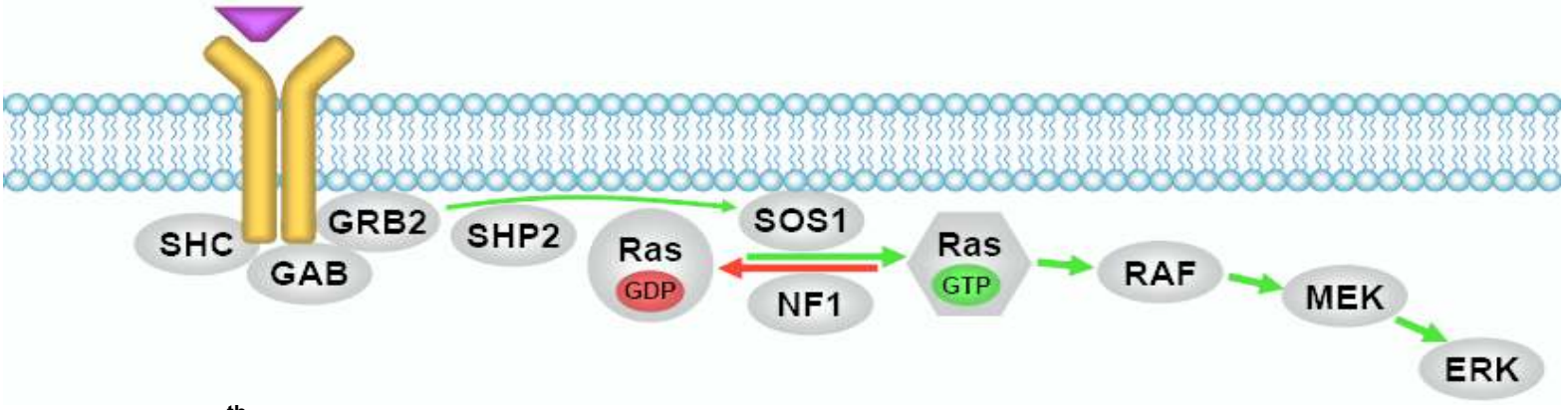

6th International Meeting on Rare Disorders of the RAS-MAPK Pathway

A workshop preceding the ESHG meeting Barcelona, 2016

Organisers: Bronwyn Kerr, Marco Tartaglia, Martin Zenker.

Contacts: bronwyn.kerr@cmft.nhs.uk, marco.tartaglia@opbg.net, martin.zenker@med.ovgu.de,

Registration limit: 100 participants.

Registration cost: 100 € (including buffet dinner on May 20), students 50 €

Location: HOTEL BARCELONA PRINCESS, Avinguda Diagonal 1, 08019 Barcelona, Spain

Date: Beginning: Friday, May 20, 2016, 1 p.m. – End: Saturday, May 21, 2016, 1 p.m.

Program - *Day 1 (Friday, May 20)*

9^{00} **Noonan syndrome guidelines consensus meeting**
(guidelines consensus group members only)
Organisation and chair: Bronwyn Kerr

12^{00} Registration

13^{00} Welcome and Introduction

13^{10} **First Session: Cancer risk in RASopathies and Mosaic RASopathies**
Chair: Marco Tartaglia and Martin Zenker

13^{10} RASopathies and cancer: insights from the NSEuroNet database
Christina Lissewski

13^{30} Molecular genetics of JMML
Helene Cavé

14^{00} Structural an dynamic effects of MEK1 mutations causing cancer and/or CFC syndrome
Juan Fernandez-Recio

14^{20} Tumor risk in LEOPARD syndrome / Noonan syndrome with multiple lentigines
Ludwine Messiaen

14^{40} Cancer in Costello syndrome
Karen Gripp

15^{00} Oculoectodermal syndrome and Mosaic RASopathies
Martin Zenker

15^{20} Coffee Break

15^{50} **Second Session: Molecular mechanisms and RASopathy models**
Chair: Bruce Gelb and Marco Tartaglia

15^{50} *PTPN11* (15th anniversary lecture)
Marco Tartaglia & Bruce Gelb

Second session continued:

16[20] Interaction between SPRED1 and neurofibromin implicated in Legius syndrome and NF1
Hilde Brems

16[35] SHOC2 trapping at different subcellular sites differentially impacts on ERK signaling output
Marialetizia Motta

16[50] Transcriptional hallmarks of RASopathies
Enzo Medico

17[10] Consequences of Noonan syndrome-causing SHP2 mutants on growth plate development and longitudinal bone growth
Thomas Edouard

17[30] Dissecting the "RASopathy" signaling network using *C. elegans*
Simone Martinelli

17[50] iPSC modeling of RASopathies
Bruce D. Gelb

18[20] Prospects for targeting RAS signal transduction
Reza Ahmadian

18[40] Dinner Buffet

20[10] **Third session: gen-phen correlations/new mutations/short reports**
Chair: Bruce Gelb and Karen Gripp

20:10 - New *HRAS* mutation affecting transcript processing (**F. Pantaleoni**)
20:20 - A novel mutation cluster in *MEK1* (**E. Flex**)
20:30 - Clinical and molecular spectrum of *NRAS* mutations (**C. Lissewski**)
20:40 - Clinical and molecular spectrum of *RIT1* mutations (**B. Kerr**)
20:50 - ***SOS2*, *LZTR1*, *RRAS*, *RASA2* & other RASopathy genes: an update on prevalence, mutation spectrum and genotype-phenotype correlations.** *Participants are invited to share their experience dealing with rare/new mutations and phenotypes. A template for one powerpoint slide per patient/cohort to be presented in three minutes.*

Program - *Day 2 (Saturday, May 21)*

8[30] **Fourth Session: Clinical aspects and patient management**
Chair: Bronwyn Kerr and Martin Zenker

8[30] Lymphedema in RASopathies
Sahar Mansour

8[50] News from ongoing neuropsychological studies
(12 min each talk, 6 min final discussion)

- Comparative neuropsychological data: UK study (**Shruti Garg)**
- Neuropsychological data: OPBG/UCSC study (**Paolo Alfieri)**

9[20] News from ongoing cardiovascular studies
(12 min each, 6 min final discussion)

- CHD/HCM: Italy-UK study (**Giulio Calcagni**)
- HCM in LEOPARD syndrome (**Giuseppe Limongelli)**

Fourth session continued:

9^{50}	News from growth and GH therapy studies **(12 min each, 6 min final discussion)** - GH sensitivity and genetics (**Jovanna Dahlgren**) - Growth, puberty and GH therapy in RASopathies (**Laura Mazzanti**)
10^{20}	News from bone metabolism and energetic metabolism studies **(12 min each, 6 min final discussion)** - Energy expenditure and bone metabolism in RASopathies (**Chiara Leoni**) - Bone mineral density in Noonan Syndrome (**Giovanni Battista Ferrero**)
10^{50}	Coffee break
11^{20}	**Fifth Session: RASopathy family support group session** **Chair: Bronwyn Kerr and Martin Zenker** - *Associazione Italiana Sindrome Costello* (Italy) - *Angeli Noonan* (Italy) - *Noonan Syndrome Association* (UK) - *Association Française des syndromes Costello et CFC* (France) - *RASopathies Network* (USA) - Free speech (associations/parents/patients)
11^{50}	GenIDA project (**Jean-Louis Mandel**)
12^{10}	Report from the guideline session (**Bronwyn Kerr**)
12^{30}	Closing remarks

13^{30}	**NSEuroNet – Kick-Off Meeting** (NSEuroNet partners and external collaborators only) **Chair: Marco Tartaglia**
13^{30}	Overview of the Consortium and major goals (**M. Tartaglia**)
13^{45}	Identification of novel disease genes (**M. Tartaglia/M. Zenker**)
14^{00}	Molecular mechanisms of pathogenesis (**R. Ahmadian/J. de Hertog**)
14^{15}	Translational research (**A. Yart/J. den Hertog**)
14^{30}	Molecular epidemiology and gen-phen correlation studies (**M. Zenker/H. Cavé**)
14^{45}	Discussion and closing remarks

Supported by:

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ANGELI NOONAN
ASSOCIAZIONE ITALIANA SINDROME DI NOONAN-ONLUS

Noonan Syndrome Association

Newlife Logo

Speakers and Chairpersons:

Prof. Reza Ahmadian, PhD, Institute of Biochemistry and Molecular Biology II, Heinrich-Heine University, Düsseldorf, Germany

Dr. Paolo Alfieri, MD, Child Neuropsychiatry, Department of Neurosciences, Ospedale Pediatrico Pambino Gesù, Rome, Italy

Dr. Hilde Brems, MD, PhD, Department of Human Genetics, Catholic University of Leuven, Leuven, Belgium

Dr. Giulio Calcagni, MD, Department of Pediatric Cardiology and Cardiac Surgery, Ospedale Pediatrico Bambino Gesù, Rome, Italy

Prof. Hélène Cavé, PhD, - Institut Universitaire d'Hématologie, Département de Génétique - UF de Génétique Moléculaire, Hôpital Robert Debré, Paris, France

Prof. Jovanna Dahlgren, MD, Inst. of Clinical Sciences, Dept. of Pediatrics, The Queen Silvia Children's Hospital, Gothenborg, Sweden

Dr. Thomas Edouard, MD, PhD, Endocrine, Bone Diseases, and Genetics Unit Children's Hospital, University Hospital Center of Purpan, Toulouse, France

Dr. Juan Fernandez-Recio, PhD, Life Sciences Department, Barcelona Supercomputing Center, Barcelona, Spain

Prof. Giovanni Battista Ferrero, MD, Department of Pediatric and Public Health Sciences, University of Turin, Torino, Italy

Dr. Shruti Garg, MD, Institute of Brain Behaviour and Mental Health, University of Manchester, UK

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Prof. Bronwyn Kerr, MD, Genomic Medicine, Central Manchester University Hospitals NHS Foundation Trust, Manchester, UK

Dr. Chiara Leoni, MD, Center for Rare Diseases, Department of Pediatrics, Catholic University, Rome, Italy

Dr. Giuseppe Limongelli, MD, Cardiologia SUN, Ospedale Monaldi (Azienda dei Colli), Seconda Università di Napoli, Napoli, Italy.

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