
| MONDAY June 24th | | | |
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| 9:00 - 9:40 | Registration<br>Entrance hall, Institute Blas Cabrera. 119, Serrano St. | | |
| 9:40 - 10:00 | Opening Ceremony - Marianella Hernández and Santiago García<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. | | |
| 10:00 - 10:40 | Keynote Talk: New Generals of Self-Healable Polymers: Recent Advances and Opportunities. Prof. Marek Urban. Clemson University, USA. Sponsored by COMUNIDAD DE MADRID<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Marianella Hernández | | |
| 10:40 - 11:20 | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| Chair | Chair: Jason Patrick | Chair: Marek Urban | Chair: Olga Speck |
| 10:40 - 11:00 | Sust1: Self-Healing Materials For Reconfigurable Soft Modular Origami Robots. L. Mena, Carlos III Univ. Spain | Fund1: Exploration of Innovative Methodologies for the Incorporation of Thermoplastics as a Healing Agent in Carbon Fibre-Reinforced Epoxy Composites. M. Peñas, CSIC. Spain | Bio1: Biological Self-Repair in Fungal Engineered Living Materials: A Study of the Viability and Regeneration of Ganoderma Spp. E. Elsacker, Vrije Univ. Brussel. Belgium |
| 11:00 - 11:20 | Sust1: Fast Autonomous Self-Healing At Room Temperature In Diels-Alder Elastomers For Soft Robotics And Flexible Sensors. S. Terryn, Vrije Universiteit Brussel. Belgium | Fund1: Thermoreversible Thiomaleimide Photodimers: A New Chemistry Platform for Covalent Polymer Bonding, Debonding and Rebonding. H. Houck, University of Warwick. UK | Bio1: Effects of Marine Microorganisms on Cementitious Materials in the Marine Environment and their Utilization. H. Makita, Tokyo Univ. of Marine Science and Technology. Japan |
| 11:20 - 12:00 | Coffee Break, sponsored by CABOT CORP / Registration for late arrivals<br>Residencia de Estudiantes, CSIC | | |
| 12:00 - 12:40 | Keynote Talk: Recent Advances in Self-Healing Cementitious Materials: From Product Synthesis to Field Deployment. Prof. Abir al Tabbaa. Cambridge University, UK<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Nele de Belie | | |
| 12:40 - 13:40 | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| Chair | Chair: Veronique Michaud | Chair: Maria Cruz Alonso | Chair: Russell Varley |
| 12:40 - 13:00 | Sust1: Towards The Design Of Stretchable Encapsulants For Self-Healing Liquid Metal-Based Electronics Using Blended Diels-Alder Networks. F. Sahraeeazartamar,Vrije Universiteit Brussel. Belgium | Fund1: Low Cost Macrocapsules for the Healing of Large Concrete Cracks. E. Cailleaux, Buildwise. Belgium | Sust7: A Comparative Analysis of Ionically Crosslinked XNBR Composites Reinforced with Conventional and Eco-Friendly Fillers. S. Utrera, CSIC. Spain |
| 13:00 - 13:20 | Sust2: Pyrrolidinium-Based Poly(Ionic Liquid) Gel Electrolytes. Z. Katcharava, Martin Luther University Halle-Wittenberg. Germany | Fund2: Bacteria Based Self-Healing in Cement: A New Microbe-Mineral Simulator. A. Alex, Univ. of Basque Country. Spain | Sust7: Innovative Compatibilizers for Enhanced Multilayer Plastic Recyclability. M. Herrero, University of Valladolid. Spain |
| 13:20 - 13:40 | Sust2: Self-Healing Vitrimeric Poly(Ionic Liquid) Electrolytes. Z. Katcharava, Martin Luther University Halle-Wittenberg. Germany | Fund2: Mesoscale Modelling of Dynamic Split Tensioning of Microcapsule Concrete. X. Zhou, Shenzhen University. China | Sust7: Self-Healing Assessment and Durability Performance of a Recycled UHPC Exposed to Chlorides. M. Davolio, Politecnico of Milan. Italy |
| 13:40 - 15:00 | Lunch<br>Residencia de Estudiantes, CSIC | | |
| 15:00 - 15:40 | Round Table on Standarization. Moderator: Prof. W. Nakao. Yokohama National University, Japan<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Santiago García | | |
| 15:40 - 17:20 | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| Chair | Chair: Ranjita Bose | Chair: Antonio Grande | Chair: Nele de Biele |
| 15:40- 16:00 | Sust11: Boronic Ester-Polyurethane Coatings as Durable, Autonomous and Repeatble Self-Healing Coatings for Extreme Environments. R. Varley, Deakin University. Australia | Fund1: Sunlight Driven Photochemical Self-Healing of Polymers. M.Q. Zhang, Sun Yat-sen Univ. China | Sust3: Antimicrobial Self-Healing Concrete Enhanced by Chemical Protective Coating for Wastewater Structures. E. Minoru,Instituto Tecnologico de Aeronautica. Brazil |
| 16:00- 16:20 | Sust3: Microencapsulation of Diisocyanates by Infiltration for Application in Self-Healing Coatings. S. Pezzin, Santa Catarina State Univ. Brazil | Fund1: Self-Healing in Ultra-Ductile High-Strength Cementitious Materials and Structural Components. M. Li, University of California, Irvine. USA | Sust3: Fungi-Mediated Self-Healing Concrete: Influence of Alkaline and Cementitious Conditions on Fungal Survival and Growth. A. Van Wylick, Vrije Universiteit Brussel. Belgium |
| 16:20 - 16:40 | Sust3: Water-Reactive Core-Shell Nanofibers for Self-Healing Corrosion Protective Coatings. N. Spera, INL International. Portugal | Fund2: Modelling of the transport of a Self-Healing Agent in a Cracked Porous Media. E. Javierre, Univ. of Zaragoza. Spain | Sust11: Challenges in Achieving Effective Self-Healing for Cement-Based Materials. M. Wu, Aarhus University. Denmark |
| 16:40 - 17:00 | Sust3: Making Possible the Use of Organic Inhibitors in Organic Coatings for Active Corrosion Protection. J. Zhao, Delft University of Technology. The Netherlands | Fund2: Reactive Transport Modeling: Insights into Chemical Processes Driving Self-Healing of Concrete. D. Lahmann, Helmut-Schmidt Univ. Hamburg. Germany | Steering Committee Meeting |
| 17:00 - 17:20 | | Fund1: Tuning Network Mobility through Double Diels-Alder in Furan-Maleimide Networks. P. van den Tempel, Univ. of Groeningen. The Netherlands | |
| 18:30 - 20:00 | Welcoming Reception<br>Casa Suecia Roof Top. 4, Marqués de Casa Riera St. | | |


| TUESDAY June 25th | | | |
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| **9:00 - 9:40** | Keynote Talk: Evaluation of Dynamic Elastomer-Filler Network Reversibility via Multiscale Rheology. Prof. Chaoying Wan. University of Warwick, UK. Sponsored by SUMITOMO RIKO<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Marianella Hernández | | |
| **9:40 - 11:00** | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| **Chair** | Chair: Chaoying Wan | Chair: Mo Li | Chair: Thomas Speck |
| 9:40 - 10:00 | Sust4: Self-Healing Flexible Materials for Large Inflatable Structures. A. Grande, Politecnico di Milano. Italy | Fund3: Impact Resistance of Self-Healing Fibre Reinforced Concrete. N. de Belie, Ghent University. Belgium | Bio2: The Fast Coagulating Latex in Campanula. S. Kruppert, University Freiburg. Germany |
| 10:00 - 10:20 | Sust4: Breaking Down the Building Blocks: A Multi-Scale Model for Self-Healing Polymers based on Diels-Alder Reactions. A. Llevot, University of Bordeaux. France | Fund3: Novel in-Situ Non-Destructive Evaluation Technique of Self-Healing Concrete using THz/Sub-THz Wave Reflectance Imaging. T. Nishiwaki, Tohoku University. Japan | Bio2: Bio-Inspired Programmable Mechanical Metamaterial with Self-Sealing Ability. N. Ghavidelnia, Living, Adaptive and Energy-autonomous Materials Systems. Germany |
| 10:20 - 10:40 | Sust8: MWCNTs/ZnO Hybrid Filler for Application in Polymer Composites with Sensing and Self-Healing Properties. M. Colombo, Univ. of Milano-Bicocca. Italy | Fund4: New Insights into the Self-Healing of Creep Damage in Fe-Au. H. Fang, European Synchrotron Radiation Facility. France | Bio1: Development of Epoxy Core Self-Healing Sandwich Composite Structure for Structural Applications. S. Jung-Il, CWNU. South Korea |
| 10:40 - 11:00 | Sust8: Self-Healing Polimeric Nanocomposites with Al2O3 Based Filler for Thermal Conductive Applications. S. Faina, Univ. Of Milano-Bicocca. Italy | Fund4: The Effect Of Crystalline Admixtures On The Hydration Of Cementitious Materials And The Potential Self-Healing Properties. E. Tsampali, Aristotle University of Thessaloniki. Greece | |
| **11:00 - 11:40** | Coffee Break, sponsored by CABOT CORP / Registration for late arrivals<br>Residencia de Estudiantes, CSIC | | |
| **11:40 - 12:20** | Keynote Talk: Dynamic Polymers as Electrolytes: Vitrimeric and Self-Healing Materials. Prof. Wolfgang Binder. Martin-Luther University Halle-Wittenberg, Germany<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Raquel Verdejo | | |
| **12:20 - 13:20** | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| **Chair** | Chair: Fabio Cicoira | Chair: Etelvina Javierre | |
| 12:20 - 12:40 | Sust8: Thermal Conductivity and Electrical Insulation Property Evaluation of Self-Healing Alumina/Epoxy Resin Composites using Microcapsules. Y. Nassho, Toyama Prefectural Univ. Japan | Fund2: Breaking Down the Building Blocks: A Multi-Scale Model for Self-Healing Polymers Based on Diels-Alder Reactions. L. Vermeersch, Vrije Univ. Brussel. Belgium | |
| 12:40 - 13:00 | Sust8: Synthesis and Optimization of Conductive Inks for Screen Printing Stretchable Self-Healing Sensors. V. Lozano, Vrije Univ. Brussel. Belgium | Fund2: Modelling of Diffusion-Controlled Diels-Alder Reversible Network Formation and its Application to Cure Diagrams. J. Mangialetto, Vrije Univ. Brussel. Belgium | |
| **13:00 - 14:00** | Guided visit to Residencia de Estudiantes, CSIC | | |
| **14:00 - 15:00** | Lunch<br>Residencia de Estudiantes, CSIC | | |
| **15:00 - 15:40** | Keynote Talk: Intrinsic Self-Healing Composites: From Lab to Market. Dr. Amaël Cohades, CompPair Technologies Ltd, Switzerland.<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Santiago García | | |
| **15:40 - 17:20** | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| **Chair** | Chair: Wolfgang Binder | Chair: Amaël Cohades | Chair: José Norambuena-Contreras |
| 15:40 - 16:00 | Sust8: Asymptotic Self-Healing Supports Perpetual Fracture Repair in Structural Fiber-Composites. J. Turicek, North Carolina State Univ. USA | Fund5: Achieving self-repairing properties without compromising environmental sustainability. J.C. Chicharro, CSIC. Spain | Sust11: Self-Healing Concrete: Lab Research and Full Scale Application. E. Schlangen, Delft. Univ of Technology. The Netherlands |
| 16:00 - 16:20 | Sust8: Self-Healing, Stretchable and Recyclable Electronics. F. Cicoira, Polytechnique Montréal.Canada | Fund5: Development of Bio-Based and Self-Healing Thermoplastic Elastomers. I. Mas-Giner, CSIC. Spain | Sust11: Autonomous and Autogenous Self-Healing Benefits for Chloride Ingress in Cracked Reinforced Concrete. M.C. Alonso, CSIC. Spain |
| 16:20 - 16:40 | Sust6: Thermo-Reversible Nano-Adhesives based on Diels-Alder Reaction via Initiated Chemical Vapor Deposition. J. Guo, Univ. of Groeningen. The Netherlands | Fund5: Enhanced Durability, Processability, and Recyclability Through Biobased Additives in Environmentally-Friendly Elastomers. L. Lenzi, University of Bologna. Italy | Sust11: Long Term Capability of Self-Healing of Bacterial Mortars in Wastewater. M. Bagga, Newcastle University. UK |
| 16:40 - 17:00 | Sust6: Metallopolymers with Water-Induced Healing and Interfacial Adhesion. E. Kaymazlar, Delft Univ. of Technology. The Netherlands | Fund5: Self-Healing Materials with Creep Resistance by Combining Associative and Dissociative Dynamic Covalent Bonds. A. Costa, Vrije Univ. Brussel. Belgium | Sust11: Long-Term Stability of Self-Healing Cementitious Systems with Macroencapsulated Polyurethane under Accelerated Aging via Thermal Cycling. G. Anglani, Politecnico di Torino. Italy |
| 17:00 - 17:20 | | Fund5: Enhancing Self-Healing Materials through Design of Experiments Methodology. K. Nuñez, University of Valladolid. Spain | |
| **19:30 - 23:00** | Gala Dinner. Bus service from CSIC.<br>Duques de Pastrana Palace. 2, Platería St. | | |


| WEDNESDAY June 26th | | | |
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| **9:00 - 9:40** | Keynote Talk: Prevention and Management of Damage: A Technical Challenge Solved by Plants? Prof. Olga Speck. University of Freiburg, Germany<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. Chair: Miguel Angel López Manchado | | |
| **9:40 - 11:00** | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| **Chair** | Chair: Seppe Terryn | Chair: Joost Brancart | Chair: Olga Speck |
| 9:40 - 10:00 | Sust5: Characterization of the Healing Ability and the Mechanical Properties of a New High Strength Healable Aluminium Alloy Produced by Additive Manufacturing. A. Simar, Univ. Catholique de Louvain. Belgium | Fund6: Self-Healing with Spraying High Temperature Steam for Reuse of Structural Ceramics. W. Nakao, Yokohama National University. Japan | Bio1:Damage Prevention, Damage Control and Damage Management in Plant Tissues and Organs: Liana Tendrils and Citrus Peels as Role Models for Bioinspired Materials Systems. T. Speck, University of Freiburg. Germany |
| 10:00 - 10:20 | Sust5: Fused Granulate Fabrication of Polymer Networks Based on Associative and Dissociative Dynamic Covalent Bonds. F. Furia, Vrije Universiteit Brussel. Belgium | Fund6: Comparative Analysis of the Environmental Impact of Self-Healing Tire Rubber-SBR Composites and Conventional Rubber Through Life Cycle Analysis. L.A. Pastor, University of Valladolid. Spain | Bio1: Microfluidic Networks in Soft Materials Systems: A Route to Adaptive Processes, Self-Regulation and Self-Repair. T. Pfohl, University of Freiburg. Germany |
| 10:20 - 10:40 | Sust5: A Self-Healing Gelatin-Based Nanocomposite Hydrogel for Three-Dimensional Printing. P. Heidarian, Deakin University. Australia | Fund5: Asphalt Self-Healing Adding a Waste Tyres-Based Rejuvenator. J. Norambuena, Swansea University. UK | |
| 10:40 - 11:00 | Sust5: Determining the Printability Window of Polymer Hydrogels Employed as Biomaterial Inks for 3D Extrusion Printing through Oscillatory Rheology. R. Hernández, CSIC. Spain | Fund5: Bio-based Non-Isocyanate Polyurethane Vitrimer with Closed-loop Recyclability and Self-Healing Abilities. S. Thakur, CSIC. Spain | |
| **11:00 - 11:40** | Coffee Break, sponsored by CABOT CORP<br>Residencia de Estudiantes, CSIC | | |
| **11:40 - 13:20** | Room 1, Plenary<br>Institute Blas Cabrera | Room 2, No. 6011<br>Pinar 25 Building | Room 3, No. 6121<br>Pinar 25 Building |
| **Chair** | Chair: Raquel Verdejo | Chair: Aude Simar | Chair: Erik Schlangen |
| 11:40 - 12:00 | Sust5: Self-Healing Performance of Ductile-Porous Vascular Networks in Terms of Chloride Ingress: A Trial on Large-Scale Beams. Y. Shields, Ghent University. Belgium | Fund5: Repetitive Self-Healing of Concrete with Carbon Sequestration and Calcium Extraction. X. Wang, Shenzhen University. China | Sust11: Construction of Self-Healing Vasculature System in Concrete by Embedded Direct-Printing with Emulsion or Emulgel Inks. G. Zhu, Shenzhen Univ. China |
| 12:00 - 12:20 | Sust10:Life Cycle Environmental Impact of Self-Healing Materials in Soft Robotics. J. Brancart, Vrije Universiteit Brussel. Belgium | Sust3: Sustainable surfaces with self-healing properties. A. Abreu, Centre of Nanotechnology and Smart Materials. Portugal | Sust11: Liquid Marbles Encased in Inorganic Shell Microcapsules via Interface Reaction and their Use in Self-Healing Concrete. G. Zhu, Shenzhen Univ. China |
| 12:20 - 12:40 | Sust10: Development of Self-Healing Adhesives for Wind Turbine Applications. V. Michaud, EPFL. Switzerland | Sust9: Self-Healing Piezoresistive Sensors based on Diels-Alder Polymers with Embedded Liquid Metal. E. Mirabdollah, Vrije Univ. Brussel. Belgium | Sust11: Investigation of the Self-Healing Effect of Mortar using Bacillus Subtilis-Loaded SHIRASU. K. Koike, Port and Airport Institute. Japan |
| 12:40 - 13:00 | Sust10: Supramolecular Self Healing in Action. A. Bosman, SupraPolix BV. The Netherlands | Sust9: Opto-Vascular Synchrony for Autonomous Self-Healing and Self-Sensing in a Structural Thermoset. Z. Phillips, North Carolina State Univ. USA | Sust11: T. Experimental Investigation of Self-Healing Effect of Mortar Mixed with Bacillus Subtilis and Biodegradable Plastic. Nishida, Shizuoka Institute of Science and Technology. Japan |
| 13:00 - 13:20 | Sust10: Self-Healing Materials for Flexible Electronics. N. Tiwari, Univ. Santiago de Compostela. Spain | Sust9: Delayed Reporting of Mechanical Changes in Self-Sensing Microcapsule Composites. D. Schwarz, University of Freiburg. Germany | Sust11: Isolation of Highly Alkaline-Resistant Bacteria for Contribution of the Self-Healing Materials in Concrete. T. Nakamura, Hazama Ando Corp. Japan |
| **13:30 - 13:50** | Closing Ceremony - Marianella Hernández and Santiago García<br>Plenary room, Institute Blas Cabrera. 119, Serrano St. | | |

**LEGEND**

| **Sust**: Healing as technology and sustainability enabler | **Fund:** Fundamental understanding of healing processes | **Bio:** Inspiration for healing materials and structures |
|---|---|---|
| New healing chemistries (Fund1) | Robotics (Sust1) | Bioinspired healing (Bio1) |
| Modeling (Fund2) | Energy (batteries, solar cells) (Sust2) | Healing in the plant kingdom (Bio2) |
| Novel testing protocols (Fund3) | Corrosion protection (Sust3) | |
| Novel characterization techniques (Fund4) | Transport (Sust4) | |
| Sustainability and healing (Fund5) | 3D printing (Sust5) | |
| Life Cycle Assessment LCA (Fund6) | Adhesives (Sust6) | |
| | Composites (Sust7) | |
| | Multifunctional applications (Sust8) | |
| | Self-sensing (Sust9) | |
| | Real scale applications (Sust10) | |
| | Durability of infrastructures (Sust11) | |