesday 9th with “drug development in GABA receptor signalling disorders, presenting its own point of view on how to develop a start-up, followed by “The present and the future of stem cells” (Majlinda Washington); the development of monoaminergic systems (Philippe De Deuwaerdère, France) and finally “Modelling development in health and disease in tissue culture (Majlinda Washington). On April 10th, Philippe de Deuwaerdère give a talk on monoaminergic systems at different stages of life followed by the GABA receptor system in aged brain (Laura Cancedda) and a lecture on the basis of neuroimmunology and neuroinflammation (Roberto Furlan, Italy) which closed the first week of neurodevelopment. Students presented their journal club during 2 more hours in presence of all team lecturers The part of the early stages of neurodevelopment ends in this day; and the oldest brain started the day after with Neuroimmune disorders (Roberto Furlan, Italy), neurological dysfunctioning with Epilepsy through the life cycle (Andrew Trevelyan) and neurodegenerative processes, particularly Alzheimer disease and dementia (Mahmoud Mania, UK/Nigeria and Raj Kalaria (UK/Kenya). Two full days (April 11 and April 12th) were devoted to professional skills with ethic in research round table managed by Willias Masocha (Koweit/Zimbabwe); the role of networking in developing regional research project (Mahmoud Mania (UK/Nigeria) and ethic in publishing scientific paper with Roberto Furlan (Italy). At the end of those days, students worked on “Research project” in groups. April 13 and 14 students benefited from high level lectures given by Mahmoud Mania and Raj kalaria and on April 15th two special lectures were given by Tracy Bale (USA) and Scott Thompson (USA) on stress and psychiatric diseases. The day ends by student’s research project presentations, followed by Certificate Ceremony and a very nice closing diner in front of the Atlantic Ocean.

Short-term achievements and its potential long-term impact

The short-term achievements consist of the acquisition of a very high level of knowledge by the students in the field of neurodevelopment, which is unknown to them, with the acquisition of knowledge in techniques for approaching neurodevelopment, in particular Stem Cells and their culture, 3D tissue Clearance etc. The technical workshop was very useful for the students, who understood and assimilated the technique and plan to reproduce it in their research structures. They also learned how to analyse the results of this experiment in a semi-quantitative way, which provided them with a simple model for studying neurodevelopment.

The students also understood that the use of animal models specific to Africa, such as the dromedary, could bring added value to their scientific approach.

Awareness of the ethical aspects will have an immediate impact on the way students use science, as well as in their everyday lives.

In the long term, the students will use the knowledge acquired to incorporate the concepts acquired into their own research activities. However, there is still a need for much more training in this field in Africa.

This type of school is to be highly recommended in the future, because of its performance and its very positive impact on learners.

School Program Day by Day

Neuroplasticity Across the Lifespan: From Early Development to Age-related Degeneration and Repair

April 3rd – April 15th, 2025

Africa Center for Advanced Training in Neuroscience

Mohammed V University

Rabat-Morocco

And

Agronomic and Veterinary Institute Hassan II, Rabat

**This school is dedicated to Evelyne Sernagor
Professor at Newcastle University
Researcher in Retinal Neurophysiology**

April 3rd – April 5th: Technical Workshops

Day 1: Thursday April 3th:

Agronomic and Veterinary Institute

9.00-10.30: Principal of Immunohistochemistry (Nouria Lakhdar-Ghazal, Rabat, Morocco)

10.30-11.00: Break

11.00-12.00 How we perfuse a brain with fixative solution: video for ethic issue

12.30 Lunch

13.00-15.00: Brain slices from olfactory bulb, hypothalamus and brain stem. Incubation in GnRH antibody (Nouria Lakhdar-Ghazal and Sara El Idrissi, Rabat, Morocco)

15.00-18.30:

Day 2: Friday April 4th:

Agronomic and Veterinary Institute

9.00-12.00 Incubation in secondary antibody, 3x 10 min rinse

12.30 Lunch

14.00-18.00; Incubation in ABC kit; DAB revelation (Nouria Lakhdar-Ghazal and Sara El Idrissi, Rabat, Morocco)

Day 3: Saturday April 5th:

Agronomic and Veterinary Institute

9.00-12.00 Microscope observation; Discussion of the results and conclusion (Nouria Lakhdar-Ghazal and Sara El Idrissi, Rabat, Morocco)

12.30 Lunch

14.00-15.30 Basic lecture: Organisation of the nervous system: Understanding the organisation of the brain through its development (Nouria Lakhdar-Ghazal, Rabat)

15.30-16.00 Break

16.00-17.30 Organization of adult brain (Nouria Lakhdar-Ghazal, Rabat)

Day 4: Sunday April 6th

Faculty of Sciences

09.00-10.00

Opening of the school: Nouria Lakhdar-Ghazal (Director of UM5 Africa Advanced Centre for Training in Neuroscience, Faculty of Sciences, Mohammed V University, Rabat, Morocco).

Presentation of Africa Centre for Advanced Training in Neuroscience, Presentation of IBRO, presentation of ISN, Presentation of students,

On behalf of “Evelyne Sernagor (Newcastle Upon Tyne University, UK) Presentation of teachers, Presentation of the program, schedule and activities of the school”.

10.00-10.30 Break

10.30-12.00 Axon guidance at the midline of the central nervous system (Alain Chedotal, France)

12.00-14.00 Lunch

14.00-15.30: Axon guidance disorders (Alain Chedotal, France)

15.30-16.00 Break

16.00-18.00 Journal Club Working groups

20.00 Dinner

Day 5: Monday April 7th

Faculty of Sciences

09.00-10.30: Homeostatic plasticity in the construction of neural circuits (Peter Wenner, USA)

10.30-11.00: Break

11.00-12.30: 3D analysis of nervous system development using tissue clearing and light-sheet microscopy (Alain Chedotal, France)

12.30-14.00 Lunch

14.00-15.30: Plasticity of GABAergic neurons in development and in the mature system (Peter Wenner, USA)

15.30-16.00: Break

16.00-18.30: Journal club working groups

20.00: Dinner

Day 6: Tuesday: April 8th

Faculty of Sciences

9.00-10.30: Development and arealization of the cerebral cortex from rodents to humans (Andrew Trevelyan, UK)

10.30-11.00: Break

11.00-12.30: Development of the motor system (Peter Wenner, USA)

12.30-14.00: Lunch

14.00-15.30: Understanding retinal development cell by cell (Majlinda Lako, UK)

15.30-16.00: Break

16.00-17.30: GABA_A receptor signalling in neuronal plasticity in health (a Cl homeostasis standpoint) (Laura Cancedda, Italy)

17.30-19.00: Activity dependent refinement of cortical circuits in early development (Andrew Trevelyan, UK)

20.00: Dinner

Day 7: Wednesday April 9th

Faculty of Sciences

9.00-10.30: GABA_A receptor signalling in neuronal plasticity in disease (CI homeostasis and drug-development/startup standpoints) (Laura Cancedda, Italy)

10.30-11.00: Break

11.00-12.30: Stem cells: the present and the future (Majlinda Lako, UK)

12.30-14.00: Lunch

14.00-15.30: Developmental aspects of monoaminergic/amino acid systems in the CNS (Philippe De Deurwaerdère, France)

15.30-16.00: Break

16.00-17.30: organoids: modelling development and disease in a tissue culture (Majlinda Lako, UK)

20.00: Dinner

Day 8: Thursday April 10th

Faculty of Sciences

9.00-10.30: Neurochemical approach of monoaminergic systems function at different ages: from neurochemistry to data mining (Philippe De Deurwaerdère, France)

10.30-11.00: Break

11.00-12.30: The role of GABA_A receptor in ageing (a CI homeostasis standpoint) (Laura Cancedda, Italy)

12.30-14.00: Lunch

14.00-15.30: Introduction to neuroimmunology and neuroinflammation (Roberto Furlan, Italy)

15.30-16.00: Break

16.00-18.30: Students journal club (Willias Masocha)

20.00: Dinner

Day 9: Friday April 11th

Faculty of Sciences

9.00-10.30: Maternal immune activation (MIA) in the pathogenesis of common neurodevelopmental disorders (Roberto Furlan, Italy)

10.30-11.00: Break

11.00-12.30: Epilepsy through the life cycle, and the relationship between physiological and pathological brain states (Andrew Trevelyan, UK)

12.30-14.00: Lunch

14.00-15.30: Psychopharmacology and new born rodents: past and current models for addressing drugs for ADHD, Parkinson's disease, depression (Philippe De Deurwéardère, France)

15.30-16.00: Break

16.00-17.30: Pharmacotherapies for Neurodevelopmental Disorders (Willias Masocha, Koweit)

17.30-18.30: Unraveling the mechanism of glyphosate-induced developmental neurotoxicity (Yassine Ait Bali, Ecole Normale Supérieure Takkaddoum, Rabat, Morocco)

20.00: Dinner

Day 10: Saturday April 12th:

Free Morning

Faculty of Sciences

14.00-15.30: Ethic in research: Round Table with lecturer's team (Willias Masocha, Koweit)

15.30-16.00: Break

16.00-17.30: Students working group on research project (Willias Masocha, Koweit University and Roberto Furlan, Italy)

Day 11: Sunday April 13th

Faculty of Sciences

9.00-10.30: Developing local capacity for research within Africa and the role of global networks (Mahmoud Mania, Nigeria/UK)

10.30-11.00: Break

11.00-12.30: Ethic in publishing scientific paper (Roberto Furlan, Italy)

12.30-14.00: Lunch

14.00-15.30: iPSC modelling in African population to study basic mechanism of disease in Alzheimer's disease and other dementia (Mahmoud Mania, Nigeria/UK)

15.30-16.00: Break

16.00-19.00: Students research project presentation (Whole team))

20.00: Dinner

Day 12: Monday April 14th

Faculty of Sciences

9.00-10.30: Brain Ageing and Mechanisms of Neuronal Death (Rajesh Kalaria, Kenya/UK)

10.30-11.00: Break

11.00-12.30: Neurodegenerative Disorders and Dementia (Rajesh Kalaria, Kenya/UK)

12.30-14.00: Lunch

14.00-15.30: Neurodegenerative Disorders and Parkinson's disease: motor and non-motor symptoms (Houyam Tibar, Rabat, Morocco)

15.30-16.00: Break

16.00-17.30: Investigating Parkinson's disease via in Vitro models: emphasizing immunocytochemistry analysis (Inès Bini Dhouib, Tunisia)

17.30-19.00: Stroke related Dementia and Regeneration (Rajesh Kalaria, Kenya/UK)

Day 13: Tuesday April 15th

Faculty of Sciences

09.00-10.30: Basic mechanism of Alzheimer's disease the role of amyloid beta and tau (Mahmoud Mania, Nigeria/UK)

10.30-11.00: Break

11.00-12.30: Extracellular vesicles as stress biomarkers in psychiatry (Tracy Bale, USA)

13.00: Lunch

14.30-15.30: The effects of stress on synapses and circuits and its role in psychiatric disease (Scott Thompson, USA)

15.30-16h00 Break

15.30: Students research project presentation

18.30: Certificate Ceremony

20.00: Closing Dinner

April 16th Departure to Marrakech for joining SONA Conference

Financial Report

| Entry | Entry in MAD | |
|--|-------------------------|-----------------------|
| IBRO 80% | 252714 | |
| ISN 80% | 252406,91 | |
| <i>Students Expenses</i> | Expenses Dirhams | Total expenses |
| Franklin Savo Mbeboh | 12117 | |
| Abubaker Musa Siddig | 7494 | |
| Fridhi Zeineb | 4180 | |
| Sabrine Ben Slimen | 4905 | |
| Abbas Nzidi Musa | 9860 | |
| Enya Joseph Igbo | 9112 | |
| Afolabi Toluwanimi Omolara | 9112 | |
| Djikem Tadah Rudig Nikor | 11750 | 127847,00 |
| Massop Wamba Nde Christelle | 11750 | |
| Efuntayo Alice Adetokunbo | 9115 | |
| Mamali Patience Mulalo | 9915 | |
| Arthur Richmond | 9385 | |
| Senahu John | 9385 | |
| Molla Yodit Alemayehu | 9767 | |
| <i>Students Hotel Accommodation</i> | | |
| Bouregreg | 64288 | |
| Majliss | 175540 | 239828,00 |

| | | |
|--|----------|-----------------|
| <i>Moroccan student train transport</i> | | |
| <i>Students airport transportation</i> | | |
| Casablanca Airport | 2875 | |
| Town Train | 1038 | 3913 |
| <i>Students Lunch Meal</i> | | |
| Traiteur Ouazzani | 28420 | |
| Amoud | 3180 | 35940,00 |
| Paul | 4340 | |
| | | |
| <i>Technical Workshop Expenses</i> | | |
| GnRH antibody/Buffers... | 17376 | 25321,00 |
| Tyrosine Hydroxylase Antibody | 7945 | |
| <i>Lecturers travel Ticket</i> | | |
| Alain Chedotal | 4750 | |
| Laura Cancedda | 8950 | |
| Majlinda Washington | 8654 | |
| Peter Wenner | 13300 | |
| Philippe De Deurwaerdere | 3930 | |
| Andrew Trevelyan | 2850 | 72993,85 |
| Mahmoud Mania | 10517 | |
| Raj Kalaria | 8850 | |
| Tracy Bale (1200\$) | 11192,85 | |
| <i>Lecturers Hotel Accommodation</i> | | |
| Hotel Bélère + Onomo Hotel | 90224 | 90224,00 |

| | | |
|---|------------------|-----------------|
| <i>Lecturers meal</i> | | |
| Diner at the hotel | 4400 | 11400,00 |
| Lunches | 7000 | |
| <i>Closing Diner Whole Team</i> | | |
| First Week: La Menora Restaurant | 4390 | 23779,28 |
| Second Week: Les 3 Palmiers Restaurant | 19389,28 | |
| <i>All Team Coffee Break</i> | | |
| | 5710 | 5710,00 |
| <i>Lecturer Airport Transportation</i> | | |
| Car location | 2940 | |
| 2 mini bus location (for Gala Diner) | 3900 | 19916,00 |
| Taxi | 5376 | |
| Bus Rabat-Marrakech all team | 7700 | |
| <i>Committee Diner</i> | | |
| | 4718 | 4718,00 |
| <i>School Impression</i> | | |
| Streamer & Roll-up | 1400 | |
| Documents/school material/badges/certificates/pen/Note book | 5859,60 | 7259,6 |
| <i>Phone</i> | | |
| Phone 3 Months | 2995,15 | 2995,15 |
| <i>Petty cash</i> | | |
| Pourboires | 1300 | 1300,00 |
| <i>Secretariat Salaries</i> | | |
| Ayoub Guerouat | 4000,00 | 6500,00 |
| Oumayma Zanik | 2500 | |
| | Total subvention | Total expenses |
| | 505120,91 | 677574,88 |

| Total subvention | Total expenses | Balance |
|-------------------|-------------------|---------------------|
| 505 120,91 | 679 644,88 | - 174 523,97 |

ISN Total Subvention: 31 489 USD

80% received = 252406,91 Moroccan Dirhams after change and bank taxes

20% of ISN Subvention is of 6297,8 USD corresponding to 58 635,44 MAD

ISN fund serves to take in charge

Students air tickets: 127847,00

A part of Students Hotel Accommodation: 183195

Total Expenses: 679 644,88 MAD

IBRO Income will cover the remaining expenses

The supplementary expenses will be covered by the faculty of sciences

Thanks from Students:

Dear Prof Nouria,

I hope this email finds you well.

I wanted to sincerely thank you again for the incredible opportunity to be part of the IBRO ISN Africa Neuroplasticity School 2025. It was a truly enriching experience to learn from such an exceptional group of professors. I am writing to kindly request if it would be possible for you to share the Google Drive link with the professors who delivered lectures during the school, so they may upload the lecture materials. It would mean so much to have these valuable resources for continued learning and reflection. Thank you once again for your generosity, leadership, and dedication to building neuroscience capacity in Africa.

<https://drive.google.com/drive/folders/18JW5nl2GW31qwHEeen8vrYCQS32o1wJ0?usp=sharing>

Warm regards,

Patience Mamali [ibro ISN sponsored Africa Neuroplasticity school, 2025 Alumni & General secretary]

Dear Madam Nouria

It is with great pleasure and joy I write you this email. How are you doing and how is everything going? I want to sincerely appreciate you for giving me the opportunity and platform to be exposed to the word of science and scientific community. Words can describe how much your actions means to me. This opportunity has changed my mindset, given me opportunity to meet people with similar interests and to find mentorship in you and other faculties. I want to thank you from the bottom of my heart and pray that my God will richly bless you, strengthen and give so much joy unspeakable. I am very emotional writing this message cos this opportunity has shaped the way I think and career path.

On a separate note, I arrived safely in Nigeria on Tuesday and made it home on Wednesday. The journey was smooth, but I'm already missing the academic environment and your guidance. I'd love to see you soon.

I want to say a big thank you on behalf of the Nigeria team and my institution. See you soon.

Best regards
Leviticus

Good morning Prof

I hope this mail finds you well.

I am writing to inform you that I arrived in Cameroon safely. My stay in Morocco was incredibly enriching, and I gained valuable insights during the IBRO school and conference. I sincerely appreciate the opportunity you provided me.

Thank you once again for your support.

Kindest regards,
Savo Mbeboh Franklin

Dear Professor,

I hope this message finds you well. I am writing to express my sincere gratitude for the opportunity to participate in the Africa Advanced Neuroscience School on Neurodevelopment. The school was exceptionally enlightening and educational, and it has greatly deepened my interest in neurodevelopmental research.

The accommodation, food, and welfare, coupled with the training's comprehensive schedule, from the immunohistochemistry workshop to the access to faculty during and out of the classes, significantly enriched my learning experience. Additionally, I am truly grateful for the chance to attend the SONA conference.

I also wish to thank you for your act of kindness in providing me with a sweater when I was cold. It meant a great deal to me.

Thank you once again for your support, mentorship, and for creating such a good learning environment.

Sincerely,
Toluwanimi Afolabi,
Nigeria.

Dear Prof. Nouria,

I am deeply grateful for the opportunity to attend your school and the SONA conference, and I sincerely appreciate the full coverage of all costs. The experience was enriching, and I am thankful for your support and dedication in organizing such a valuable event. I have arrived in Nigeria safely and in good health. I will always make you proud.

Take care. Warm regards

Dear Professor Nouria Lakhdar-Ghazel,

I'm writing to sincerely thank you for the incredible opportunity you gave me during the 20 days of the school and the SONA conference. I have learned more in this short time than in my three years of PhD studies, and I believe this experience has forever changed the way I see science.

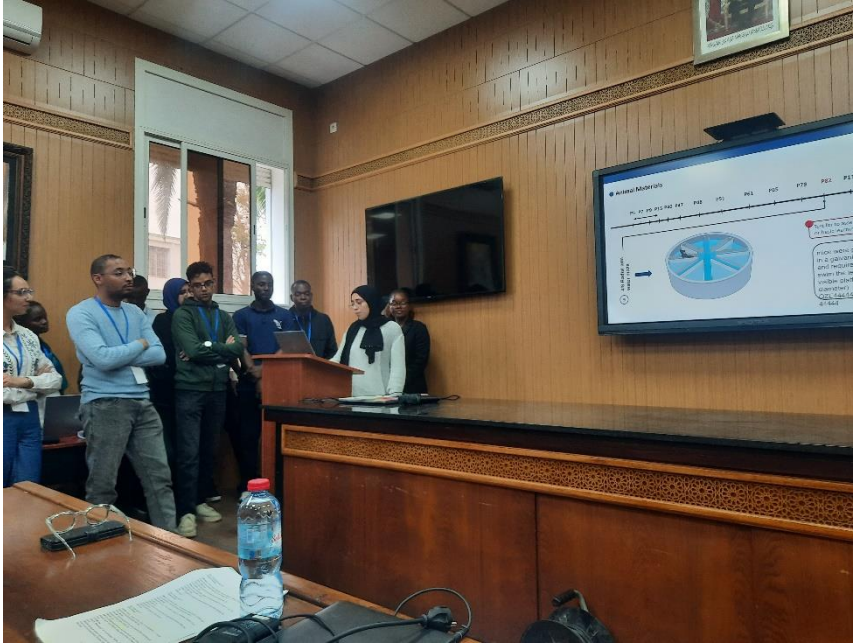
I truly hope you will continue to support and inspire students like us, and keep doing what you love with the same passion.

Best regards,
Your student,
Oussama Duieb

PHOTOS:



Alica Efuntayo from South Africa presenting herself at the opening of the school



1st Students group presentation of research project



2nd Students group presentation of research project



1st week group photo



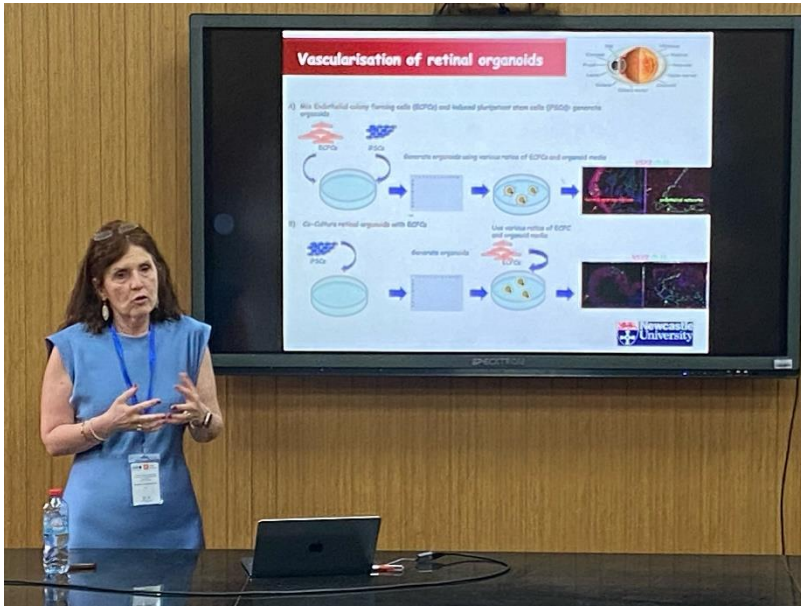
2nd week group photo



Students discussing with Laura Cancedda during break



Mahmoud Mania giving his lecture on Alzheimer Disease



Majlinda Lako Washington giving her lecture on retina organoids



Students applauding a lecture



Coffee tea break



Closing diner