

InterLink

Linking the international community of TERMIS



Special points of interest:

- 2014 TERMIS-EU Awards Program Announcement
- 2014 Chapter Conference Deadlines
- 2013 FIRM Symposium Overview

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Letter from the President

Dear TERMIS Members,

I write this at the end of my first year as President of TERMIS. In my Letter in the March Newsletter I referred to the fact that the one significant activity of our society was the organization of conferences; I noted that this was the correct strategy for a young global society, and that remains the case today. This position does raise two important points, however, these being the nature and reputation of our conferences and the point, in the future, when we need to embark on other types of activity.

Concerning the status of our conferences, I have to place on record my appreciation of the work of the 2013 conference chairs, Erhan Piskin, Wei Liu and Bob Guldberg, and their colleagues, for the successful implementation of their continental meetings. In particular, the TERMIS-AP chapter significantly increased attendance at their conference, to around 800 delegates, largely due to the very attractive scientific program. I am confident that the 2014 conferences, in Genoa (Italy) Daegu (Korea) and Washington DC (USA) will be equally successful, and I know all three conference committees are already hard at work to ensure this. However, just because conferences are judged, by some of us, to be successful, does not mean that they are perfect and I sincerely hope that TERMIS members, and readers of this letter, will let me, and continental chapter chairs, know if they have constructive suggestions for further improvements and innovations.

The point at which TERMIS starts to engage in non-conference activities is not easy to judge, and is likely to be reached under different circumstance for the three chapters. It is important for each chapter to consolidate their respective regional positions before embarking on new initiatives and I have been discussing relationships between TERMIS chapters and national societies within their regions with our councils. We should be able to reveal a very important strategy on this matter in the near future. Such initiatives will allow a greater interaction between TERMIS and some of the smaller, developing states. These interactions will include the fostering of educational activities such as workshops and small meetings in regions and cities other than the main conurbations, which may be difficult and expensive to access for everyone engaged in regenerative medicine. It will be the extension of our activities and influence in this manner that will determine the global success of our society.

Sincerely,

David Williams
President, TERMIS

Journal *Tissue Engineering, Parts A, B and C*

In partnership with Mary Ann Liebert, Inc., publishers, we are pleased to announce that all TERMIS members now have access to the **entire** journal archive of our official journal, *Tissue Engineering, Parts A, B and C*.

Follow *Tissue Engineering*:



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Tissue Engineering

Parts A, B, and C

Mary Ann Liebert, Inc.  publishers

Restored: Online access to *Tissue Engineering* archives

https://www.termis.org/journal_login.php

Encourage your institute to subscribe to *Tissue Engineering*

If your institution does not currently subscribe to the journal, *Tissue Engineering, Parts A, B, & C*, we ask that you please complete the library recommendation form to encourage your institution's librarian to subscribe to the journal today.

[Library Recommendation Form](#)

Season's Greetings and Happy New Year!

On behalf of the TERMIS Governing Board and the TERMIS Chapter Councils, we would like to wish all of our members a very wonderful holiday season and all the best for 2014!





2014 *Tissue Engineering* Young Investigator Council Announced

Dear Colleagues,

We are pleased to announce the members of the 2014 *Tissue Engineering* Young Investigator Council. Selected from an impressive pool of over 350 international candidates, we warmly welcome the following global group of young investigators to our esteemed editorial team.

Our personal thanks go out to the leadership of the Tissue Engineering and Regenerative Medicine International Society (TERMIS) and the Student and Young Investigator Section (SYIS) of the society for their involvement in selecting the final applicants of the 2014 Council.

2014 Tissue Engineering Young Investigator Council (TEN YIC):

YIC Chair

Elizabeth G. Lobo

North Carolina State University
North Carolina, USA

2014 YIC Council

Jennifer L. Puetzer

Cornell University
New York, USA

Co-Editors-in-Chief:

Antonios G. Mikos,
PhD and Peter C.
Johnson, MD

Reviews Co-Editor- In-Chief (Part B):

John P. Fisher, PhD

Steven Calari

University of Pennsylvania
Pennsylvania, USA

Methods Co-Editor- In-Chief (Part C):

John A. Jansen,
DDS, PhD

Benedikt Weber

University Hospital Zurich
Zurich, Switzerland

Jonathan Fishman

UCL Institute of Child Health
London, UK

Suk Ho Bang

Seoul National University
Seoul, Republic of Korea

Christopher K. Su

Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Australia

This initiative is brought forth to further the professional development of young investigators in the field of tissue engineering and regenerative medicine. We are honored to have these young investigators be a part of our editorial team and support them in their professional growth and development in the field. New council members will be selected each year to join the **TEN YIC** and we encourage all qualified applicants to apply in the future.

Please join us in congratulating these young investigators on their appointments. We look forward to working with them over the course of the following year.



CALL FOR ABSTRACTS

The submission window is open!

The Scientific Committee will select the best abstracts to be included as oral or poster presentations into next TERMIS European Chapter Meeting program.

Submission
starts



Submission
ends



«Is there a template?
How do I submit?»

Click here!

... and the registration window is open as well!

Save your
money!

Take advantage of the **reduced fees**
for early registration, take a tour at
<http://www.termis.org/eu2014/register.php>



www.termis.org/ap2014

E-newsLetter Vol. 1

termis

TERMIS-AP 2014

September 24 ~27, 2014 | Daegu, Korea

Transformation for Future Healthcare

Welcome Message

We are greatly privileged and delighted to host TERMIS Asia Pacific Chapter Meeting in South Korea in 2014. Researchers, clinicians, regulatory officials and companies all around the world are welcome to Daegu city during September 24-27, 2014.

Conference Information

Title	Tissue Engineering Regenerative Medicine International Society – Asia Pacific (TERMIS-AP 2014)
Date	September 24 (Wed) ~ 27 (Sat), 2014
Venue	EXCO, Daegu, Korea
Hosted by	Korean Tissue Engineering and Regenerative Medicine Society (KTERMS)

Key Dates

"CALL FOR SYMPOSIA" IS NOW OPEN!!

- Call for Symposia Close - December 31, 2013
- Abstract Submission Open - January 6, 2014
- Online Registration Open - February 1, 2014
- Abstract Submission Close - April 11, 2014
- Notification of Abstract Review Result - May 16, 2014
- Early-bird Registration Close - July 31, 2014



Call for Symposia

We encourage and invite interested organization or individual to submit a proposal for organizing symposia at TERMIS-AP 2014 to be held on September 24-27, 2014 at EXCO in Daegu, Korea.

The symposia proposals will be received until December 31, 2013. Please find the detailed information and symposia call template at the official website, www.termis.org/ap2014. If you have any questions regarding symposia organization, please let us know by e-mail, info@termis-ap2014.org.

[Go to Symposia Call](#)

TERMIS-AP 2014 Secretariat
 Phone +82 53 746 9969 | Fax +82 53 742 9007
 E-mail info@termis-ap2014.org | Website <http://www.termis.org/ap2014>





Abstract Submission System OPEN— Friday, April 4, 2014

Abstract Submission Deadline—Monday, May 12, 2014

TERMIS-AM: Thematic Working Interest Groups (TWIGS) - SIGN UP ONLINE!

The objectives of the TWIGs are:

1. to give all members of the TERMIS-AM an opportunity to participate more directly in the life of the society;
2. to provide support for programming in specific domains;
3. to provide an opportunity to learn the workings of a professional society with a goal of readying talented, motivated individuals for leadership roles in the society;
4. to address new and emerging areas impacting TERM and to provide a platform to introduce these areas into our annual meeting.

The initial 12 TWIGs are:

- Cardiovascular/Angiogenesis/Blood: Milica Radisic
- Musculoskeletal: Johnna Temenoff
- Neural & Spine: Shelly Sakiyama-Elbert
- Ophthalmologic: Jennifer Ellisseeff
- Craniofacial: Peter Ma
- Respiratory, Urologic & Gastrointestinal: James Yoo
- Skin, Wound Healing, and Inflammation: Mark Van Dyke
- Scaffolds, Matrices, and Biomaterials: Eben Alsberg
- Stem Cells & Cell Therapies & Developmental Biology and Cell Signaling: Todd McDevitt
- Commercialization & Regulation: Chris Gemmiti
- Biofabrication & Bioreactors: George Christ
- Imaging: Eric Brey

[Complete the online sign-up sheet to join a TWIG.](#)

2013 FIRM Symposium Overview—TERMIS-EU Summer School

Future Investigators in Regenerative Medicine Symposium

Hotel Cap Roig, Platja d'Aro, Spain

20th September—3rd October 2013

www.firmsymposium.com - committee@firmsymposium.com



Edited by:

David Smith, Hareklea Markides, Thomas Heathman, and Alex Lomas

Overview

7th October 2013

Inspired by a previous student led and run PhD symposium **David Smith** and **Hareklea Markides** undertook the task of organising and running a similar symposium aimed at bringing together early career researchers from across the world to learn, network and collaborate with one another - The Future Investigators of Regenerative Medicine. Soon after, **Alex Lomas** (DTC alumni) and **John Garcia** became involved in the organisation of this symposium. The success of such an event is heavily reliant on the support of the wider TE and RM communities we are very happy to report the support of TERMIS EU, Biodesign, The Company of Biologists and the CDT in regenerative medicine (Keele, Loughborough and Nottingham Universities).

FIRM symposium 2013 attracted more than **70 young researchers** from **32 research institutions** across **12 countries**. Based around **7 international keynote speakers** supported by **35 student oral presentations** and **21 poster presentations** the symposium program was designed with plenty of time during the afternoons for socialising and networking. FIRM 2013 has already begun to build up a large database of early career researchers with collaborative work starting from the moment the symposium finished.

Session 0: "Biodesign Forum"

The first Future Investigators of Regenerative Medicine was opened by **Alicia El-Haj**, Keele University and TERMIS EU president to chair 10 researchers from the EU 7th Framework program, Biodesign. Their work detailed on-going research to stimulate tissue regeneration for degenerative and age related disorders of the bone, muscle and heart.

Following a networking poolside BBQ, FIRM 2013 was officially opened by **David Smith**, Loughborough University who thanked all participants and especially the sponsors for their financial support and keynote speakers for their time.

Session 1: "Show me the Money" - Commercialisation

David Smith, Loughborough University chaired the opening session and was delighted to welcome **Paul Whiting**, Neusentis Pfizer, to open the keynote talks with a stimulating overview of the challenges from research through to clinical translation of a cell therapy for the eye including the design and manufacture of a bespoke ophthalmic delivery device. This opened the floor for student talks from **Mark McCall**, Loughborough University and **Steven Wilkinson**, Newcastle University to discuss the manufacturing cost, time and regulatory barriers to the successful translation of cell therapies before **Alex Lyness**, Loughborough University highlighted the knowledge gaps and challenges in the delivery process of cell therapies and opportunities for better designed delivery devices. Session 1 ended with presentations from **Mike McMullan**, Bose Ltd and **Antonella Lisella**, MICA Biosystems showing the audience how their companies are driving research forward through their respective novel technologies.

This initial day allowed for plenty of time to acclimatise and socialise where the beach ball from the delegates pack gave as much enjoyment as it did teambuilding. This was followed by reception drinks and the symposium dinner to further encourage networking among participants.

2013 FIRM Symposium Overview—TERMIS-EU Summer School

Session 2: “Size Does Matter” –Manufacturing/Scale-Up

Executive program manager **Christian van den Bos**, Lonza opened this morning session discussing the importance and need for scale-up in order to treat many. This was followed by **Thomas Heathman**, Loughborough University emphasising process input variability and therefore the need for process understanding and control mechanisms to build in quality as well as quantity for cell therapies. Human mesenchymal stem cells (MSCs) were the example used here, which followed with **Qasim Rafiq**, Loughborough University showing how MSCs require a surface to adhere to, with successful growth and metabolite data from a 5L microcarrier based bioreactor system. **Cristina Colosi**, Sapienza University of Rome discussed the use of Rapid Prototyping as a method for producing 3D scaffolds of alginate fibres, and the importance of porosity and alignment on enhancing cell attachment.

Interactive Session

Lewis Wolpert, UCL and **Alicia El Haj**, Keele University poised the question ‘*Do you need to understand normal repair/regeneration/development processes to engineer your tissue?*’ With a multidisciplinary roomful this question was attacked initially from the biologist’s viewpoint where a ‘core understanding is vital for development’ before the engineers voice was heard stating that ‘an understanding is useful, helpful even, but not vital.’ The debate continued fruitfully with a lot of audience engagement. The session concluded with the question itself being criticised for being to open ended. The regulators demands will determinethe depth of knowledge required to prove you understand the mode of action of your product. Therefore knowing everything is excessive and a hindrance to commercialisation, but an absence of information will halt progress.

Session 3: “Tools of the Trade” –Manufacturing/Scale-Up

The afternoon session begun with **Hareklea Markides**, Keele University introducing **Erik Shapiro**, Michigan State University who discussed the methods for MRI based cell tracking and the ability to detect single cells *in vivo*. This allows for quantitative measurements of cell migration with the translation to human use on the horizon. Following this **Sofia Pereira**, University of Liverpool discussed the feasibility of magnetic reporter genes for the MRI tracking of stem cells, and demonstrated how Ferritin addresses this need. Continuing the magnetic theme **James Henstock**, Keele University discussed how mechanotransduction can be utilised to transduce force to cells to further enhance osteogenesis *in vitro*. **Jonathan Sheard**, Aston University confirmed live cell imaging can be used to distinguish between cell types, however molecular marked cells provide greater contrast although require invasive protocols.

After 2 minute poster snapshots from the floor the day was closed with the sun still strong and the beach games re-created prior to dinner.

Session 4: “Back to Basics” –Basic Biology

John Garcia, Keele University chaired session 4 and started by introducing **Lewis Wolpert**, UCL. Regeneration of Newt limbs and Hydra were a core focus of this morning’s talk as well as the importance of positional cues in developmental biology. This stemmed a long question and answer session from the floor interested in when humans will be able to regenerate a limb, ‘150 years’ according to Lewis Wolpert.

Sarah Jacob Eshtan, University of Sheffield spoke on how there are multiple subsets of embryonic stem cells and by sorting for SSEA3+ cells non-specific differentiation is reduced. Continuing with embryonic differentiation **Elizabeth Scott**, University of Glasgow induced embryonic differentiation with a newly developed protocol with the use of miRNA and successfully identified a mesoderm progenitor cell population. **Bikem Soygur**, Akdeniz University commented that Synctin 1 protein plays a potential role during differentiation at the earliest stages of human embryo development.

After a short coffee break to catch some delightful custard croissants the students talks recommenced with **Marietta Herrmann**, AO Research Institute Davos to discuss the how the enrichment of bone marrow aspirate can encourage vascularisation of bone implants. **Caitriona O’Rourke**, Open University expressed how a 3D culture system has been miniaturised in order for further development to generate CNS tissue models to address neuroscience research. The final student oral presentation came from **Alex Chan**, Loughborough University where the development and optimisation of a multiparameter flow cytometry assay was the bulk of work along with demonstrating the need to measure cell quality through their function not just phenotype.

2013 FIRM Symposium Overview—TERMIS-EU Summer School

Session 5: “We All Need a Little Support” – Biomaterials

Chaired by **Alex Lomas**, NUI Galway session 5 was eagerly anticipated for the arrival of **Molly Stevens**, Imperial College London to discuss the use of imaging for early identification calcified heart valves. Alongside this the *in vivo* bioreactor was highlighted as a potential tool for *in vivo* bone growth that can then be removed and transplanted elsewhere. This was followed by **Rupert Wright**, Keele University to demonstrate the ability to surface coat materials and control differentiation in an affordable manner. Especially noticeable was the use of amine gradients for neurosphere development. The use of electrospun scaffolds for adipose tissue engineering was mentioned by **Johanna Kober**, Medical University Vienna. The use of Poly(ester-urethane-urea) allows for higher elasticity electrospun fibres for adipose-derived stem cells. **Marco Costantini**, Sapienza University of Rome then continued the biomaterial session by discussing the use of microfluidic manufactured scaffolds using oil/water emulsions to finely tune the porosity and pore size distribution. The importance of extra cellular matrix deposition was discussed by **Abhigyan Satyam**, NUI Galway where by using polydispersed macromolecules within the microenvironment leads to faster construction of cell-matrix sheets.

After a coffee break with a view **Amanda Barnes**, University of York continued the biomaterial flair with the use of hybrid gels of Collagen I and NSN to combine mechanical strength and biocompatibility to produce scaffolds to hold viable adipose derived stem cells. Following this **Vicard Du**, Paris Diderot University captivated the audience with magnetic manipulation of magnetic nanoparticles within embryonic stem cells. **Dmitrijs Limonovs**, University of York showed the successful synthesis of a biocompatible highly-branched functional polymer with viable MSC's efficaciously differentiated within the scaffold.

Session 6: “The Leg Bone’s Connected to the Hip Bone” –Clinical

Hareklea Markides, Keele University took to the floor to chair this penultimate session. **Iris Ribitsch**, University of Veterinary Medicine Vienna keynote presentation brought numerous veterinary applications to show clinical application of cellular therapies along with the translation of these into human medicine. The ability to preserve and transport cellular therapies is a key issue that was expressed by **Tim Morris**, Loughborough University. The toxicity of DMSO was highlighted and deemed not to be as toxic as expected, although a more robust cryopreservation protocol is required. **Maria Menikou**, UCL explored the ability to decellularise organs for transplantation and showed the effective outcome from 2 clinical applications.

Session 7: “The Circle’s Complete” – Summary Session

The final session chaired by **David Smith**, Loughborough University was opened with **Peter Mitchell**, Loughborough University discussing how Quality by Design (QbD) approaches to the manufacture of cellular therapies is a tool to ensure risk reduction and quality management. The advantages are numerous but challenges exist within defining and measuring critical quality attributes and therefore implementing control loops within the process. However an example of QbD application to cryopreservation protocols provided evidence of successful application within the industry. To complete FIRM 2013 **Mark McCall**, Loughborough University highlighted the importance of clinical pull and technology push within regenerative medicine. The Cooksey Report, 2006 really brought together the challenges that face the industry and the audience was reminded that there can be too much publicity with Gartner’s Emerging Technology Hype Cycle.

FIRM Symposium 2013 Prizes

Prizes were peer reviewed and supported by R&D Systems.

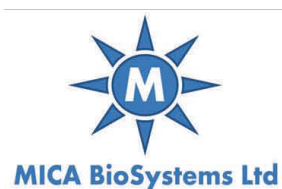
- ☐ Best Oral Presentation was awarded to **Vicard Du**, Paris Diderot University ‘Magnetic Embryonic Stem Cells: New Tools to Control Embryoid Bodies Differentiation’
- ☐ Best Poster Presentation was awarded to **Jonathan Dawson**, University of Southampton ‘Clay Nanoparticles for the Delivery of Regenerative Microenvironments’
- ☐ Delegate Prize was awarded to **Jennifer Bara**, AO Research Institute Davos for overall contribution to FIRM 2013 in both scientific and social capacity.

2013 FIRM Symposium Overview—TERMIS-EU Summer School

Closing Remarks

FIRM 2013 committee would like to thank all the participants for creating such a vibrant and interactive atmosphere throughout FIRM 2013. Without the sponsors generosity this symposium could not have been financed and affordable to all researchers, so thank you very much.

Sponsors



FIRM 2013 Committee



John Garcia, Tim Morris, Hareklea Markides, Alex Lomas, and David Smith

2014 TERMIS-EU Awards Program Announcement

The deadline to submit nomination packages for the 2014 TERMIS-EU Awards Program is January 31, 2014.

Each nomination to be received by the Awards Committee must include the following information:

- Detailed Curriculum Vitae of the nominee;
- One (1) page summary detailing the major achievements of the nominee; and
- Three (3) letters of recommendation written by respected scientists/professionals working within the TERM field that are members of any chapter of TERMIS. Letters by members of the Awards Committee are not acceptable.

The recipient of each one of the awards will:

- Be presented with an honorarium of 1500 Euros;
- Be presented with a plaque;
- Be provided with 1000 Euros to be used toward travel expenses (air ticket, hotel) to attend the TERMIS-EU Annual meeting;
- Be provided with complimentary registration to the TERMIS-EU Annual Conference.
- Each awardee must confirm his/her attendance at the TERMIS-EU Annual Conference (by the first week of April).

Each awardee will be provided with 30 minutes to present a Plenary Award Lecture at the TERMIS-EU Annual Conference.

Timings and other relevant information

- Nominations must be received by the 31st of January of each year.
- The TERMIS-EU Awards Committee will review the nomination packages received and provide the names of the award recipients by the first week of April. At this time, the awardees must confirm his/her attendance at the TERMIS-EU Annual Conference.

All nomination packages for the TERMIS-EU Awards Program should be submitted to the TERMIS Administrator via email at swilburn@termis.org.

For more information on the EU Awards Program, please visit www.termis.org/chapters_eu_awards.php or Contact the TERMIS administrator at swilburn@termis.org.

TERMIS-EU Awards Program: Awards

- Career Achievement Award
- Young Scientist Award
- Contributions to the Literature Award, and the
- Clinical/Translation Work or Innovation/Technology Award

The Clinical/Translation Work or Innovation/Technology Award aims to recognize successful clinical and translation work that leads to the development of relevant products or therapies used in the treatment of patients. **The awards will be presented alternately at the annual meeting.**

All conferences listed have been reviewed and approved for endorsement by the TERMIS Endorsement Committee.

Upcoming Conferences

December 2013

bone-tec 2013

Conference Dates: December 16-19, 2013

Conference Location: Singapore

Conference Chair: Prof. Swee-Hin Teoh

April 2014

2014 Symposium on Biologic Scaffolds for Regenerative Medicine

Symposium Dates: April 24-26, 2014

Symposium Location: Silverado Resort, Napa Valley, CA

June 2014

2014 TERMIS-EU: Genova, Italy

Conference Dates: 10-13 June 2014

Conference Co-Chairs: Ranieri Cancedda, MD and Claudio Migliaresi, PhD

September 2014

2014 TERMIS-AP: Daegu, South Korea

Conference Dates: September 24-27, 2014

Conference Location: Daegu Exhibition & Convention Center (EXCO)

Conference Chairs: Jin Ho Lee, Ph.D. and Byoung Hyun Min, M.D.

Conference Program Chair: Grace J. Lim, Ph.D.

December 2014

2014 TERMIS-AM: Washington, DC

Conference Dates: December 13-16, 2014
Conference Chair: John Fisher, PhD

Conference Program Chair: Jennifer Elisseff, PhD

September 2015

2015 4th TERMIS World Congress

Congress Dates: TBD Congress Location: Boston, MA, USA

Congress Co-Chairs: David Kaplan, PhD and Kacey Marra, PhD

June 2016

2016 TERMIS-EU Conference

Conference Dates: 28 June - 1 July 2016

Conference Location: Uppsala University, Uppsala, Sweden

Conference Chair: Prof. Jöns Hilborn

December 2016

2016 TERMIS-AM Conference

Conference Dates: December 2016

Conference Location: San Diego, CA
Conference Chairs: Anthony Ratcliffe, PhD; Robert Sah, PhD; and Bill Tawil, PhD



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TERMIS

Sarah Wilburn, Administrator
223 Park Place
San Ramon, CA 94583
United States of America

Phone: +1 (925) 362-0998
Fax: +1 (925) 362-0808
E-mail: swilburn@termis.org

**Linking the international community of
TERMIS.**

Visit us at www.termis.org

To accomplish its mission, TERMIS brings together the international community of persons engaged or interested in the field of tissue engineering and regenerative medicine and promotes education and research within the field of tissue engineering and regenerative medicine through regular meetings, publications and other forms of communication. The Society also serves as an international forum to promote the informed discussion of challenges and therapeutic benefits of the application of tissue engineering and regenerative medicine technologies.

Most importantly, the Society is committed to bringing you closer to key professionals to support your mutual understanding of the field, accelerate your research in the field and to enable you to contribute to the ultimate care of patients in this very important way.

Interested in contributing to the TERMIS Newsletter?
CONTACT SARAH WILBURN