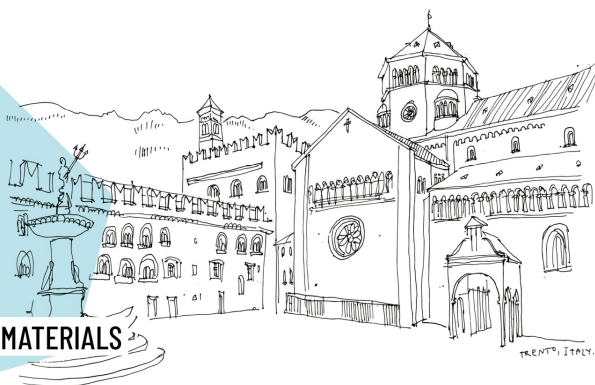


7th International Biennial Conference

UFGNSM 2019

ULTRAFINE GRAINED AND NANOSTRUCTURED MATERIALS

1-3 September, 2019



FINAL PROGRAM

September 1, 2019

18:00 – 20:00 - **Welcome Reception @Palazzo Paolo Prodi (Main Hall)**

September 2, 2019 – Conference Hall

8:30- 9:00 – **Registration**

9:15 – **Opening**

Welcome to the Participants by the Academic Authorities

Paolo Collini – Rector of the University of Trento

Dario Petri – Head of the Department of Industrial Engineering

Flavio Deflorian – Chairman of UFGNSM2019

9:30 – 10:15 - **Plenary Lecture – Chairperson – Flavio Deflorian**

Manoj Gupta – Department of Mechanical Engineering – National University of Singapore

The Promise of Nanoreinforcements in Enhancing Mechanical, Ignition and Biocompatibility of Magnesium

10:15 – 10:40 **Coffee Break**

10:40 – 11:40 – *Chairpersons: Manoj Gupta & Ehsan Marzbanrad*

Oral Session n. 1 – Coatings

11:40 – 13:00

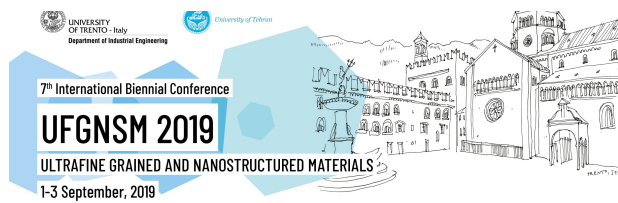
Oral Session n. 2 – Chemical Methods

13:00 – 13:55 **Buffet Lunch**

14:00 – 14:45 – **Plenary Lecture – Chairpersons: Cyrus Zamani & Caterina Zanella**

Abbas Zarei Hanzaki - University of Tehran and Technology Park

Ultrafine grained material production in the era of Advanced manufacturing



14:45 – 15:30 – **Plenary Lecture**

Ehsan Marzbanrad - Department of Mechanical and Mechatronics Engineering - University of Waterloo - Canada

Silver Nanowire Journey: From “a key to unlock flexible electronic devices” to “major barrier in front of the printed electronic industry”

15:30 – 16:30

Oral Session n. 3 – Metallic Alloys

16:30 – 17:00 **Coffee Break (poster session starts)**

17:00 – 18:40 – *Chairpersons: Donya Ahmadkhaniha & Michele Fedel*

Oral Session n. 4 – Corrosion

18:40 – 19:30 **Poster Session**

20:00 **Social Dinner @ Restaurant “Antico Pozzo”**

September 3, 2019 – Conference Hall

9:00 – 9:45 - **Plenary Lecture** - *Chairpersons–Ulf Olofsson & Abbas Zarei Hanzaki*

Davide Barreca – ICMATE-CNR – Padova – Italy

Nanoarchitectonics of oxide materials for sustainable technologies, safety and environmental applications: from fabrication to functional tests

9:45 – 10:30 - **Plenary Lecture**

Cyrus Zamani - School of Metallurgy and Materials Engineering - University of Tehran

Nanomaterials for Lithium Ion Batteries

10:30 – 11:00 **Coffee Break**

11:00 – 12:40 - *Chairpersons–Maboobeh Azadi & Mohammad Azadi*

Oral Session n. 5 – Severe Plastic Deformation Methods

12:50 – 13:50 **Buffet Lunch**

14:00 – 14:45- **Plenary Lecture** - *Chairpersons–Cinzia Menapace & Mahmoud Nili-Ahmadabadi*

Ulf Olofsson – Department of Mechanical Design - KTH – Stockholm – Sweden

Blowing in the wind – notes on physical properties of the small scale airborne wear particles from brakes

14:45 – 16:05

Oral Session n. 6 –Tribology

16:05 – 16:30 – **Towards UFGNSM2021 & Closing Remarks**

16:30 **Farewell Coffee Break**

Oral session n. 1 – Coatings – September 2, 2019 – h. 10:40 – 12:00

Presenting author	Title
B. Ramezanzadeh <i>Institute for Color Science & Technology</i>	Hybrid organic-inorganic corrosion inhibitor embedded graphene oxide nanosheets: toward the enhancement of the anti-corrosion performance of epoxy coating on mild steel in chloride solution
A. Rosati <i>University of Trento</i>	Effect of sebacic acid on Si-based organic/inorganic sol-gel layers for corrosion protection of AA1050
A. Iqbal <i>University of Trento</i>	Corrosion protection of Aluminium by Layered Double Hydroxides
C. Zanella <i>Jönköping University</i>	Microstructure refinement of electrodeposited films by ultrafine particles codeposition and ultrasound

Oral session n. 2 - Chemical Methods – September 2, 2019 – h. 12:00 – 13:00

Presenting author	Title
B. Ramezanzadeh <i>Institute for Color Science & Technology</i>	Synthesis and application of zeolitic imidazole framework (ZIF-8) as a novel/advance anti-corrosion system for effective epoxy-polyamide coating anti-corrosion properties reinforcement in simulated seawater on mild steel
F. Rashchi <i>University of Tehran</i>	Effect of Anodization Parameters on TiO ₂ Nanotubes Ordered Microstructure
F. Raoufi <i>Institute for Color Science & Technology</i>	Wettability Study of Super-Hydrophobic Silica Aerogel Powders: Effect of Surfactants on Contact Angle Measured by Different Techniques

Oral session n. 3 - Metallic Alloys – September 2, 2019 – h. 15:30 – 16:30

Presenting author	Title
D. Ahmadkhaniha <i>Jönköping University</i>	Comparison between 3D printed and conventional maraging steel microstructure
C. Menapace <i>University of Trento</i>	High temperature mechanical properties of harmonic structured alloys
Mohammad Azadi <i>Semnan University</i>	Effect of adding 2 wt.% SiO ₂ nano-particles on creep behavior at 250°C and 100 MPa in AlSi12CuNiMg piston aluminum alloy

Oral sessions n. 4 – Corrosion – September 2, 2019 – h. 17:00 – 18:40

Presenting author	Title
B. Ramezanzadeh <i>Institute for Color Science & Technology</i>	Polydopamine nanoparticles coated graphene oxide nanosheets (GO-PDA) as a novel biocompatible nanocomposite for epoxy coating self-healing corrosion protection performance reinforcement
M. Mahdavian <i>Institute for Color Science & Technology</i>	Hollow carbon spheres, the possible nano-carriers for zinc cations as inorganic corrosion inhibitor
F. Raoufi <i>Institute for Color Science & Technology</i>	Synthesis of Ultra Large Graphene Oxide (ULGO) nanosheets and Electrical properties Investigation

M. Calovi <i>University of Trento</i>	Effect of functionalized graphene oxide concentration on the corrosion resistance properties provided by cataphoretic acrylic coatings
S. Ghasemirad <i>Tarbiat Modares University</i>	Controlling Surface Nanoroughness of Latex Copolymer Blend Films via Drying Temperature

Oral session n. 5 - Severe Plastic Deformation Methods – September 3, 2019 – h. 11:00 – 12:40

Presenting author	Title
M. S. Mehranpour <i>University of Tehran</i>	Excess free volume and defects in a CoCrFeNiMn high-entropy alloy processed by severe cold shape rolling
C. Zamani <i>University of Tehran</i>	Effect of Cryomilling on Magnesium/Silica Mixtures For LiB Anodes
A. Zarei Hanzaki <i>University of Tehran</i>	Microstructural and mechanical properties variations of pure Cu during imposing of severe plastic deformation by ECAP-Conform process
F. Khodabakhshi <i>University of Tehran</i>	Accumulative fold-forging (AFF): A novel severe plastic deformation process
A. Bahmani <i>Tehran University/Seoul National University</i>	Mechanical Properties and Corrosion Behavior of Magnesium Alloys Processed by Screw Rolling
M. Nili-Ahmadabadi <i>University of Tehran</i>	The effect of room temperature ECAP on the microstructure and mechanical properties of Magnesium

Oral session n. 6 – Tribology – September 3, 2019 – h. 14:45 – 16:05

Presenting author	Title
Mohammad Azadi <i>Semnan University</i>	Effect of SiO ₂ nano-particles reinforcement on reciprocating wear properties of piston aluminum-silicon alloys
A. P. Gomes Nogueira <i>University of Trento</i>	Collecting and characterization of ultrafine particles from brake emissions
A. Zarei-Hanzaki <i>University of Tehran</i>	In situ Frictional grain refinement mechanism of TNTZ bio alloy during high speed sliding wear
Mahboobeh Azadi <i>Semnan University</i>	A comparison in tribological behaviors between Al-Si-silica and Al-Si-clay nanocomposites

POSTER session

Author(s)	Title
P. Kardar <i>Institute for Color Science & Technology</i>	Investigation of corrosion performance of encapsulated praseodymium ions in the halloysite nanotubes
M. Madavian <i>Institute for Color Science & Technology</i>	Immobilization of an organic UV absorbers on green reduced graphene oxide nanosheets for enhancing the weathering and anti-corrosion properties of Polyurethane coatings
M. Wienecke <i>Wismar University</i>	Enamel nano coatings - ecofriendly antifouling solution for large ship hulls to reduce environmental impact.
M. Leonardi <i>University of Trento</i>	Characterization of airborne wear particles from a brake pad-disc coupling: a multi-analytical approach using transmission electron microscopy