

INTERNATIONAL SYMPOSIUM
OF YOUNG NEUROSCIENCE
INVESTIGATORS (ISYNI)

THIRD EDITION

EVENT REPORT

12 – 14 NOVEMBER 2021
FACULTY OF SCIENCE
MOHAMMED V UNIVERSITY
RABAT - MOROCCO

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Introduction

The young neuroscientists in Morocco, including all ISN and IBRO Alumni of African neuroscience schools gathered in 2018 to create the International Symposium of Young Neuroscience Investigators (ISYNI) in the perspective to establish an effective networking and collaborations between young neuroscientists in Morocco. The first meeting took place in 2018 at Sultan Moulay Slimane University, Beni Mellal, Morocco and the second meeting was held in the Private University of Marrakech, Morocco in April 2019. The third edition of this symposium, which was initially scheduled for March 2020, and which was postponed due to COVID19 pandemic lockdown and travel restrictions, was finally held at the faculty of sciences, Mohammed V University of Rabat, Morocco in November 2021 under the theme « Behavior in Health and Disease: from basic to clinical aspects ». This event was held in partnership with the Association of Vulgarization and Promotion of Neuroscience (chaired by Prof. Nouria Lakhdar-Ghazal) and Faculty of Sciences Rabat. The aim of this third edition is to help newly recruited neuroscientists to discuss their research activities planned or carried out in their home institutions. This will permit to reach the goal of creating an effective networking and facilitating collaborations between young neuroscientists in Morocco, before opening the network to young neuroscientists in Africa and worldwide. The symposium was preceded by a virtual IBRO school on Basal Ganglia and Movement disorders organized on the African Center for Advanced Training in Neurosciences (ACATN) of Mohammed V University, Rabat, Morocco. The symposium is addressed to neuroscientists: neurologists, neuropsychiatrics, neuropsychologists, health professionals in neuroscience and related disciplines and whoever is interested to neuroscience.

This edition of the symposium focuses on three aspects of behavioral neuroscience research through the planification of three distinct sessions. Each session included four senior speakers and five young researchers who presented their research. Topics to discuss emphasized on brain plasticity in neurotransmitter systems, behavioral adaptation to the environment: focus on African species, neurochemical aspects of brain toxicity, neuroprotective cellular and molecular mechanisms, brain disorders: pharmacological and therapeutical aspects.

Round tables were scheduled during this meeting to arise discussion about opportunities and difficulties of developing neuroscience research in low- and middle-income universities and find the ways to build an effective Moroccan neuroscience network. Round tables gathered senior scientists and young investigators to debate about career starting difficulties encountered by young investigators and senior's knowledge on opportunities and career's development

possibilities with the perspective of beginning a mentorship initiative and an assured and lasting cross-generational exchange. Hence, the conference stand as a platform for scientific exchange and discussion among participants particularly young researchers and PhD students. They will benefit from the opportunity to understand the structural, behavioral, or physiological mechanisms of brain functioning in health and disease with neurochemical side. We believe that the symposium meets the ISN objectives, since most of the talks targeted neurochemical aspects of behavioral functioning in different models and with different approaches. This will encourage young investigators to develop neurochemistry in their own research and set up neurochemistry platform in our universities.

Proceedings

a) Basic information

The symposium took place at Faculty of Sciences, Mohammed V University of Rabat (4, Avenue Ibn Battouta, Rabat, Morocco / www.fsr.ac.ma) from Friday, November 12th to Sunday, November 14th, 2021.

The opening ceremony and the opening conference took place at Belmahi Amphitheater (capacity for 500 people) then the other sessions took place at “Salle des Actes” (capacity for 60 person).

b) Registration

The registration for the symposium was made through a Google Form link (https://docs.google.com/forms/d/e/1FAIpQLSdGkFdqZEURFQ2oTNSeuYpfD6DLlnMYtUXdUCCSi2j8dBu-AQ/viewform?usp=sf_link) which was widely shared on social media and via professional mailing lists. A total of 104 applications were collected on the form. Registration was also made through the mail address created for the event (isyni20@gmail.com & isyni21@fsr.ac.ma). On-site registration was also possible daily during the symposium via the registration desk.

c) Program

The symposium took place over three days; it was initiated by a one-hour opening lecture followed by 4 successive sessions. For each session, a special lecture followed by 4 lectures, 5 oral communications and 10 Poster’s presentation were given. A roundtable was also scheduled in the perspective of highlighting the difficulties and opportunities of developing neuroscience research in Morocco and Africa. The detailed program is available at annex 1.

d) List of speakers

Name	City, Country	Email address
Inssaf berkiks	Cape Town, South Africa	berkiksinssaf@gmail.com
Omar Mamad	Dublin, Ireland	omarmamad@rcsi.ie
Zakaria Ouhaz	Marrakech, Morocco	zakaria.ouh@gmail.com
Hassan Ainani	Ben Guerir, Morocco	hassanainani@gmail.com
Hanane Khalki	Beni Mellal, Morocco	h.khalki1@gmail.com
Loubna Khalki	Casablanca, Morocco	lkhalki@gmail.com
Khalid El Allali	Rabat, Morocco	khalid_elallali@yahoo.fr
Oualid Abboussi	Rabat, Morocco	o.abboussi@um5r.ac.ma
Houyam Tibar	Rabat, Morocco	tibarhouyam@gmail.com
Hind Nafiaa	Rabat, Morocco	hindnafiaa86@gmail.com
Hicham Farsi	Rabat, Morocco	hichamfarsii@gmail.com
Zouhra Doukkali	Rabat, Morocco	d.zouhra@yahoo.fr
Abad Cherif El Asri	Rabat, Morocco	a.cherif@um5r.ac.ma

e) Plenary speakers

Name	City, Country	Email address
Evelyne Sernagor	Newcastle, UK	evelyne.sernagor@newcastle.ac.uk
Howard Cooper	Lyon, France	howard.cooper@inserm.fr
Hamid Benazzouz	Bordeaux, France	abdelhamid.benazzouz@u-bordeaux.fr
Philippe De Deurwaerdère	Bordeaux, France	philippe.de-deurwaerdere@u-bordeaux.fr
Nouria Lakhdar-Ghazal	Rabat, Morocco	nlakhdarghazal@gmail.com

f) The highlight of the meeting

Besides the scientific program, the highlights of the symposium were 1) the roundtable session which gave the opportunity to all participants to express their needs and aspirations for improving their neuroscience research conditions and 2) the election for the next edition's organizer.

g) Participants

A total of 59 person participated to the symposium. Participants were professors, medical doctors, psychiatrists, post-docs, PhD candidates, and master's students.

h) Material distribution

Each participant received a personal badge and the symposium program. Sheets of paper and pens were also provided to participants.

i) Social events

Two social events were organized during the symposium, a welcoming cocktail on the first day and a closing dinner on Sunday 14th evening. Both events took place at the faculty's main Hall

and were open to all participants. The day before the symposium, foreign speakers were invited to a dinner at Casa José restaurant in Rabat city center.

j) Travel awards

Participants (PhD and master's students) were awarded travel and accommodation awards including lunches.

k) Travel subsidies for invited speakers

Plenary and invited speakers travel costs and accommodation were taken in charge by the event organizers. For their diner expenses, they received an individual per Diem.

l) Sponsorship

The symposium was financially sponsored by ISN and supported by the Faculty of Science of Rabat.

m) General budget

The detailed budget is available at annex 2.

n) List of participants

First Name	Last Name	Affiliation
Chaimaa	Laassili	Cadi Ayyad University, Marrakesh - Morocco
Sara	Oufquir	Cadi Ayyad University, Marrakesh - Morocco
Ilias	Chaibi	Cadi Ayyad University, Marrakesh - Morocco
Asmae	Lguensat	University of Linköping, Linköping - Sweden
Chafik	Terrafe	Cadi Ayyad University, Marrakesh - Morocco
Majda	Badaoui	Cadi Ayyad University, Marrakesh - Morocco
Nour-Eddine	Kaikai	
Mehdi	Laaradia	Cadi Ayyad University, Marrakesh - Morocco
Younes	Iderdar	Hassan Premier University, Settat - Morocco
Zineb	Ibn Lahmar Andaloussi	Mohammed V University, Rabat - Morocco
Ismail	Louragli	Ibn Tofail University, Kénitra - Morocco
Zineb	Boudjafad	Cadi Ayyad University, Marrakesh - Morocco
Chaimaa	Kinane	Université Claude Bernard, Lyon - France & Cadi Ayyad University, Marrakesh - Morocco
Nada	Fath	Mohammed V University, Rabat - Morocco
Zakaria	Bernoussi	Mohammed V University, Rabat - Morocco
Siham	Boumhaouad	Mohammed V University, Rabat – Morocco & Columbia University of New York, New York, USA
Sofia	Azirar	Ibn Tofail University, Kénitra - Morocco
Rachid	Elattary	Mohammed V University in Rabat & Cadi Ayyad University, Marrakesh - Morocco
Laila	Ibouzine-Dine	Ibn Tofail University, Kénitra - Morocco
Ayoub	Rezqaoui	Ibn Tofail University, Kénitra - Morocco
Khadija	Boualam	Mohammed V University, Rabat - Morocco
Abdelghafour	Elhamzaoui	Ibn Tofail University, Kénitra - Morocco
Samir	Bikri	Ibn Tofail University, Kénitra - Morocco
Hanane	Ennaji	Hassan II University, Casablanca - Morocco
Zineb	Bouargane	Cadi Ayyad University, Marrakesh - Morocco

Najat	Sifeddine	Hassan II University, Casablanca - Morocco
Mohamed	Taiebine	Mohammed V University, Rabat - Morocco
Asma	Arfaoui	Sultan Moulay Slimane University, Béni Mellal - Morocco
Fatima Ezzahra	Kacimi	Sultan Moulay Slimane University, Béni Mellal - Morocco
Amina	Tani	Université Ibnou Zohr, Agadir - Morocco
Zouhra	Doukkali	Mohammed V University, Rabat - Morocco
Abdelkrim	Idrissi Janati	Dhar El Mehraz University, Fez – Morocco

- o) Confirmation of the used of the provided ISN slides to inform the audience on ISN and on the benefits of an ISN membership

The information about ISN was first provided during the opening ceremony. Prof. Nezha Bouhaddou ended the opening ceremony by thanking ISN for its sponsorship and explained to the audience the history of ISN, its objectives and missions and the benefits of membership to the society. The ISN membership benefits was also discussed during the roundtable during which lecturers advised young research fellows to adhere to the society to help their career.

- p) Confirmation of the posting of information on the ISN supported event on the ISN social Media Channels before the event took place.

The symposium poster and registration email address were shared on ISN website newsfeed, on the Faculty website (<http://www.fsr.ac.ma/scholarship/international-symposium-young-neuroscience-investigators>) and on ISN and IBRO Facebook pages. An announcement email was sent by the dean of the faculty to the academic mailing list.

- q) Confirmation of the posting of some concluding statements with pictures on the success of the ISN supported event on the ISN social Media channels after the event took place

- r) Photos



Photo 1 : Opening ceremony venue

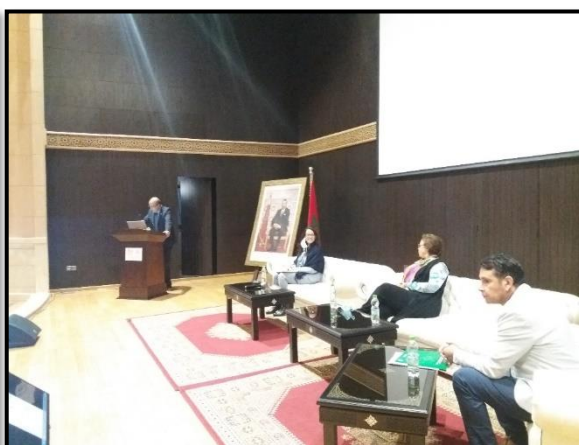


Photo 2 : The dean of the faculty of science welcome talk during the opening ceremony



Photo 5 : Conference of Dr. Omar Mamad (Dublin, Ireland)



Photo 6 : Conference of Prof. Philippe De Deurwaerdère (Bordeaux, France)



Photo 4 : Price of best poster presentation



Photo 3 : Price of best oral presentation



Photo 7 : Talk of Prof. Nouria Lakhdar-Ghazal at the opening ceremony



Photo 8 : Group photo at the closing ceremony

s) Comments of at least three attendants about the meeting

- Hassan AINANI, PhD / Institute of Biological Sciences (ISSB-P) - Mohammed VI Polytechnic University, Benguerir - Morocco

Dear Nezha, Dear Khalid,

I am writing to you to express my deep joy at having participated in your symposium which I find very successful at all levels and very diversified in terms of themes and problems addressed but especially the high level of the guests who made it possible to have a broad and deep discussion during the symposium. This reflects the effort and investment you put into it to get it right.

As the organizer of the next edition of this symposium, I will follow your footsteps to maintain this high level of the symposium and its continuity thereafter.

Once again, thank you very much for your efforts and kindness during the symposium.

Best regards
Hassan Ainani

- Omar MAMAD, PhD / RCSI Physiology and Medical Physics, Royal College of Surgeons, Dublin - Ireland

I had a pleasure to attend the symposium that organized by Nezha and this was in person despite the pandemic. During my time I enjoyed giving a talk and sharing my knowledge with other attendees but also meeting my colleagues and friends. As results from this symposium, I established two new collaborations related to my project. Well done.

Best regards,
Omar

- Zakaria OUHAZ, PhD – Assistant professor / Institute of Nursing Science and Health Techniques, Marrakesh - Morocco

The International Symposium of Young Neuroscience Investigators 2021 (ISYNI 21) provided an extensive overview of several cutting-edge/hot topics in the fields of adaptive behaviour; with a focus on African and endemic-based animal models, biological rhythms, Brain plasticity, the investigation of cellular and neurochemical changes related to neurodegeneration and mental health. The speakers provided an excellent mix of diversity while incorporating the relevant and timely expertise for the symposium. The speakers represented different stages in career development, both genders and different nationalities.

The ISYN was an excellent opportunity to bring together national, African, and International experts, and is therefore considered as a vivid platform to initiate and foster collaborations, both in research and capacity building.

- t) The budget used for each speaker or awarded person (see annex 2)

Annex 1

PROGRAM

Day 1: November 12th

9.00 - 9.30	Opening ceremony	
	Chair: Nezha Bouhaddou (Faculty of Sciences, Mohammed V University, Rabat) & Khalid El Allali (Agronomic and Veterinary Institute Hassan II, Rabat) <ul style="list-style-type: none"> • Welcome: Professor Mohammed Regragui, Dean of the Faculty of Sciences, Mohammed V University of Rabat • Talk of Professor Souad El Hajjaji, Vice Dean of the Faculty of Sciences, Mohammed V University of Rabat • Talk of Professor Nouria Lakhdar-Ghazal, ACATN, Mohammed V University of Rabat • Talk of Professor Khalid El Allali, Hassan II veterinary and agronomical Institute, Rabat • Talk of Professor Nezha Bouhaddou, Faculty of Sciences, Mohammed V University of Rabat 	
9.30 - 10.00	<i>Welcome cocktail</i>	

10.00 - 11.00	Opening conference	The importance of endemic animal models in building a new knowledge in neurobiology	<i>Prof. Nouria Lakhdar-Ghazal (Rabat, Morocco)</i>
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Session 1: Circadian rhythms, Seasonality, and Adaptive behavior to environment

11.00 - 12.40	11.00 - 11.40	Lectures	<i>Lecture 1</i>	Neurochemistry of the circadian system and behavioral plasticity under desert biotope	<i>Prof. Khalid El Allali (Rabat, Morocco)</i>
	11.40 - 12.20		<i>Lecture 2</i>	Neuronal Growth factor-beta induces ovulation by activating distinct hypothalamic neurons in dromedary camel females (<i>Camelus dromedarius</i>).	<i>Dr. Hassan Ainani (Ben Guerir, Morocco)</i>
	12.20 - 12.40	Discussion (20 minutes)			
12.40 - 14.00	<i>Lunch</i>				
14.00 - 18.00	Coffee & tea on self service				

Session 1 continuum: Circadian rhythms, Seasonality, and Adaptive behavior to environment

14.00 - 16.30	14.00 - 14.40	Lectures	<i>Lecture 3</i>	Melatonin rhythm and other outputs of the master circadian clock in the desert goat (<i>Capra hircus</i>) are entrained by daily cycles of ambient temperature	<i>Prof. Hicham Farsi (Rabat, Morocco)</i>
	14.40 - 15.40		<i>Lecture 4</i>	Circadian gene regulation in health and temporal drug administration	<i>Prof. Howard M. Cooper (Lyon, France)</i>
	15.40 - 16.00	Discussion (20 minutes)			

16.00 - 17.00	Poster's session				
	1. Chaimae Kinane (UCA, Marrakech, Morocco) <i>Dopamine desynchronizes the mammalian retinal clock during development</i>				
	2. Nada Fath (UM5, Rabat, Morocco) <i>Effects of dopaminergic depletions on the circadian rhythm of locomotor activity in 6-OHDA rat model of Parkinson's Disease</i>				
	3. Zakaria Bernoussi (UM5, Rabat, Morocco) <i>Rôle du rythme circadien dans l'atténuation de la pharmacorésistance chez les épileptiques</i>				
	4. Siham Boumhaouad (UM5, Rabat, Morocco) <i>Role of the circadian system in cognitive impairment related to manganese exposure in a preclinical model of Parkinson's disease</i>				
	5. Sofia Azirar (UIT, Kenitra, Morocco) <i>Protective role of melatonin and EDTA chelation against the mercury induced Anxiety-Like, Depression-Like and Memory Deficits in male Wistar rats</i>				
6. Rachid El Attary (UM5, Rabat, Morocco) <i>Les effets prophylactiques de la mélatonine contre la neurotoxicité induite par le Plomb chez le rat Wistar</i>					

17.00 - 18.30	Short oral communications (15 min talk + 5 min discussion)	<i>OC 1</i>	The Relaxin 3 Innervation of the Supramammillary Nucleus	<i>Chaimaa Laassili (UCA, Marrakech, Morocco)</i>
		<i>OC 2</i>	Effect of Cannabidiol on neurodevelopmental behavior of mice offspring	<i>Sara Oufkir (UCA, Marrakesh, Morocco)</i>
		<i>OC 3</i>	The effect of Topiramate micro-infusion in isolation induced aggression in mice	<i>Ilias Chaibi (UCA, Marrakesh, Morocco)</i>
		<i>OC 4</i>	Cortical dendritic changes and stress hormones levels alterations in susceptible traumatized mice.	<i>Asmaa Lguansat (UCA, Marrakesh, Morocco)</i>

Day 2: November 13th

9.00 - 18.00	Coffee & tea on self service
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9.00 - 10.00	Special lecture	When spontaneous waves meet angiogenesis: a case study from the neonatal retina	<i>Prof. Evelyne Sernagor (Newcastle, UK)</i>
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Session 2: Neuroplasticity, brain toxicity and Neuroprotection

10.00 - 13.00	10.00 - 10.40	Lectures	<i>Lecture 5</i>	Treatment of Parkinson's disease: Magic L-DOPA, noxious L-DOPA	<i>Prof. Philippe De Deurwaerdère (Bordeaux, France)</i>
	10.40 - 11.20		<i>Lecture 6</i>	Crosstalk between the brain and immune system: Neuroimmunology and cognitive-affective behavior	<i>Dr. Inssaf Berkiks (Cape Town, South Africa)</i>
	11.20 - 12.00		<i>Lecture 7</i>	Targeting mitochondrial dysfunction in cocaine and HIV-1 Tat protein-induced neurotoxicity: Possible role for the cannabinoid receptors CB1	<i>Prof. Oualid Abboussi (Rabat, Morocco)</i>
	12.00 - 12.40		<i>Lecture 8</i>	Heavy metals neurotoxicity and pineal hormones protection	<i>Prof. Nouria Lakhdar-Ghazal (Rabat, Morocco)</i>
	12.40 - 13.00	Discussion (20 minutes)			
13.00 - 14.00	Lunch				

Session 2 continuum: Neuroplasticity, brain toxicity and Neuroprotection

14.00 - 15.30	Short oral communications (15 min talk + 5 min discussion)	<i>OC 5</i>	Neurobehavioral and toxicological effects of Pistacia lentiscus essential oil in mice and possible mechanisms of action involved.	<i>Chafik Terrafe (UCA, Marrakesh, Morocco)</i>
		<i>OC 6</i>	Anxiolytic like effect in mice and possible mechanisms of action of aqueous latex extract of Euphorbia resinifera: An endemic plant from Morocco.	<i>Majda Badaoui (UCA, Marrakesh, Morocco)</i>
		<i>OC 7</i>	Behavioral and cognitive impairments in mice following maternal exposure to metam sodium: implication of oxidative stress	<i>Noureddine Kaikai (UCA, Marrakesh, Morocco)</i>

		OC 8	Central effects of intracerebroventricular microinjection of <i>Buthus lienhardi</i> (Scorpiones, Buthidae) venom	<i>Mehdi Laaradia</i> (UCA, Marrakesh, Morocco)
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	Poster's session			
15.30 - 16.30	7. Laila Ibouzine-dine (UIT, Kenitra, Morocco) <i>The role of nitric oxide in prefrontal cortex and hippocampus after neonatal immune activation in Wistar rats</i>			
	8. Ayoub Rezgouai (UIT, Kenitra, Morocco) <i>Effect of chronic administration of iron sulfate on affective and cognitive disorders in males wistar rats</i>			
	9. Khadija Boualam (UM5, Rabat, Morocco) <i>Study of anti-inflammatory effect of two sub-saharan plants for their use against epilepsy</i>			
	10. Abdelghafour El Hamzaoui (UIT, Rabat, Morocco) <i>Évaluation de l'effet dose dépendant d'une exposition chronique au glyphosate, sur les troubles affectifs chez le rat Wistar mâle</i>			
	11. Samir Bikri (UIT, Rabat, Morocco) <i>Applying extract of date Seeds Combined with Insulin to Prevent Diabetes-induced neurocognitive and behavioral Complications in rats.</i>			
	12. Hanane Naji (UH2, Casablanca, Morocco) <i>Contribution to the development of <i>Spirulina platensis</i> by studying its chemical composition and its antibacterial activity.</i>			

Roundtables

16.30 - 18.30	<ul style="list-style-type: none"> • Opportunities and difficulties of developing neuroscience research in Africa • Building an effective African neuroscience network 	<i>Animated by Prof. Nouria Lakhdar-Ghazal, Nezha Bouhaddou & Khalid El Allali (Rabat, Morocco)</i>
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Day 3: November 14th

9.00 - 18.00	Coffee & tea on self service		
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9.00 - 10.00	<i>Special lecture</i>	Parkinson's diseases: From bench to bedside, to bench	<i>Prof. Abdelhamid Benazzouz</i> (Bordeaux, France)
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Session 3: Brain disorders and neuropathology					
10.00 - 13.00	10.00 - 10.40	Lectures	<i>Lecture 9</i>	Multiple Sclerosis: Pathophysiology and clinical presentation, still trying to understand	<i>Prof. Houyam Tibar (Rabat, Morocco)</i>
	10.40 - 11.20		<i>Lecture 10</i>	The role of thalamic inputs in the postnatal development of the prefrontal cortex: Insights to Schizophrenia.	<i>Dr. Zakaria Ouhas (Marrakech, Morocco)</i>
	11.20 - 12.00		<i>Lecture 11</i>	Neurosurgeon's emotional and hemodynamic responses during daily surgical practice	<i>Dr. Abad Cherif El Asri (Rabat, Morocco)</i>
	12.00 - 12.40		<i>Lecture 12</i>	Etiopathogenesis in psychiatry	<i>Dr. Hind Nafiaa (Salé, Morocco)</i>
	12.40 - 13.00		Discussion (20 minutes)		
13.00 - 14.00	<i>Lunch</i>				

14.00 - 15.30	Short oral communications (15 min talk + 5 min discussion)	<i>OC 9</i>	The experience of hemodialysis patients in the hemodialysis unit in Hassan I hospital of Tiznit	<i>Younes Iderdar (UH1, Settat, Morocco)</i>
		<i>OC 10</i>	Périls de l'abus de cannabis durant l'âge de croissance : Effets des cannabinoïdes sur le comportement psycho-addictif de la progéniture chez le rat	<i>Zineb Ibn Lahmar Andaloussi (UM5, Rabat, Morocco)</i>
		<i>OC 11</i>	The scout method protects the perception and working memory of young people against the negative influence of social networks	<i>Ismail Louragli (UIT, Kenitra, Morocco)</i>
		<i>OC 12</i>	A new approach to study social fear in a collective group and rich environment using a mouse model of social anxiety disorder.	<i>Zineb Boudjafad (UCA, Marrakesh, Morocco)</i>

15.30 - 16.30	Poster's session				
	13. Zineb Bouargane (UCA, Marrakech, Morocco)				
	<i>The effect of maternal separation-induced stress on Relaxin-3 positive neurons in the Nucleus Incertus and its projections to the Medial Septum on male and female mice pups.</i>				
14. Najat Sifeddine (UHII, Casablanca, Morocco)					

	<i>Identification of the mutation G11778A responsible of LOHN disease in a Moroccan family</i>
	15. Mohamed Taiebine (UM5, Rabat, Morocco) <i>Atypical mixed logopenic and semantic progressive primary aphasia (PPA) with white matter abnormalities</i>
	16. Asma Arfaoui (USMS, Beni Mellal, Morocco) <i>Effet sur le développement et l'anxiété de la progéniture des rats femelles déficientes en micronutriments</i>
	17. Fatima Ezzahra Kacimi (USMS, Beni Mellal, Morocco) <i>Autism spectrum disorder, Link between Vitamin A deficiency and the Dysbiosis of the gut microbiota</i>
	18. Amina Tani (UIZ, Agadir, Morocco) <i>Troubles liés à l'épilepsie</i>

		Session 4: Young Projects in Neurosciences			
16.30 - 18.30	16.30 – 16.50	Lectures	<i>Lecture 13</i>	CDKL5 deficiency disorder	<i>Dr. Omar Mamad (Dublin, Ireland)</i>
	16.50 – 17.10		<i>Lecture 14</i>	Les troubles de la coordination au cours du développement chez le modèle animal de la paralysie cérébrale	<i>Prof. Hanane Khalki (Beni Mellal, Morocco)</i>
	17.10 – 17.30		<i>Lecture 15</i>	Behavioral and electrophysiological evaluation of recovery of locomotion and spasticity in rats with spinal cord injury after training	<i>Prof. Loubna Khalki (Casablanca, Morocco)</i>
	17.30 – 17.50		<i>Lecture 16</i>	Verification of the predictivity criterion to reinforce the validity of the animal model of maternal separation	<i>Dr. Zouhra Doukkali (Rabat, Morocco)</i>
	17.50 – 18.20	Discussion (20 minutes)			

18.30	Election	Site of the next edition of the Symposium	<i>ISYNI candidates</i>
19.00	<i>Onsite dinner cocktail</i>		

Annex 2

Financial report for International Symposium of Young Neuroscience Investigators 2021

Funds received		
Source	USD	Equivalent MAD
80% of ISN CC Funding	12 000,00	106,975

Elements	Cost (MAD)	Total (MAD)	Total (USD)
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1. Speakers

Foreign speakers

Speaker's transport (Flight ticket)

* Evelyne Sernagor (Newcastle, UK)	6150	23,182	2550.02
* Howard Cooper (Lyon, France)	2467		
* Hamid Benazzouz (Bordeaux, France)	2072		
* Philippe De Deurwaerdère (Bordeaux, France)	4117		
* Inssaf Berkiks (Cape Town, Afrique du Sud)	7176		
* Omar Mamad (Dublin, Ireland)	1200		

Speaker's transport (Local transportation / airport - city)

* Evelyne Sernagor (Newcastle, UK)	100	3,100	341
* Howard Cooper (Lyon, France)	600		
* Hamid Benazzouz (Bordeaux, France)	600		
* Philippe De Deurwaerdère (Bordeaux, France)	600		
* Inssaf Berkiks (Cape Town, Afrique du Sud)	600		
* Omar Mamad (Dublin, Ireland)	600		

Speakers' accommodation (Bélère Hotel & Majliss Hotel / Single rooms on B&B for 4 nights)

* Evelyne Sernagor (Newcastle, UK)	1140	24,160	2657.6
* Howard Cooper (Lyon, France)	1140		
* Hamid Benazzouz (Bordeaux, France)	1140		
* Philippe De Deurwaerdère (Bordeaux, France)	1140		
* Inssaf Berkiks (Cape Town, Afrique du Sud)	740		
* Omar Mamad (Dublin, Ireland)	740		

Per Diem speakers

* Evelyne Sernagor (Newcastle, UK)	750	3,000	330
* Howard Cooper (Lyon, France)	750		
* Hamid Benazzouz (Bordeaux, France)	750		
* Philippe De Deurwaerdère (Bordeaux, France)	750		

National speakers & participants

Transport fees (train - bus)

* Hassan Ainani (Ben Guérrir)	600	2,100	231
* Zakaria Ouhaz (Marrakech)	600		
* Hanane Kahlki (Beni Mellal)	600		
* Loubna Kahlki (Casablanca)	300		

Accommodation fees (Majliss Hotel / Single rooms on half board for 4 nights)

* Hassan Ainani (Ben Guérrir)	740	11,840	1302.4
* Zakaria Ouhaz (Marrakech)	740		
* Hanane Kahlki (Beni Mellal)	740		
* Loubna Kahlki (Casablanca)	740		

Student's transport (Train or Bus)

Youssra Amekran	300	6,550	720.5
Narjiss Damoun	300		
Chaimaa Laassili	300		
Sara Oufkir	300		

Ilias Chraibi	300		
Chafik Terrafe	300		
Majda Badaoui	300		
Zineb Boudjafad	300		
Nour-Eddine Kaikai	300		
Mehdi Laaradia	300		
Youness Iderdar	200		
Rachid El Attary	300		
Ismail Louragli	50		
Ayoub Rezaoui	50		
Abdelghafour Elhamzaoui	50		
Lamyaa Ben El Jilali	50		
Al Mehdi Krami	100		
Driss Touil	50		
Hasnae Mallouk	50		
Hanane Ennaji	100		
Najat Sifeddine	100		
Asma Arfaoui	300		
Fatima Ezzahra Kacimi	300		
Amina Tani	300		
Jihane Balla	300		
Abdelkarim Janati	200		
Mouloud Lamtai	50		
Samir Bikri	50		
Chaimaa Kinane	300		
Zineb Bouargane	300		
Sofia Azirar	300		
Laila Ibouzine-Dine	50		

Students' accommodation (Bouregreg Hotel / Double rooms on Half board for 3 nights)

Yousra Amekran & Narjiss Damoun (Majliss Hotel)	3060		
Chaimaa Laassili & Sara Oufkir	1296		
Ilias Chraibi & Chafik Terrafe	1296		
Majda Badaoui & Zineb Boudjafad	1296		
Mnou-Eddine Kaikai & Mehdi Laaradia	1296		
Youness Iderdar & Rachid El Attary	1296		
Ismail Louragli & Samir Bikri	1296		
Chaimaa Kinane & Zineb Bouargane	1296		
Sofia Azirar & Laila Ibouzine-Dine	1296		
Ayoub Rezaoui & Abdelghafour Elhamzaoui	1296		
Hanane Ennaji & Najat Sifeddine	1296		
Asma Arfaoui & Fatima Ezzahra Kacimi	1296		
Amina Tani & Jihane Balla	1296		
Abdelkarim Janati & Mouloud Lamtai	1296		
Lamyaa Ben El Jilali & Hasnae Mallouk	1296		
Al Mehdi Krami & Driss Touil	1296		
Triple room for november 14th night	648		
sub-total participants		97,080	10,679

2. Restauration

Welcome cocktail		3,600	396
Coffee-breaks		4,747	522
Lunch breaks		8,399	924
Foreign speaker's diner at Casa José Restaurant		725	80
Dinning cocktail		8,400	924
Sub-total restauration		25,871	2,846

3. Printing

Banner		720	79
Roll-up		1,440	158
Program & certificates		183	20
Badges		365	40

Sub-total printing		2,708	298
4. Decoration			
Flowers	280	280	31
Sub-total decoration		280	31
5. Price			
Price for Best oral and poster communications	Oral	500	55
	Poster	400	44
Sub-total Prices		900	99
6. Other expenses			
Car rental for airport transportation		1160	128
Secretariat transportation fees		600	66
Secretariat Phone fees		1,219	134
Technical assistance (electricity, IT, cleaning agents)		1,000	110
Secretariat (Registration desk, paperwork, etc.)		600	66
Sub-total Salaries		4,579	504
Total		131,418	14,456

Funds received		
Source	Equivalent MAD	USD
ISN CC Funding (80%)	106,975	12,000
Expenses	131,418	14,456