

SCIENTIFIC AND TECHNOLOGICAL PROFILE OF THE GROUP

RICORS Code
RD21/0012/0015

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| Thematic area: | ATENCIÓN PRIMARIA, CRONICIDAD Y PREVENCIÓN DE LA SALUD |
| Programme name: | PRIMARY CARE INTERVENTIONS TO PREVENT MATERNA AND CHILD CHRONIC DISEASES OF PERINATAL AND DEVELOPMENTAL ORIGIN |
| Group leader: | Nuria Boronat González |
| Applicant Institution: | Fundación para la Investigación del Hospital La Fe |
| Working Institution: | Hospital Universitario y Politécnico La Fe |
| PI Work Institution: | Máximo Vento Torres |

Participants

| Researcher | Family Name (s) | First Name (s) | Work Institution | Position |
|------------|-----------------|----------------|--|-----------------|
| 1 | Nuria | Boronat | Hospital Universitario y Politécnico La Fe | Contracted |
| 2 | Máximo | Vento | Instituto de Investigación Sanitaria La Fe | Statutory staff |
| 3 | Antonio | Nuñez | Hospital Universitario y Politécnico La Fe | Contracted |
| 4 | María | Gormaz | Hospital Universitario y Politécnico La Fe | Statutory staff |
| 5 | María | Cernada | Hospital Universitario y Politécnico La Fe | Contracted |
| 6 | Raquel | Escrig | Hospital Universitario y Politécnico La Fe | Statutory staff |
| 7 | Marta | Aguar | Hospital Universitario y Politécnico La Fe | Contracted |
| 8 | Pilar | Saénz | Hospital Universitario y Politécnico La Fe | Contracted |
| 9 | Anna | Parra | Instituto de Investigación Sanitaria La Fe | Fellow |
| 10 | Ana Cristina | García Blanco | Instituto de Investigación Sanitaria La Fe | Fellow |
| 11 | Vicente | Diago | Hospital Universitario y Politécnico La Fe | Statutory staff |

PUBLICATIONS

Up to twenty selected publications related to the RICORS's Thematic Area (published in the last five years)

1: Loureiro B, De la Cruz Bértolo J, Blanco D, Ginovart G, Jiménez A, Martín Y, Soriano J, Torres MJ, Vento M, Pallás-Alonso CR. National protocol led to significant improvements in follow-up programmes for very low birth weight or very preterm infants. *Acta Paediatr.* 2021 Mar 31. doi: 10.1111/apa.15864. Epub ahead of print. PMID: 33792086.

2: García-Muñoz Rodrigo F, Fabres J, Tapia JL, D'Apremont I, San Feliciano L, Zozaya Nieto C, Figueras-Aloy J, Mariani G, Musante G, Silvera F, Zegarra J, Vento M. Factors Associated with Survival and Survival without Major Morbidity in Very Preterm Infants in Two Neonatal Networks: SEN1500 and NEOCOSUR. *Neonatology.* 2021 Feb 25:1-8. doi: 10.1159/000513079. Epub ahead of print. PMID: 33631749.

3: Navalón P, Merchan-Naranjo J, Ghosn F, Almansa B, Chafer-Pericas C, González-Peñas J, Rodríguez-Toscano E, Zeballos S, Arriaga M, Castro Castro P, Blanco Bravo D, Vento M, Pina-Camacho L, García-Blanco A. Study of the pathophysiological mechanisms associated with the onset and course of neurodevelopmental disorders in preterm infants (the PeriSTRESS-PremTEA study): Rationale, objectives, design and sample description. *Rev Psiquiatr Salud Ment.* 2021 Feb 19:S1888-9891(21)00028-8. English, Spanish. doi: 10.1016/j.rpsm.2021.02.002. Epub ahead of print. PMID: 33618030.

4: Seaton SE, Draper ES, Adams M, Kusuda S, Håkansson S, Helenius K, Reichman B, Lehtonen L, Bassler D, Lee SK, Vento M, Darlow BA, Rusconi F, Beltempo M, Isayama T, Lui K, Norman M, Yang J, Shah PS, Modi N; UK Neonatal Collaborative; International Network for Evaluating Outcomes of Neonates (iNeo) Investigators. Variations in Neonatal Length of Stay of Babies Born Extremely Preterm: An International Comparison Between iNeo Networks. *J Pediatr.* 2021 Feb 15:S0022-3476(21)00128-1. doi: 10.1016/j.jpeds.2021.02.015. Epub ahead of print. PMID: 33600820.

5: Lui K, Vento M, Modi N, Kusuda S, Lehtonen L, Håkansson S, Rusconi F, Bassler D, Reichman B, Yang J, Shah PS; International Network for Evaluating Outcomes of Neonates (iNeo) Investigators and Collaborators. Inter-center variability in neonatal outcomes of preterm infants: A longitudinal evaluation of 298 neonatal units in 11 countries. *Semin Fetal Neonatal Med.* 2021 Feb;26(1):101196. doi: 10.1016/j.siny.2021.101196. Epub 2021 Jan 21. PMID: 33526374.

6: Shah VP, Raffay TM, Martin RJ, Vento M, Sánchez-Illana Á, Piñeiro-Ramos JD, Kuligowski J, Di Fiore JM. The Relationship between Oxidative Stress, Intermittent Hypoxemia, and Hospital Duration in Moderate Preterm Infants. *Neonatology.* 2020;117(5):577-583. doi: 10.1159/000509038. Epub 2020 Aug 14.

PMID: 32799210; PMCID: PMC7854776.

7: Aguilar-Rodríguez M, León-Castro JC, Álvarez-Cerezo M, Aledón-Andújar N, Escrig-Fernández R, Rodríguez de Dios-Benlloch JL, Hervás-Marín D, Vento-Torres M. The Effectiveness of an Oral Sensorimotor Stimulation Protocol for the Early Achievement of Exclusive Oral Feeding in Premature Infants. A Randomized, Controlled Trial. *Phys Occup Ther Pediatr.* 2020;40(4):371-383. doi: 10.1080/01942638.2019.1698688. Epub 2019 Dec 9. PMID: 31814522.

8: Guimarães H, Boix H, Rodrigues C, Tomé T, Rocha G, Vento M. Impact of the global financial crisis on newborn care in Portugal and Spain: Perception of health professionals. *Acta Paediatr.* 2020 Mar;109(3):625-627. doi: 10.1111/apa.15067. Epub 2019 Nov 6. PMID: 31630446.

9: Lui K, Lee SK, Kusuda S, Adams M, Vento M, Reichman B, Darlow BA, Lehtonen L, Modi N, Norman M, Håkansson S, Bassler D, Rusconi F, Lodha A, Yang J, Shah PS; International Network for Evaluation of Outcomes (iNeo) of neonates Investigators. Trends in Outcomes for Neonates Born Very Preterm and Very Low Birth Weight in 11 High-Income Countries. *J Pediatr.* 2019 Dec;215:32-40.e14. doi: 10.1016/j.jpeds.2019.08.020. Epub 2019 Oct 3. Erratum in: *J Pediatr.* 2020 Oct 27;: PMID: 31587861.

10: Hagbø M, Ravi A, Angell IL, Sunde M, Ludvigsen J, Diep DB, Foley SL, Vento M, Collado MC, Perez-Martinez G, Rudi K. Experimental support for multidrug resistance transfer potential in the preterm infant gut microbiota. *Pediatr Res.* 2020 Jul;88(1):57-65. doi: 10.1038/s41390-019-0491-8. Epub 2019 Jul 1. PMID: 31261372.

11: Zozaya C, Avila-Alvarez A, Couce ML, García-Muñoz Rodrigo F, Arruza L, Fernandez-Perez C, Castro A, Cuesta MT, Vacas B, Vento M, Saenz de Pipaón M. Cohort study showed that growth rate increment has not been enough to prevent growth retardation of preterm infants and raised concerns about unbalanced growth. *Acta Paediatr.* 2019 Oct;108(10):1793-1800. doi: 10.1111/apa.14819. Epub 2019 May 21. PMID: 31002411.

12: García-Mantrana I, Alcántara C, Selma-Royo M, Boix-Amorós A, Dzidic M, Gimeno-Alcañiz J, Úbeda-Sansano I, Sorribes-Monrabal I, Escuriet R, Gil-Raga F, Parra-Llorca A, Martínez-Costa C, Collado MC; MAMI team. MAMI: a birth cohort focused on maternal-infant microbiota during early life. *BMC Pediatr.* 2019 May 3;19(1):140. doi: 10.1186/s12887-019-1502-y. PMID: 31053102; PMCID: PMC6498642.

13: Ghosn F, Almansa B, Moreno-Giménez A, Sahuquillo-Leal R, Serrano-Lozano E, Hervás D, Diago V, Cháfer-Pericás C, Vento M, García Blanco A. Trajectories of stress biomarkers and anxious-depressive symptoms from pregnancy to postpartum period in women with a trauma history. *Eur J Psychotraumatol.* 2019 Apr 29;10(1):1601990. doi: 10.1080/20008198.2019.1601990. PMID: 31069025; PMCID: PMC6493226.

- 14: Rodríguez López J, García Lara NR, López Maestro M, De la Cruz Bértolo J, Martínez Ávila JC, Vento M, Parra Llorca A, Izquierdo Macián I, Pellicer A, Marín Huarte N, Asla Elorriaga I, Román Echevarría L, Copons Fernández C, Martín Ancel A, Cabañas F, García Algar Ó, Pallás Alonso CR. What is the impact of mother's bed incline on episodes of decreased oxygen saturation in healthy newborns in skin-to-skin contact after delivery: Study protocol for a randomized controlled trial. *Trials*. 2019 Mar 20;20(1):179. doi: 10.1186/s13063-019-3256-0. PMID: 30894206; PMCID: PMC6427856.
- 15: Zozaya C, Avila-Alvarez A, Arruza L, García-Muñoz Rodrigo F, Fernandez-Perez C, Castro A, Cuesta MT, Vacas B, Couce ML, Vento Torres M, Saenz de Pipaón M. The Effect of Morbidity and Sex on Postnatal Growth of Very Preterm Infants: A Multicenter Cohort Study. *Neonatology*. 2019;115(4):348-354. doi: 10.1159/000497221. Epub 2019 Mar 20. PMID: 30893696.
- 16: Pallás-Alonso CR, Loureiro B, De la Cruz Bértolo J, García P, Ginovart G, Jiménez A, Martín Y, Soriano J, Torres MJ, Vento M. Spanish survey on follow-up programmes for children born very preterm. *Acta Paediatr*. 2019 Jun;108(6):1042-1048. doi: 10.1111/apa.14647. Epub 2018 Dec 14. PMID: 30447072; PMCID: PMC7586806.
- 17: Shah PS, Kusuda S, Håkansson S, Reichman B, Lui K, Lehtonen L, Modi N, Vento M, Adams M, Rusconi F, Norman M, Darlow BA, Lodha A, Yang J, Bassler D, Helenius KK, Isayama T, Lee SK; International Network for Evaluation of Outcomes (iNEO) in Neonates Investigators. Neonatal Outcomes of Very Preterm or Very Low Birth Weight Triplets. *Pediatrics*. 2018 Dec;142(6):e20181938. doi: 10.1542/peds.2018-1938. PMID: 30463851.
- 18: Lorente-Pozo S, Parra-Llorca A, Torres B, Torres-Cuevas I, Nuñez-Ramiro A, Cernada M, García-Robles A, Vento M. Influence of Sex on Gestational Complications, Fetal-to-Neonatal Transition, and Postnatal Adaptation. *Front Pediatr*. 2018 Apr 23;6:63. doi: 10.3389/fped.2018.00063. PMID: 29740570; PMCID: PMC5924769.
- 19: Sánchez Luna M, Pérez Muñuzuri A, Sanz López E, Leante Castellanos JL, Benavente Fernández I, Ruiz Campillo CW, Sánchez Redondo MD, Vento Torres M, Rite Gracia S; en representación del Comité de Estándares de la Sociedad Española de Neonatología. Cribado de cardiopatías congénitas críticas en el periodo neonatal. Recomendación de la Sociedad Española de Neonatología [Pulse oximetry screening of critical congenital heart defects in the neonatal period. The Spanish National Neonatal Society recommendation]. *An Pediatr (Barc)*. 2018 Feb;88(2):112.e1-112.e6. Spanish. doi: 10.1016/j.anpedi.2017.06.011. Epub 2017 Sep 29. PMID: 28965726.
- 20: Kelly LE, Shah PS, Håkansson S, Kusuda S, Adams M, Lee SK, Sjörs G, Vento M, Rusconi F, Lehtonen L, Reichman B, Darlow BA, Lui K, Feliciano LS, Gagliardi L, Bassler D, Modi N. Perinatal health services organization for preterm births: a multinational comparison. *J Perinatol*. 2017 Jul;37(7):762-768. doi:

10.1038/jp.2017.45. Epub 2017 Apr 6. PMID: 28383541.

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INTERNATIONAL AND NATIONAL RESEARCH PROJECTS

(Funded in the last five years)

1. "Brain injury in the premature born infant: stem cell regeneration research network." PRESTEM. Coordinator: Pierre Gressens (INSERM, France). Grant number 874721 Horizon 2020. Call: H2020-SC1-2019-Single Stage RTD. Topic: SC1-BCH-07-2019. January 1st 2020- December 31st 2025.
2. "Fact based personalized nutrition for the young". Coordinator: Antoine Müller (ALPES LASERS SA). NUTRISHIELD. Grant number 818110. Call: H2020-SFS-2018-2020. 1st January 2019-31st December 2021.
3. Coordinador Nacional de la Red de Salud Materno Infantil y del Desarrollo SAMID (RD16/0022/0001). Coordinador del Subproyecto 1: Intervenciones en la edad perinatal. 1 Enero 2017- 31 Diciembre 2021.
4. Coordinador Instituto de Investigación Sanitaria La Fe (Valencia) de la Plataforma de Ensayos Clínicos SCREN del ISCIII. 1 Enero 2019- 31-12-2021.
5. "Association between intermittent hypoxia and later respiratory morbidity" PREVENT STUDY. National Heart & Lung & Blood Institute Special Emphasis Panel (National Institutes of Health) USA. Coordinator: Prof. RJ Martin (Case Western University; Cleveland; USA). Application number: 1 U01 HL 133643-01. 1st January 2016 through 31st December 2021.
6. "Perfil de peroxidación lipídica y microRNA como marcadores de daño al sistema nervioso central en el prematuro con episodios de hipoxia intermitente". FIS PI17/0131 Instituto Carlos III. Investigador Principal: Máximo Vento Torres.
7. Concesión de la Ayuda Segovia de Arana para la Intensificación de la Labor Investigadora INT18/00017. Máximo Vento Torres. 1 Enero 2018-31 Enero 2018.
8. "Effect of Allopurinol in addition to hypothermia for hypoxic-ischemic brain injury on neurocognitive outcome. The ALBINO TRIAL. Coordinator: Dr. Axel Frantz (University of Tübingen; Germany). Coordinator for Spain: Dr. Máximo Vento Torres (IIS La Fe; Valencia). EU Project number: 667224. 1 January 2016 through 31st December 2023.
9. "Targeted oxygen for resuscitation of preterm infant's effects on developmental outcomes." The TORPIDO 30/60 TRIAL. Coordinator: Prof. JL Oei (University of Sydney; Australia). Coordinator for Spain: Dr. Máximo Vento Torres (IIS La Fe; Valencia). National Health Medical Research Council Australia. Grant number: CTC0225. Eudract number: 2019-003085-41. January 1st 2020- December 31st 2023.
10. "Impacto a corto y largo plazo de la terapia con óxido nítrico inhalado para el tratamiento de la hipoxia severa secundaria a la hipertensión pulmonar persistente en el período neonatal." FIS PI20/00964. IPs: Máximo Vento Torres y Julia Kuligowski. 1 enero 2021 a 31 de diciembre de 2023.

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PATENTS

(Granted and licensed patents in the last five years. Include also licensed know-how)

RICORS Call: Scientific and Technological Profile of the Participating Groups

Aim: describe the major contributions of the different participating groups in terms of papers, funding and patents.

! The structure of this template has been designed to ensure that the important aspects of your scientific and technological profile are presented in a way that will enable experts to make an effective assessment against the evaluation criteria.

! The font type and size recommended is Arial 9 points. Please respect the page limits and do not take it as a target either! It is in your interest to keep your text as concise as possible, since experts rarely view unnecessarily long documents in a positive light.

Section 1. List of Participating Groups. PI participants.

! Remember

PI's Family Name | PI's First name(s) | PI's Work Institution | Position *
*Position: officer, statutory staff; contracted; fellow

Section 2. Papers

Indicate: Authors; Title; Journal; PMID; Type of paper; Publication year; Impact Factor (JCR Thomson Reuters) and times cited.

Section 3. International and National Research Projects

! Do not include regional or privately funded projects.

Indicate: Project ID; Name of the PI; Title; Funding Agency; Amount of Funding & Duration.

Section 4. Patents

Indicate: Applicant; Title; Inventors; Patent Office; Date of application number; Date of grant and Entity-Organization Exploiting the Patent.