

# 11<sup>th</sup> INTERNATIONAL SYMPOSIUM ON STEM CELL THERAPY & CARDIOVASCULAR INNOVATIONS



[www.cardiovascularcelltherapy.com](http://www.cardiovascularcelltherapy.com)

Symposium Director: Francisco Fernández – Avilés

## PRELIMINARY PROGRAM



MADRID. SPAIN, MAY 29<sup>th</sup> - 30<sup>th</sup> 2014

AULA MAGNA. PABELLÓN DOCENTE. HOSPITAL GENERAL UNIVERSITARIO GREGORIO MARAÑÓN.  
C/ IBIZA, 43. 28007 MADRID



# 11

th INTERNATIONAL  
SYMPOSIUM

ON STEM CELL THERAPY  
& CARDIOVASCULAR  
INNOVATIONS



[www.cardiovascularcelltherapy.com](http://www.cardiovascularcelltherapy.com)

1

PRELIMINARY PROGRAM

2

ORGANIZATION

3

EDUCATIONAL OBJECTIVES

4

ACCREDITATION

5

GENERAL INFORMATION

6

WEBSITE



[www.cardiovascularcelltherapy.com](http://www.cardiovascularcelltherapy.com)



# THURSDAY, 29<sup>th</sup> May 2014

7.45 – 8.30 REGISTRATION

8.30 – 9.00 WELCOMING

9.00 – 10.00 OPENING LECTURES

---

## Frontiers of cardiac regeneration. Is there a role in advanced heart disease?

**Chairs:** John Martin (London, UK)  
Alberto San Román (Valladolid, Spain)

9.00 – 9.20 **The Biological point of view.**  
Stefanie Dimmeler (Frankfurt, Germany)

9.20 – 9.40 **The Clinical point of view.**  
Bernard Gersh (Rochester, USA)

9.40 – 10.00 **The contribution of animal models of cardiac disease**  
Steven Chamuleau (Utrecht, The Netherlands)

10.00 – 10.20 **Coffee break**

10.20 – 12.50 **WHAT'S NEW IN STEM CELL THERAPY FOR CARDIACREPAIR?**

---

**Chairs:** Kai C. Wollert (Frankfurt, Germany)  
Angel Raya (Barcelona, Spain)

**Panel Discussants:** Felipe Atienza (Madrid, Spain)  
Dominique Charron (Paris, France)  
Stefanie Dimmeler (Frankfurt, Germany)  
Roberto Fdez-Viña (Buenos Aires, Argentina)

10.20 – 10.40 **Types of Cells – Only the lonely**  
Bernardo Nadal-Ginard (Liverpool, UK)

10.40 - 11.00 **Types of Cells – Not only the lonely**  
Joshua Hare (Miami, USA)

11.00 – 11.20 **Mechanisms of action. Still exogenous cell replacement or again paracrine modulation?**  
Atta Behfar (Rochester, USA)

11.20 – 11.40 **Delivery and tracking. Finding a well-hidden needle in the haystack**  
Javier Bermejo (Madrid, Spain)

11.40 – 12.00 **Electrical coupling for real functional regeneration. The necessary contribution of electrophysiology.**  
Angel Arenal (Madrid, Spain)

12.00 - 12.20 **Cyclin A2 induces cardiac regeneration after myocardial infarction through cytokinesis of adult cardiomyocytes.**  
Hina W. Chaudry (New York, USA)

12.20 – 12.45 **Panel Discussion**

## 12.45 – 13.30 LUNCH AND POSTER EXHIBITION

---

**Chairs and jury:** Philippe Menasche (Paris, France)  
Felipe Prosper (Pamplona, Spain)

In this “Poster Exhibition” research teams involved in the topic of the Symposium will have the opportunity of presenting selected parts of their work to the audience.

The Poster Review Committee will select which the best posters of the session are. At the end of the session, the verdict will be communicated. The winners of the Posters Awards will have to present their work (oral presentation) the following day in the morning, in the session named “Best Poster Presentation”, when they will receive their prize.

For more information regarding Poster Exhibition and Poster Awards, please contact us via e-mail at [posters@cardiovascularcelltherapy.com](mailto:posters@cardiovascularcelltherapy.com)

## 13.30 – 16.00 LATE BREAKING HEART TISSUE ENGINEERING

---

**Chairs:** Stefan Janssens (Belgium)  
Pedro L. Sánchez (Salamanca, Spain)

**Panel Discussants:** Angel Arenal (Madrid, Spain)  
Javier Bermejo (Madrid, Spain)  
Brooke Helfer (San Diego, USA)  
Bernardo Nadal-Ginard (Liverpool, UK)

13.30 – 13.50	<b>Replacement of extracellular architecture by artificial tissues</b> Juan Carlos Chachques (Paris, France)
13.50 – 14.10	<b>Role of cadaveric scaffolds in advanced cardiac disease</b> Doris Taylor (Houston, USA)
14.10 – 14.30	<b>Can intramyocardial delivery repair extracellular structure?</b> Jerome Roncalli (Toulouse, France)
14.30 – 14.50	<b>Role of electrophysiology in the production of bioartificial myocardium</b> Andreu M. Climent (Madrid, Spain)
14.50 – 15.10	<b>Enhancing retention and efficacy of cardiosphere-derived cells administered after myocardial infarction using a hyaluronan-gelatin hydrogel</b> Rachel Ruckdeschel Smith (Los Angeles, USA)
15.10 – 15.30	<b>The long and winding road to building a biological valve</b> Amir Lerman (Rochester, USA)
15.30 – 16.00	<b>Panel Discussion</b>

## 16.00 – 18.00 DISCOVERIES AND INVENTIONS

---

	<b>Chairs:</b>	<i>Juan Carlos Izpisúa Didier Locca</i>	<i>(La Jolla, USA) (Lugano, Switzerland)</i>
	<b>Panel Discussants:</b>	<i>Atta Behfar Amir Lerman Stefanie Dimmeler Andreas Zeiher</i>	<i>(Rochester, USA) (Rochester, USA) (Frankfurt, Germany) (Frankfurt, Germany)</i>
16.00– 16.20	<b>Telomeric research and its role protecting and regenerating myocardium.</b>	<i>Maria Blasco</i>	<i>(Madrid, Spain)</i>
16.20 – 16.40	<b>Genetic manipulation of cells to enhance cardiac repair</b>	<i>Roger Hajjar</i>	<i>(New York, USA)</i>
16.40 – 17.00	<b>Perfusable microvessel networks and perfusion platforms for engineered tissues</b>	<i>Milica Radisic</i>	<i>(Toronto, Canada)</i>
17.00 – 17.20	<b>MicroRNAs in cardiac development and regeneration</b>	<i>Enzo R. Porrello</i>	<i>(Queensland, Australia)</i>
17.20 – 17.40	<b>Exosomes and cardiac repair after myocardial infarction.</b>	<i>Douglas W. Losordo</i>	<i>(Chicago, USA)</i>
17.40 – 18.00	<b>MYDGF protein therapy improves infarct healing</b>	<i>Kai C. Wollert</i>	<i>(Hannover, Germany)</i>
18.00 - 18.20	<b>Panel Discussion</b>		

## 18.30 – 20.30 EDUCATIONAL WORKSHOPS

---

1. Clinical research in stem cell therapy. Advances, barriers and pitfalls.
2. Application of tissue engineering discoveries. Opportunities and impediments
3. Cell production and delivery.



EDUCATIONAL WORKSHOP 1 (ROOM 1)

**Clinical research in stem cell therapy. Advances, barriers and pitfalls**

**Coordinators** Bernard Gersh  
Ricardo Sanz Ruiz

**Panel discussants** Javier Bermejo  
Douglas W. Losordo  
Emerson Perin  
Sol Ruiz  
Andreas Zeiher

**18.30 – 18.40** **The problem endpoints. Only mortality? Role of the quality of life and functional status**  
Bernard Gersh (Rochester, USA)

**18.40 – 19.00** **Panel Discussion**

**19.00 – 19.10** **The problem of myocardial damage measurement. Reality and imagination of imaging techniques**  
Raquel Yotti (Madrid, Spain)

**19.10 – 19.30** **Panel Discussion**

**19.30 – 19.40** **The problem of recruitment. Barriers and solutions from the US perspective. Applicable in Europe?**  
Timothy Henry (Los Angeles, USA)

**19.40 – 20.00** **Panel Discussion**

**20.00 – 20.10** **Role of GCSF after AMI. STEM-AMI**  
Giulio Pompilio (Milan, Italy)

**20.10– 20.30** **Panel Discussion**



**EDUCATIONAL WORKSHOP 2 (ROOM 2)****Application of tissue engineering discoveries.****Opportunities and impediments****Coordinators**

*Doris A. Taylor*  
*Pedro L. Sanchez*

**Panel Discussants**

*Angel Arenal*  
*Joseph Consiglio*  
*Amir Lerman*

**18.30 – 18.40****Sequence and integration of experimental models**

*Andreu M. Climent* (Madrid, Spain)

**18.40 – 19.00****Panel Discussion****19.00 – 19.10****The problem of cell-to-cell and cell-to-tissue interaction. Role of electrophysiology in tissue engineering**

*Felipe Atienza* (Madrid, Spain)

**19.10 – 19.30****Panel Discussion****19.30 – 19.40****Artificial vs bioartificial matrixes: Homo or Xeno Scaffolds?**

*Doris A. Taylor* (Texas, USA)

**19.40 – 20.00****Panel Discussion****20.00 – 20.10****Novel tracking technologies: fluorine-19 magnetic resonance Imaging and its impact on stem cells**

*Brooke Helfer* (San Diego, USA)

**20.10 – 20.30****Panel Discussion**

## EDUCATIONAL WORKSHOP 3 (ROOM 3)

### Cell production for clinical trials

---

**Coordinators** *M<sup>a</sup> Eugenia Fernández Santos*  
*Philippe Menasché*

**Panel Discussants** *Stefanie Dimmeler*  
*Bernardo Nadal*  
*Felipe Prósper*  
*Rachel Ruckdeschel Smith*

**18.30 – 18.40** **Cardiopoietic mesenchymal stem cells for treatment of chronic advanced ischemic heart failure**  
*Atta Behfar* (Rochester, USA)

**18.40 – 19.00** **Panel Discussion**

**19.00 – 19.10** **Biological point of view of combination human cardiac stem cells and bone marrow mesenchymal stem cells**  
*Joshua M. Hare* (Miami, USA)

**19.10 – 19.30** **Panel Discussion**

**19.30 – 19.40** **Cardiac stem cell**  
*Luis R. Borlado* (Madrid, Spain)

**19.40 – 20.00** **Panel Discussion**

**20.00 – 20.10** **Impact of senescence in the therapeutic potential of human mesenchymal stem cells**  
*Antonio Bernard* (Madrid, Spain)

**20.10 – 20.30** **Panel Discussion**

# FRIDAY, 30<sup>th</sup> May 2014

## 9:00 – 9.30 BEST POSTERS PRESENTATION

---

**Chairs:** *Philippe Menasche* (Paris, France)  
*Felipe Prosper* (Pamplona, Spain)

## 9.30 – 11.00 RECENT CONTRIBUTIONS PRESENTED BY YOUNG INVESTIGATORS

---

**Chairs:** *Philippe Menasche* (Paris, France)  
*Felipe Prosper* (Pamplona, Spain)

**Panel discussants** *Joshua Hare* (Miami, USA)  
*Stefanie Dimmeler* (Frankfurt, Germany)  
*Bernard Gersh* (Rochester, USA)

9.30 - 9.45 Stem cell-based resynchronization in myocardial infarction  
*Satsuki Yamada* (Dr. Terzic's group. Rochester, USA)

9.45 - 10.00 Impact of sentence in the therapeutic potential of human mesenchymal stem cells  
*Juan Carlos Sepúlveda* (Dr. Bernard's group. Madrid, Spain)

10.30 - 11.00 Panel Discussion

## 11.00 – 11.30 Coffee Break

## 11.30 – 12.00 LATE BREAKING CLINICAL TRIALS

---

	<b>Chairs</b>	Douglas W. Losordo Emerson Perin	(Chicago, USA) (Houston, USA)
	<b>Panel discussants</b>	Anthony Mathur Didier Locca Stefan Janssens Alberto San Román	(London, UK) (Lugano, Switzerland) (Aalst, Belgium) (Valladolid, Spain)
11.30 – 11.45	<b>Comparison of transcatheter and intracoronary CD34+ cell transplantation in patients with nonischemic dilated cardiomyopathy.</b>	Bojan Wrtovec	(Ljubljana, Slovenia)
11.45 – 12.00	<b>Transcatheter mesenchymal stem cells and mononuclear bone marrow cells for ischemic cardiomyopathy: The TAC-HFT randomized trial.</b>	Joshua Hare	(Miami, USA)
12.00 – 12.15	<b>Intracoronary infusion of bone marrow-derived selected CD34+CXCR4+ cells and non-selected mononuclear cells in patients with acute STEMI and reduced left ventricular ejection fraction: The REGENT Trial. Five years follow-up</b>	Wojciech Wojakowski	(Katowice, Poland)
12.15 – 12.30	<b>Effect of shock wave-facilitated intracoronary cell therapy on LVEF in patients with chronic heart failure: the CELLWAVE randomized clinical trial</b>	Andreas Zeiher	(Frankfurt, Germany)
12.30 – 12.45	<b>Impact of intracoronary bone marrow cell therapy on left ventricular function in the Setting of ST-segment elevation myocardial infarction: a collaborative metaanalysis</b>	Ronak Delewi	(Amsterdam, The Netherlands)
12.45 – 13.00	<b>Long term survival in patients with refractory angina</b>	Thymothy D. Henry	(Los Angeles, USA)
13.00 – 13.15	<b>Bone marrow derived mesenchymal stromal cell treatment in patients with severe ischemic heart failure: The MSC-HF trial</b>	Jens Kastrup	(Copenhagen, Denmark)
13.15 – 13.45	<b>Panel Discussuion</b>		
13.45 – 14.10	<b>Break</b>		

## 14.10 – 14.50 SPECIAL LECTURES

---

Chairs *James T. Willerson* (Houston, USA)

14.10 – 14.30 **Biology for heart failure. Overcoming frontiers to move forward**  
*Valentin Fuster* (New York, USA)

14.30 – 14.50 **The revolution of human organ manufacturing. Will we use pigs as surrogate mothers?**  
*Juan Carlos Izisua* (La Jolla, USA)

## 14.10 – 15.20 CLOSING SESSION

---

### FIRST MADRID CARDIAC REGENERATION AWARDS

Chairs *John Martin* (London, UK)  
*Rafael Matesanz* (Madrid, Spain)

## 15.20– 15.30 ADJOURN

---

Francisco Fdez-Aviles (Madrid, Spain)





## DIRECTION

### **Francisco Fernández-Avilés**

*Servicio de Cardiología*

*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM)*

*Hospital General Universitario Gregorio Marañón (Madrid, Spain)*

## CO-DIRECTION

### **M<sup>a</sup> Eugenia Fernández Santos**

*Instituto de Investigación Sanitaria Gregorio Marañón*

*Hospital General Universitario Gregorio Marañón (Madrid, Spain)*

### **Bernard Gersh**

*Mayo Clinic (Rochester, USA)*

### **John F. Martin**

*Centre for Cardiovascular Biology & Medicine (London, United Kingdom)*

### **José Alberto San Román**

*Hospital Clínico-Universitario de Valladolid (Valladolid, Spain)*

### **Pedro L. Sánchez**

*Hospital Clínico Universitario de Salamanca (Salamanca, Spain)*

### **Ricardo Sanz Ruiz**

*Instituto de Investigación Sanitaria Gregorio Marañón*

*Hospital General Universitario Gregorio Marañón (Madrid, Spain)*

### **Doris A. Taylor**

*Texas Heart Institute*

*(Houston, USA)*

### **Andreas W. Zeiher**

*University of Frankfurt (Frankfurt, Germany)*

## TECHNICAL DIRECTION

Ana Fernández Baza  
*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM)*  
*Servicio de Cardiología*  
*Hospital General Universitario Gregorio Marañón*

## INTERNATIONAL SCIENTIFIC ADVISORY BOARD

Jozef Bartunek (Aalst, Belgium)	John Martin (London, United Kingdom)
Nabil Dib (San Diego, USA)	Philippe Menasche (Paris, France)
Stefanie Dimmeler (Frankfurt, Germany)	Bernardo Nadal-Ginard (Liverpool, UK)
Valentín Fuster (New York, USA)	Emerson Perin (Houston, USA)
Bernard Gersh (Rochester, USA)	Doris Taylor (Houston, USA)
Juan Carlos Izpisua (La Jolla, USA)	William Wijns (Aalst, Belgium)
Stefan Janssens (Leuven, Belgium)	Andreas Zeiher (Frankfurt, Germany)
Anthony Mathur (London, United Kingdom)	

## EXECUTIVE LOCAL COMMITTEE

Lucía Alvaredo Olmos  
*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM) - Hospital G. Universitario Gregorio Marañón, Madrid*

Carmen G. Morante  
*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM) - Hospital G. Universitario Gregorio Marañón, Madrid*

Enrique Gutiérrez  
*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM) - Hospital G. Universitario Gregorio Marañón, Madrid*

M<sup>a</sup> Eugenia Vázquez  
*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM) - Hospital G. Universitario Gregorio Marañón, Madrid*

Adolfo Villa  
*Instituto de Investigación Sanitaria Gregorio Marañón (IISGM) - Hospital G. Universitario Gregorio Marañón, Madrid*

## ORGANIZATION

- **Instituto de Investigación Sanitaria Hospital Gregorio Marañón.**
- **Servicio de Cardiología. Hospital General Universitario Gregorio Marañón, Madrid.**
- **Red Temática de Investigación Cardiovascular del Instituto de Salud Carlos III (RIC)**
- **Red Temática de Terapia Celular del Instituto de Salud Carlos III (TERCEL)**
- **Grupo de Terapia Celular Aplicada al Miocardio (TECAM, Hospital General Universitario Gregorio Marañón -Madrid-, Hospital Clínico-Universitario de Valladolid, Hospital Río Hortega - Valladolid-, Instituto de Biología y Genética Molecular - Universidad de Valladolid-)**
- **Task Force on Stem Cell Regeneration of the Heart (European Society of Cardiology)**



This symposium is aimed at both medical and non-medical scientists interested in the study and application of stem cell therapy and other biotechnological advances for the prevention and treatment of cardiovascular failure. For this reason the audience comprises:

- a. Preclinical researchers from all areas wishing to deepen their knowledge of cardiovascular biotechnological developments with therapeutic potential.
- b. Doctors specialising in the care of patients suffering from cardiovascular diseases, and who are interested in finding out about and discussing the current state of affairs and the future prospects for the application of these new therapeutic methods.
- c. Doctors involved in interventions dedicated to cardiovascular pathology and who are interested in the results and perspectives of gene vehiculization techniques, the stimulation of endogenous progenitors, cell transplant or electromechanical helps to fight cardiovascular disease.
- d. Medical or no medical professionals interested in the development of units and networks aimed at the translation of cardiovascular knowledge from bench to bedside and vice versa.
- e. Medical or no medical professionals interested in envisaging the opportunities for competition of biotechnology in the cardiovascular field

At the end of the conference those present will have acquired the following skills:

1. Knowledge and ability to discuss the latest advances in the role of progenitor cells in the integrity of the cardiovascular system of a healthy individual.
2. Knowledge and ability to discuss the latest experimental advances in the renewal and repair capacity of the damaged cardiovascular structure via the transplant of adult or embryonic stem cells or the stimulation of endogenous progenitors,.
3. Knowledge and ability to objectively debate the current state of feasibility, safety and efficacy with regards to the clinical application of cell therapy and other new biotechnological treatments.
4. Knowledge and ability to debate objectively on the efficiency of these types of treatment in patients with acute or chronic cardiovascular diseases.
5. Ability to predict the possibilities of scientific and professional attitude with regards to offering these therapeutic methods.
6. Ability to evaluate and decide one's own ability to participate in the application of these therapies for healthcare, clinical, and preclinical purposes.
7. Ability to identify those institutions and groups with the highest performance capabilities in these fields, and be able to establish contacts for educational, scientific, and healthcare purposes.



- Spanish Society of Cardiology.

Continuing Medical Education Accreditation Program. Activity accredited by the Spanish Society of Cardiology for 10,13 credit hours.



- EBAC (European Board for Accreditation in Cardiology).

Activity accredited by the European Board for Accreditation in Cardiology



- Comisión de Formación Continuada. Sistema Nacional de Salud. Activity accredited



The website [www.cardiovascularcelltherapy.com](http://www.cardiovascularcelltherapy.com) is a virtual place which contains all the information related to this Symposium and its previous editions

It is possible through this web-site to access the scientific program, to register and to reserve accommodation.

It is also a priority for this web site to offer updated information about Stem Cell Therapy for Cardiovascular Diseases, so appropriate access to related sites has been created.

You can also join us on **Facebook** and **Twitter**.

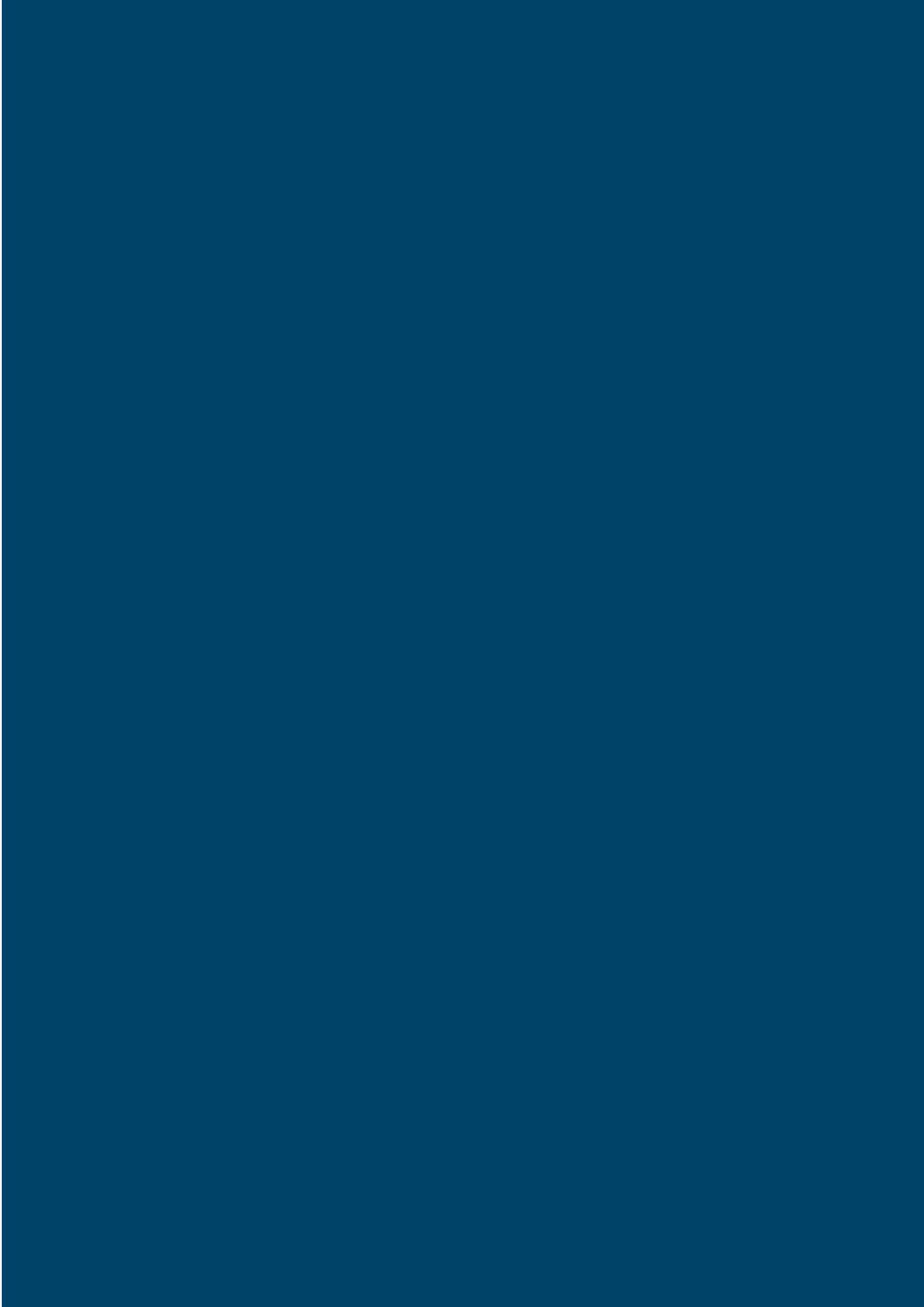
@cardiostemcell

#TECAM2014











Hospital General Universitario  
Gregorio Marañón

Comunidad de Madrid



## DIRECTION

**Francisco Fernández-Avilés**

*Instituto de Investigación Sanitaria Gregorio Marañón  
Hospital General Universitario Gregorio Marañón (Madrid, Spain)*

## CO-DIRECTION

**M<sup>a</sup> Eugenia Fernández Santos**

*Instituto de Investigación Sanitaria Gregorio Marañón  
Hospital General Universitario Gregorio Marañón (Madrid, Spain)*

**Bernard Gersh**

*Mayo Clinic (Rochester, USA)*

**John F. Martin**

*Centre for Cardiovascular Biology & Medicine (London, United Kingdom)*

**José Alberto San Román**

*Hospital Clínico-Universitario de Valladolid (Valladolid, Spain)*

**Pedro L. Sánchez**

*Hospital Universitario de Salamanca (Salamanca, Spain)*

**Ricardo Sanz Ruiz**

*Instituto de Investigación Sanitaria Gregorio Marañón  
Hospital General Universitario Gregorio Marañón (Madrid, Spain)*

**Doris A. Taylor**

*Texas Heart Institute  
(Houston, USA)*

**Andreas W. Zeiher**

*University of Frankfurt (Germany)*

## TECHNICAL DIRECTION

Ana Fernández Baza  
Hospital General Universitario Gregorio Marañón  
C/ Doctor Esquerdo, 46. 28007 Madrid  
T. 00 34 91 426 58 82 / F. 00 34 91 586 82 76  
anafdez baza@cardiovascularcelltherapy.com

## TECHNICAL SECRETARIAT

Viajes Orbiazul  
C/ Alonso Pesquera 2. 47002 Valladolid  
T. 00 34 983 30 91 22 / F. 00 34 983 29 53 51  
housing@cardiovascularcelltherapy.com

ACCREDITATION

