

ESF Exploratory Workshop on

**Around Mesenchymal Stem Cells: Dissection and
Exploitation of Secretory Activity of MSC for
Regenerative Medicine and Anticancer Therapies**

Bologna (Italy), 11-13 April 2012

Convened by:
Nicola Baldini^① and Massimo Dominici^②

^① *University of Bologna and Istituto Ortopedico Rizzoli, Bologna, Italy*

^② *University of Modena e Reggio Emilia, Modena, Italy*



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The Exploratory Workshops scheme is one of the key instruments of the Science Strategy “pillar”. Each year, ESF supports approximately 50 Exploratory Workshops across all scientific domains. The focus of the scheme is on workshops aiming to explore an emerging and/or innovative field of research or research infrastructure, also of interdisciplinary character. Workshops are expected to open up new directions in research or new domains. It is expected that a workshop shall conclude with plans for follow-up research activities and/or collaborative actions or other specific outputs at international level.

European Science Foundation

1 quai Lezay Marnésia
BP 90015
67080 Strasbourg Cedex
France
Fax: +33 (0)3 88 37 05 32
<http://www.esf.org>

ESF Exploratory Workshops:

Paul Egerton

Corporate focal point for Peer Review and Evaluation

Valerie Allspach-Kiechel

Senior Administrator

Tel: +33 (0)3 88 76 71 36

Isabelle May

Senior Administrator

Tel: +33 (0)3 88 76 71 46

Email: ew-office@esf.org

<http://www.esf.org/workshops>

Convenor:

Prof. Nicola Baldini
nicola.baldini@ior.it

Dept. of Biomedical and Neuromotion Sciences
University of Bologna
Istituto Ortopedico Rizzoli
via di Barbiano 1/10
40136 Bologna, Italy

Co-convenor:

Prof. Massimo Dominici
massimo.dominici@unimore.it

Dept. Oncology, Hematology and Respiratory
Diseases
University of Modena e Reggio Emilia
Via del Pozzo 71
41100 Modena, Italy

Main Objectives of the Workshop:

The main goal of the workshop is to establish collaborative research in the emerging field of cell-free therapy based on the paracrine activity of mesenchymal stromal cells. The workshop will define: 1) potential clinical application of cell-free therapies; 2) major advantages/limitations; and 3) gaps in current knowledge.

Additional Objectives:

Future activities will include: 1) identification of research issues for clinical translation; 2) strategy development for joint collaborative research; 3) education/research training networks; and 4) preparation of a consensus paper as a preliminary step for grant application.

Workshop Agenda

A key aspect of this workshop will be to provide an interactive output-oriented meeting aimed at opening up new directions in research to explore emerging research fields with potential impact on new developments in mesenchymal stromal cell biology and mesenchymal stromal cells-based clinical applications.

The relatively small scale, in terms of people involved, provides an ideal platform to focus on the topic and for all participants to contribute to discussions and plan follow-up collaborative work.

PROGRAMME

Wednesday, April 11, 2012

Evening *Arrival of participants in Bologna*

Thursday, April 12, 2012

- 09.00-09.10 **Welcome**
Nicola Baldini (Bologna, I) and **Massimo Dominici** (Modena, I)
Welcome remarks by the University of Bologna, the University of Modena e Reggio Emilia, the Istituto Ortopedico Rizzoli
- 09.10-09.30 **Presentation of the European Science Foundation (ESF)**
Isabel Varela Nieto, ESF Standing Committee for the European Medical Research Councils (EMRC)
- 09.30-15.00** **Session 1: Paracrine activity of MSC Chaired by Massimo Dominici - University of Modena e Reggio Emilia, Modena, Italy**
Each talk will be 20' plus 10' discussion
- 09.30-10.00 **Presentation 1 “MSC culture and characterization”**
Lucy Di Silvio (King's College London, London, UK)
- 10.00-10.30 **Presentation 2 “Mapping of the secretome of stem cells”**
Helena Skalnikova (Academy of Sciences of the Czech Republic, Libechov, CZ)
- 10.30-11.00 **Presentation 3 “Regulation of players involved in osteogenic differentiation”**
Serena Rubina Baglio (Istituto Ortopedico Rizzoli, Bologna, Italy and VU University Medical Center, Amsterdam, NL)
- 11.00-11.20 *Coffee / Tea Break*
- 11.20-11.50 **Presentation 4 “Replicative senescence of MSC: Population dynamics, genetic and epigenetic changes”**
Wolfgang Wagner (Helmholtz Institute for Biomedical Engineering, Aachen, DE)
- 11.50-12.20 **Presentation 5 “Exosome-mediated communication”**
Edit Buzas (Semmelweis University, Budapest, HU)
- 12.20-12.50 **Presentation 6 “Detection and isolation of cell-derived microparticles”**
Michiel Pegtel (VU University Medical Center, Amsterdam, NL)
- 12.50-14.00 *Lunch*
- 14.00-15.00** **Session 1 continued: Paracrine activity of MSC Chaired by Massimo Dominici, Modena, Italy**
- 14.00-14.30 **Presentation 7 “Acidic tumor pH as regulator of autophagy and exosomes release”**
Angelo De Milito (Cancer Center Karolinska, Stockholm, SE)
- 14.30-15.00 **Presentation 8 “Exosomes as potential biomarkers in neurodegenerative diseases”**
Anja Schneider (Medical University Goettingen, Goettingen, DE)

15.00-18.50	Session 2: MSC-based therapy: state of the art in different clinical settings Chaired by Nicola Baldini, Bologna, Italy <i>Each talk will be 20' plus 10' discussion</i>
15.00-15.30	Presentation 1 “MSC secretome and applications in regenerative medicine” Antonio José Salgado (University of Minho, Braga, PT)
15.30-16.00	Presentation 2 “MSC-based therapy for bone repair and regeneration” Moustapha Kassem (University Hospital of Odense, Odense, DK)
16.00-16.20	<i>Coffee / tea break</i>
16.20-16.50	Presentation 3 “MSC and angiogenesis” C. James Kirkpatrick (Johannes Gutenberg University, Mainz, DE)
16.50-17.20	Presentation 4 “MSC in arthritis : the ADIPOA experience” Christian Jorgensen (INSERM U844, Montpellier, FR)
17.20-17.50	Presentation 5 “Stem cells for tooth regeneration” Thimios Mitsiadis (University of Zürich, Zürich, CH)
17.50-18.20	Presentation 6 “MSC for kidney repair” Benedetta Bussolati (University of Torino, Turin, IT)
18.20-18.50	Presentation 7 “Stem cell therapy for diabetes mellitus” Bernat Soria (Andalusian Center for Molecular Biology and Regenerative Medicine, Seville, ES)
20.00	<i>Discussion will continue at Workshop Dinner</i>

Friday, 13 April 2012

09.00-10.30	Session 2 continued from previous day: MSC-based therapy: state of the art in different clinical settings Chaired by Nicola Baldini, Bologna, Italy <i>Each talk will be 20' plus 10' discussion</i>
09.00-09.30	Presentation 8 “MSC-based therapy in cancer” Giulia Grisendi (University of Modena e Reggio Emilia, Modena, IT)
09.30-10.00	Presentation 9 “In vivo tracking of MSC” Mariann Gyöngyösi (Medical University of Vienna, AT)
10.00-10.30	Presentation 10 “Safety, quality control, storage and banking for cell-free therapy” Lorenza Lazzari (Fondazione Ospedale Maggiore, Mangiagalli e Regina Elena, Milan, IT)
11.00-13.00	Session 3: Future activities and perspectives <ul style="list-style-type: none"> - Development of strategies to implement joint collaborative research projects - Identification of working groups - Identification of basic research issues - Identification of research issues that are most promising for translation into the clinic - Development of networks for people exchange - Planning for preparing the consensus paper on the main issues of the workshop
13.00-13.15	<i>Concluding remarks and departure</i>
13.15	<i>Lunch</i>

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Objectives of the ESF Standing Committee for European Medical Research Councils (EMRC)

The **ESF Standing Committee for the European Medical Research Councils (EMRC)** has overall responsibility for initiating and coordinating ESF's scientific activities in medical sciences and for providing expert advice on issues of science policy. It covers a broad range of disciplines and the Committee's main objectives range from promoting interactions between the biomedical and clinical research communities, through providing policy advice, to stimulating collaboration in emerging research areas.

The EMRC covers fields such as:

- Diagnostic and therapeutic medicine
- Neurobiology
- Immunology
- Clinical studies
- Communicable diseases
- Human genetics & functional genomics
- Medicinal biotechnology
- Public Health, etc.

ESF Medical Sciences Unit:

Stéphane Berghmans
Head of Unit

Janet Latzel
Senior Administrator

Céline Seewald
Administrator

Tel: +33 (0)3 88 76 71 58

Email: cseewald@esf.org

<http://www.esf.org/emrc>