

Research in maternal-fetal medicine Clínic Barcelona

Fetal and Perinatal Medicine Research Group

2012



FETAL MEDICINE
RESEARCH CENTER



CLÍNIC
BARCELONA
Hospital Universitari



05

PRESENTATION

06

WHO WE ARE

- Mission
- Human Resources
- Nature
- Organization

10

WHAT WE DO

- Experience/ Main Challenges
- 5 Research lines
- 5 Plataforms

20

TRAINING

- Training
- International Exchange Programs/ Master's Degrees/ Research awards
- Conferences and workshops

26

NUMBERS AND PUBLICATIONS

30

ONGOING PROJECTS

34

OUTREACH

- Inatal
- In the Spotlight
- Website

40

ACKNOWLEDGEMENTS

- Collaborations
- Sponsors

PRESENTATION



Dear friends,

Like every year, here you have the new annual report of our Fetal and Perinatal Medicine Research Team.

This year, we have kept on working on the consolidation of our project for the creation of a referral center in fetal and perinatal medicine, which we hope will become a reality during 2013. Moreover, we can affirm that we already have five clearly-defined research lines that work every day to ensure the excellence that characterizes us. All our lines are supported by a platform structure that has also been developed during this year, according to the specific needs of the Team. At the same time, a wonderful management team is responsible for the good performance of these lines, platforms and projects.

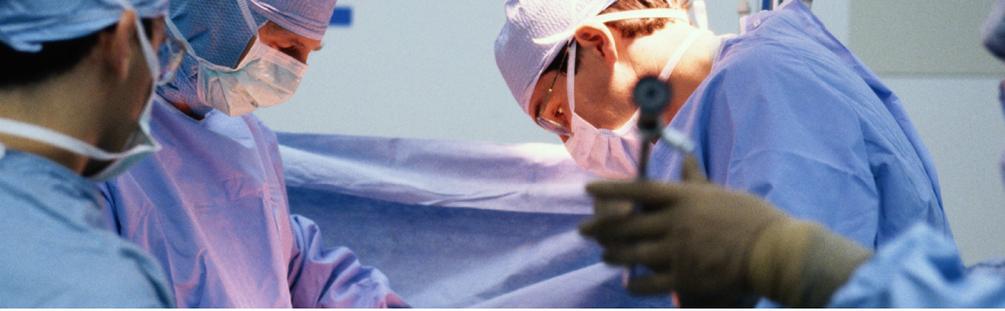
A careful, constant work, together with our will of staying an International, multidisciplinary center, has allowed us to grow up as a team, as well as to obtain new research projects and grants for our talented, dedicated researchers. In the current context, we are particularly proud of having been designed coordinators of the first Erasmus Mundus joint doctorate in Fetal and Perinatal Medicine, which will begin in October 2013. This programme represents a unique opportunity of training the professionals of the future in everything that defines us as a group, in addition to consolidating our center as a referral center in terms of training and research.

One of our core ideas is that “health begins before birth”, and that is why this is the motto we have chosen for inatal, our new social website. Inatal answers our compromise with society, key element in the future of our research. Despite having been born just a few day ago, inatal involves a great amount of work from most professionals of our Team, and it is one of our major projects for 2013.

We would also like to thank all those who have supported us in any way during this 2012, including patients, families, partners, sponsors and friends We deeply wish you enjoy reading this report, which has been possible thanks to your support and our work.

A handwritten signature in black ink, consisting of stylized, overlapping loops and lines.

Eduard Gratacós





WHO WE ARE



MISSION

Maternal-fetal medicine specialists

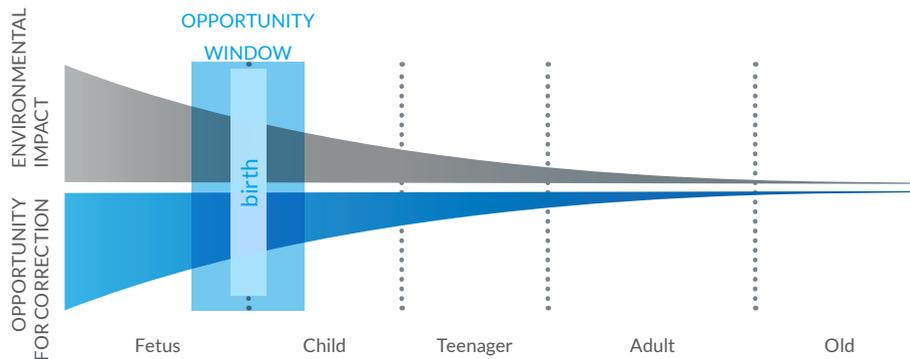
We are maternal-fetal medicine specialists. We treat before birth.

The environment models our biological functions varying them inversely with age. Weeks in fetal life are like years for a child or decades for an adult. Therefore, looking for solutions to the problems that appear at the fetal stage allow us to open a once-in-a-lifetime opportunity window in terms of diagnosis and early intervention.

(see Figure 1)

Our world-renowned approach thinks of the fetus as a patient and integrates prenatal and postnatal care through the Maternal-Fetal and Neonatology services, looking at the same problem from different perspectives so that it can be solved in an innovative, efficient way.

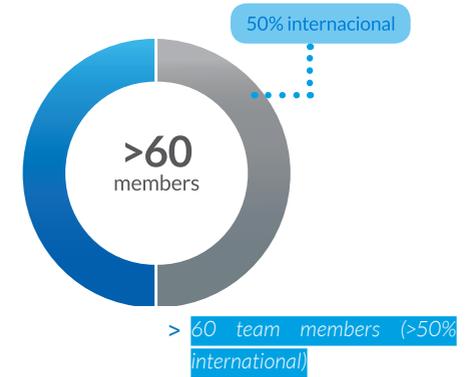
- Excellence Research Center
- > 300 m2 of Research Area
- >50 Research Projects, 22 on-going
- > 9MEur investment throughout the past 6 years



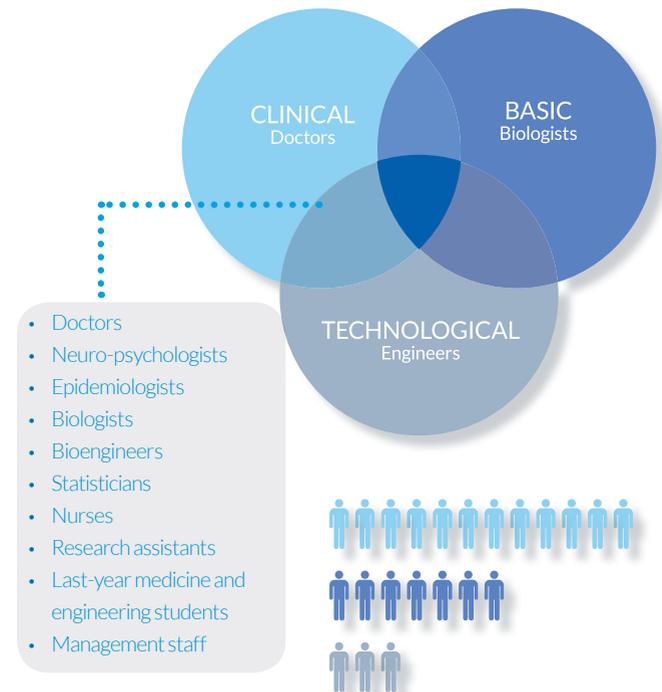
> [Figure 1](#)

HUMAN RESOURCES

A multidisciplinary team in constant growth



> 3 main areas:



All our selection, hiring and training processes, as well as our salary policy follow the principle of equal opportunities in all areas of the Team.

The **Biomedical Research Institute August Pi i Sunyer (IDIBAPS)** is the first health research facility accredited by the national health system with a scientific productivity amongst the highest ones in Europe. The center divides its research into 5 main areas that include almost 60 research teams. The Hospital Clínic of Barcelona is one of its foundational members.

The **Hospital Clínic of Barcelona** is a tertiary center, and a reference in terms of clinical care and research in the south of Europe. The hospital offers high-quality services focused on patient care, an outstanding biomedical research programme and great training opportunities. Together with a balanced management plan, the center aims to provide society with cutting-edge, humanized medicine. Its experience and its history are one of the main bases for IDIBAPS activities.

Hospital Clínic is divided into services and institutes distributed by specialty. Prof. Eduard Gratacós is not only Head of the Maternal-Fetal Research Team, but also Head of Service of the Gynecology, Obstetrics and Neonatology Institute (ICGON).

The **Clínic Foundation for Biomedical Research (FCRB)** is responsible for the administrative management of the Team.



> Research Team fetal and perinatal medicine

ORGANIZATION

Most of our research work takes place at the **Hospital Clínic of Barcelona**:

- **Maternitat Site:** Research, platforms, management.
- **Villarroel Site:** MRI image processing.

However, certain agreements and strategic alliances allow us to use the animal facilities at the UB pharmacy department and the Sant Joan de Déu Hospital.





WHAT WE DO



EXPERIENCE

Since we started, we have greatly advanced in terms of developing technologies and analysis methods to better understand fetal pathologies. We have focused on understanding how brain and heart development are affected by unexpected stress conditions, what we call fetal reprogramming, as a basis to diagnose and treat anomalies that were impossible to diagnose at that stage. Therefore, throughout these past years:

- We have demonstrated the problem, improved current understanding and changed clinical management.
- We have developed new imaging technologies for fetal heart and brain, consolidating a pioneer supradisciplinary research on brain imaging.
- We have detected crucial clinical biomarkers – easily measurable items that give us information about the existence of a condition, its severity, the usefulness of treatment, etc.- based on current ultrasound technologies, which are highly useful at a clinical level.
- We have designed neuropsychological tests that allow for comprehensive assessment of neural development from birth.
- We have set the stage for clinical interventions, to start over 2013/14.

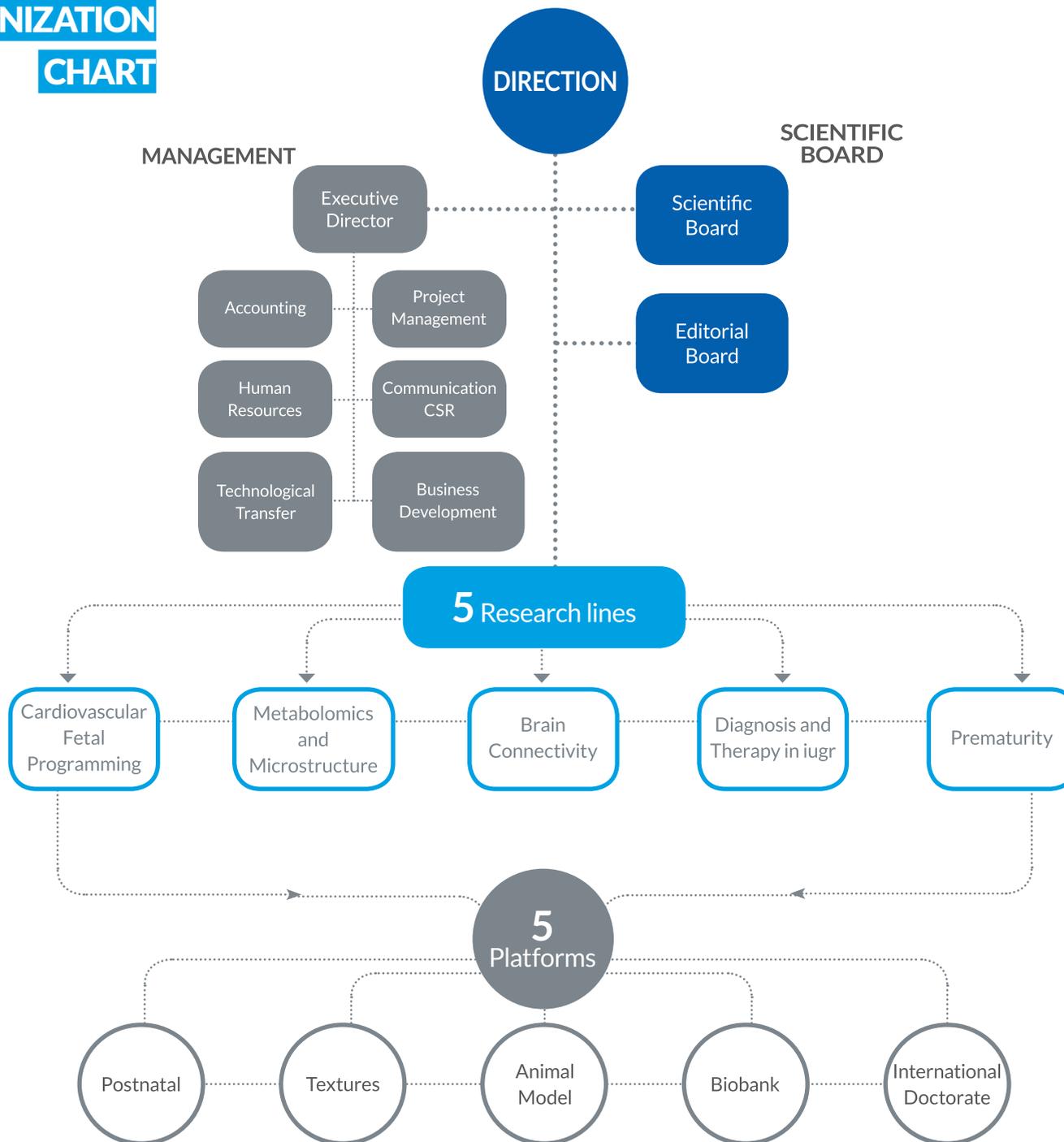
MAIN CHALLENGES

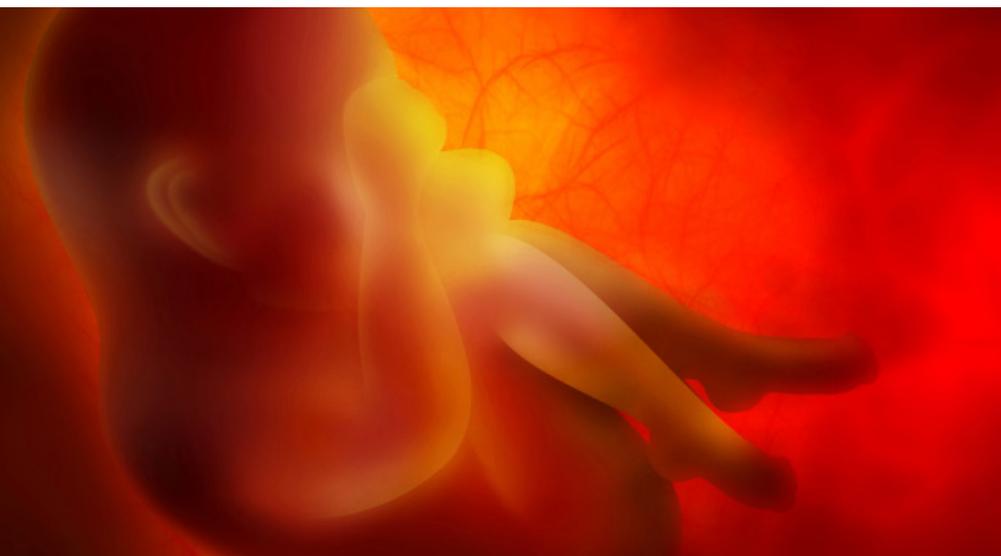
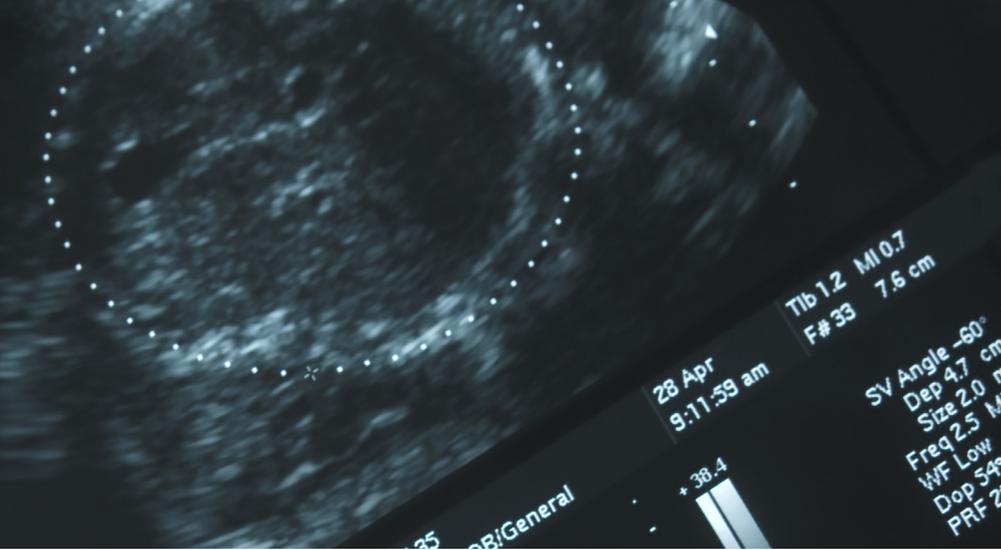
Fetal medicine is still a relatively young discipline, in expansion, which implies many future challenges. We are leading to 4P medicine (predictive, preventive, personalized, participative) and in order to do so one of our main objectives is the development of new imaging biomarkers that allow us to treat in the most efficient, effective way possible. Our work, then, will be focused on transdisciplinary projects concerning fetal heart and brain, so that we find real solutions to all prenatal problems. We want to:

- Identify ready-to-use new biomarkers, as well as new molecular signaling pathways and therapeutic targets.
- Consolidate and extend the pioneering experimental models to characterize the molecular mechanisms of diseases caused by prenatal programming anomalies.
- Set up clinical interventions in order to apply our knowledge and ideas.
- Improve the identification of fetuses at risk and develop new clinical definitions to pick up on problems occurring in “normally grown” babies that now are missed.
- Develop new imaging technologies for research and early diagnosis.



ORGANIZATION CHART





OUR RESEARCH WORK

5 Lines

Our five research lines share a common objective, which is to identify those diseases that originate in the prenatal stage and may lead to a poor quality of life in children and adults. By treating the fetus as an early patient, we can start treating for these conditions during the prenatal stage, minimizing or even eliminating any possible sequels.

Our research mainly focuses on heart and brain development, as it has been shown that fetal diseases particularly affect the formation of these two organs.

CARDIOVASCULAR FETAL PROGRAMMING

Responsible:
Fàtima Crispi



Among all prenatal diseases, **this research line focuses on the prenatal problems that can cause an increased cardiovascular risk;** these problems are those derived from intrauterine growth restriction, pregnancies obtained after assisted reproduction techniques, and prematurity, among others.

What do we do?

The main objectives of the line include getting a better understanding of the pathophysiologic mechanisms of fetal cardiovascular program-

ming, the development of biomarkers that allow early detection and monitoring of cardiovascular remodeling and the testing of therapies that can improve the cardiovascular prognosis of these children.

How do we do it?

To accomplish these objectives we integrate medical translational fetal medicine specialists, together with pediatricians and cardiologists, as well as biologists, biotechnologists and engineers.

METABOLOMICS AND MICROSTRUCTURE

Responsible:
Magda Sanz



As part of our group's overall goal of **finding biomarkers and determining which children are at risk of anomalous neurodevelopment,** we have developed a line of Metabolomics and Microstructure.

What do we do?

Our main aim is to find and define metabolic differences in the brain of fetuses and children who are diagnosed with growth restriction and can be considered at risk of neurodevelopmental problems. Knowing what changes occur in the brain will be of great value while diagnosing and treating these children at risk, improving their prognosis.

How do we do it?

In this line, doctors, biologists, psychologists, and engineers work together using different technologies, especially those based on MRI in order to identify the different markers for each pathology.

About 10% of children have a neurodevelopmental problem throughout their lives. However, most of these problems are subtle and often, the imaging tests do not show any abnormalities. However, in most cases there has been an alteration in the maturation process of the brain that cannot be identified with the usual tests. This line focuses on these alterations.

What do we do?

The main objective of our research line is to develop a quantitative imaging biomarker for early diagnosis of neurodevelopmental disorders.

The availability of these biomarkers would allow for early identification of neurodevelopmental disorders and, therefore, implementation of specific programs of early stimulation and education to improve the development of these children.

How do we do it?

In order to develop these biomarkers we use new technologies based on analyzing the connections in the brain by magnetic resonance imaging (MRI), a methodology known as connectomics. Therefore, MRI is key in this research line, and different techniques are used, such as diffusion MRI, which provides information about the distribution of white matter tracts that connect different areas of the brain, functional MRI, which provides information of areas of the brain that work together, and anatomical MRI, which establishes the connection through the morphological information of different areas.

Once the individual connectomes are obtained, we apply graph theory to analyze and objectively quantify the functioning of each connectome, correlating the results with several neurodevelopmental tests results.



BRAIN CONNECTIVITY

Responsible:
Elisenda Eixarch

DIAGNOSIS AND THERAPY IN IUGR

Responsible:
Francesc Figueras



Most of the babies that are considered small in utero are naturally smaller, which does not entail any disadvantage for future development. However, a proportion of these small fetuses is due to placental problems, which do not manifest themselves in any of the parameters that are commonly used when monitoring pregnancy. Our group was the first to observe that, despite not being born prematurely, these babies have more neurobehavioral problems at birth that persist into childhood.

What do we do?

This line of research aims at identifying before birth which babies with growth problems will have abnormal neurodevelopment.

How do we do it?

When there are problems with the placenta, the fetus itself initiates a series of mechanisms to optimize the amount of available oxygen. One of the earliest mechanisms established is the redirection of more blood to the brain.

Our research line has developed a noninvasive method using Doppler quantification to measure how much blood reaches the brain. Babies who present an alteration of this parameter before birth have a slightly increased risk of mild neurodevelopmental problems. Despite not being severe, this kind of problems has raised more attention in recent years because of its family and social implications.

The prenatal identification of at-risk babies is especially important because the usefulness of preventive measures during pregnancy and childbirth could be established, as well as during early childhood.

PREMATURITY

Responsible:
Montse Palacio



In recent years, despite improvements in pregnancy management, prematurity has not only remained common, but has even increased in incidence. Since prematurity is the leading cause of perinatal morbidity and mortality, it is crucial to understand the triggers of premature delivery so that we can postpone the birth and improve perinatal outcomes.

What do we do?

Our main objective is, therefore, to increase the current knowledge of the causes of pre-term birth.

Our research takes place in several areas: on one hand, we are working to refine the detection of patients at real risk of preterm delivery, on the other hand, at a clinical level, we are working to optimize the management and care of neonatal patients, and finally we are developing noninvasive methods for monitoring lung maturity in fetuses.

How do we do it?

We combine clinical practice and lab work in order to accomplish our objective for each level. This way, our research will allow us to have

biomarkers to distinguish at-risk patients from patients with a good prognosis, minimizing needless surgeries and overtreatment, and homogenizing the management of time and resources in clinical care to achieve the best possible results.



5 PLATFORMS

POSTNATAL:

Coordinator: Ángela Arranz

The neonatal platform aims to ensure the completion of the follow-up checks of all those patients participating in our different research projects. It also works to maintain the perception of quality and excellence that users have regarding the Research Team.

- Neonatal sample collection – cases and controls
- Selection of controls in Case-Control studies from IC unit
- Ultrasound scans and MRI scheduling
- Personal support while postnatal ultrasound scans are being carried out
- Carrying out and storing of postnatal ultrasound scans
- Carrying out of neurodevelopmental tests: Brazelton, Bayley, ASQ
- Data transfer to common databank

BIOBANK:

Coordinator: Fátima Crispi

A biobank is an organized collection of human biological material and associated information stored for research purposes, so the biobank platform aims to obtain, store, manage and distribute large collections of human biological samples of phenotypes and diseases in fetal medicine. In order to do so, its services and activities include:

- Sample collection and processing
- Optimal sample storage (controlled and organized)
- Databases of samples + clinical data
- Control specific and generic consent forms
- Ensure patient data confidentiality
- Support in sample request
- Sample retrieval and processing
- Assistance in sample analysis

ANIMAL MODEL:

Coordinator: Míriam Illa

The animal model platform is responsible for the management of the experimental projects of the research lines of the group, coordinating the UB animal housing platform, the IDIBAPS management area, the ethics committee, the biobank platform and other institutions like the IDIBAPS platform of medical imaging. Its services include:

- Facilitation of the execution of procedures
- Coordination of the procedures
- Management of material and expenses
- Management of biological samples
- Control of CEEA documentation

TEXTURES:

Coordinator: Elisenda Bonet

The textures platform focuses on the developing of new technological solutions for medical applications in fetal medicine, as well as the transfer of medical applications to market. The platform uses Transmural Biotech, the technological transfer spin-off company of the Research group, in order to provide its services:

- Management and testing of Image databases
- Image Processing (by Texture analysis)
- Machine Learning algorithms
- Development of Graphical User Interfaces
- Coordination, planning and consulting on technology projects

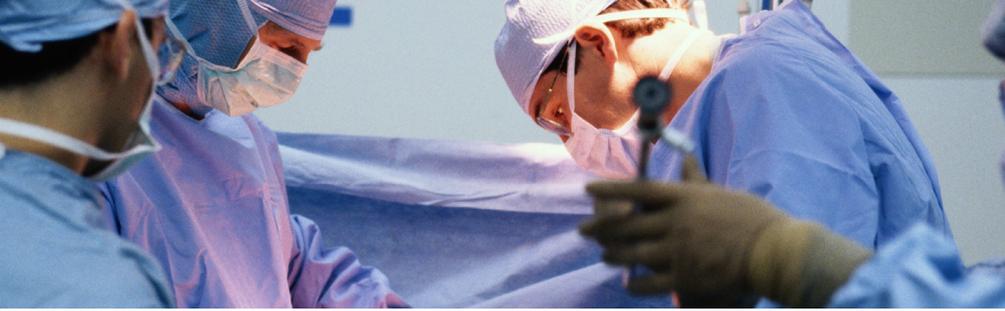
INTERNATIONAL

DOCTORATE:

Coordinator: Ruthy Acosta

The international doctorate platform works together with the human resources and project management units to ensure the international positioning of the fetal i+D group, by developing several areas:

- ErasmusMundus Joint Doctorate: International doctorate in fetal and perinatal medicine. Design, development, implementation and evaluation of the programme
- Capacity building: People and Organization Development
- Collaborative Research: Identification of appropriate Key Experts and partners for each project
- Raising investments: Keep active collaboration with our main sponsors, and develop new resources and connections





TRAINING





Hospital Clinic's deep teaching roots, given by its ties with the University of Barcelona, and our internationally renowned Research Team endorse our subspecialty training programs, designed to train top-level maternal-fetal medicine specialists.

Our subspecialty training courses have always been widely appreciated by maternal-fetal professionals, who value the quality of the contents and the high standards of the faculty. Most of our courses are supported by national (SESEGO) and international (Intl. Society of Ultrasound in Obstetrics & Gynecology, Fetal Medicine Foundation) societies, and all of them allow trainees to get educational credits.

This year, envisioning new ways to spread our knowledge in the maternal-fetal medicine field, we launched our first online courses, which keep the essence of our on-site courses but from an innovative, flexible point of view. This 2012 we have organized 4 on-site courses and 4 online courses, being all of them a great success in terms of attendance and participation. Therefore, we plan on developing new initiatives for 2013, including future streaming training sessions.

Apart from our courses, our center offers long and short term training programs for all those top-level researchers who wish to be trained by our group.

Fetalmed PhD

One of our major accomplishments in 2012 in was being awarded receiving a European Commission Grant for the set-up of **fetal-medPhD, the first Erasmus Mundus Joint Doctorate in Fetal and Perinatal Medicine.**

FetalmedPhD is a highly innovative research and training programme allowing to achieve an internationally recognized PhD degree on fetal medicine. The programme contemplates research projects spanning all scientific disciplines and all maturational stages relevant to fetal medicine, from early fetal life to childhood.

Activities included in the programme – designed by a unique consortium of three European centres of excellence on Fetal and Perinatal Medicine based in Barcelona, Leuven and Lund - combine science, technology, and innovation to promote a new generation of transdisciplinary researchers who are capable of closely working in association with other disciplines. Trainees are consequently empowered to work and apply solutions in different sectors, including obviously academia and industry.

www.fetalmed-em.eu



INTERNATIONAL EXCHANGE PROGRAMS

Nelly Padilla

*Post-doc al Karolinska Institute.
Astrid Lindgren Children's Hospital- Department
of Women and Children's Health- Neonatology
Stockholm, Sweden*

Dafnis Batallé

May-August 2012
*Signal Processing Laboratory (LTS5)
École Polytechnique Fédérale de Lausanne
(EPFL).
Lausanne, Suiza.*
Project entitled "Nuevas medidas de
conectividad basadas en teoría espectral de
grafos" granted by the Education Spanish
Ministry (mobility programme for doctorate
students 2011)

Miriam Illa

October-November 2012
*Department of Physiology, Development
and Neuroscience
Cambridge University, UK.*
Fellowship carried out in order to get
familiar with the research protocols of the
UK group and set the basis for a collaboration
project.

Iratxe Torre

June- September 2012
*Imperial College, London
Sarcomer tomography Lab, supervised by Dr.
Pradeep K. Luther
Imperial College London (UK).*
Stay granted by the Instituto de salud
Carlos III

MASTER'S DEGREES

Balma Gil

Official Master's Degree in Internationalization
Thesis title:
*Plan de Internacionalización
de la oferta docente del
Centro Fetal I+D. Alternativas
innovadoras de financiación*
Thesis director(s):
Luis Enciso y Enric Grau (ISGLOBAL)
Presentation date:
13/12/2012
Mark: 9

Gabriela Egaña

*Official Master's Degree in Advanced Medical
Competences*
*Specialty: Medicina Materno-fetal
Universitat de Barcelona*

RESEARCH AWARDS

**Research Excellence Award, Society
for Maternal-Fetal Medicine (SMFM).**

Montse Palacio

For the study *Performance of an Automatic
Quantitative Ultrasound Analysis (AQUA)
texture extractor to predict fetal lung maturity
assessed by TDx-FLM II in amniotic fluid.*

Young Investigator Award - ISUOG

Fàtima Crispi

For the study *Presence of post-systolic
shortening as a sign of cardiac adaptation
to chronic pressure overload in intrauterine
growth restriction (OC12.02).* The finalist
was Gabriela Egaña, also member of our
Research Group.

ALTEX Award 2012

Erwin Van Vliet
For his 2011 article *Current standing
and future prospects for the technologies
proposed to transform toxicity testing in
the 21st century* published in ALTEX 28,
17-44.



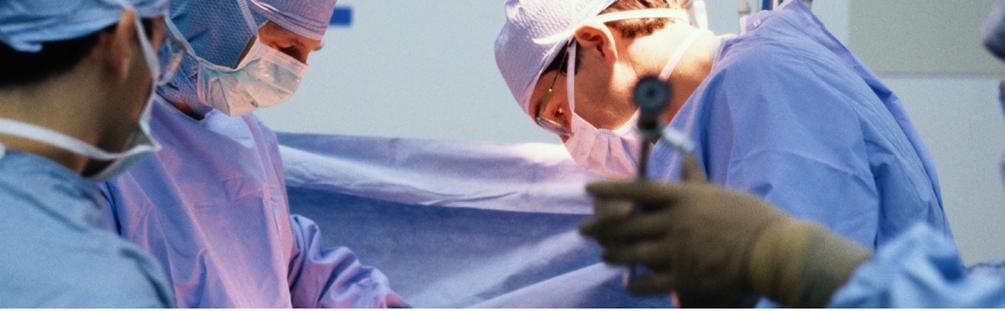
Advanced courses,
monographs, online
courses, Exchange
programmes, etc.

> www.medicinafetalbarcelona.org/docencia/en

CONFERENCES AND WORKSHOPS

- [IEEE International Symposium on Biomedical Imaging.](#)
2-5th May 2012, Barcelona, Spain.
- [22nd World Congress on ultrasound in Obstetrics and Gynaecology.](#)
9-12th September 2012, Copenhagen, Denmark.
- [18th Annual Meeting of the Organization for Human Brain Mapping \(OHBM 2012\).](#)
June 2012, Beijing, China.
- [ISSHP \(International Society for Study of Hypertension in Pregnancy\) World Congress.](#)
July 2012, Geneva, Switzerland.
- [2nd Global congress on Maternal and infant Health.](#)
25-28th October 2012. Shanghai, China.
- [1er Congreso Euroamericano de Medicina Fetal.](#)
2-4th November 2012, Querétaro, México.
- [11th World Congress of the Fetal Medicine Foundation.](#)
24-28th June 2012, Kos, Greece.
- [FCVB \(Frontiers in cardiovascular Biology\)- EBAC.](#)
30th March-1st April 2012, London, UK.
- [Controversias in Obstetrics, Gynecology and Infertility \(COGI-BCN\).](#)
May 2012, Barcelona, Spain.
- [38 Symposium Internacional. Actualización en Medicina materno-fetal.](#)
Fundación Dexeus, Barcelona, Spain.
- [32st Annual Meeting Society of Maternal Fetal Medicine \(SMFM\).](#)
6-11th February 2012, Dallas, USA.
- [Reuniao Científica SPOMME.](#)
8-11th November 2012, Lisboa, Portugal
- [BASF-CAAT Symposium "Metabolomics in Toxicology and Preclinical Research: State-of-the art and potential applications metabolomics".](#)
13th February 2012, Berlin
- [1st Symposium on Fetal Cardiac Function.](#)
2 th October 2012, Bolone, Italy.
- [XXIII European Congress of Perinatal Medicine.](#)
13-16th June 2012, Paris, France on 15th June.
- [24th EUROSON Congress.](#)
22nd-24th April 2012 Madrid, Spain
- [Congrés Català d'Obstetrícia i Ginecologia.](#)
21-23rd November 201, Barcelona, Spain.
- [XX Jornada Catalana de diagnòstic Prenatal Ecogràfic".](#)
March 2012, Vilafranca del Penedès, Spain
- [Congreso de la Sección de Medicina Perinatal de la SEGO.](#)
14-16th November 2012, La Coruña, Spain
- [27º Congreso nacional de ecografía obstétrica ginecológico SESEGO.](#)
19th May 2012, Madrid, Spain







NUMBERS AND PUBLICATIONS



OUR NUMBERS

31/12/2012

48

Scientific papers in 2012

125,62

Total Impact Factor

234.000

Visits to the website

24

Attendance to international congresses and workshops

27

Ongoing research projects

15

Fellowships

1

Published book

59

Presentations in international congresses

2

Prizes to excellence

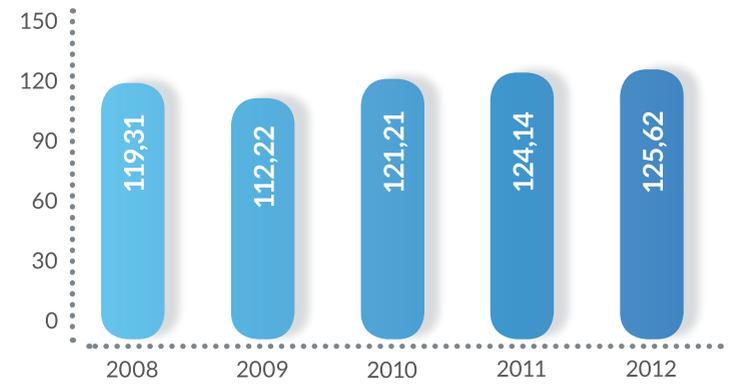
PUBLICATIONS IN SCIENTIFIC JOURNALS

Our Research Team has published 48 articles in 19 internationally recognized journals, highlighting the publication in the European Heart Journal.

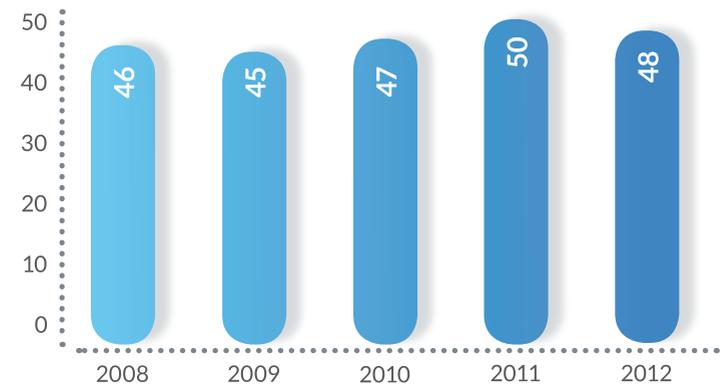
This 2012, our Research Team has published 48 articles in 19 internationally recognized journals, achieving a total Impact Factor of 125,62 points, according to the Institute for Scientific Information.

65% of the journals that have published our articles are in the first quartile. The publication of the article *Loss of Akt activity increases circulating soluble endoglin release in preeclampsia: identification of inter-dependency between Akt-1 and heme oxygenase-1* in European Heart Journal is particularly noteworthy, as this journal has an impact factor of 10,478.

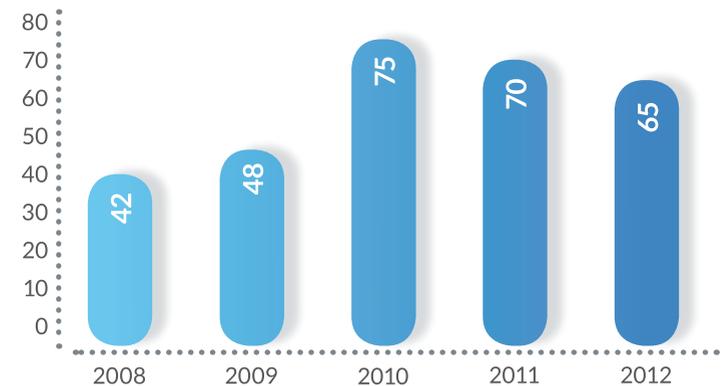
Impact Factor



Published Articles



First quartile (%)







ONGOING
PROJECTS



ONGOING PROJECTS 2012

01/10/2007 - 31/12/2013

A multidisciplinary research programme for the evaluation of diagnostic techniques and intervention measures for prenatal brain damage using growth restriction as a model.

E. Gratacós

CEREBRA FOUNDATION

745.500,00 €

01/09/2010 - 30/08/2014

eVV-endoVascularVision: new endoscopic tools for real time vascular assisted vision

E. Gratacós

European Commission

379.878,96 €

01/08/2008 - 30/07/2012

U VOLUMES. Novel Ultrasound-based Tridimensional Tools for Structural and Functional Evaluation of Volumes of Interest in Human Organs

E. Gratacós

European Commission

450.594,00 €

03/12/2010 - 02/12/2014

Biomarcadors quantitius d'imatge: Nous mètodes per a la predicció del neurodesenvolupament anormal en nens amb retard de creixement fetal basats en connectòmica.

E. Gratacós

LA CAIXA

1.228.315,00 €

01/01/2010 - 31/12/2012

Desarrollo de marcadores predictivos y búsqueda de mecanismos moleculares responsables de la reprogramación cardíaca en la restricción de crecimiento fetal

E. Gratacós

MICINN

96.800,00 €

23/12/2009-22/12/2012

Gestión del remodelado cardiovascular mediante integración de tecnologías de monitorización ubicua y conceptos del cuerpo humano fisiológico virtual (cvREMOD)

E. Gratacós

MICINN - ABBOTICS

500.000,00 €

MICINN - TMB 300.000,00 €

23/07/2009 - 31/12/2013

Fisiopatologia de la Reproducció Human

J. Balasch

AGAUR- Generalitat de Catalunya

58.240,00 €

28/07/2006 - 31/12/2012

Proyectos CIBER de Enfermedades raras

E. Gratacós

CIBER (CIBERER)

119.364,00 €

01/01/2012 - 31/12/2014

Efecto de la terapia antihipertensiva prenatal sobre el remodelado cardiovascular en la restricción de crecimiento intrauterino

F. Crispí

Instituto Salud Carlos III

86.882,00 €

07/03/2012 - 06/03/2014

Estudio del neurodesarrollo a través de distintas técnicas de resonancia nuclear magnética. (Espectroscopia, DTI Y análisis de texturas) y su asociación con el neurodesarrollo.

M. Sanz

Fundación Dexeus Salud de la Mujer

6.000,00 €

01/11/2012 - 01/11/2012

Monochorionic Multiple Pregnancies: Complications and Management Options. 4th international symposium of the Eurofoetus network

E. Gratacós

AGAUR- Generalitat de Catalunya

4.000,00 €

30/01/2012 - 28/12/2012

Marcadores tempranos de Cardiopatía fetal:

Correlación entre Microarreglos de RNA

E. Gratacós, L. Oliveros

Fundación Carolina- Fundación BBVA

13.200,00 €

29/10/2007 - 31/12/2012

Progesterona vaginal como tratamiento

de mantenimiento de gestantes con

amenaza de parto pretérmino.(Promesa)

Montse Palacio

Instituto de Salud Carlos III

296.450,00 €

01/04/2009 - 31/03/2012

Clinical use of assessing regional brain

circulation perfusion to identify long term

neurodevelopmental anomalies in small

for gestational age fetuses (SGA)

E. Gratacós

THRASHER RESEARCH FUNDATION

388.644,00 €

Contratos de formación en investigación

Rio Hortega para profesionales que

hayan finalizado el periodo de FSE

15/01/2009 - 14/01/2012 E. Eixarch

13/01/2010 - 12/01/2013 T. Cobo

01/01/2011 - 31/12/2013 M. Sanz

15/01/2012 - 14/01/2014 M. Illa

Instituto Salud Carlos III

396.000,00 €

Ayudas postdoctorales de perfeccio-

namiento Sara Borrell

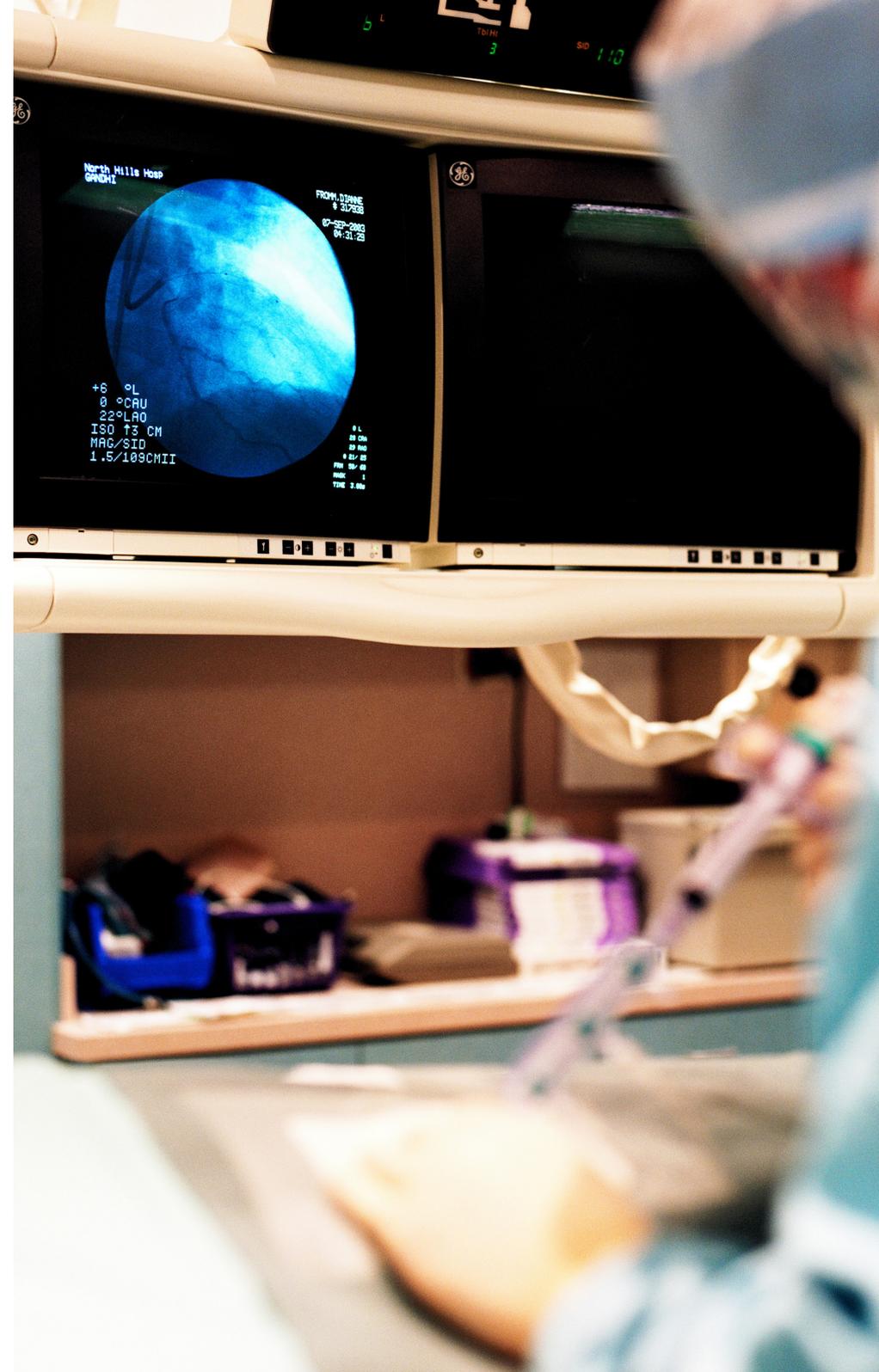
01/01/2009 - 31/12/2012 I. Torre

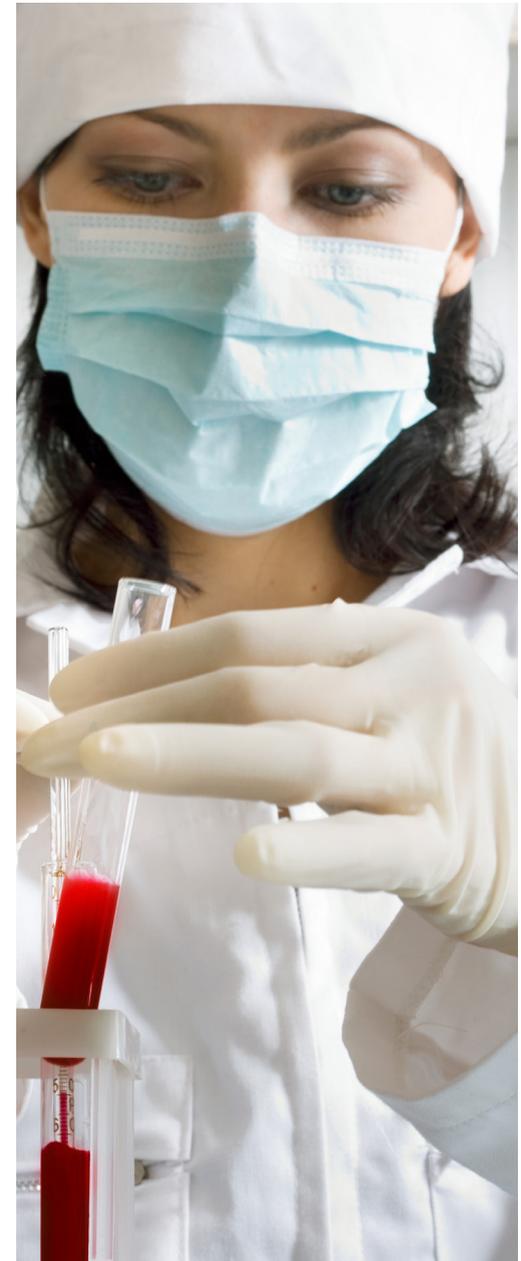
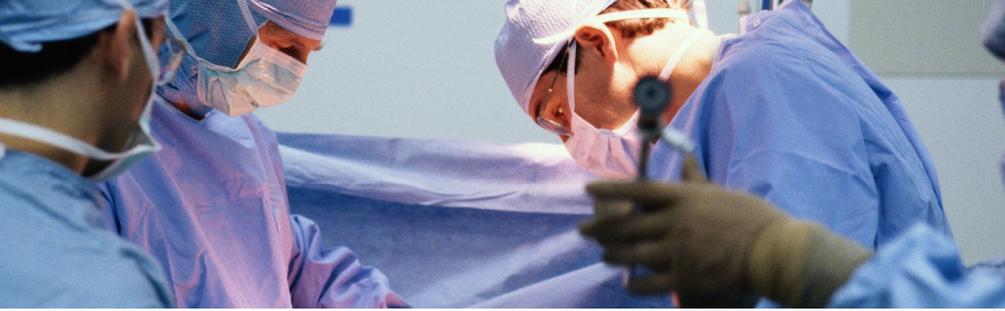
01/01/2010 - 31/12/2013 N. Padilla

01/01/2012 - 31/12/2014 E. Muñoz

Instituto Salud Carlos III

396.000,00 €







OUTREACH



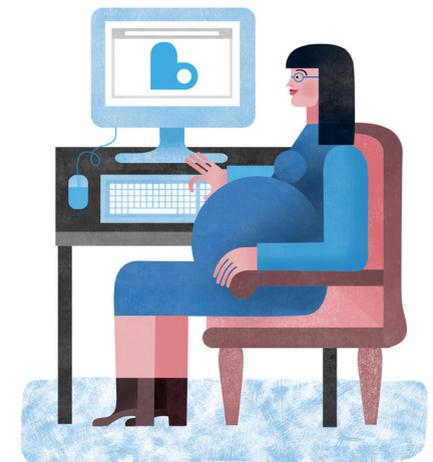


As a biomedical research team, one of our main challenges is being able to establish a social commitment, building bridges between research and society in order to share and spread our knowledge in maternal-fetal medicine, a widely unknown field nowadays. It is because of this that we have created inatal, the first social website directly related to a maternal-fetal medicine referral center. Inatal is aimed to pregnant women with no pathologies but doubts and worries to which the Net cannot always give a trustworthy answer.

Inatal is a massive social project if we take into account that more than 500000 women give birth in Spain per year, and more than 10 million in South America. It provides objective, useful information about health issues while encouraging the active participation of its users.



**Your pregnancy website,
driven by maternal-fetal
medicine specialists.**





Encuentra sobre tu embarazo:

- b FOROS**
- b NOTICIAS**
- b SEMANA A SEMANA**

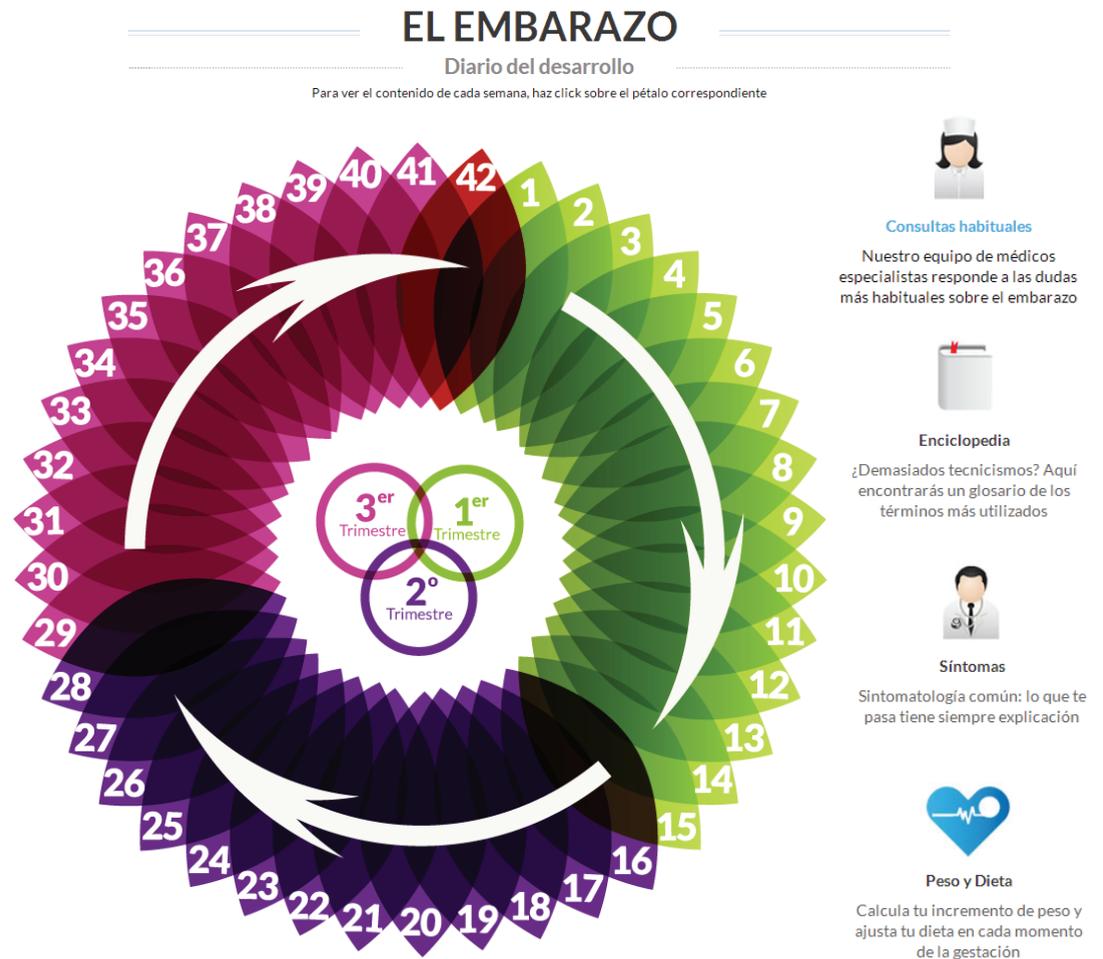
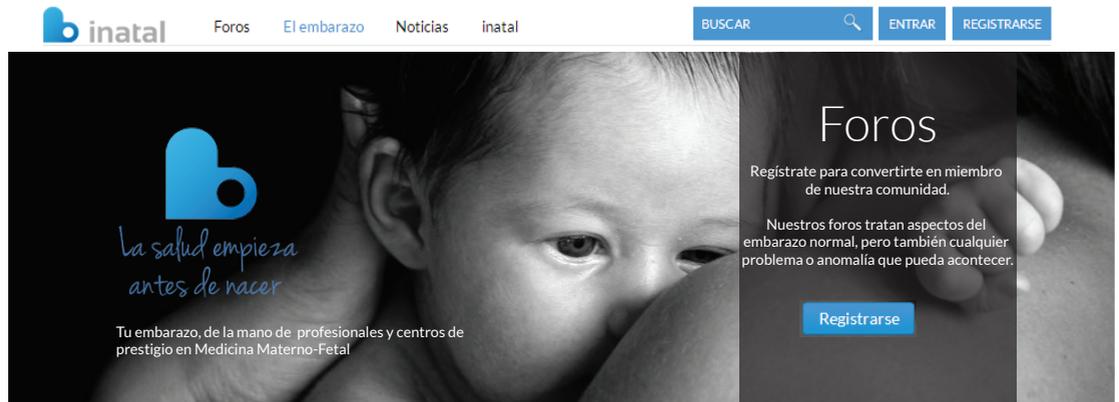
La salud empieza antes de nacer

f inatal.org
t @inatal_org

FMFB
 FUNDACIÓN MEDICINA FETAL BARCELONA

EN COLABORACIÓN CON:

CLÍNICA BARCELONA
 Hospital Universitari



FETAL MEDICINE, IN THE SPOTLIGHT

2012 has been packed with news and acknowledgements of our research team. We have appeared in several national and international media, and here is a small sample of it:



Operación pionera a un feto con una enfermedad pulmonar mortal

http://ccaa.elpais.com/ccaa/2012/03/13/catalunya/1331642354_789596.html

Salvada la vida de un feto con una endoscopia pionera para desatascar un bronquio

<http://www.lavanguardia.com/salud/20120313/54268259962/salvada-vida-feto-con-endoscopia-pionera-para-desatascar-bronquio.html>

The happy and healthy toddler whose life was saved by world-first lung surgery while she was still in her mother's WOMB

<http://www.dailymail.co.uk/health/article-2114661/Alaitz-Corominas-saved-world-lung-surgery-mothers-WOMB.html>

Entendí que la medicina materno-fetal era el futuro (entrevista Català de l'Any)

<http://www.elperiodico.com/es/noticias/sociedad/entendi-que-medicina-materno-fetal-era-futuro-1696741>

Curar antes de nacer: la gran oportunidad de futuro de la sanidad pública

<http://www.20minutos.es/noticia/1424099/0/medicina-materno-fetal/oportunidad-futuro/sanidad-publica/>

La medicina da pasos para curar al feto antes de que nazca

<http://www.diariodenavarra.es/noticias/mas-actualidad/sociedad/2012/05/06/la-medicina-pasos-para-curar-feto-antes-que-nazca-79400-1035.html>

Operar un feto es como robar un banco: entrar y salir

http://ccaa.elpais.com/ccaa/2012/09/17/catalunya/1347875604_240027.html

Tenim la capacitat de millorar la qualitat de vida de molts nens

http://obrasocial.lacaixa.es/ambitos/publicaciones/alma6_ca.html

Reportaje a Eduard Gratacós, especialista en medicina fetal

<http://www.buscocirujano.com/noticias-buscocirujano-cirujanos-articulos-reportajes-a-especialistas-buscocirujano/1000-reportaje-a-eduard-gratacos-especialista-en-medicina-fetal.html>

Entrevista al Dr. Gratacós dins el programa "Què feu, no dormiu?" a Cadena Ser

http://www.cadenaser.com/gente/articulo/feu-dormiu/csrsrpor/20110406csrsrage_4/Tes

Entrevista al Dr. Gratacós dins el programa "Puntos de Vista" a RNE

http://www.ivoox.com/puntos-venta-nueva-tecnica-para-poder-audios-mp3_rf_1182817_1.html

Històries clíniques: Eduard Gratacós i Francesc Torralba a "Matía 4 Bandes", RTVE

<http://www.rtv.es/alcanta/audios/mati-a-4-bances/mati-4-bandes-histories-cliniques-eduard-gratacos-francesc-torralba/1372109/>

Respirar optimisme

<http://www.8tv.cat/8aldia/equip-reporters/respirar-optimisme>

Operació cardíaca abans i després de néixer-

<http://www.rtv.es/alcanta/videos/linformatiu/linformatiu-migdia-22-11-12/1587175/>

WEBSITE



Atención Clínica



Investigación y Innovación



Docencia



Inatal

Our web

www.medicinafetalbarcelona.org

Our web received a total of 234000 visitors in 2012, experiencing significant growth by comparison to 2011. We have received visits from over 100 countries worldwide. The home site has been redesigned according to the different sides of the Fetal Medicine Research Center: MMF(Clinical Care), Research, Education and inatal, in order to improve visitor experience.

Our site was awarded the Certificate of Health and Hon Web Interest Code, and it is also accredited by the Web Medical College of Barcelona.



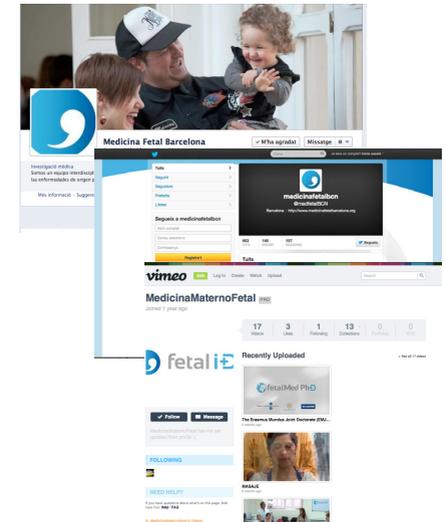
Social media

Our digital presence is complemented by our Facebook and Twitter profiles, that help us keep in touch with our friends and colleagues, and our Vimeo video repository.

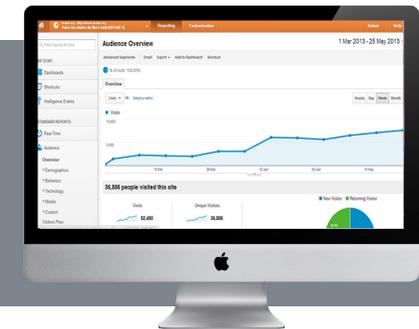
www.facebook.com/Medicinafetalbarcelona

www.twitter.com/medfetalbcn

www.vimeo.com/medicinamaternofetal



234.000
Visitas en nuestra web







ACKNOWLEDGEMENTS



COLLABORATIONS

We are not alone in our research of prenatal pathologies, and that is why our growth as a group and referral center in the south of Europe would be impossible without the development of collaboration agreements and common projects with other referral hospitals, universities and companies both at a national and international level.



Spain

- Universitat de Barcelona
- Hospital de la Santa Creu i Sant Pau
- Institut Català de Ciències Cardiovasculars
- Parc Científic de Barcelona
- Universitat Pompeu Fabra
- Universitat Politècnica de Catalunya
- ICFO, Instituto de Ciències Fotòniques
- Universidad de Santiago de Compostela
- Universidad de Navarra
- Centro de Investigación Príncipe Felipe, Valencia
- Universidad Pablo de Olavide, Sevilla
- Universidad de Jaén
- Instituto de Investigación en Bioingeniería de la Universidad de Zaragoza
- Fundación Jimenez Díaz
- Hospital de Terrassa
- Hospital de Manresa
- Hospital Puerta del Mar, Cádiz
- Hospital Clínico Universidad de Chile, Santiago de Chile
- Hospital La Paz, Madrid
- Hospital Sant Joan de Déu
- Transmural Biotech (Spin-off)

Internacional

- Consorcio Eurofoetus
- University Hospitals Leuven, Bèlgica
- Cerebra Foundation for the Brain Injured Child, Gal·les
- King's College Hospital, Londres
- Hospital Necker
- Enfants Malades, París
- University of Lund
- Thrasher Research Fund, Salt Lake City
- University of California, San Francisco
- Alpert Medical School of Brown University
- Providence Children's Hospital of Philadelphia, Philadelphia
- Hadassah-Hebrew University Medical Centers, Jerusalem
- Tel Aviv University
- Edith Wolfson Medical Center
- Consejo Nacional de Ciencia y Tecnología (CONACyT)
- Karolinska Institute, Estocolm
- École Polytechnique Fédérale de Lausanne
- Cambridge University
- Imperial College, Londres
- University Hospital Hradec Kralove
- UZ Leuven
- University of Tennessee Health Science Center, Memphis, Tennessee, USA.
- Sahlgrenska University Hospital Gotheburg
- St Petersburg Hospital
- KK Women's & Children's Hospital, Singapur
- Hospital Barranquilla – CEDIUL
- University of Wisconsin, Madison, Wisconsin
- Royal Prince Alfred Hospital, Sydney

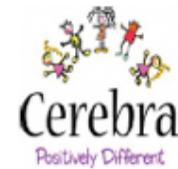
Companies

- SIEMENS
- KARL STORZ
- Rusell & Reynolds
- BioTalentum
- CIBER-ER

SPONSORS

Also, and specially taking into account the current economical context, it would be impossible to reach our goals without the funding required to carry out our excellence research projects. Therefore, we would also like to thank all financial support received

from public and private institutions, as well as from private individuals, which has allowed us to carry on with our research against prenatal anomalies.





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