

International Society for Neurochemistry



46th conference of the Francophone Society of Chronobiology -2018

Post-Conference report

1- Event Summary

Event Name: 46th conference of the Francophone Society of Chronobiology -2018

Theme: **Chronobiology: From its biological basis to disorders**

Host Organization: **Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco**

Dates: **October 22nd to 25th, 2018.**

Chairman: **Pr. EL ALLALI Khalid:** Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.

Organizers:

ACHAABAN Rachid	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.
AINANI Hassan	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.
BOUHADOU Nezha	Faculty of Sciences, Mohammed V - Agdal University, Rabat, Morocco.
CHAKIR Ibtissam	Sultan Moulay Slimane University, Béni-Mellal, Morocco
EL ALLALI Khalid	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.
FARSI Hicham	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.
FELDER Marie-Paule	University of Strasbourg, Strasbourg, France.
LAKHDAR-GHAZAL Nouria	Faculty of Sciences, Mohammed V- Agdal University, Rabat, Morocco.
NASSIK Saadia	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.
OUASSAT Mohammed	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco
PIRO Mohammed	Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco.
VUILLEZ Patrick	University of Strasbourg, Strasbourg, France.

Scientific Committee

Bentivoglio Marina:	University of Verona, Italy
Cugy Didier	Bordeaux Hospital and Clinic Mutualiste- Pessac, Bordeaux-France
El Allali Khalid	Hassan II Institute of Agronomy and Veterinary Medicine
El Ouezzani Seloua	Sidi Mohamed Ben Abdellah University, Fes, Morocco
Gronfier Claude	INSERM And University Of Lyon, Lyon-France
Lakhdar-Ghazal Nouria	Faculty of Sciences, Mohammed V - Agdal University, Rabat, Morocco.
Migaud Martine	INRA- NOUZILLY-TOURS, FRANCE
Ouichou Ali	Ibn Tofail University, Kenitra-Morocco
Pévet Paul	CNRS-University of Strasbourg, Strasbourg France
Simonneaux Valérie	CNRS-University of Strasbourg, Strasbourg France
Vuillez Patrick	CNRS-University of Strasbourg, Strasbourg France

2- Registration and registration fees

A website was specially designed for the conference (<http://www.sfcmeeting2018.net>). It was open to give access to participant from May 2018 until the end of the meeting. It includes all the information concerning the venue as well as detailed information on the conference. The website contained information concerning the francophone society of chronobiology, the Moroccan Association of Vulgarization and Promotion of Neurosciences (AVPN), the organizing and scientific committees, the scientific program of the conference, registration information, abstract submission, posters instructions, travel information, links to lodging for hotel reservation and all sponsors details.

The organizing committee fixed registration fees. These fees covered access to various scientific sessions, conferences, poster sessions, the welcome cocktail, coffee breaks, lunches and all conference material. All participants paid Gala dinner fee which included transportation, meals and drinks and musical animation during and after dinner. A very nice horse's show was organized before dinner and offered by the Royal Stud of Bouznika-Morocco.

Prices are set as following in the table:

	Early Registration From May 07 To September 15, 2018		Late Registration From September 16, 2018	
	Member of the SFC	Non-Member of the SFC	Member of the SFC	Non-Member of the SFC
Professor-Doctor and other professions	200 Euros	240 Euros	300 Euros	340 Euros
Graduate and undergraduate student	150 Euros	165 Euros	200 Euros	215 Euros
Accompanist	150 Euros	150 Euros	250 Euros	250 Euros
Gala diner	50 Euros		50 Euros	

3- Overview

The Francophone Society of Chronobiology conference is organized every two years in a different city/country. At the General Assembly of its last meeting organized in September, 12nd-16th, 2016 in Strasbourg-France, the Moroccan application won successfully the organization of the next meeting in Morocco. Africa was then selected for the first time to hold the 2018's Conference. The 46th conference was thus organized in October, from 22nd to 25th, 2018 in North of Africa, in the city of Rabat-Morocco and at the Hassan II Institute of Agronomy and Veterinary Medicine.

About 130 participants attended this congress. They were from Morocco, Algeria, Tunisia, Cameroon, Senegal, Nigeria, Zambia, South-Africa, Spain, Italy, Switzerland, France, Netherlands, United Kingdom, Greece, Mexico, United States of America and Japan. In addition, the conference welcomed 16 students from the IBRO-UM5 Neuroscience School who were from North Africa and Sub-Sahara countries. Sixty participants were young scientists as advanced-graduated students, PhD students and postdoctoral fellows.

This SFC-conference was particular since between the editions of 2016 and 2018, the Nobel Prize was awarded to the chronobiology discipline. Indeed, in 2017 Jeffrey C. Hall, Michael Rosbash and Michael W. Young were the Nobel Prize Recipient for the discovery of Clock Genes in *Drosophila Melanogaster*. In this framework, we invited internationally renowned plenary speakers and lecturers in all field of chronobiology (Genetic, molecular biology, neurochemistry, neuroendocrinology, connectomics etc) and scheduled a series of symposia that represented the most exciting work currently done within this discipline with topics of particular relevance to Africa and its scientific development.

Three plenary lectures were programmed: The first one was given by Dr. Howard Cooper from France titled: "Large scale regulation of the primate circadian transcriptome: Implications for chronomedicine". The second one titled "Melatonin and circadian rhythms" was given by Pr. Paul Pévet from France and the last one at the end of the conference given by the Pr. Francis Levis and titled "The chronotherapy of cancers: the right drug at the right moment".

Eight symposia were organized by national and international researchers to create plenty of opportunities for discussions and establishment of collaborations. The scientific committee selected these symposia and related speakers. We made a particular attention to neurochemistry aspect, at least by taking consideration that at least 2/3rd of proposed works will cover different aspect of neurochemistry.

In addition, two sessions of short oral communications were especially dedicated to young scientists (PhD students and Post-docs). A prize committee attributed an award to the best three presentations.

Furthermore, the conference includes two sessions of posters during which students and young investigators presented and discussed their results. One poster session concerned the topic of the conference, i.e. chronobiology; the second session was dedicated to free communications in the all fields of neuroscience including neurochemistry. The same prize committee was in charge to select the three best posters of young investigators.

4- Pre- conference and satellites activities

In parallel to the SFC-conference, pre-congress and satellites activities were organized. The congress was preceded by an IBRO-UM5 African School on biological rhythms, organized in Rabat by Prof. Nouria Lakhdar Ghazal (Chair of the IBRO-African Center for Advanced Training in Neurosciences located in Mohammed V University, Rabat). All attendees joined the SFC-conference.

The meeting was started by an opening conference given by Dr. Claude Gronfier (Lyon-France) entitled "Disorders of sleep and biological rhythms: Can we avoid these ills of modern life?". The audience was of about 550 persons.

A round table was jointly organized in parallel to the SFC-conference during its 3rd day on "The Induction of Ovulation by Male Effect as Zeitgeber during the non-breeding season in small ruminants". This meeting with special attendees: engineers, veterinarians, farmers and students was organized by Prof. Rachid Boukhliq from Hassan II Institute of Agronomy and Veterinary Medicine, Prof. Ahmed Tibary from Washington State University (USA), Prof. Philippe Chemineau from INRA UMR-PRC 37380 Nouzilly, France and Prof. Khalid El Allali from Hassan II Institute of Agronomy and Veterinary Medicine.

5- Program

The SFC-conference was a platform to discuss all aspects of chronobiology in human and animals, involving the neurochemical brain plasticity, neuroendocrine adjustments and hormonal feed-back regulations, the involvement of neurotransmitters, neuropeptides and hormonal systems in the control of biological rhythms and their disorders and also considering the particular strategies for adaptation especially the neurochemical adaptation aspects.

The detailed program covering all these aspects was as follow:

PROGRAM OF THE CONFERENCE:

(‡) denotes the Short Communication of young PhD and postdocs researchers.

Day 1 : Monday, October 22nd 2018:

09h00-18h00 Registration of participants

15h30 Opening Remarks

17h00-18h30 Opening Conference for General Public

Claude Gronfier (INSERM-Université Claude Bernard, Lyon, France)

Disorders of sleep and biological rhythms: Can we avoid these ills of modern life?

Chair: Rachid Boukhliq (Hassan II Institute of Agronomy and Veterinary Medicine)

19h00 : Opening Reception and get together

Day 2: Tuesday, October 23th 2018

09h00-10h35 SYMPOSIUM 1: THE RETINA: CLOCK ORGANIZATION, NEUROCHEMISTRY AND PERCEPTION of LIGHT ENTRAINMENT

Coordinators: Marie-Paule Felder Schmittbuhl, France and Ouria Dkhissi-Benyahya, France /Morocco.

Marie-Paule Felder-Schmittbuhl (Institute of Cellular and Integrative Neurosciences-University of Strasbourg, Strasbourg, France)

Circadian organization of the retina: involved cell types and neurochemicals

Dkhissi-Benyahya Ouria. (Inserm- University Claude Bernard, Lyon, France)

Light-response of the retinal clock in mammals: photoreceptors and neurotransmitters involved

Christophe P. Ribelayga (University of Texas, Houston, USA)

Electrical coupling between retinal photoreceptors: molecular and cellular basis, circadian plasticity, and function in the processing of visual information

‡ Chaimaa Kinane(Inserm-University Claude Bernard, Lyon, France and University Cadi Ayyad Marrakech, Morocco)

The role of dopamine in the ontogenesis of the mammalian retinal clock.

Aicha Dekar-Madoui (Houari Boumediene University, Algiers, Algeria)

The treatment with melatonin during aging preserves the retinal structure. Microscopic analysis in a micromammal: the white-toothed shrew

10h35-11h00 Coffee Break

11h00-12h00 Plenary Lecture

Howard Cooper (INSERM-Université Claude Bernard, Lyon, France)

Large scale regulation of the primate circadian transcriptome: Implications for chronomedicine

Chair: Seloua El Ouezzani (Sidi Mohammed ben Abdellah-Fès University, Morocco)

12h00-13h30 Lunch

13h30-14h50 SYMPOSIUM 2: CLOCK GENES AND NEUROCHEMISTRY OF THE CIRCADIAN SYSTEM: IN THE LIGHT OF THE NOBELS, Coordinator: Jerome S. Menet (USA).

Anne-Marie François-Bellan University of Aix-Marseille, Marseille, France)
Structural plasticity of the circadian timing system from cellular to circuit-based levels

Jérôme S. Menet (Texas Agricultural and Mechanical University, Texas, USA)
Transcription factor CLOCK: BMAL1, Regulation of the circadian clock transcriptional output

FrancoisRouver(CNRS-University Paris-Sud, Gif-sur-Yvette, France)
Synchronization of the cerebral circadian clock by the visual system in Drosophila

Michèle Teboul (University of Nice Sophia-Antipolis, Nice, France)
KLF transcription factors at the crossroads of metabolism and circadian clock

14h50-15h50 Poster session 1: CHRONOBIOLOGY

15h50-16h20 Coffee Break

16h20-17h20 SESSION 1 OF YOUNG SCIENTIST'S ORAL SHORT-COMMUNICATIONS

Coordinators: Martine Migaud, France & Mohammed Ouassat, Morocco

‡**Clara Hozer** (CNRS-MNHN, Paris) : La théorie de la résonance circadienne : quel est le coût de la synchronisation de l'horloge biologique sur la périodicité naturelle de l'environnement ?

‡**Clara Hozer** (CNRS-MNHN, Paris): The circadian resonance theory: what is the cost of synchronizing the biological clock with the natural periodicity of the environment?

‡**Anthony Ruberto** (CNRS-INSERM, Nice France)
The role of KLF10 in the circadian coordination of liver homeostasis

‡**Guillaume Vanotti** (CNRS-University of Strasbourg, Strasbourg, France)
Impact of weekly sleep-wake shift on the circadian system and behaviors in mice

‡**Salem Mamoun Issad** (University of Science and Technology Houari Boumediene, Algiers Algeria)
The effect of auditory stress on the circadian rhythm of body temperature

17h20-18h30 General Assembly of the SFC and selection of the next city/ country for the conference of 2020

Day 3: Wednesday, October 24th 2018

08h30-09h30 SYMPOSIUM 3: INTERACTIONS BETWEEN CIRCADIAN RHYTHMS AND METABOLISM Coordinator: Etienne Challet, France.

Frédéric Gachon (Federal Polytechnic School of Lausanne EPFL, Lausanne, Switzerland)
Transcriptional, posttranscriptional and posttranslational regulation of hepatic metabolism by the circadian clock and feeding rhythms

Mohamed Najimi (University Sultan Moulay Sliman, Beni Mellal, Morocco)
Stress, rhythmic environment and regulation of food intake by neuropeptides

Etienne Challet (Institute of Cellular and Integrative Neurosciences-University of Strasbourg, Strasbourg, France)
Influences of meal time and diet on cerebral clocks

09h30-09h50 Coffee- Break

09h50-11h30 SYMPOSIUM 4: CIRCADIAN RHYTHMS AND SLEEP DISORDERS
Coordinators: Amal Sette, Morocco and Didier Cugy, France.

Didier Cugy (University Hospital Center, Bordeaux-France)
Introduction to the human sleep disorders

Amal Satté (University Military Hospital, Rabat, Morocco)
Circadian phase shifting of sleep during the fasting month of Ramadan

Jamal Mounach (University Military Hospital, Rabat, Morocco)
Shift work disorders: insomnia among flight crew

Fouzia Kadiri (Hôpital Mohammed V, Casablanca, Maroc)
Sleeping Habits and Sleep Delay Syndrome in Young People: example from the big city of Casablanca

René Clarisse (University of Tours, Tours, France)
Rhythms of the child's sleep from 5 to 10 years old, observations and parental representations

11h30-12h30

Plenary Conference

Paul Pévet (CNRS-University of Strasbourg, Strasbourg, France)
Melatonin and circadian rhythms

Chair: Patrick Vuillez (CNRS-University of Strasbourg, Strasbourg, France)

12h30-13h50

Lunch

13h50-14h50

SYMPOSIUM 5: SYMPOSIUM IBRO-AFRICA ON RHYTHMS AND BRAIN DISORDERS Coordinator: Nouria Lakhdar-Ghazal, Morocco.

Nouria Lakhdar-Ghazal (Université Mohamed V, Rabat, Maroc)
Neuronal activity of the suprachiasmatic nucleus in rat model of Parkinson's disease

Marina Bentivoglio (University of Verona, Verona, Italy)
Circadian rhythms, neuroinflammation, and neurodegeneration

Karim Fifel (Morocco/ Leiden University Medical Center, Leiden, Netherlands)
Circadian and homeostatic modulation of Multi Unit Activity in the Midbrain

14h50-15h50

Poster session 2

AFRICAN IBRO-UM5 SCHOOL STUDENT COMMUNICATIONS ON
CHRONOBIOLOGY
FREE COMMUNICATIONS IN NEUROSCIENCES

15h50-18h30

Free time

18h30

Departure for the Gala Dinner

19h00

Conference Dinner

IN THE SAME DAY 3

SATELLITE ACTIVITY: Round Table "Induction of Ovulation by Male Effect During Counter-Season in Small Ruminants ", 9:00 am at the Council Chamber, IAV Hassan II.

Coordinators: Rachid Boukhliq, Philippe Chemineau, Ahmed Tibary & Khalid El Allali

30 participants mainly researchers, veterinarian and husbandry engineers

Day 4 : Thursday, October 25, 2018

08:30-10h20 SYMPOSIUM 6: NEUROCHEMICAL AND CELLULAR MECHANISMS INVOLVED IN THE CONTROL OF SEASONALITY

Coordinator: Valérie Simonneaux, France.

Valérie Simonneaux (Institute of Cellular and Integrative Neurosciences-University of Strasbourg, Strasbourg, France)
Role of the hypothalamic RFamides peptides in the seasonal control of breeding

Matthieu keller (National Institute of Agronomy Research INRA-Tours, France)
Magnetic resonance imaging: a new tool to explore the neurobiological basis of seasonality.

Jérémy Terrien (Museum of Natural History, Paris, France)
Effects of sex on metabolic and genomic flexibilities in lemur

‡**Hassan Ainani** (Hassan II Agronomy and Veterinary Institute, Rabat, Morocco and Institute of Cellular and Integrative Neurosciences-University of Strasbourg, Strasbourg, France)

Seasonal regulation of the hypothalamic neuropeptides involved in the control of the breeding season in the dromedary camel

‡**Clarisse Quignon** (CNRS-University of Strasbourg, Strasbourg, France)
Mouse models using to address the genetic mechanisms of seasonality

Mansouria Belhocine (University of Mostaganem, Houari Boumediene University, Algiers, Algeria)
Implication of MMPs in testicular seasonality in the Libyan Merion (*Meriones libycus*)

10h20-10h40 Coffee Break

10h40-12h25 SYMPOSIUM 7: NEUROBIOLOGY OF ADAPTATIONS TO AFRICAN ENVIRONMENTS

Coordinator: Paul Pévet, France.

Paul Pévet (Institute of Cellular and Integrative Neurosciences-University of Strasbourg, Strasbourg, France)
Introduction: annual adaptive processes in different African biotopes

‡ **Joshua Davimes** (University of the Witwatersrand, Johannesburg, South Africa)
Wild Arabian oryx exhibit seasonal shifts in both activity and sleep patterns in relation to ambient temperature

Khalid El Allali (Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco). Neurobiology under desert conditions: cytoarchitecture and neurochemical anatomy of the dromedary camel suprachiasmatic nucleus and its entrainment by the ambient temperature.

Seloua El Ouezzani (University Sidi Moamed ben Abdellah-Fès, Morocco)
Neuro-adaptation of rodents to hostile environments: example of the jerboa

‡**Hanan Touati** (University Houari Boumediene, Algiers, Algeria)
Diet-induced insulin resistance state disturbs brain clock processes and alters tuning of clock outputs in the sand rat, *Psammomys Obesus*.

‡**Hicham Farsi** (Hassan II Agronomy and Veterinary Institute, Rabat, Morocco)
Entrainment of the circadian system of the desert goat by the ambient temperature and feeding time

12h25-14h00 **Lunch**

14h00-15h00 **SYMPOSIUM 8: NEURONAL AND ENVIRONMENTAL BASIS OF APPLIED CHRONOBIOLOGY IN LIVESTOCK.** Coordinator: Khalid El Allali, Morocco.

Philippe Chemineau (National Institute of Agronomy Research INRA-Tours, France)
Is the presence of sexually-active bucks and rams the principal zeitgeber of the breeding season of small ruminants?

Mouad Chentouf (National Institute of Agronomy Research INRA, Tangier, Morocco). Photoperiodic effect of the central control of seasonal reproduction in goat and sheep under local Moroccan environment

Rachid Achaâban (Hassan II Agronomy and Veterinary Institute, Rabat, Morocco)
Effect of melatonin implants during the non-breeding season on the onset of ovarian activity and the plasma prolactin in dromedary camel

15h00-16h15 **SESSION 2 OF YOUNG SCIENTIST'S ORAL SHORT-COMMUNICATIONS**

Coordinators: Anne-Marie François-Bellan, France & Mohammed Piro, Morocco

‡ **Sébastien MILESI** (CNRS-University of Strasbourg, Strasbourg, France)
SFC Young Researcher Award

Role of hypothalamic TSH / T3 signaling in seasonal breeding in Djungarian (*Phodopus sungorus*) and Syrian (*Mesocricetus auratus*) hamsters

‡ **Raja Djelassi** (University of Tunis El Manar, Faculty of Sciences of Tunis, Tunisia): Effect of heavy metals on the locomotor behavior of *Armadillidium granulatum* (Crustacea, Oniscoidea) of Sebkh El Ouafi (Bizerte, Tunisia)

‡ **Mouloud Lamtai** (Faculty of Sciences, Ibn Tofail University, Kenitra, Morocco): Melatonin reverses the anxiogenic and depressogenic effects and memory deficits induced by chronic cadmium administration in wistar rats

‡ **Jihane Chaibat** (Faculty of Sciences, Ibn Tofail University, Kenitra, Morocco): Alterations of the affective and cognitive functions induced by the chronic administration of lead in the wistar rat are counteracted by a melatonin pretreatment

‡ **Houda Daaloul** (University of Caen Normandy, Caen, France): Effect of the nap on the vigilance and the cognitive and physical performances obtained in karatekas of high-level

16h15-16h35 **Coffee- Break**

16h35 -17h00 **Awards Ceremony: 3 Best Junior Posters and 3 Best Junior short Communications**

17h00-17h20 **Dulong Sandrine** (University Paris South INSERM Paris, France)
Role of sex and the chrono-schedule of administration of oxaliplatin anticancer drug on its toxicity

17h20-18h20	Closing Plenary lecture Francis Lévi (University of Warwick Coventry, UK) The chronotherapy of cancers: the right drug at the right moment Chair: Ouria Dkhissi-Benyahya (Université Claude Bernard, Lyon, France)
18h20	Closing remarks and evaluation

6- Speakers

- Senior invited speakers

Marie-Paule Felder-Schmittbuhl (University of Strasbourg, Strasbourg, France)

Dkhissi-Benyahya Ouria. (Inserm- University Claude Bernard, Lyon, France)

Christophe P. Ribelayga (University of Texas, Houston, USA)

Aicha Dekar-Madoui (Houari Boumediene University, Algiers, Algeria)

Anne-Marie François-Bellan University of Aix-Marseille, Marseille, France)

Jérôme S. Menet (Texas Agricultural and Mechanical University, Texas, USA)

FrancoisRouyer(CNRS-University Paris-Sud, Gif-sur-Yvette, France)

Michèle Teboul (University of Nice Sophia-Antipolis, Nice, France)

Frédéric Gachon (Federal Polytechnic School of Lausanne EPFL, Lausanne, Switzerland)

Mohamed Najimi (University Sultan Moulay Sliman, Beni Mellal, Morocco)

Etienne Challet(University of Strasbourg, Strasbourg, France)

Didier Cugy (University Hospital Center, Bordeaux-France)

Amal Satté (University Military Hospital, Rabat, Morocco)

Jamal Mounach (University Military Hospital, Rabat, Morocco)

Fouzia Kadiri (Hôpital Mohammed V, Casablanca, Maroc)

René Clarisse (University of Tours, Tours, France)

Nouria Lakhdar-Ghazal (Université Mohamed V, Rabat, Maroc)

Marina Bentivoglio(University of Verona, Verona,Italy)

Karim Fifel (Morocco/ Leiden University Medical Center, Leiden, Netherlands)

Valérie Simonneaux (University of Strasbourg, Strasbourg, France)

Matthieu keller (National Institute of Agronomy Research INRA-Tours, France)

Jérémy Terrien (Museum of Natural History, Paris, France)

Mansouria Belhocine (University of Mostaganem, Houari Boumediene University, Algiers, Algeria)

Paul Pévet (University of Strasbourg, Strasbourg, France)

Khalid El Allali (Hassan II Institute of Agronomy and Veterinary Medicine, Rabat, Morocco).

Seloua El Ouezzani (University Sidi Moamed ben Abdellah-Fès, Morocco)

Philippe Chemineau (National Institute of Agronomy Research INRA-Tours, France)

Mouad Chentouf (National Institute of Agronomy Research INRA, Tangier, Morocco).

Rachid Achaâban (Hassan II Agronomy and Veterinary Institute, Rabat, Morocco)

Dulong Sandrine (University Paris South INSERM Paris, France)

-Junior invited speakers

Sébastien MILESI (CNRS-University of Strasbourg, Strasbourg, France)
Raja Djelassi (University of Tunis El Manar, Faculty of Sciences of Tunis, Tunisia)
Mouloud Lamtai (Faculty of Sciences, Ibn Tofail University, Kenitra, Morocco)
JihaneChaibat (Faculty of Sciences, Ibn Tofail University, Kenitra, Morocco)
Houda Daaloul (University of Caen Normandy, Caen, France)
Clara Hozer(CNRS-MNHN, Paris)
Anthony Ruberto (CNRS-INSERM, Nice France)
Guillaume Vanotti (CNRS-University of Strasbourg, Strasbourg, France)
Salem Mamoun Issad (University of STBH, Algiers Algeria)
Chaimaa Kinane(University Cadi Ayyad Marrakech, Morocco)
Hassan Ainani (Hassan II Agronomy and Veterinary Institute, Rabat, Morocco)
Clarisse Quignon (CNRS-University of Strasbourg, Strasbourg, France)
Joshua Davimes (University of the Witwatersrand, Johannesburg, South Africa)
Hanan Touati (University Houari Boumediene,Algiers, Algeria)
Hicham Farsi (Hassan II Agronomy and Veterinary Institute, Rabat, Morocco)

7- Plenary Speakers

Howard Cooper (INSERM-Université Claude Bernard, Lyon, France)
Paul Pévet (CNRS-University of Strasbourg, Strasbourg, France)
Francis Lévi (University of Warwick Coventry, UK)

8- Conference Participants

The entire submitted abstract for an oral or poster presentation were sent to the scientific committee in order to evaluate its scientific relevance and importance. The Scientific Committee made at the beginning the selection of abstracts for symposium. Successful symposium organizers were incorporated into the conference.

The call for abstract for oral and poster presentation opened from May 7 to September 15, 2018. Authors were requested to specify the type of their presentation. The scientific committee made the decision and all presenting authors were noticed by the Scientific Committee's decision by the end of September.

The following presentation formats were applicable:

1. **Oral presentation:** the abstracts were selected for oral presentation :1) to be incorporate in symposia or 2) to be a part of the session of short oral communications dedicated only to young scientists.

2. **Poster presentation:** The abstract that have been selected for presentations in poster format were divided in two groups. One group concerning all the aspects of biological rhythms and the second one was dedicated both for the IBRO-UM5 student's presentations

and for the others participants with free neurosciences posters that were not related to chronobiology.

The main criteria considered by the scientific committee when reviewing abstracts for acceptance included the quality of the written content and demonstration of originality and innovation of the work.

Registrations by Country:

Country	Number of participants
Morocco	50
France	35
Algeria	20
Cameroon	5
Nigeria	4
United States of America	2
Spain	2
Mexico	2
Zambia	1
Italy	1
Tunisia	1
Netherland	1
South-Africa	1
United Kingdom	1
Japan	1
Switzerland	1
Senegal	1
Greece	1

9- Material Distribution

Printed programme, Abstract Book, notebook, pen, access badge and conference bag.

10- Social events

Three social events were designed: a reception cocktail, a gala dinner which is preceded by an exhibition session of the best horses of the National Stud of Bouznika. The diner was organized in the House Club of this Stud which contains Royal Horses. These social events provided an excellent opportunity for exchange and interaction across all participants.

11- ISN young scientist awards

Awarded young scientists were covered for travel and or/ registration fee and or/ local expenses. All awarded young investigators presented a communication in the SFC-2018 Conference:

ABEL NOSEREME AGBON	Nigeria
AKKI RACHID	Morocco
AMOKRANE ASSIA	Algeria
ANGELOPOULOU ELENI	Greece
ANTHONY TAGHOGHO EDUVIERE	Nigeria
BOUROUD HAMZA	Morocco
CHAIMAA KINANE	Morocco
CHAKHMA ASMA	Algeria
CHBIHI SARA	Morocco
CLARA HOZER	France
CLARICE DJOUWOUG NOUSSI	Cameroon
CLARRISS QUIGNON	France
DAALOUL HOUDA	France
DELIBA MAHA	Algeria
EDEM EKPENYONG EDEM	Nigeria
EL BOUKHARI HASNA	Morocco
ERIC GUEUMEKANE LAMOU BILA	Senegal
FANTA YADANG SABINE ADELINE	Cameroon
GUILLAUME VANOTTI	France
HARTI DRISS	Morocco
HERVE NGATANKO ABAISSOU HERVE	Cameroon
HICHAM FARSI	Morocco
ISSAD SALEM MAMOUN	Algeria
JELASSI RAJA	Tunisia
JOSHUA DAVIMES	South Africa
LAMTAI MOULOUD	Morocco
LATIFA DIDOU	Morocco
MALLOUL HANAA	Morocco
MERIEB MEQUEDADE	Morocco
MHANI MEHDI	Morocco
MILESI SEBASTIEN	France
NADA FATH	Morocco
NAEEM MOHAMMED IQUBAL DALAL	Zambia
OLUMUYIWA JOHN FASIPE	Nigeria
OLUWADAMILOLA SHALLIE	Nigeria
ROBERTO ANTHONY	Canada
SARA DELCOURTE	France
TENE TADOUM SAMUEL BORIS	Cameroon
YOUSSEF SABBAN	Morocco
ZATRA YAMINA	Algeria

**12- ISN senior awards : Travel and accommodation subsidies
for Invited Speakers/Plenary Speakers**

AMOKRANE ASSIA	Algeria
ANNE-MARIE FRANÇOIS-BELLAN	France
BOUBEKRI AMINA	Algeria
CHAKHMA ASMA	Algeria
CHRISTOPHE P. RIBELAYGA	USA
FRANCIS LEVI	UK
FRANCOIS ROUYER	France
FREDERIC GACHON	Switzerland
HANAN TOUATI	Algeria
JEREMY TERRIEN	France
MICHELE TEBOUL	France
MOHAMED NAJIMI	Morocco
PAUL PEVET	France
SELOUA EL OUEZZANI	Morocco
ZAHRA SALAH	Algeria
ZATRA YAMINA	Algeria

13- Sponsorship

- International Society For Neurochemistry
- International Brain Research Organization
- France Embassy (SCAC)in Rabat-Morocco
- Francophone University Agency-Maghreb
- Moroccan Association of Avian Pathology
- Hassan II Academy of Science and Technology
- Mediterranean Neuroscience Society
- Centre Technique d'Hygiène –Morocco (CTH)
- Biotechnics Solutions, Morocco
- Alf Sahel, Morocco
- Promalab, Morocco

14- General budget: Detailed ISN budget, How the ISN funds Were utilized

Spon sors	Total Grant	Entry (Received)	Equivalent
ISN	25,000.00USD	19,985.00 USD	188,347.96(*) MAD

(*) Exchange Rate : 1 USD =9.4245 MAD

1- YOUNG INVESTIGATORS ISN SUPPORT

17163.53 \$

1-1-YOUNG INVESTIGATORS TRAVEL EXPENSES			
1-1-1-Travel expenses for overseas PhD and Postdocs			TOTAL
Full Name	Country	Amount (USD)	
JELASSI RAJA	Tunisia	348.77	
ZATRA YAMINA	Algeria	522.26	
AMOKRANE ASSIA	Algeria	522.36	
CHAKHMA ASMA	Algeria	435.04	
DAALOUL HOUDA	France	422.57	
ANGELOPOULOU Eleni	Greece	248.61	
TENE TADOUM SAMUEL BORIS	Cameroon	1309.88	
GUEUMEKANE BILA LAMU ERIC	Senegal	932.14	
SABINE ADELINE FANTA YADANG	Cameroon	1309.88	
ISSAD SALEM MAMOUN	Algeria	428.46	
NGATANKO ABAISSOU HERVE HERVE	Cameroon	1309.88	
DJOUWOUG NOUSSI CLARICE	Cameroon	1309.88	
DELIBA MAHA	Algeria	428.46	
1-1-2- Travel expenses for Locals PhD and Postdocs from outside of the conference venue city			
Full Name	Country	Amount (USD)	
CHAIMAA KINANE	Morocco	26.00	
MALLOUL HANAA	Morocco	26.53	
EL BOUKHARI HASNA	Morocco	14.85	
TRAVEL EXPENSES FOR OVERSEAS PHD AND POSTDOCS			
TRAVEL EXPENSES FOR LOCALS			67,38
TOTAL YOUNG INVESTIGATORS TRAVEL EXPENSES			9595.57\$

1-2-YOUNG INVESTIGATORS HOTEL ACCOMMODATION

Room in half board per day: 28,34\$: 3 days x 13 persons= 1105.26\$

4 days x 3persons = 340.08\$

5 days x 13 persons= 1842.1\$

Full Name	Country	Amount (USD)	TOTAL
KINANE CHAIMAA	Morocco	141.7	
MALLOUL HANAA	Morocco	141.7	
CLARRISS QUIGNON	France	141.7	
ANGELOPOULOU ELENI	Greece	141.7	
CLARA HOZER	France	141.7	
DAALOUL HOUDA	France	141.7	
SARA DELCOURTE	France	141.7	
GUILLAUME VANOTTI	France	141.7	
AKKI RACHID	Morocco	141.7	
YOUSSEF SABBAN	Morocco	141.7	
HASSAN AINANI	Morocco	141.7	
HICHAM FARSI	Morocco	141.7	
HASNA ELBOUKHARI	Morocco	141.7	
ROBERTO ANTHONY	Canada	113.36	
MILESI SEBASTIEN	France	113.36	
LAMTAI MOULOUD	Morocco	113.36	
MAHA DELIBA	Algeria	85.02	
CLARICE DJOUWOU NOUSSI	Cameroon	85.02	
FANTA YADANG SABINE ADELINE	Cameroon	85.02	
JOSHUA DAVIMES	South Africa	85.02	
TENE TADOUM SAMUEL BORIS	Cameroon	85.02	
ERIC GUEUMEKANE LAMOU BILA	Senegal	85.02	
ABEL NOSEREME AGBON	Nigeria	85.02	
NAEEM MOHAMMED IQUBAL DALAL	Zambia	85.02	
EDEM EDEM	Nigeria	85.02	
SALEM MAMOUN ISSAD	Algeria	85.02	
NGATANKO ABAISSOU HERVE HERVE	Cameroon	85.02	
OLUMUYIWA JOHN FASIPE	Nigeria	85.02	
ANTHONY EDUVIERE	Nigeria	85.02	
TOTAL YOUNG INVESTIGATORS HOTEL ACCOMMODATION			3287.06\$

1-3-YOUNG INVESTIGATORS REGISTRATION SUBSIDY			
Full Name	Country	Amount (USD)	TOTAL
ABEL NOSEREME AGBON	Nigeria	185.00	
NAEEM MOHAMMED IQUBAL DALAL	Zambia	185.00	
CLARICE DJOUWOU NOUSSI	Cameroon	185.00	
EDEM EKPENYONG EDEM	Nigeria	185.00	
FANTA YADANG SABINE ADELINE	Cameroon	185.00	
HASSAN AINANI	Morocco	185.00	
MAHA DELIBA	Algeria	185.00	
HERVE NGATANKO ABAISSOU HERVE	Cameroon	185.00	
OLUMUYIWA JOHN FASIPE	Nigeria	185.00	
SALEM MAMOUN ISSAD	Algeria	185.00	
YOUSSEF SEBBAN	Morocco	185.00	
ANTHONY TAGHOGHO EDUVIERE	Nigeria	185.00	
TENE TADOUM SAMUEL BORIS	Cameroon	185.00	
ERIC GUEUMEKANE LAMOU BILA	Senegal	185.00	
AKKI RACHID	Morocco	185.00	
NADA FATH	Morocco	185.00	
LATIFA DIDOU	Morocco	185.00	
MERIE MEQUEDA	Morocco	185.00	
OLUWADAMILOLA SHALLIE	Nigeria	185.00	
HARTI DRISS	Morocco	185.00	
MHANI MEHDI	Morocco	185.00	
CHBIHI SARA	Morocco	185.00	
BOUROUD HAMZA	Morocco	185.00	
TOTAL YOUNG INVESTIGATORS REGISTRATION SUBSIDY			4255.00 \$

I- **2-ISN SENIOR INVESTIGATORS SUPPORT:** **7862.37.00 \$**

1- TRAVEL AWARDS FOR INVITED SPEAKERS/PLENARY SPEAKERS			
Full Name	Country	Amount (USD)	TOTAL
CHRISTOPHE P. RIBELAYGA	USA	1371.81	
FRANCIS LEVI	UK	892.35	
PAUL PEVET	France	467.40	
ANNE-MARIE FRANÇOIS-BELLAN	France	348.60	
FRANCOIS ROUYER	France	291.79	
MICHELE TBOUL	France	531.14	

JEREMY TERRIEN	France	273.12	
FREDERIC GACHON	Switzerland	546.24	
TOTAL TRAVEL AWARDS FOR SENIOR INVESTIGATORS			4722.45 \$

1-2-SENIOR NVESTIGATORS HOTEL ACCOMMODATION			
Full Name	Country	Amount (USD)	TOTAL
FRANCIS LEVI	UK	560.24	
MOHAMED NAJIMI	Morocco	271.55	
SELOUA EL OUEZZANI	Morocco	271.55	
BOUBEKRI AMINA	Algeria	339.43	
ZATRA YAMINA	Algeria	339.43	
AMOKRANE ASSIA	Algeria	339.43	
CHAKHMA ASMA	Algeria	339.43	
ZAHRA SALAH	Algeria	339.43	
HANAN TOUATI	Algeria	339.43	
TOTAL SENIOR NVESTIGATORS HOTEL ACCOMMODATION			3139.92 \$

	Percentage	Total Expenses
TOTAL YOUNG ISN NEUROCHEMISTRY AWARDS	69%	17,163,53 USD
TOTAL SENIOR ISN NEUROCHEMISTRY AWARDS	31%	7,862.37 USD

TOTAL EXPENSES	25,000.38 USD
TOTAL ISN SUBVENTION	25,000.00 USD
RECEIVED (80%)	20,000.00 USD
Subjected to Bank charges :Received =19,985.00 USD	
BALANCE	-5,000.00 USD

15- Photos



All participants Awarded by ISN in this 46th Conference of SFC warmly thank the ISN for their support





(For further photos, please see the separate document)

16- **Comments of at least three attendants about the Meeting**

Comment 1: *I would like to congratulate the organizing committee. It was an extraordinary congress. The organization and the scientific content and topics of the meeting were with exceptional levels. Organizing a Round table as a parallel event and an IBRO-UM5 school before the conference was a good idea.*

This meeting will remain in the annals of the Francophone Society of Chronobiology.

Comment2: *I thank you for the invitation to participate in SFC-2018 Conference and the satellite round table. Really, it was a very interesting conference with high scientific levels. Thank you for the warm reception we received. An unforgettable Conference!*

Comment 3: *As PhD student, this conference was an opportunity to meet great scientists, researchers and authors. The idea to organize oral and posters sessions devoted for young scientists and then to give 3 prizes for best oral presentations and 3 others for best prices was great. Thank you for taking in charge accommodations and travel expenses for me and my colleagues from Africa, thank you to ISN for providing funds.*

Comment 4: *Perfect organization, high scientific level of the program, good time management of the sessions and a warm welcoming, Unforgettable and an amazing meeting.*

17- The budget used for each speaker or awarded person must be specified separately

Please see point 14- General budget: Detailed ISN budget, How the ISN funds Were utilized

18- Outcomes Achievements and Impact of the Conference

The SFC-conference, with its excellent scientific content, high-quality talks and discussion from a wide range of speakers and lecturers, provided a forum for learning, sharing information and data, identifying opportunities, and networking with specialist of the field.

This conference offered an opportunity to young researchers, post-doctoral follow and PhD students who come from Africa and other countries to meet and to exchange scientific idea. It was an opportunity to acquire knowledge in the field of chronobiology with a special focus on the neurochemistry.

During the Third day of the conference, Prof Khalid El Allali, the chairman of the conference and on behalf of the organizing committee presented his thanks to ISN and addressed the audience to introduce ISN, its mission and activities, with particular emphasis on the many opportunities available for young scientists but also for senior investigators and for organizing schools, symposia and conferences in the field of neurochemistry.

The round table on “The Induction of Ovulation by Male Effect as Zeitgeber during the Non-breeding season in Small Ruminants” was an opportunity to disseminate interesting new results that are obtained in Mexico, Spain and France and provides new techniques in the control of reproduction for veterinarian, engineers and framers. This round table highlighted the importance of the chronobiology applications in agriculture and livestock. How to control reproduction and the also understanding the peculiarities of the circadian and seasonal systems of the camel and goat, two domestic species that are adapted to the desert regions were also widely discussed during the meeting and the round table. Moreover, the presented new results of the entrainment of the reproduction axis in females during the non-breeding season by introducing a male in

the group raised several questions concerning the neuronal and neurochemical controls involved in such phenomenon. This promoted a scientific debate and initiated a new axis of research with new collaborations established between the scientific present at the meeting.

Final Abstract Book containing all the abstracts, scientific program, information about the participants and sponsors was made available at the conference and given to all the participants

The conference was published in Frontiers as an important scientific event.

A publication of abstracts of the conference in Frontiers in chronobiology (short paper of 2 pages) is planned for January 2018.

Overall, the conference provided an excellent forum to discuss current trends in the field of chronobiology and the state of current status of particular research areas within the field. The next meeting will be held in Bordeaux, France in 2020.
