

1ST Seminar & Meeting (CET)

CELLS AND EXTRACELLULAR TEMPLATES

**Nature's principles into engineering
practice: Strong Artificial Intelligence
and Robotics**

June 20-22, 2019

**The Polytechnic University of Milan
Via Durando 38/A - Palazzina C - 3^o Piano
20158 Milano, Italy**

FINAL PROGRAM

CO-PRESIDENT OF THE 1ST MEETING-SEMINAR



Thomas Webster

Professor and Department Chair,
Department of Chemical Engineering
Northeastern University
Boston, USA



Feng-Huei Lin

Director of Institute of Biomed Eng. &
Nanomed.,
National Health Research Institutes (NHRI),
National Taiwan University (NTU)

CHAIRMAN AND ORGANIZING COMMITTEE

Maurizio Viviani

*CEO at Strong Artificial Intelligence
San Francisco Bay Area, USA
info@strongartificialintelligence.com*

Sergio Zanfrini

*Professor and scientific
researcher Lizard srl, Italy
lizardmed@gmail.com*

Antonio Ravaglioli

*Ceramics Science and Technology,
former CNR researcher director
Faenza, Italy
ravaglioli.antonio@alice.it*

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ORGANIZING AND SCIENTIFIC SECRETARIAT

Mrs. Rossella Ravaglioli: rossella.ravaglioli@libero.it

Mr. Sergio Zanfrini: lizardmed@gmail.com

PHILOSOPHY and STRATEGY

The most efficacious results of the first and second generation are reported in our previous international meetings (1990--2016) starting from the first and the second generation of biomaterials, suggesting inert prostheses in the beginning and successively the bioactive and biocompatible ones.

During the last years, partially reabsorbable compositions were suggested thanks to chemical-physical actions on composites as compatible as possible with the living tissues.

Today, thanks to nanosciences and genetics it will be possible to carry out systematic studies on the nature of the living tissues with detailed information on the possibility to promote new materials (composites) thanks to cells of different specialization their reshaping when damaged and/or lost.

The meeting-seminar will move specifically in promoting templates able to host cells involving the "Strong Artificial Intelligence (SAI)" as the future bridge that will join together Physicists and Chemists, suggesting the best template, involving electric and electromagnetic language suitable to interpret and join a correct genetic activity.

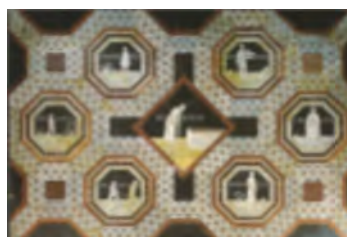
A complete suggested project will be discussed with the participants to try to put together all the involved medical disciplines to understand as best as possible the evolution of our tissues during the aging.

Multidisciplinary is the new language of science of achieving results where the recent developments bring problems which need to be solved.

Advanced laboratories equipment and patients' sensors during examinations load big data in the analysis system; moreover these big data are now crossed with other big data coming from different analysis/approaches/tests/simulations. The exponential result is a very big quantity of data totally unmanageable without the help of Artificial Intelligence.



Prometeo



Human being's ages



New genetic age

MAIN TOPICS, ROUND TABLES and SYMPOSIUM

- How Nature builds at all scales and how it repairs translating Nature's principles into engineering practice. Wide interest will be devoted to strong artificial intelligence and robotics
- Nanomaterials inspired by Nature
- Biomaterials—cells interactions
- Nanomedicine
- New strategy in materials science involving biophysics, biophotonics, quantum physics, chemistry and biology
- Supporting genetic therapies involving prosthetic, pharmaceutical companies
- Tissues regenerative strategy: gene activating materials, "in vivo" models translating regenerative biomaterials into clinical practice
- Strong Artificial Intelligence (SAI), algorithms, bioelectric language
- Implantable and external medical sensors
- ROUND TABLES: Science, Industry and politics; Diagnostic for clinics; Nanomedicine
- International project (to be promoted): "Therapeutic ions in scaffolds (Templates) for Tissues regeneration

List of supporters



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**STRONG
ARTIFICIAL INTELLIGENCE**



LIZARD

Misurare per conoscere
Conoscere per curare



Advice Pharma Group

Services and Technologies for Helathcare

PROGRAM OF

THURSDAY, JUNE 20, 2019

The Polytechnic University of Milan

8:30 - 9:00	Registration of participants
	Placing of posters
9:00	Welcome addresses of the Authorities

MORNING SESSION

Opening Session: Introduction and general lectures

Chairpersons: A. Ravaglioli (Italy), T. Webster (USA), M. Viviani (Italy)

9:15	How to regenerate damaged and lost tissues: from prostheses to advanced templates involving Strong Artificial Intelligence. <i>A. Ravaglioli¹, M. Viviani², S. Zanfrini³</i> ¹ Ceramics, Science and Technology, Faenza, Italy ² CEO at Strong Artificial Intelligence, San Francisco Bay Area, USA ³ Lizard srl, Perugia, Italy
9:40	Say Goodbye to Hospitals and Hello to Implantable Nano Sensors <i>T. J. Webster</i> Art Zafiropoulo Chair, Dept. Chair Chemical Engineering, Boston, MA USA
10:05	Introduction to AI <i>M. Viviani¹, A. Paliani²</i> ¹ CEO at Strong Artificial Intelligence, San Francisco Bay Area, USA ² Ernst & Young
10:25	Epigenetic and nutrigenetics and cells reprogram in pollution area <i>G. Terziani</i> Erodreams s.r.l., La Spezia, Italy
10:50	Nanoparticles in the treatment of skeletal diseases. <i>G. Marchetto¹, M. Perduca², S. Cheri¹, M. Deiana¹, G. Glorani², A. Pisani², M. Bovi², A. Mattè¹, L. De Franceschi¹, M. Mottes³, MT Valenti¹, L. Dalle Carbonare²,</i> ¹ Department of Medicine, University of Verona and Azienda Ospedaliera Universitaria Integrata Verona, Verona, Italy, ² Department of Biotechnology, Biocrystallography and Nanostructures Laboratory, University of Verona, Verona, Italy ³ Department of Neurosciences, Biomedicine and Movement Sciences, University of Verona
11.15	Discussion
11.25	Coffee Break

Round table 1: Stress, pain and posture

Chairpersons: B. Schaller (Switzerland), D. Tonlorenzi (Italy), S. Zanfrini (Italy)

11:50	Trigemino cardiac reflex: state of art <i>B. Schaller</i> Department of Cranio-Maxillofacial Surgery, Faculty of Medicine, University of Bern, Bern (Switzerland)
12:05	Does the proprioceptive trigemino cardiac reflex exist? D. Tonlorenzi, M. Conti Medical surgery, Dentistry and Prosthesis, Avenza (Italy)
12:20	Ultrasound evaluation of TMJ and masseter muscles in subjects with temporomandibular joint dysfunction. <i>D. Melchiorre, M.A. Bagni, M. Maresca, D. Tonlorenzi¹, G. Traina², M. Conti², and M. Matucci Cerinic.</i> Dept of Experimental and Clinical Medicine, Division of Rheumatology, University of Florence. ¹ CRISAF, University of Siena. ² Dept Pharmaceutical Science, University of Perugia.
12:35	Mood Disorders and probiotics <i>G. Traina</i> Department of Pharmaceutical Sciences, University of Perugia, Perugia, Italy
12:50	Implant prosthetic rehabilitation and evaluation of posturological effects by stabilometric analysis <i>S. Zanfrini</i> Lizard srl, Perugia, Italy
13:05	Discussion

AFTERNOON SESSION

Invited papers: Supercomputer for regenerative medicine

14:30	Application of AI supercomputing to biological data for patterns generation and tissue engineering models: machine learning and reconstruction algorithms <i>M. Viviani</i> CEO at Strong Artificial Intelligence, San Francisco Bay Area, USA
14:50	Deep Learning and Application in Neural Networks M. Viviani CEO at Strong Artificial Intelligence, San Francisco Bay Area, USA
15:10	Big data blockchain system <i>R. Alessi</i> Strong Artificial Intelligence, San Francisco Bay Area, USA

15:30	A.I. for clinical research data app: advanced front-end development data science <i>R. Alessi</i> Strong Artificial Intelligence, San Francisco Bay Area, USA
15:50	Medical startups for the medicine revolution <i>D. Marcucci</i> Strong Artificial Intelligence, San Francisco Bay Area, USA
16:10	Discussion
16:30	Coffee Break

Session 1: bone scaffolding and drugs

Chairpersons: F. H. Lin (Taiwan), I. Cacciotti (Italy)

16:50	The behaviour of cells on a composite scaffold <i>A. R. Boccaccini</i> Head of Institute of Biomaterials, Department of Materials Science and Engineering - University of Erlangen-Nuremberg, Erlangen, Germany
17:15	Mesenchymal stem cells and nano-bioceramics <i>F. Korkusuz</i> Hacettepe University Medical Faculty, Department of Sports Medicine, Sıhhiye, Ankara 06100, Turkey
17:35	The study of porous hydroxyapatite particles as anti-glioma drug carrier <i>F. H. Lin</i> Institute of Biomed Eng & Nanomed., National Health Research Institutes, Taiwan Institute of Biomed Eng., National Taiwan University, Taiwan
17:55	Principles of the Pore Forming Mechanisms of the Freeze Foaming Process for Manufacturing Bone Mimicking Scaffolds <i>M. Ahlhelm¹, D. Werner¹, J. Maier², T. Behnisch², T. Moritz¹, A. Michaelis¹, M. Gude²</i> ¹ Fraunhofer IKTS, Winterbergstrasse 28, 01277 Dresden, Germany. ² Technische Universität Dresden, Institute of Lightweight Engineering and Polymer Technology, Holbeinstraße 3, 01307 Dresden, Germany.
18:15	Innovative biomimetic fibrous membranes for regenerative medicine <i>I. Cacciotti</i> University of Rome "Niccolò Cusano", Via Don Carlo Gnocchi 3, 00166 Rome, Italy Italian Interuniversity Consortium on Materials Science and Technology (INSTM)
18:35	Discussion

FRIDAY, JUNE 21, 2019

MORNING SESSION

Session 2: Tissue engineering and treatment

Chairpersons: M. Dettin (Italy), C.J. Timmermans (The Netherlands)

8:30	Mesoporous glasses and mats for hemostatic applications. <i>M. R. Towler</i> Ryerson University, Toronto, ON.
8:50	Material-induced heterotopic ossification <i>M. Bohner</i> RMS Foundation, 2544 Bettlach, Switzerland.
9.10	Interface evolution bone - prosthesis in prosthetic surgery <i>G.L. Castellarin</i> Director of the Second Orthopedics Unit at the Suzzara Hospital, Suzzara (MN), Italy
9.30	Chitosan covalently functionalized with bioactive peptides for bone tissue engineering <i>M. Dettin¹, A. Zamuner¹, P. Brun²</i> ¹ Department of Industrial Engineering, University of Padova, Padova, Italy ² Department of Molecular Medicine, University of Padova, Padova, Italy
9:50	Effect of substrate topography and chemistry in bone and muscle cell adhesion and differentiation <i>N. Bloise^{1,2}, E. Berardi, C. Gualandi, M. Gigli, N. Lotti, ML. Focarte, G. Montagna, G. Ceccarelli, M. Sampaolesi, L. Visai</i> ¹ Department of Molecular Medicine, Center for Health Technologies (CHT), INSTM UdR of Pavia, University of Pavia, 27100 Pavia, Italy ² Department of Occupational Medicine, Toxicology and Environmental Risks, ICS Maugeri, IRCCS, 27100 Pavia, Italy
10:10	Non toxic treatment (NTT) of cancer <i>C.J. Timmermans</i> Tesla-Pharma AG Windisch CH - R&D Centre Meppel, The Netherlands
10:30	Artificial tears containing Bletilla Striata polysaccharide in the management of dry eye syndrome <i>M. Thacker¹, Chih-Yen Chang¹, F. H. Lin²</i> ¹ Graduate Institute of Biomedical Engineering, National Taiwan University ² Institute of Biomed Eng & Nanomed., National Health Research Institutes, Taiwan Institute of Biomed Eng., National Taiwan University, Taiwan
10:50	Discussion
11:00	Coffe Break

Round table 2: AI revolution

11:30	Augmented Reality for medical treatments <i>M. Bisogni</i> Center for International Studies, Osaka, Japan
11:50	Development of common scientific BOT language for advanced research <i>G. Manfredi</i> Occambee, Rumbletumbleweed incubator of technological assets
12:10	GlotterDB <i>S. Bisogni</i> Visiware
12:30	Discussion

AFTERNOON SESSION

Session 3: Machine learning and predictive AI

14:30	AI and therapy <i>S. Zanfrini</i> Lizard srl, Perugia, Italy
14:45	Reinforcing and Rebuilding human body for a longer life span <i>M. Bisogni</i> Center for International Studies, Osaka, Japan
15:00	Decision making technologies and Clinical Research Assistant <i>G. Manfredi</i> Occambee, Rumbletumbleweed incubator of technological assets
15:15	AI applications for body diagnostics and treatment <i>G. Rossi¹, M. Viviani²</i> ¹ ASL 1 Umbria ² CEO at Strong Artificial Intelligence, San Francisco Bay Area, USA
15:30	Coffee break
15:50	Presentation of the book: “About origin of life” - D’Ettoris Editori G. D. Guerra, Pisa (Italy)
16:00 - 18:00	MUSICAP Project proposal: “Multidoped silico-calcium phosphates for regeneration and lost tissues” Promoters: A. Ravaglioli, S. Zanfrini, M Viviani

SATURDAY, JUNE 22, 2019

MORNING SESSION

Round table 3: epigenetic revolution

Chairpersons: G. Terziani (Italy)

8:30	Prevention is better than cure: epigenetic revolution <i>G. Terziani</i> Erodreams s.r.l., La Spezia, Italy
9:00	Frequencies role in the information <i>P. Spaggiari</i> Department of Pathology, Humanitas Clinical and Research Center, IRCCS, Milan, Italy
9:25	Epigenetic role in cells reprogramming <i>P. M. Biava</i> Scientific Institute of Research and Care Multimedica, Sesto San Giovanni, Italy
9:50	Coffee break

Round table 4: clinical trials: diagnostics and research

10:15	A.I. for clinical trials <i>M. Beccaria</i> AdvicePharma, Milan, Italy
10:30	Clinical data and trials AI: achieving the best result <i>S. Paluello</i> Digax, London, UK
10:45	The BlockChain and its application to medical research and to medical data <i>S. Paluello</i> Digax, London, UK
11:00	Supercomputing, probability, quantum computing and medical research: now <i>M. Viviani</i> Strong Artificial Intelligence, San Francisco, USA
11:15	Work and live with AI revolution <i>A. Paliani</i> Ernst & Young
11:30	Discussion
11:45	Closing Remarks

GENERAL INFORMATION

Please send your registration form to Rossella Ravaglioli - rossella.ravaglioli@libero.it.

The registration fee for each participants includes participation to the meeting-seminar, coffe breaks and official dinner.

Accommodation

Please, reserve your accommodation as soon as possible. If you want to reserve in our recommended hotels, please write an email (Object: **CET SEMINAR & MEETING**) to:

Hotel Sunflower

Indirizzo: Piazzale Lugano 10
20158 Milano (MI) – Italy
Tel: (+39) 0239314071
Email: info@hotelsunflower.it
Web: www.hotelsunflower.it

Acca Palace

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Web: www.accapalace.com

Hotel Valganna

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Via E. A. Butti, 9
20158 Milano (MI), Italy
Tel: (+39) 0236644780
Email: info@hotelblaisefrancis.it
Web: www.bestwestern.com

How to register

Registration desk of the participants opens on Thursday, June 20 at 8:30 a.m. in front of meeting area.

REGISTRATION

Registration fee before April 20, 2019 - € 200 - Registration fee after April 20 , 2019 - € 270 and for undergraduates and PhD students the participation is € 150,00. Students position must be documented by a proper official declaration of his/her University. The registration fee includes: social dinner, coffee breaks, conference documentation. You can pay by bank transfer and it is important to write clearly the purpose of the payment:
FEE FOR 1ST EDITION OF MEETING "CELLS AND EXTRACELLULAR TEMPLATES" (CET).

Bank details are:
World Postural Association Italia
Banco Desio di Verona
IBAN: IT67D0344011701000000242900
SWIFT: BDBDIT22

Please, send the registration form to the Conference Secretariat:
Mrs. Rossella Ravaglioli - Phone: +39 3470766986 - E-mail: rossella.ravaglioli@libero.it

1ST SEMINAR & MEETING CELLS AND EXTRACELLULAR TEMPLATES

INTENT TO ATTEND FORM

TO BE SENT TO: ORGANIZING SECRETARIAT AND SCIENTIFIC SECRETARIAT

Family name First name

Title/Occupation As individual

..... Institute/Company

Position Affiliation

Professional or Academic sector of your activity VAT number (for invoice)

.....

Mailing Address (street, n.):

Town City/Post code:

Country

Phone: Fax: E-mail:

Fiscal code (only for Italians people)

Date Signature

How to reach The Polytechnic University of Milan

Via Durando 38/A - Palazzina C - 3° Piano - Milano, Italy (20158)



The most important Airport near Milano is Milan Malpensa Airport (MXP), linked to the central train station, or the central city, by a shuttle bus service. Minor regional airports near Milano are Milano Bergamo - Orio al Serio (BGY) and Milano Linate - International Airport Enrico Forlanini (LIN).



From Milano Centrale to Milano Nord Bovisa a railway route offer frequent trains or bus all throughout day.

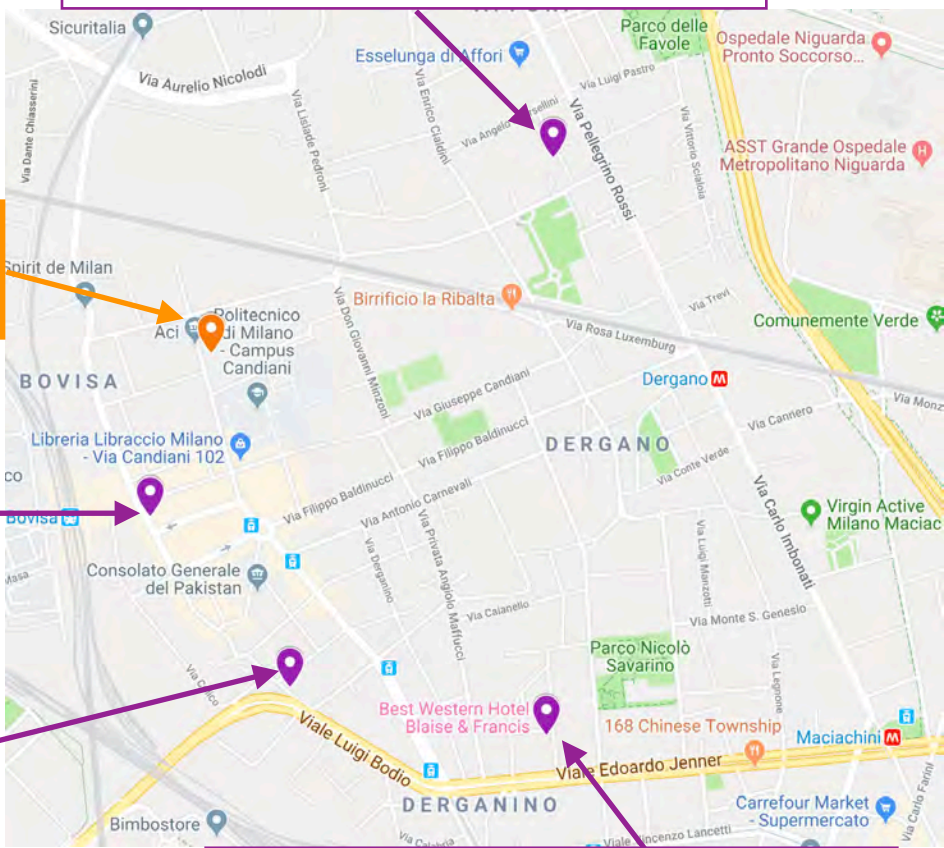
Railway timetable is available at: www.trenord.it

Acca Palace Hotel
Via Giovanni Nicotera, 9
14 minutes (1,1 km) walk to reach The Polytechnic University of Milan

The Polytechnic University of Milan
Via Giovanni Durando, 38/

Hotel Valganna SRL
Via Giovanni Battista Varè, 32
8 minutes (0,65 km) walk to reach The Polytechnic University of Milan

Hotel Sunflower
Piazzale Lugano, 10
13 minutes (1,0 km) walk to reach The Polytechnic University of Milan



Best Western Hotel Blaise & Francis
Via Enrico Annibale Butti, 9
20 minutes (1,6 km) walk to reach The Polytechnic University of Milan



Presentation of the poster

All posters must not exceed the following dimensions: 1.00 m wide, 1,20 m height. The posters can be pinned on the panels provided by using thumbtacks. All presenters will have the opportunity to present their work during the discussion of the appropriate session. Attendance by at least one of the authors is requested for the poster presentation.



LAST MINUTE POSTER PRESENTATION

Until June 15, 2019, it is possible to submit poster presentations concerning topics discussed in one of the meeting sessions.