Volume XIII, Issue II

interLink

Linking the international community of tissue engineers and regenerative medicine scientists

Letter from the President

Dear TERMIS Members,

In a few months, TERMIS will be celebrating the 5th TERMIS World Congress in Kyoto, Japan. Kyoto is a unique city full of tradition and Japanese history. It is one of my favorite cities in the all World. It has one of the world's largest collections of UNESCO World Heritage Sites. No trip to beautiful Kyoto would be in fact complete without visiting some of these 17 sites.

So, we really look forward to welcoming you to Kyoto to share your latest research, network and collaborate with your colleagues and participate in the social events being planned. The program is shaping up to its final form in order to include high caliber talks focusing on the theme of "Integration of Industry, Government, and Academia for Regenerative Medicine". It will be my great honor to deliver to all of you the Global President Plenary Address. The meeting program is based on more than 2,500 submitted abstracts and will also include plenary lectures from several top scientist including:

"Delivery of Anabolic Genes, miRNA and CRISPR Systems for Stem Cell Fate Modulation and Tissue Regeneration" - Yu-Chen Hu (National Tsing Hua University, Taiwan); "Immune reaction of retinal cell therapy using iPS cells" - Masayo Takahashi (RIKEN, Japan); "Clinical Cell Therapy of Heart Failure" - Philippe Menasché (Department of Cardiovascular Surgery, Hôpital Européen Georges Pompidou, France); "Diversity of extracellular vesicles and their potential in regenerative medicine" - Jan Lötvall (Krefting Research Centre, University of Gothenburg, Sweden); "Biomaterials for Tissue Engineering and Regenerative Medicine" - Antonios G. Mikos (Department of Bioengineering, Rice University, USA); "Frontiers of human organs-on-chip research and technology" - Gordana Vunjak-Novakovic (Columbia University, USA). Furthermore, the program includes

Students and young investigators from the emerging countries are encouraged to apply for travel awards. The submission deadline is July 1st. TERMIS is also providing a limited number of travel awards. The guidelines for submissions can be found here.

On September 4th, quite uniquely the Industry Committees of the TERMIS Chapters (AM, AP and EU) have joined together to organize an event being called TERMEX 2018. TERMEX 2018 is an exposition which aims to introduce the very up-to-date situation of industrialization, regulation, market insights, international development and other surrounding issues of Tissue Engineering/Regenerative Medicine (TE/RM) field of eight countries from North America, Europe and Asia-Pacific regions. In TERMEX 2018, each country's unique approach will be revealed.

Posters are now being accepted for the TERMEX 2018 Poster Session. The deadline to submit a poster abstract is June 30th.

Following the TERMEX 2018 exposition, everyone is encouraged to attend the Plenary Lecture of Dr. Masayo Takahashi, from RIKEN. His talk will focus on the latest situation of iPSC-derived clinical applications. After the Dr. Takahashi's Plenary Lecture, we will gather together (TERMEX 2018 & the TERMIS World Congress Welcome Reception) for a social event.

If you have any questions regarding registration, accommodations, programming, etc. for the 2018 TERMIS World Congress, please do not hesitate to contact swilburn@termis.org or termis-wc2018@convention.co.jp.

It will be a pleasure to see you in Kyoto!

Sincerely,
Rui L. Reis
TERMIS President

84 symposia and general sessions focusing in all the relevant areas of TERM. A reminder that the early bird registration deadline is Monday, June 22nd.

2018 TERMIS World Congress

Early Registration Deadline: June 22nd

Travel Awards Deadline: July 1st

Student/Young Investigator Travel Awards Deadline: July 31st

TERMEX 2018 Poster Submission Deadline: June 30th

Business Plan Competition Submission Deadline: June 30th

Program-at-a-Glance

Presidential Lectures

Plenary Lectures

Symposium Titles

2018 FTERM Class Announced

International Fellows of Tissue Engineering & Regenerative Medicine (FTERM)

TERMIS established the International Fellows of Tissue Engineering & Regenerative Medicine (FTERM) to recognize distinguished leaders within the field of TERM, who as individuals have shaped the field.

We are happy to announce the 2018 FTERM Class. The 2018 Class will be recognized during the 2018 TERMIS World Congress in September.

Mauro Alini
AO Research Foundation

Milica Radisic
University of Toronto

David Smith
Pepper Hamilton, LLC

Gerjo van Osch
Erasmus MC

Tony Weiss
University of Sydney

The complete list of FTERM Members is listed on the TERMIS website.

TERMIS Login

Online Access to *Tissue Engineering, Parts A, B and C* and the Springer Book Series

Current members of TERMIS were recently sent your login (username and password) to access the online versions of *Tissue Engineering, Parts A, B and C* (the official journal of TERMIS) and the Springer Book Series.

The email asks you to login and change your password.

If you have any questions, please do not hesitate to contact the Executive Administrator.

2021 World Congress Proposals

Interested in hosting a World Congress?

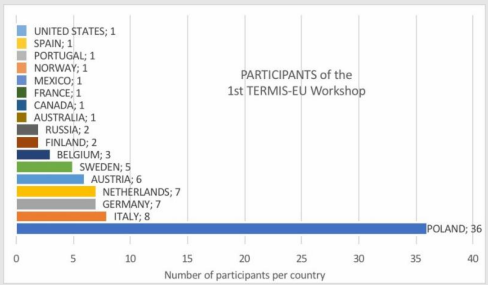
The 2021 World Congress rotates to the EU. If you are interested in hosting the 2021 TERMIS World Congress, please submit your request to the TERMIS Executive Administrator at swilburn@termis.org. You will be provided with a meeting host form that asks detailed questions about the meeting organizers, location/venue, program, and meeting financials as well as documents providing guidelines for hosting the 2021 TERMIS World Congress.

Those groups that submit a proposal for consideration to host the 2021 TERMIS World Congress are asked to present theirproposals during the TERMIS-EU Council meeting that will be held during the 2018 TERMIS World Congress in Kyoto, Japan. The proposers must be present in Kyoto.

The deadline for submitting proposals for the 2021 TERMIS World Congress is Saturday, 30th June 2018.

1st TERMIS-EU Workshop Overview

TERMIS -EU together with **International Society for Biofabrication** (ISBF) organized **the 1st TERMIS-EU Workshop on "3D Printing in Musculoskeletal Tissue Engineering" in the end of March 2018, in Warsaw, in Poland.**



The aim of the workshop was to provide participants with insights into the state-of-the-art technologies, methods and biomaterials in 3D printing in tissue regeneration. The latest developments and future perspectives in the

The theme for the workshop was “3D Printing in Musculoskeletal Tissue Engineering”.
It was very successful meeting which brought together **84** participants from **17** countries, including scientists, clinicians and industry leaders to discuss recent achievements in the field of 3D printing in regenerative medicine.

fields of 3D printing and 3D bioprinting were presented by internationally recognized scientists: Dietmar Hutmacher, Wei Sun, Amir Zadpoor, Lorenzo Moroni, Aldo Boccaccini, Juergen Groll, Giovanni Vozzi, Vladimir Mironov, and Paul Paul Gatenholm. Moreover, the two organizing societies TERMIS-EU and ISBF have been introduced by Heinz Redl and Juergen Groll, respectively.
Participants could share their achievements during the poster session. The 5 best posters were awarded by Biofabrication journal (3) and TERMIS-EU (1) and ISBF (1).

Fig. 2 Hands-on session of the 1st TERMIS-EU Workshop

One of the most important aspect of the workshop were the hands-on sessions: 3D printing (Day 1) and bioprinting (Day 2). These sessions allowed participants to see the 3D printing and 3D bioprinting in action to understand how these technologies might be used in engineering of musculoskeletal tissues.

The workshop was accompanied by exhibition of several companies, which products are used in the field of tissue engineering.

The workshop took place in Warsaw, Poland’s capital, allowing participants to learn about our rich Polish history, and to enjoy Polish culture and cuisine.

Taking into account the high scientific level of the workshop, a significant number of participants from different parts of the World and their positive opinions, it can be concluded that the 1st TERMIS-EU Workshop has been a great success.

Vascualar Tissue Engineering Thematic Group

Dear Colleagues,

It is our pleasure to update you on some of the activities of the Thematic Group on Vascular Tissue Engineering (VTE) which is now active since one year. The committee is unchanged but there is interest from scientists all over the world to take part in it.

A symposium on Vascular Tissue Engineering has been accepted at this year’s World Congress of TERMIS, to be held in Kyoto, early September, with Prof. Simon Hoerstrup as a keynote lecturer and the participation of Profs. Xiumei Mo, Chuhong Zhu, Toshiharu Shinoka, Deling Kong and Gary Bowlin, under the chairmanship of Profs. Anthony Weiss and Deling Kong. A symposium on Vascular Tissue Engineering was also organized by Prof. Beat Walpoth in the 2017 European Society for Artificial Organs (ESAO) meeting held in Vienna in September with Prof. Nicolas L’Heureux as keynote speaker. Furthermore the 4th International Symposium on Vascular Tissue Engineering (ISVTE) will be organized, together with the ISACB meeting, by Prof. Simon Hoerstrup in Zurich, Switzerland on June 19-21, 2019.

Finally, the e-book on Tissue-Engineered Vascular Grafts, published in the reference series by Springer, is progressing well.

On behalf of the VTE Committee:

Chair: Beat H. WALPOTH, Geneva, Switzerland
Vice Chairs: Joris ROTMANS, Leiden, Netherlands
Toshiharu SHINOKA, Colombus, USA
Secretaries: Xiumei MO, Shanghai, China
Deling KONG, Tianjin, China





First TERMIS-EU Day

Lab demo on cells encapsulation and bio-printing during the FIRST TERMIS-EU DAY held at the University of Trento, Italy, in September 2017

Celebrated at the University of Trento, Italy

Prof Antonella Motta, member of the TERMIS-EU Council and of the TERMIS-EU Communications & Outreach Committee chaired the FIRST TERMIS-EU DAY at the University of Trento, Italy, an event that was thought to raise the awareness of this field in the general public and/or among students and professor of other filed in the academia. The Event, that was endorsed by TERMIS-EU, was carried out under the scope of the European Biotech week, an event promoted by EuropaBio and celebrated across Europe between 25th September and 1st October 2017 to encourage the general public to explore the fascinating, vibrant world of biotechnology. The program consisted of lectures by researchers working in this field and also lab demos. The second TERMIS-EU DAY at Uni. Trento is already scheduled for September 25-27 2018, on the following topics: Human health: from tissue engineered 3D in vitro models to personalized medicine

We strongly encourage TERMIS member to get involved in similar events and contribute for the wide spreading of our fascinating scientific field!

TERMIS-EU Outreach & Communications Committee

Interview with Maria Chatzinikolaidou

Maria Chatzinikolaidou is Assistant Professor and head of the lab for Biomaterials in Tissue Engineering at the Department of Materials Science and Technology at the University of Crete in Heraklion, Greece (https://www.materials.uoc.gr/el/general/personnel/mchatzin.html).

Maria teaches undergraduate courses on Biomaterials and Molecular Cellular Biochemistry and graduate courses on Tissue Engineering. She is an affiliated faculty at the Institute of Electronic Structure and Laser (IESL) at the Foundation for Research and Technology Hellas (FORTH).

1. Tell us about your research area

My research activities focus mainly on the development of functional biomaterials and scaffolds for bone tissue engineering, and also expand in the area of cardiovascular, dental and cartilage tissue engineering. My research investigates the interactions between materials and cells and how their crosstalk affects biological responses.

2. What inspired you to follow this field of research?

My inspiration to pursue research in the field of Biomaterials Science is continuously driven by the impact that biomaterials-based therapeutic solutions can have on improving patients' lives and by the tremendous potential in the vision of creating any kind of substitute to regenerate tissues and organs. I received my research training in the field as a PhD student in the group of Prof. Herbert Jennissen at the University Hospital in Essen, after receiving my first degree in Chemistry at the University of Essen.

3. What do you think is the most exciting emerging area in regenerative medicine?

I think that the development of whole functional organs is one of the most exciting emerging areas in regenerative medicine. Also the development of new therapies via reprogramming and re-designing cells, remains a challenging and exciting area.

4. What do you see as the main future challenges for regenerative medicine that we need to overcome?

One of the main future challenges that we need to overcome is to foster the exchange of ideas between academia and industry, create and participate in multidisciplinary, intersectoral platforms for dialogue, aiming to reinforce translational research in regenerative medicine and cell therapy.

5. What are the main challenges for career progression and how do you think can we address them?

I think that some of the challenges for career progression, especially for younger, early career researchers, are in developing high potential, high impact career plans, focusing their research while at the same time keeping an eye open for broader changes in the field, increasing their participation in professional networks, and strengthening their leadership skills. Female researchers are faced with an additional gender-gap challenge that they need to overcome. While these challenges can be generally addressed by self-discipline, hard work, and by consulting mentors, community-support actions such as focused professional-development activities, some especially targeted for female researchers, within the context of scientific conferences also greatly help.

6. Please provide a flavour on the next TERMIS-EU Conference/what can we expect from the next TERMIS-EU Conference

The next TERMIS-EU Conference to be held in Rhodes, Greece 27-31 May 2019 will cover all topics of tissue engineering and regenerative medicine during a diverse five-day program around the theme 'Tissue Engineering Therapies: From Concept to Clinical Translation & Commercialisation'.
Along the lines of this theme, research, industry and clinical translation sessions will discuss new discoveries, challenges and perspectives in commercialisation of therapeutic approaches.
For early career investigators, a series of education, career development, equality and outreach workshops will provide them with an integrated training experience, while the Business Plan Competition will help them in transforming groundbreaking ideas from bench to clinic and market.
The participants will have the opportunity - beyond the scientific program - to experience Rhodes' unique cultural, climatological and gastronomic features. For more information, please visit the link https://termis.org/eu2019/program.php

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Interview with DImitrios Zeugolis

TERMIS interview with Dimitrios I. Zeugolis, Director of the Regenerative, Modular & Developmental Engineering Laboratory (REMODEL) and Investigator of the Science Foundation Ireland (SFI) Centre of Research in Medical Devices (CÚRAM) at the National University of Ireland Galway (NUI Galway).

Dimitrios Deugolis and Maria Chatzinikolaidou, will be the chairs of the TERMIS-EU 2019 Conference

that will take place in Rhodes, Greece from the 27th-31st May 2019, under the theme “Tissue Engineering Therapies: From Concept to Clinical Translation & Commercialisation”

1. Tell us about your research area
We operate in the following four major areas:
(a) Bottom-up and top-down scaffold fabrication technologies for the development of implantable devices which closely imitate the properties of native extracellular matrix assemblies;
(b) Medical device functionalisation, through incorporation of biophysical, biochemical and biological signals, to provide functional therapeutic interventions for the treatment of soft and hard tissue injuries and degenerative conditions;
(c) Modulation of the in vitro microenvironment to facilitate preservation of permanently differentiated cell phenotype and to direct differentiation of stem cells towards specific lineages, enabling development, wide acceptance and clinical translation of cell-based therapies and advanced therapy medicinal products;
(d) Development of scaffold and scaffold-free in vitro pathophysiology models for drug discovery / screening purposes.

2. What inspired you to follow this field of research?
The multi- and inter- disciplinary nature of tissue engineering as well as the intricacies of nature that we observe under normal and pathophysiological conditions.

3. What do you think is the most exciting emerging area in regenerative medicine?
The ability of tissue engineers to create living tissues, which imitate the success and sophistication of nature more closely than ever.

4. What do you see as the main future challenges for regenerative medicine that we need to overcome?
The more tissue engineers understand about how the human body works and how pathophysiologies progress, our reparative and regenerative therapies become more and more complex. Researchers, clinicians, patients, entrepreneurs, funding agencies and regulatory bodies should work together for the development of more biologically relevant, scalable, safe and regulation-compatible implantable devices. Only then will we be in a position to advance human health.

5. What are the main challenges for career progression and how do you think can we address them?
There are a number of challenges for career progression in the field, including the dearth of senior academic positions and research-only posts at higher level education institutes, which would allow talented researchers the time and dedication to make progress. Also, academia often relies on research work undertaken by postdoctoral researchers, who work on short-term contracts without any kind of job security; I believe this needs to change. We need to see a sea-change in Europe regarding how we value research and researchers. As well as these, there are more general obstacles to career progression, which are not unique to our sector – there is a lot to address.

6. Can you give as a flavour of the conference to come?

Maria and I are excited to welcome TERMIS delegates to Rhodes next summer. Planning advances well and we are confident that the meeting will live long in the memories of attendees for all good reasons. We promise an excellent conference programme; we are pulling out all the stops to secure exciting invited and plenary speakers; and, of course, we will do our best with the weather, Aegean location, local delicacies and entertainment.

Internationally Standardized Terminology of Regenerated Tissue

Consultation Period Extended to June 30th

The ICCBBA is an international standards organization in the field of transfusion and transplantation and is a nongovernmental organization in official relations with the World Health Organization. The work group RMTAG (Regenerative Medicine Technical Advisory Group) was formed by the ICCBBA to develop an internationally standardized terminology for regenerated tissue.

The document about this terminology has been put in place by the RMTAG in order to develop nomenclature in areas of tissue engineering, regenerative medicine and all products concerning tissue and cellular therapy. This terminology will need to be acceptable for international use in order to facilitate national and international traceability of products/materials from human origin for transplantation, use in regenerative treatments, cellular therapies. Now the terminology is open for public comments until the 30th of June.

Comments and suggestion can be delivered immediately to the following link: https://www.iccbba.org/tech-library/proposals/terminology-proposals.

On the other hand Dr Marina Maréchal, Termis representative on ICCBBA's Regenerative Medicine Technical Advisory Group will also available to collect all your comments and deliver them to the RMTAG Group. My contact coordinates are: marina.marechal@kuleuven.be.

AIMBE Student Policy Resources

AIMBE has launched Student Policy Resources students and trainees interested in getting active in science policy. AIMBE has put together a set of materials geared tow ard graduate students seeking to:

1. Learn about science policy issues
2. Look-up their Members of Congress
3. Start a science policy group on their campus
4. Arrange a public policy lecture by AIMBE Exec. Dir. Milan Yager
5. Identify science policy trainings and w orkshops
6. Learn about post-grad opportunities in science policy
7. Follow relevant resources on Tw itter

Endorsed Meetings

The conferences listed here have been reviewed and approved by the TERMIS Endorsement Committee.

Jun 2018
COMPREHENSIV E SUMMER SCHOOL ON TISSUE ENGINEERING
Summer School Dates: June 18-23, 201
Summer School Location: Trento, Italy
Summer School Organizer: Dr. Claudio Migliaresi

Jun 2018
TERMIS-AM Latin American Workshop - 4 Encontro Internacional de Engenharia de Tecidos e Medicina Regenerativa
Workshop Dates: 27 June - 1 July, 2018
Workshop Location: Porto Alegre, RS - Brazil

Jul 2018
8th World Congress on Biomechanics
Congress Dates: 8-12 July 2018
Congress Location: Dublin, Ireland
Congress Co-Chairs: Congress Co-Chairs Fergal O'Brien, Royal College of Surgeons in Ireland, Ireland and Daniel Kelly,Trinity College Dublin, Ireland

Aug 2018
Advances in Tissue Engineering Short Course
Dates: August 8-11, 2018
Location: Rice University's BioScience Research Collaborative, Houston, TX

Sep 2018
35th AGA Congress
Conference Dates: September 13th-15th, 2018

Conference Location: Design Center Linz, Austria

Jun 2019
Scandinavian Society for Biomaterials (ScSB) 2019 Conference
Conference Dates: 12 - 14 June 2019
Conference Location: Långvik Congress Wellness Hotel, Kirkkonummi, near Helsinki, Finland
Conference Theme: Biomaterial applications: From study of fundamental cellular behaviours through to regenerative therapies
Conference Host: Dr. Nick J Walters
Program Chair: Assoc. Prof. Susanna Miettinen

TERMIS Website