DRAVET ITALIA Onlus
Associazione Italiana Sindrome di Dravet Onlus

4° HORIZONS FOR DRAVET SYNDROME

# INTERNATIONAL SYMPOSIUM "DRAVET SYNDROME AND OTHER SODIUM CHANNEL RELATED ENCEPHALOPATHIES"

15-16 MARCH 2018, VERONA | PALAZZO DELLA GRAN GUARDIA

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# SCIENTIFIC COMMITTEE

**Prof. Renzo Guerrini** - Firenze, Italy
**Prof. Helen Cross** - London, UK
**Prof. Bernardo Dalla Bernardina** - Verona, Italy
**Prof. Rima Nabbout** - Paris, France
**Dr. Francesca Darra** - Verona, Italy

## HONORARY PRESIDENT OF SYMPOSIUM

**Charlotte Dravet** - Marseille, France

## ORGANIZING SECRETARIAT

**Isabella Brambilla** - Verona, Italy
**Elisa Giarola** - Verona, Italy
**Hannah Rawlinson** - Verona, Italy

## PTS

via Nizza 45, 00198 Roma
Maura Stella

Dear friends and colleagues,

On the occasion of 40 years since Dravet Syndrome was first defined, and 8 years after organizing the first Workshop in Verona, we are very pleased to invite you once again to this magnificent city for the **"Dravet Syndrome and Other Sodium Channel Related Encephalopathies" International Symposium**.

The Symposium consists of two days focusing on scientific research relating to genes SCN1A, SCN2A and SCN8A.

The study of epilepsy and the care of children have changed remarkably in recent years, after the identification of the genetic causes of some epilepsy syndromes. The main epilepsy gene- the sodium channel alpha 1 (SCN1A)- has been linked to Dravet Syndrome, to a number of less severe forms of epilepsy, and to febrile convulsions. However, more than 15 years after the causative role of this gene was identified in these forms, and in spite of the large number of patients identified, the spectrum of clinical manifestations associated with SCN1A mutations continues to be enriched by new phenotypes and only recently has enough evidence been collected to foresee to what extent early clinical and genetic predictors seem to influence prognosis. Thanks to the advent of next-generation sequencing, the process that will eventually lead to fully highlight the phenotypical spectrum, long-term outcome, and role of genetic variation in the epilepsies associated with mutations of the other two main sodium channel genes associated with epilepsy- SCN2A and SACN8A- will hopefully be quicker but is until now nonetheless proving relatively slow.

Even slower, and particularly complex, is the process that has led to the gathering of evidence on the sensitivity of these conditions to medication. It has taken more than 16 years since the first controlled trial demonstrated the efficacy of add-on stiripentol in Dravet syndrome, before new trials to test the efficacy of two different molecules, fenfluramine and canabidiol, were launched in this same syndrome, and none seems to be on the horizon for the conditions associated with SCN2A- and SCN8A-related epilepsies. In order to address the main clinical, genetic and treatment issues that concern families, the specialists, and basic researchers alike; to explore to what extent disorders arising from mutations in this gene family overlap and differ; to better define the specific burden of comorbidities; and to explore the bases for rational treatment approaches, we have organized a thematic workshop to gather world-leading specialists in Verona to discuss available evidence and perspectives for future developments.

It will be a pleasure to share these two days of scientific research with you.

On behalf of scientific committee

Bernardo Dalla Bernardina, Renzo Guerrini

# PROGRAM **DAY 1**
# March 15th, 2018

**09.00-09.20** **Symposium Opening: Officials' Welcome - Greetings**
Federico Sboarina - the Town Mayor
Francesco Cobello - the Managing Director of the General Hospital Board
Antonio Lupo - Pro-Rettore of Verona University

### Chairperson: Bernardo Dalla Bernardina and Helen Cross

**09.20-09.40** **Introduction: From Dravet Syndrome to Sodium Channel Encephalopathies**
Renzo Guerrini

**09.40-10.10** **Sodium Channel and Human Disease**
Jeffrey Noebels

**10.10-10.25** **Discussion**

**10.25-10.40** **Coffee Break**

## DRAVET SYNDROME AND OTHER SCN1A RELATED EPILEPSIES

### Chairperson: Giuliano Avanzini and Jeffrey Noebels

**10.40-11.10** **SCN1A related phenotypes**
Ingrid Scheffer

**11.10-11.40** **Beyond the epilepsies in SCN1A diseases**
Rima Nabbout

**11.40-12.00** **Discussion**

**12.00-13.30** **Lunch**

## Chairperson: Rima Nabbout and Tiziana Granata

| | |
|---|---|
| **13.30-13.50** | **Mechanisms and models**<br>Massimo Mantegazza |
| **13.50-14.10** | **Scn1a epigenome editing by the CRISPR/Cas9 system restores excitability and firing activity in Dravet inhibitory interneurons**<br>Vania Broccoli |
| **14.10-14.55** | **Where are we with treatment options?**<br>Helen Cross - Renzo Guerrini - Lieven Lagae |
| **14.55-15.10** | **Discussion** |
| **15.10-15.30** | **Management of prolonged seizure from prehospital treatment to intensive care unit**<br>Federico Vigevano |
| **15.30-15.45** | **Long-term outcome** - Francesca Darra |
| **15.45-15.55** | **Teenagers - Clinical cases** - Domenica Battaglia |
| **15.55-16.05** | **Adults - Clinical cases** - Francesca Ragona |
| **16.05-16.15** | **Marseille Experience** - Pierre Genton |
| **16.15-16.30** | **Discussion** |
| **16.30-16.45** | **Coffee Break** |
| **16.45-17.05** | **1978-2018: A 40 year retrospective view of Dravet Syndrome**<br>Bernardo Dalla Bernardina and Charlotte Dravet |
| **17.05-18.05** | **Session with contributions on the topic**<br>Coordinators: Michelle Bureau and Gaetano Cantalupo |
| **18.05-18.25** | **Discussion** |

**19.00** *Welcome Dinner*

# PROGRAM **DAY 2**
# March 16th, 2018

**Chairperson: Renzo Guerrini and Jeffrey Noebels**

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|---|---|
| **09.00-09.35** | **Dravet Syndrome and its mimics**<br>Carla Marini |
| **09.35-09.50** | **Discussion** |

## SCN2A

| | |
|---|---|
| **09.50-10.30** | **Phenotypic spectrum of SCN2A related disorders, treatment options and outcomes in Epilepsy and Beyond**<br>Markus Wolff |
| **10.30-10.45** | **Discussion** |
| **10.45-11.00** | **Coffee Break** |
| **11.00-11.30** | **The genetics of SCN2A**<br>Andreas Brunklaus |
| **11.30-12.10** | **Mechanisms and Models**<br>Holger Lerche |
| **12.10-12.30** | **Discussion** |
| **12.30-14.00** | **Lunch** |

## SCN8A

### Chairperson: Carla Marini and Markus Wolff

| | |
|---|---|
| **14.00-14.30** | **Phenotypic spectrum of SCN8A related disorders, treatment options and outcomes**<br>Elena Gardella |
| **14.30 -15.00** | **The Genetics of SCN8A**<br>Rikke Steensbjerre Møller |
| **15.00 -15.30** | **Mechanisms and Models**<br>Miriam Meisler |
| **15.30-15.45** | **Discussion** |
| **15.45 -16.00** | **Coffee Break** |
| **16.00-16.30** | **Concluding remarks SCN1A - SCN2A - SCN8A**<br>Bernardo Dalla Bernardina, Charlotte Dravet, Ingrid Scheffer, Renzo Guerrini and Jeffrey Noebels |
| **16.30-17.30** | **Session with contributions on the topic**<br>Coordinators: Elena Parrini and Nicola Specchio |
| **17.30-17.50** | **Discussion** |
| **17.50** | **Verifica test ECM (solo per i partecipanti italiani)** |

# FACULTY

| | |
|---|---|
| **Giuliano Avanzini** | Milano, Italy |
| **Domenica Battaglia** | Roma, Italy |
| **Vania Broccoli** | Milano, Italy |
| **Andreas Brunklaus** | Glasgow, UK |
| **Michelle Bureau** | Marseille, France |
| **Gaetano Cantalupo** | Verona, Italy |
| **Helen Cross** | London, UK |
| **Bernardo Dalla Bernardina** | Verona, Italy |
| **Francesca Darra** | Verona, Italy |
| **Charlotte Dravet** | Marseille, France |
| **Elena Gardella** | Dianalund, Denmark |
| **Pierre Genton** | Marseille, France |
| **Tiziana Granata** | Milano, Italy |
| **Renzo Guerrini** | Firenze, Italy |
| **Lieven Lagae** | Leuven, Belgium |
| **Holger Lerche** | Tübingen, Germany |
| **Massimo Mantegazza** | Valbonne, France |
| **Carla Marini** | Firenze, Italy |
| **Miriam Meisler** | Ann Arbor, Michigan |
| **Rikke Steensbjerre Møller** | Dianalund, Denmark |
| **Rima Nabbout** | Paris, France |
| **Jeffrey L. Noebels** | Houston, USA |
| **Elena Parrini** | Firenze, Italy |
| **Francesca Ragona** | Milano, Italy |
| **Ingrid Scheffer** | Melbourne, Australia |
| **Nicola Specchio** | Roma, Italy |
| **Federico Vigevano** | Roma, Italy |
| **Markus Wolff** | Tübingen, Germany |

# FEE **DAY 1 and DAY 2**

**Registration Fee includes the following for all delegates:**

- admission to all scientific sessions on days registered
- morning and afternoon tea/coffee breaks
- working lunches
- certificate of attendance
- Welcome Dinner on March 15th
- ECM accreditation (for Italian delegates only)

## CANCELLATIONS

Cancellations must be made in writing to **registration@horizonsdravet.eu**

| REGISTRATION FEES | LATE/LAST MINUTE |
|---|---|
| | Satellite Symposium Included |
| REGULAR | 300,00 € |
| RESIDENT | 150,00 € |
| FAMILYES / ASSOCIATIONS | 50,00 € |

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# ECM
## (for Italian participants only)

L'evento riceverà l'accreditamento a cura del **Provider PTS Srl (n.1293). ID 216434-1293.**

L'accreditamento sarà riservato a medici specialisti italiani (neurologia, neuropsichiatria infantile, neurofisiopatologia, pediatria), biologi, psicologi e tecnici di neurofisiopatologia.

**Numero massimo partecipanti: 150.**

Sarà necessario garantire la propria presenza in aula per almeno il **90% delle ore formative** dichiarate e rispondere correttamente ad almeno **il 75% dei quiz** somministrati nella prova di verifica dell'apprendimento.

**Obiettivo formativo:** documentazione clinica. Percorsi clinico-assistenziali e riabilitativi, profili di assistenza – profili di cura

# POSTERS

**Targeted NGS of ion channels in individuals referred with early onset epileptic encephalopathy**
Bettella E., Polli R., Leonardi E., Cesca F., Aspromonte M. C., Vecchi M., Toldo I., Boniver C., Nosadini M., Baldo D., Negrin S., Favaro J., Sartori S., Murgia A.

**Survey: Falls in Patients with Epilepsy**
Muccioli L.[1], Bisulli F.[1], Brambilla I.[2-3], Nabbout R.[3], Isla J.[3], Santoro K.[4], Borroni S.[2-5], Giarola E.[6], Zenesini C.[1], Dalla Bernardina B.[3,6], Gobbi G.[1]

**Italian multicentre prospective study in patients with Dravet Syndrome**
Piazza E.[1], Granata T.[1], Cappelletti S.[2], Dalla Bernardina B.[3], Darra F.[3], Guerrini R.[3], Marini C.[4], Offredi F.[3], Patrini M.[1], Specchio N.[2], Ragona F.[1] , Avanzini G.[1]

**Homeostatic responses in GABAergic neurons of Nav1.1+/- knock-out mice, animal model of Dravet syndrome.**
Scalmani P.[1], Terragni B.[1], Lavigne J.[2], Bechi G.[1],. Franceschetti S.[1] and Mantegazza M.[2]

**Negative dominance of NaV1.1 missense mutants: a novel pathological mechanism in Dravet Syndrome**
Terragni B.[1], Scalmani P.[1], Franceschetti S.[1], Mantegazza M.[2,3]

**Cognitive development in patients with epileptic encephalopathies due to sodium channel mutations (SCN1A, SCN2A and SCN8A)**
Tondo I.[1], Trivisano M.[2], Cappelletti S.[1], Pizzolorusso I.[3], Terracciano A.[4], De Palma L.[2], Pietrafusa N.[2], Gentile S.[1], Vigevano F.[2], Specchio N.[2]

**A relatively mild phenotype associated with mutation of SCN8A**
Bagnasco I., Dassi P., Gennaro E.

**Correlation between epileptic phenotype and SCN8A gene mutation**
Osanni E.[1], Bonanni P. [1], Danieli A.[1], Negrin S.[1], Giorda A.[2], Murgia A.[3], Dalla Bernardina B.[4]

**"Movement disorders in SCN8A-related early infantile epileptic encephalopathy"**
Trivisano M.[1], Pizzolorusso I.[1,2], Ferretti A.[1,3], Tondo I.[1], Terracciano A.[5], Claps D.[6], De Palma L.[1], Pietrafusa N.[1], F. Vigevano[6], Specchio N.[1]

**DCas9-based Scn1a gene activation restores inhibitory interneuron excitability and attenuates seizures in Dravet syndrome mice**
Colasante G.[1], Lignani G.[2], Di Berardino C.[1], Brusco S.[1], Ricci R.[1], Benfenati F.[5,6], Schorge S.[2], Kullmann D. M.[2] and Broccoli V.[1,7]

**Footprints characterisation in patients with Dravet Syndrome**
Di Marco R.[1,2], Bellon G.[1,2], Benedetti M. G.[3], Boniver C.[1], Darra F.[4], Piazza E.[5], Ragona F.[5], Dalla Bernardina B.[6], Vecchi M.[1], S. Masiero[1,2], A. Del Felice[1,2].

**Long-term efficacy of vagus nerve stimulation in Dravet Syndrome: an extended follow-up study**
Matricardi S.[1], Cesaroni E.[1], Passamonti C.[1], Cappanera S.[1], Siliquini S.[1], Porfiri L.[1], Zamponi N.[1]

**Gene therapy for Dravet Syndrome: a proof of concept**
Ricobaraza A.[1], Valencia M.[1], Puerta E.[2], González-Aparicio M.[1], Nicolás M.J.[1], Mora-Jimenez L.[1], Arrieta S.[1], Buñuales M.[1], Sánchez-Carpintero R.[3,4], González-Aseguinolaza G.[1], Artieda J.[3] and Hernández-Alcoceba R.[1]

**Perampanel as add-on in 10 patients with Dravet Syndrome**
De Liso P.[1], Vigevano F.[1], Bonanni P.[2], Osanni E.[2], Russo A.[3], Boni A.[3], Spalice A.[4], Nicita F.[4], Belcastro V.[5], Striano P.[6], Cusmai R.[1]

**SCN2A related epilepsy: longitudinal electroclinical study of 11 cases**
Lo Barco T., Cantalupo G., Fontana E., Fiorini E., Solazzi R., Castino E., Proietti J., Miozzo G., Dalla Bernardina B., Darra F.

**Late cognitive delay in Dravet Syndrome, after the age of 6 years: report of four cases**
Losito E., Chemaly N., Chiron C., Leunen D., Nabbout R.

**Dravet Syndrome: a "Nocturnal" pattern of seizures**
Nabbout R. et all.

**Myoclonic Status and SCN8A mutations**
Zini D., Fontana E., Mastrangelo M., Fiorini E., Russo F., Spaccini L., Dalla Bernardina B., Darra F.

**Early electro-clinical features and outcome at 6 years of age of 61 subjects with Dravet syndrome born between 1972 and 2010**
Darra F., Opri R., Fontana E., Offredi F., Beozzo V., Fiorini E., Boni E., Dalla Bernardina B., Cantalupo G.

## Organizational secretary

DRAVET ITALIA Onlus
Associazione Italiana Sindrome di Dravet Onlus

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**For further information please apply to the Organizing Secretariat**

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