

SUNDAY, JUNE 13, 2010

SESSION 1: Synthesis and Properties – Part I DISCUSSION LEADER: **Dennis W. Smith, Jr.**(Dallas University, USA)

- 2:00 pm **REGISTRATION DESK OPENS**, [Registration desk will remain open throughout meeting]
- 3:00 pm **OPENING REMARKS by CONFERENCE CHAIRS**
Bruno Ameduri (Inst Ch Gerhardt, Montpellier, France) and **Dennis W. Smith, Jr.** (Dallas University, USA)
- 3:30 pm **Dr. Werner M. A. Grootaert** (Dyneon Research, USA)
Tutorial on Synthesis, Properties and Applications of Fluoropolymers.....1
- 4:15 pm **Prof. Hideo Sawada** (Univeristy of Hirosaki, Japan)
Fluoroalkyl End-capped Oligomers Possessing Nonflammable and Flammable Characteristics in Silica Gel Matrices.....2
- 5:00 pm **Prof. Marek W. Urban** (The University of Southern Mississippi, USA)
Colloidal Fluoromethacrylate Copolymer Nano-Particles and Their Role in Self-Repairing of Coalesced Films.....3
- 5:45 pm **END DAILY SESSION**
- 6:30 pm **WELCOME RECEPTION and DINNER**

MONDAY, JUNE 14, 2010

SESSION 2: Synthesis and Properties - Part I

DISCUSSION LEADER: **Kenneth J. Wynne** (Virginia Commonwealth University)

- 8:00 am **Prof. Valter Castelvetro** (University of Pisa, Italy)
Hierarchically Structured Films with either Surfaces or Bulk Morphology Patterned by Fluorinated Latex Particle.....4
- 8:40 am **Prof. Sabine Beuermann** (University of Potsdam, Germany)
Homogeneous Phase polymerizations of vinylidene fluoride in supercritical carbon Dioxide.....5
- 9:10 am **Prof. Alessandro Galia** (University of Palermo, Italy)
Free Radical Copolymerization of Vinylidene fluoride and Acrylic acid in Supercritical Carbon dioxide.....6
- 9:40 am **Prof Mustapha Raihane** (University of Marrakech, Morocco)
Advances in Radical Copolymerization of Fluorinated Monomers with Cyano comonomers: Synthesis, Characterization, and Properties.....7
- 10:10 am **BREAK**
- 10:30 am **Prof. Georges Kostov** (Burgas University, Bulgaria)
Novel Telechelic Poly(VDF-co-PMVE) Diacrylate Copolymers: Synthesis, Properties and Crosslinking.....8
- 11:00 am **Dr John Schmidhauser** (Arkema company, USA)
Two-Step Polymerization Process For Fluoropolymer-Acrylic Hybrid Latex Used In Waterborne Applications.....9
- 11:30 am **Dr Sylvie Boileau** (CNRS, France)
Novel Interpenetrating Polymer Networks Based on Fluorinated Precursors.....10
- 12:00 pm **Prof. Harry R. Allcock** (The Pennsylvania State University, USA)
The Role of Fluorine in the Stabilization of Phosphazene High Polymer.....11
- 12:40 pm **End of Morning Session**
- 12:45 pm **LUNCH**

SESSION 3: Coatings and Surfaces

DISCUSSION LEADER: **Dr Paul Resnick (FluoroScience, USA)**

- 2:00 pm **Prof. Kenneth J. Wynne** (Virginia Commonwealth University, USA)
Novel Surface Science from Versatile Homo and Co-polyoxetanes12
- 2:40 pm **Dr Brian Hutchinson** (Raindance Company, USA)
Fluorinated Block Copolymers for High Performance Surfactants Enabling Droplet Technologies.....13
- 3:10 pm **Prof. Keiji Tanaka** (Kyushu University, Japan)
Surface Segregation of Hyper-branched Polymers with Fluoroalkyl End groups.....14
- 3:40 pm **Prof Armand Soldera** (Sherbrooke University, Canada)
Multi-scale Approach to the Study of Fluoropolymers.....15
- 4:10 pm **BREAK**
- 4:30 pm **Prof. Atsushi Takahara** (Kyushu University, Japan)
Molecular Aggregation States and Surface Properties of Polymers with Fluoroalkyl Side Chains.....16
- 5:10 pm **Prof. Krishna Kumar** (Tufts University, USA)
Chemical Biology Using the 'Non-Stick' Properties of Fluorinated Biomolecules.....17
- 5:40 pm **Pr Frédéric Guittard** (University of Nice, France)
Biomimetic Approach to Build-up Supersurfaces.....18
- 6:10 pm **DAILY SESSIONS END**
- 6:30 pm **POSTER SESSION**
- 7:30 pm **DINNER**

TUESDAY, JUNE 15, 2010

SESSION 4: Photonic, Optical, and Electronic Applications
DISCUSSION LEADER: Dr Rudy DAMS (3M Company, Belgium)

- 8:00 am **Prof. Walter Navarrini** (Politecnico di Milano, Italy)
Poly(tetrafluoroethyleneperoxides) as Useful Intermediates for the Preparation of Novel Fluorinated Materials for Optical Applications.....19
- 8:40 am **Prof. Yoshi Okamoto** (Polymer Research Institute, Polytechnic Institute of NYU, USA)
Copolymer of Methyl methacrylate with Fluoro alkyl and Aryl methacrylates. A Strong Interchain Interaction Between Methyl Ester and Fluoro groups.....20
- 9:10 am **Prof. Yasuhiro Koike** (Keio University, Japan)
Recent Low-loss and High Bandwidth Fluoropolymers Optical Fibers.....21
- 9:40 am **Prof. Dennis W. Smith, Jr.** (Dallas University, USA)
Recent Advances in the Step-Growth Polymerization of Aromatic Trifluorovinyl Ethers..22
- 10:10 am **BREAK**
- 10:30 am **Prof. Kunio Kimura** (University of Okayama, Japan)
Thermally Induced Solid-state Synthesis of Fluorine-containing Poly(ether oxadiazole) .23
- 11:10 am **Dr Anindita Ghosh** (Leibniz-Institut für Polymerforschung Dresden, Germany)
Semi-fluorinated Poly(arylene ether)s and Poly(ether imide)s with Anthracene Moiety in the Main Chain.....24
- 11:40 am **Prof. Susanta Banerjee** (Indian Institute of Technology, India)
Semi-fluorinated Hyperbranched Poly(arylene ether)s.....25
- 12:10 pm **Prof. Chad Booth** (Texas State University, USA)
Polyimide Nanocomposites for Gas Separation Membranes.....26
- 12:40 pm **End of Morning Session**
- 12:45 pm **LUNCH**

TUESDAY, JUNE 15, 2010, CONT'D**SESSION 5: Synthesis and Characterizations– Part II****DISCUSSION LEADER: Prof. Atsushi TAKAHARA (Kyushu University, Japan)**

- 2:00 pm **Prof. Thieo Hogen Esch** (University of Southern California, USA)
Blends of Polystyrene and Polybutylmethacrylate End -Functionalized with Perfluorocarbon Groups.....27
- 2:40 pm **Prof. Peter Rinaldi** (University of Akron, USA)
2D- and 3D-NMR Studies of Poly(perfluoropropylene oxide).....28
- 3:10 pm **Dr Philip Wormald** (University of Saint Andrew, UK)
Resolution, dipolar interaction and chemical shift anisotropy methods to gain insight to the structure and dynamics of fluoropolymers with solid state NMR29
- 3:40 pm **Dr Cédric Loubat** (Specific Polymers Company, France)
Fluoropolymers Building Blocks.....30
- 4:10 pm **BREAK**
- 4:30 pm **Dr Heidi Burch** (DuPont, USA)
Preparation and Characterization of Perfluoropolymer Nanocomposites.....31
- 5:10 pm **Dr Maurizio Sansotera** (Politecnico di Milano, Italy)
Functionalization of Carbon Black by Covalent Linkage of Perfluorocarbon and Perfluoropolyether Chains.....32
- 5:40 pm **Prof. Doris Pospiech** (Leibniz-Institut für Polymerforschung Dresden, Germany)
Semifluorinated Polymers with Long Henicosafluoroecicosanyl Side chains: the Beauty of Structure Formation.....33
- 6:10 pm **DAILY SESSIONS END**
- 6:20 pm **POSTER SESSION**
- 7:30 pm **SPECIAL EVENT DINNER (Brasucade)**

WEDNESDAY, JUNE 16, 2010

SESSION 6: Membrane and Energy Conversion Applications
DISCUSSION LEADER: Dr Bruno Ameduri (Inst Ch Gerhardt, Montpellier, France)

- 8:00 am **Dr Vincenzo Arcella** (Solvay Solexis, Italy)
Fluoropolymer Contribution in Alternative Energy Applications: Recent Developments in Short-side-chain Based FC Membranes and Modified PVDF for Li-Ion Batteries.....34
- 8:40 am **Dr Ken Shi** (NRC Institute for Fuel Cell Innovation, Vancouver, Canada)
Improved Fuel Cell Performance of Short-side-chain (SSC) Perfluorosulfonic acid (PFSA) Membranes and its Application as an Ionomer in the Catalyst Layers.....35
- 9:10 am **Dr Hong Rong Gao** (Shanghai Jiao Tong University, People's Republic China) **Dr. Deborah Jones, Pr. Jacques Rozière** (Institut Charles Gerhardt, France)
Short-side chain, Cross-linked and Composite Perfluorinated Membranes for Higher Temperature, lower Relative Humidity PEMFC.....36
- 9:40 am **Dr Atsushi Watakabe** (Asahi Glass Co. Ltd., Japan)
Recent Advances in Perfluorinated ionomers for PEMFCs.....37
- 10:10 am **BREAK**
- 10:30 am **Prof. Joseph S. Thrasher** (The University of Alabama, USA)
Self-assembly of Pt DENs on Nafion® to Form Membrane Electrode Assemblies for Fuel Cell Applications.....38
- 11:10 am **Dr Iqbal Sharif** (Clemson University, USA)
Recent Advances in the Synthesis of Proton Conducting Membranes for Fuel Cell.....39
- 11:40 am **Dr Hiroyuki. Arima** (Daikin Industries, Japan)
Poly(vinylidene fluoride-co-tetrafluoroethylene) Copolymers for Lithium Ion batteries. .40
- 12:10 pm **CLOSING REMARKS**
- 12:35 pm **LUNCH**

POSTERS SESSIONS (Monday 14th and Tuesday 15th)

- Ali Alaaeddine** (Institut Charles Gerhardt, France) **P1**
Synthesis and Modification of Alternated Copolymers Based on Original Vinyl Ethers and Chlorotrifluoroethylene for Solid Alkaline Fuel Cells
- Janick Bigarré** (CEA Ripault, France) **P2**
Fluorinated Membranes Doped with Functionalized Silicate Nanoparticles for Fuel Cell Application
- Frédéric Boschet** (Institut Charles Gerhardt, France) **P3**
Radical Copolymerization of α,β -DifluoroAcrylic Acid with Vinylidene Fluoride
- Frédéric Boschet** (Institut Charles Gerhardt, France) **P4**
Synthesis and Modification of Alternating Copolymers Based on Vinyl Ethers, Chlorotrifluoroethylene, and Hexafluoropropylene.
- Dakarai Brown** (Clemson University, USA) **P5**
Semifluorinated Aryl Ether Polymers from Trifluorovinyl Ether Monomers (TFVE)
- Gérard Calleja** (Institut Charles Gerhardt, France) **P6**
Conversion of Poly(ethylene-alt-tetrafluoroethylene) Copolymers into Polytetrafluoroethylene by Direct Fluorination: A Convenient Approach to Access New Properties at the ETFE Surface.
- Yanchao Che** (Shanghai 3F New Material, China) **P7**
Synthesis and Characterization of High Dielectric Poly(vinylidene fluoride-trifluoroethylene- chlorotrifluoroethylene) terpolymers
- Jean-Marc Cracowski** (Clemson University, USA) **P8**
Synthesis and Characterization of Poly(perfluorocyclopentenyl aryl ether)s and Highly Fluorinated Poly(perfluorocyclobutyl aryl ether)s.
- Ghislain David** (Institut Charles Gerhardt, France) **P9**
Phosphonic Acid-Functionalized Fluorinated Polymers as Fuel cell Membrane Materials
- Nelly Durand** (Institut Charles Gerhardt, France) **P10**
Synthesis and Characterization of Functional Fluorinated Telomers
- Funaki Atsushi** (Asahi Glass Co. Ltd) **P11**
Influence of the Third Monomer Units on the Crystal Structure and Phase Transition Behavior of Ethylene-Tetrafluoroethylene Copolymer
- Furukawa Masato** (Kobe University, Japan) **P12**
Pyroelectric Response of Ferroelectric Vinylidene Fluoride Oligomer Thin Film
- Guittard Frédéric** (Université de Nice Sophia-Antipolis, France) **P13**
Superhydrophobic, Superoleophobic Surfaces: Morphological Signature of Electrodeposited Polymers

- Kumar Santosh** (Institut Charles Gerhardt, France) **P14**
Synthesis and Characterization of Epoxy Functionalized Cooligomers Based on Chlorotrifluoroethylene and Allyl Glycidyl Ether
- Kuroda Yusuke** (Kobe University, Japan) **P15**
Epitaxial Crystal Growth of Vinylidene Fluoride Oligomer on Friction-transferred Ferroelectric Polymer Template
- Maddox Franchessa** (University of Alabama, USA) **P16**
Novel Design of an Electrochemical Chromatography Column
- Mayot Estelle** (Université Strasbourg, France) **P17**
Perfluoropolyether Polymer Based Surfactants: A Key Element to Handle Droplets in Digital Microfluidic
- Meskini Ahmed** (Université de Lyon, France) **P18**
*Dielectric Properties of Poly(Vinylidene Fluoride)-*b*-Poly(Cyano Comonomers) Block Copolymers*
- Moukheiber Eddy** (Université de Savoie, France) **P19**
Effect of Controlled Ionic Exchange on the Thermal Stability of Perfluorinated Sulfonic Acid Membranes
- Park Jiyong** (Clemson University, USA) **P20**
Cross-linked Sulfonated Perfluorocyclobutyl (S-PFCB) Membranes for H₂ Production
- Sayler Todd** (University of Alabama, USA) **P21**
On the Way to Improved Polymer Electrolyte Membranes: Preparation and Handling of Tetrafluoroethylene (TFE) in an Academic Laboratory
- Soulès Aurélien** (Institut Charles Gerhardt, France) **P22**
Use of 1,6-Diodoperfluorohexane to Obtain Novel Thermostable Copolymers and Photo reactive Additives
- Tillet Guillaume** (Institut Charles Gerhardt, France) **P23**
Original Method to Crosslink Fluorinated Elastomers
- Utusnomiya Ken** (Kobe University, Japan) **P24**
Ferroelectric and Piezoelectric Properties of Newly Synthesized Vinylidene Fluoride Telomer with C_nF_{2n+1} Group
- Vergnaud Jérôme** (Institut Charles Gerhardt, France) **P25**
Strategies to Synthesize Alternated or Random Copolymers Based on Alpha-Trifluoromethacrylic Acid and Vinylidene Fluoride by Radical Copolymerization.
- Verma Rajneesh** (Clemson University, USA) **P26**
Perfluorosulfonimide (PFSI) and Sulphonated Perfluorocyclobutyl Aryl Ether Copolymer(S-PFCB) Ionomer Blends