



International Conference on Neuroimaging and Neonatal Monitoring & 3rd Neonatal Neuroimaging Workshop

Joint Event PARENT/NeNe Foundation & Galatea

24 - 26 October 2024, Cádiz, Spain



The PARENT project has received funding from the European Union's Horizon 2020 research and innovation programme under the Maria Skłodowska-Curie – Innovative Training Network 2020, Grant Agreement N° 956394

The GALATEA project has received funding from the European Union's Horizon Europe research and innovation programme under the grant agreement No. 101183057





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WELCOME

We are pleased to introduce the jointly organized event, "International Conference on Neonatal Neuroimaging and Monitoring & 3rd Neonatal Neuroimaging Workshop," which will take place in Cádiz, Spain, from October 24th to 26th. The event offers presentations and practical training, both technical and clinical, with national and international speakers and instructors.

The event aims to leverage the expertise in pediatric neurodevelopmental training and dissemination of the NeNe Foundation (<https://www.neurologianeonatal.org/>) of Spain, along with the neonatal neurodevelopmental research carried out by the European research consortium PARENT "PremAtuRe nEwborn motor and cogNitive impairmenTs: Early diagnosis " (<https://parenth2020.com/>).

By combining the strengths of both entities, the event, which will be held over 3 days in Cádiz, will offer a unique synergistic approach, facilitating the transfer of knowledge between researchers and clinicians. The initiative is designed to strengthen interdisciplinary research and intersectoral transfer of research outcomes, presenting participants with insights into the complexities of pediatric neurology.

On Day 1, there will be practical workshops on transfontanellar ultrasound techniques and technologies for digital



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neuroimaging processing.

On Day 2, there will be two parallel sessions. One with a clinical focus, presenting cutting-edge results and methods for the use of neonatal neuroimaging with transfontanellar ultrasound or magnetic resonance imaging. The other session will be more technical, with speakers from various countries and institutions showcasing the potential of discriminative and generative artificial intelligence in healthcare for these patients, the presentation of new optical sensing methods for neonatal monitoring, and the validation of new technologies resulting from pediatric research in hospital consortia. There will also be talks and labs on other imaging techniques and a practical workshop on technology transfer in healthcare.

On Day 3, there will be a dissemination session aimed at the public, presenting the results of the PARENT project, as well as a session by the NeNe Foundation for families of children who have received care in a NICU.

This event is co-funded by “PremAtuRe nEwborn motor and cogNitive impairment: Early diagnosis” PARENT Project which is supported by the European Union’s Horizon 2020 Research and Innovation Programme through the Maria Skłodowska-Curie Innovative Training Network 2020 (Grant 956394), and by “diGiTAL twin frAmework for TailorEd infAnt nutrition” GALATEA R&D program (Grant 101183057).



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PROGRAM

Day 1, Thursday, October 24th, 2024 (Clinical Workshop – NeNe Foundation)

Hours	Title	Lecturer
14:00-15:30	Registration and Lunch	
15:30-18:30	Lab Transfontanelar 3D Ultrasound	Coordinators: I Benavente and S Lubián , University Hospital Puerta del Mar, Spain

Day 1, Thursday, October 24th, 2024 (Technical Workshops - PARENT) *only in english

Hours	Title	Lecturer
14:00-15:30	Registration and Lunch	
16:00-17:00	Lab MRI processing of neonatal infarction <i>Requirements for students (optional): Installation of the software ITK-snap</i>	C Stephan-Otto , Hospital Sant Joan de Deu, Spain
16:10-17:10	Lab Explainability methods and tools applied to medical images. <i>Requirements for students (optional):</i>	G Zamzmi , FDA, University of South Florida, USA
17:20-18:30	Lab Explaining the behaviour of a ML multi-variate model. <i>Requirement for students (optional): having a computer with Python and an environment (e.g., Spyder) installed and running.</i>	S Cabon , Université de Rennes, France



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Day 2, Friday, October 25th, 2024 (Clinical Session – NeNe Foundation)

Hours	Title	Speaker
8:00-8:30	Registration	
8:30-9:00	Presentation of event	Invited authorities
9:00-9:30	Alterations of the corpus callosum: neuroimaging study	M Lubián
9:30-10:00	Neuroimaging evaluation of posterior fossa, development, malformations, hemorrhage	I Benavente
10:00-10:30	White matter injury in the preterm infant	T Agut
10:30-11:00	Coffee break	
11:00-11:30	Germinal-intraventricular matrix hemorrhage in the preterm infant	
11:30-12:00	Ventriculomegaly. Post-hemorrhagic ventricular dilatation.	I Benavente
12:00-12:30	Neuroimaging of the Neonatal ischemic stroke (standard and advanced techniques)	G Arca
12:30-13:00	Neuroimaging in hypoxic-ischemic encephalopathy	M. Martínez Biarge
13:00-15:00	Lunch break	
15:00-15:30	Central Nervous system infections	
15:30-16:00	Utility of Doppler in Neonatology	E Valverde
16:00-16:30	Venous sinus thrombosis	J Arnáez
16:30-17:00	Coffee break	
17:00-17:30	Ultrasound evaluation of the spinal cord	S Lubián
17:30-18:30	Clinical cases/poster/communications	M Lubián
20:30	Conference dinner	



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Day 2, Friday, October 25th, 2024 (Technical Session - PARENT) *only in english

Hours	Title	Speaker
8:00-8:30	Registration	
8:30-9:15	Presentation of event	Invited authorities
09:15-10:00	The future of neonatal pain care: advancements and challenges in AI-based pain assessment	G Zamzmi , FDA & University of South Florida, USA
10:00-10:45	Monitoring of the neuro-behavioural development of premature newborn based audio and video analyses	S Cabon , Université de Rennes, France
10:45-11:15	Coffee break	
11:15-12:00	Advances from the Sant Joan de Déu neonatal infarction cohort	C Stephan-Otto , Hospital St Joan de Deu, Spain
12:00-12:30	Segmentation of brain structures with 3DUS and MRI. Development of software <i>Melage</i>	B Jafrasteh , NY Hospital-Cornell Medical Center, USA
12:30-13:00	Image acquisition and analysis for perinatal developing brain connectomics	L Cordero , Universidad Politécnica de Madrid, Spain
13:00-15:00	Lunch break	
15:00-15:30	Machine learning application in neonatology	D Urda , University of Burgos, Spain
15:30-16:00	Data augmentation of neonatal neuroimages	LC Gontard , University of Cádiz, Spain
16:00-16:30	Coffee break	
16:30-17:00	My experience to transform an idea into a company within the framework of digital health	J Charneco , UbitelCare, Spain
17:00-17:30	Spinning out in the field of neuroimaging: The case of Icommetrix	T Vân Phan , Icommetrix, Leuven, Belgium
17:30-18:30	Lab KISS and make up: Data-driven innovation	J Rios , INIBICA, Spain
18:00-19:00	Executive Board PARENT	
20:30	Conference dinner	



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Day 3, Saturday, October 26th, 2024 (Dissemination - PARENT / NeNe Foundation & GALATEA)

Hours	Title	Speaker
09:30-10:15	Summary, results and conclusions of PARENT project.	M Deriu , Politecnico di Torino, Italy
10:15-11:00	Presentation of EU Program GALATEA (diGitAL twin frAmework for TailorEd infAnt nutrition)	M Deriu , Politecnico di Torino, Italy
10:30-11:00	Coffee break	
11:30-13:00	Dissemination of research findings to families by NeNe Foundation	Simón Lubián , University Hospital Puerta del Mar & NeNe Foundation
13:00	Closing of Joint Event PARENT/NeNe Foundation	
	Social Activity in Cádiz	



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CADIZ AND ITS UNIVERSITY

Cádiz, a vibrant coastal city in southern Spain, is a place where history, culture, and education come together. As one of the oldest cities in Europe, Cádiz is a captivating destination filled with ancient charm and modern life. Stroll through its picturesque streets to explore grand plazas, whitewashed buildings, and historical landmarks like the Catedral de Cádiz and Torre Tavira, where you can enjoy breathtaking views of the sea. Cádiz is also known for its lively festivals, especially its famous Carnival, where the city bursts into a spectacle of colors and music.



A key part of Cádiz's identity is its prestigious University of Cádiz (UCA, www.uca.es), founded in 1979. With several campuses spread across the region, UCA brings a youthful, dynamic atmosphere to the city. The university is renowned for its excellence in marine sciences, humanities, and technology, attracting students and researchers from around the world.



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PRACTICAL INFORMATION

- **Localization y Accommodation**

It is recommended to stay in the Historic Center of Cádiz, where there are many accommodation options at various price points, not far from the Faculty of Medicine.

The event location is the Faculty of Medicine, University of Cádiz, at Plaza Falla nº 9, 11003 Cádiz, Spain. (map: <https://g.co/kgs/CGUNeIL>)

- **Attendees and Certificates:**

The event will host 15 PhD students and supervisors from 10 European institutions, along with about 40 doctors from various institutions. Additionally, registration will be open to doctors, engineers, and other related professionals.

Attendees will be offered certificates of attendance for the scientific event.

Likewise, those who participate in the practical workshops on days 1 and 2 will receive a certificate.

Speakers will be given a certificate for their oral presentation.



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- **Registration and Fees:**

Registration includes access to the talks and workshops. Prices vary depending on the type of participant, whether they attend in person or online, and whether they participate for 1, 2, or 3 days according to the following criteria:

TYPE 1: IN-PERSON GENERAL ATTENDANCE

- ❖ Other researchers, professors, or doctors will pay €150 for registration, and €50 if they wish to attend the Conference Dinner (Social Dinner).
- ❖ PhD students from UCA and other universities do not pay for registration (free), but they will pay €50 if they wish to attend the Conference Dinner.
- ❖ Undergraduate students from UCA and other universities do not pay for registration (free), but they cannot attend the Conference Dinner.

TYPE 2: IN-PERSON ATTENDANCE FOR PARENT or AI4NICU CONSORTIUM MEMBERS

- ❖ Researchers, ESR PhD students, and speakers from these consortia do not pay for registration or the dinner.

TYPE 3: ONLINE ATTENDANCE

An online registration option will be available for the technical session on October 25th and the dissemination session on October 26th.

- ❖ The general cost for online access is €25.
- ❖ Researchers, ESR PhD students, and speakers from the PARENT/AI4NICU/GALATEA consortia will not pay for registration.



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