

# TUESDAY POSTER PRESENTATIONS

June 28, 2011  
6:00 PM - 8:00 PM  
Ballroom (Marriott)

SESSION PB2: Dendrimer Synthesis &  
Characterization  
Tuesday Evening, June 28, 2011  
6:00 PM  
Ballroom (Marriott)

## PB2.1

**Characterization of Dendrimer Endgroup Functionalization Via Electron Paramagnetic Resonance.** Amanda L. Mattson and Mary J. Cloninger; Department of Chemistry and Biochemistry, Montana State University, Bozeman, Montana.

## PB2.2

**Supramolecular Liquid Crystalline Dendrimers.** Madalina Bucos<sup>1</sup>, Joaquin Barbera<sup>2</sup>, Pilar Romero<sup>2</sup>, Mercedes Marcos<sup>2</sup>, Jose Luis Serrano<sup>1</sup> and Teresa Sierra<sup>2</sup>; <sup>1</sup>INA-University of Zaragoza, Zaragoza, Spain; <sup>2</sup>ICMA, University of Zaragoza-CSIC, Zaragoza, Spain.

## PB2.3

**Solid-phase Synthesis of PEGtide Dendrimers.** Jieming Gao, Stanley Stein, Yashveer Singh and Patrick J. Sinko; Ernest Mario School of Pharmacy, Piscataway, New Jersey.

## PB2.4

**Ionic Self-assembly of Cationic Poly(propylene Imine)-Anionic Carbazole Derivatives Dendron Complexes: Study of Liquid Crystal Properties and Formation of Aggregates in Water.** Susana Castelar<sup>1</sup>, Joaquin Barbera<sup>1</sup>, Mercedes Marcos<sup>1</sup>, Pilar Romero<sup>1</sup> and Jose Luis Serrano<sup>2</sup>; <sup>1</sup>Universidad de Zaragoza-ICMA, Zaragoza, Zaragoza, Spain; <sup>2</sup>INA-University of Zaragoza, Zaragoza, Spain.

## PB2.5

**Thiophenylene Dendritic Architectures: Properties and Applications.** Marc Gingras<sup>1</sup>, Virginie Placide<sup>1</sup>, Eric Levillain<sup>2</sup>, Magali Allain<sup>2</sup>, Paola Ceroni<sup>3</sup>, Vincenzo Balzani<sup>3</sup> and Andrea Fermi<sup>1,3</sup>; <sup>1</sup>CINAM, UPR 3118, CNRS, Marseille, France; <sup>2</sup>UMR 6501, Univ. Angers, Angers, France; <sup>3</sup>Chemistry, Univ. of Bologna, Bologna, Italy.

## PB2.6

**Synthesis and Characterization of High Generation Triazine Dendrimers Using a Divergent Method.** Alan E. Enciso and Eric E. Simanek; Chemistry, Texas Christian University, Fort Worth, Texas.

SESSION PC1: Hyperbranched Polymer Synthesis &  
Characterization  
Tuesday Evening, June 28, 2011  
6:00 PM  
Ballroom (Marriott)

## PC1.1

**Synthesis and Characterization of Water-soluble Polyaminoacid/oligosaccharide-modified Hyperbranched Poly(ethylene imine).** Christin Striegler<sup>1</sup>, Dietmar Appelhans<sup>1</sup>, Markus Franke<sup>1</sup>, Franziska Krahl<sup>2</sup>, Hartmut Komber<sup>1</sup>, Albena Lederer<sup>1</sup>, Andreas Janke<sup>1</sup>, Leonard Schellkopf<sup>1</sup> and Brigitte Voit<sup>1</sup>; <sup>1</sup>Polymerstrukturen, Leibniz-Institut für Polymerforschung Dresden e.V., Dresden, Germany; <sup>2</sup>Physikalische Chemie der Polymere, Technische Universität Dresden, Dresden, Germany.

## PC1.2

**Structure and Properties of Germanium-based Hyperbranched Polymers.** Hartmut Komber<sup>1</sup>, Olga Markova<sup>2</sup>, Liane Haeussler<sup>1</sup>, Albena Lederer<sup>1</sup> and Brigitte Voit<sup>1</sup>; <sup>1</sup>Leibniz-Institut für Polymerforschung Dresden e. V., Dresden, Germany; <sup>2</sup>Faculty of Chemistry, University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation.

SESSION PD2: Biological Studies  
Tuesday Evening, June 28, 2011  
6:00 PM  
Ballroom (Marriott)

## PD2.1

**Control of Biomembrane Permeability by Light using Photoresponsive Molecular Glues.** Yushi Suzuki, Tadashi Takeuchi, Kou Okuro and Takuzo Aida; School of Engineering, The University of Tokyo, Tokyo, Japan.

## PD2.2

**Design of Dendritic Molecular Glues with a Photoaffinity Probe and Their Applications.** Noriyuki Uchida, Kou Okuro and Takuzo Aida; School of Engineering, The University of Tokyo, Tokyo, Japan.

## PD2.3

**Multivalent Glycoasterisk Ligands as Highly Potent Inhibitors for Some Lectin-Carbohydrate Interactions.** Marc Gingras<sup>1</sup>, Mazen Sleiman<sup>2,1</sup>, Peter G. Gockjian<sup>2</sup>, Sophie De Bentzmann<sup>4</sup>, David Redelberger<sup>4</sup>, Francoise Bonnet<sup>1</sup>, Annabelle Varrot<sup>3</sup>, Anne Imberty<sup>3</sup> and Romain Peresutti<sup>1</sup>; <sup>1</sup>CINAM, UPR 3118, CNRS, Marseille, France; <sup>2</sup>UMR 5181, Univ. Lyon 1, Lyon, France; <sup>3</sup>UPR 5301 CERMAV, CNRS, Grenoble, France; <sup>4</sup>UPR 9027 LISM, CNRS, Marseille, France.

## PD2.4

**Monitoring Lectin Interactions with Sugar Functionalized Dendrimers using Fluorescence Lifetime.** Candace K. Goodman<sup>1,2</sup>, Kristian H. Schlick<sup>1</sup>, Anna K. Michel<sup>1</sup>, Gregory D. Gillispie<sup>2</sup> and Mary J. Cloninger<sup>1</sup>; <sup>1</sup>Chemistry and Biochemistry, Montana State University, Bozeman, Montana; <sup>2</sup>Fluorescence Innovations, Inc., Bozeman, Montana.

## PD2.5

**Surface Modified Poly-(L-Lysine) Dendrimers: Synthesis and Effect on the Aggregation of Alzheimer's Amyloid-beta Peptide.** Benjamin P. Ross<sup>1</sup>, Manoj K. Palanivelu<sup>1</sup>, Venkatesan M. Rao<sup>1</sup>, Ross P. McGeary<sup>1,2</sup> and Paul N. Shaw<sup>1</sup>; <sup>1</sup>School of Pharmacy, The University of Queensland, Brisbane, Queensland, Australia; <sup>2</sup>School of Chemistry and Molecular Biosciences, The University of Queensland, Brisbane, Queensland, Australia.

SESSION PE2: Drug Delivery  
Tuesday Evening, June 28, 2011  
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## PE2.1

**In Vivo Oral Delivery of PAMAM Dendrimers.** Giridhar Thiagarajan<sup>1,3</sup>, Khaled Greish<sup>2,3</sup>, Shraddha Sadekar<sup>2,3</sup>, Abhijit Ray<sup>2,3</sup> and Hamid Ghandehari<sup>1,2,3</sup>; <sup>1</sup>Bioengineering, University of Utah, Salt Lake City, Utah; <sup>2</sup>Pharmaceutics and Pharmaceutical Chemistry, University of Utah, Salt Lake City, Utah; <sup>3</sup>Utah Center for Nanomedicine, Nano Institute of Utah, University of Utah, Salt Lake City, Utah.

## PE2.2

**The Development of Dendrimer Platforms for Targeted Drug Delivery via Combinatorial Copper Free Click Chemistry.** Baohua M. Huang, Ankur Desai, ShengZhuang Tang, Pascale R. Leroucil and James R. Baker Jr.; MNIMBS, University of Michigan, Ann Arbor, Michigan.

## PE2.3

**Poly(amidoamine) Dendrimer-Erythromycin Conjugates for Drug Delivery to Macrophages for the Treatment of Periprosthetic Inflammation.** Manoj K. Mishra<sup>1</sup>, Admira Bosnjakovic<sup>1</sup>, Weiping Ren<sup>2</sup>, Tong Shi<sup>2</sup> and Rangaramanujam M. Kannan<sup>1,2</sup>; <sup>1</sup>Department of Chemical Engineering and Materials Science, Wayne State University, Detroit, Michigan; <sup>2</sup>Department of Biomedical Engineering, Wayne State University, Detroit, Michigan.

## PE2.4

**Role of Linking Chemistry on the Drug Release and Activity of Dendrimer-drug Conjugate Nanodevices.** Ugir H. Sk<sup>1</sup>, Manoj K. Mishra<sup>1</sup>, Wojciech Lesniak<sup>1</sup>, Yunus E. Kurtoglu<sup>1</sup>, Sujatha Kannan<sup>2</sup> and Rangaramanujam M. Kannan<sup>1</sup>; <sup>1</sup>Department of Chemical Engineering and Materials Science, Wayne State University, Detroit, Michigan; <sup>2</sup>Department of Pediatrics (Critical Care Medicine), Children's Hospital of Michigan, Wayne State University, Detroit, Michigan.

## PE2.5

### Dendritic 5-aminolevulinic Acid (ALA) Featuring Fluorescent Core for Photodynamic Therapy (PDT): in vitro Study.

Sinan Battah<sup>1,2</sup>, Aurelie Francois<sup>3,4</sup>, Hasan Hallaq<sup>2</sup>, Lina Bezdetnaya<sup>3,4</sup>, Francois Guillemin<sup>3,4</sup>, Paul Dobbin<sup>1</sup>, Marie Ange D'Hallewin<sup>3,4</sup> and Alexander MacRobert<sup>2</sup>; <sup>1</sup>Biological Sciences Department, University of Essex, Colchester, Essex, United Kingdom; <sup>2</sup>National Medical Laser Centre, University College London, London, London, United Kingdom; <sup>3</sup>Centre Alexis Vautrin, Nancy, Vandoeuvre, France; <sup>4</sup>CRAN, CNRS, UMR 7039, Universite Henri Poincare - Nancy I (INPL), Nancy, Vandoeuvre, France.

## PE2.6

### Antitumor Activity of Paclitaxel-Laden Triazine Dendrimers in a Human Prostate Cancer Xenograft Model. Jongdoo Lim<sup>1</sup>,

Su-Tang Lo<sup>2</sup>, Xiankai Sun<sup>2</sup> and Eric Simanek<sup>1</sup>; <sup>1</sup>Texas Christian University, Fort Worth, Texas; <sup>2</sup>University of Texas Southwestern Medical Center, Dallas, Texas.

SESSION PF1: Imaging  
Tuesday Evening, June 28, 2011  
6:00 PM  
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## PF1.1

### Synthesis of a Bifunctional PAMAM Dendrimer Nanoparticle Bearing Both a Chemotherapy Drug for Brain Tumor Treatment Studies and an MRI Agent for Tracking Purposes. Haitao Wu<sup>1</sup>, Hemant Sarin<sup>3</sup>, Kyle R. Brimacombe<sup>2</sup>, Biying Xu<sup>1</sup>, Colin M. Wilson<sup>1</sup>, Matthew D. Hall<sup>2</sup> and Gary L. Griffiths<sup>1</sup>;

<sup>1</sup>Imaging Probe Development Center, NHLBI, National Institutes of Health, Rockville, Maryland; <sup>2</sup>Laboratory of Cell Biology, National Institutes of Health, NCI, Rockville, Maryland; <sup>3</sup>NIBIB, National Institutes of Health, Rockville, Maryland.

SESSION PG2: Computational Modeling and Databases  
Tuesday Evening, June 28, 2011  
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## PG2.1

### Study of the of PAMAM - Non-Steroidal Anti-Inflammatory Drugs Interaction using a Combination of ESI-MS/MS and a Distributed Computational Model System. Fabian A. Avila-Salas<sup>1</sup>, Claudia Sandoval<sup>2</sup>, Julio Caballero<sup>2</sup>, Sergio Guinez<sup>2</sup>,

Leonardo S. Santos<sup>3</sup>, Raul E. Cachau<sup>4</sup> and Fernando D. Gonzalez-Nilo<sup>2</sup>; <sup>1</sup>Nanobiotechnology Division at University of Talca, Fraunhofer Chile Research Foundation - Center for Systems Biotechnology, Talca, Maule, Chile; <sup>2</sup>Center for Bioinformatics and Molecular Simulations, University of Talca, Talca, Maule, Chile; <sup>3</sup>Laboratory of Asymmetric Synthesis, Institute of Chemistry and Natural Resources, University of Talca, Talca, Maule, Chile; <sup>4</sup>Advanced Structure Analysis Collaboratory, ISP, ABCC, SAIC-Frederick Inc., National Cancer Institute, Frederick, Maryland.

## PG2.2

### Anionic Carbosilane Dendrimers as the anti-HIV Agents: Molecular Modeling Insight into Dendrimer-Gp120 and Dendrimer-CD4 Interactions. Marek Maly<sup>1</sup>, Dalibor Sedlak<sup>1</sup>,

Zdenek Stryhal<sup>1</sup>, Zbysek Posel<sup>1</sup>, Pavel Petrus<sup>1</sup>, Massimo Maiolo<sup>2</sup>, Andrea Danani<sup>2</sup>, Francisco J. De la Mata<sup>3</sup>, Rafael G. Ramirez<sup>3</sup> and Maria A. Munoz-Fernandez<sup>4</sup>; <sup>1</sup>Department of Physics, J.E. Purkinje University, Faculty of Science, Usti nad Labem, Czech Republic; <sup>2</sup>Laboratory of Applied Mathematics and Physics, University of Applied Sciences and Arts of Southern Switzerland, Manno, Ticino, Switzerland; <sup>3</sup>Departamento de Química Inorgánica, Universidad de Alcalá, CIBER-BBN, Alcalá de Henares Madrid, Spain; <sup>4</sup>Laboratorio de Inmunobiología Molecular, Hospital General Universitario Gregorio Marañón, CIBER-BBN, Madrid, Spain.

## PG2.3

### Supramolecular Complexes of Quantum Dots and a Polyamidoamine (PAMAM)-folate Derivative for Molecular Imaging of Cancer Cells. A Molecular Simulation Study. Daniel R. Aguayo<sup>1</sup>, Raul E. Cachau<sup>2</sup> and Fernando D.

Gonzalez-Nilo<sup>1</sup>; <sup>1</sup>Center for Bioinformatics and Molecular Simulation, Universidad de Talca, Talca, Chile; <sup>2</sup>Information Systems Program, SAIC-Frederick, Frederick, Maryland.

## PG2.4

### Automated Generation of Dendrimers Molecular Models in the Collaboratory for Structural Nanobiology. Raul E. Cachau<sup>1</sup>, Alvaro M. Gonzalez-Ibanez<sup>2</sup> and Fernando D.

Gonzalez-Nilo<sup>2</sup>; <sup>1</sup>Information Systems Program, SAIC-Frederick, Frederick, Maryland; <sup>2</sup>Center for Bioinformatics and Molecular Simulation, Universidad de Talca, Talca, Chile.

## PG2.5

**Every Base Counts! Combined Experimental/Multiscale Modeling Studies of PAMAM-based Dendrimers Binding to Different siRNAs.** Sabrina Priel<sup>1</sup>, Paola Posocco<sup>1</sup>, Erik Laurini<sup>1</sup>, Maurizio Fermeglia<sup>1</sup>, Anastasia Malek<sup>2</sup> and Carlo Catapano<sup>2</sup>; <sup>1</sup>MOSE-DI3, University of Trieste, Trieste, Italy; <sup>2</sup>Laboratory of Experimental Oncology, IOSI, Bellinzona, Switzerland.

## PG2.6

**Molecular Modeling Supports the Design of Dendritic Molecules with High Potential in Life- and Nano-Science.** Giovanni M. Pavan and Andrea Danani; University of Applied Science of Southern Switzerland (SUPSI), Manno, Switzerland.

SESSION PH2: Novel Applications  
Tuesday Evening, June 28, 2011  
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## PH2.1

**Dendritic Chain Reaction.** Eran Sella, Naama Karton-Lifshin and Doron Shabat; Organic Chemistry, Tel-Aviv University, Tel Aviv, Israel.

## PH2.2

**Improving the Dispersion of Hydroxylapatite by Hydrophilic Dendritic Peptides.** Hui-Ting Chen<sup>1,2</sup> and Yu-Hsuan Liu<sup>1</sup>;

<sup>1</sup>Department of Fragrance and Cosmetic Science, Kaohsiung Medical University, Kaohsiung, Taiwan; <sup>2</sup>Orthopaedic Research Center, Kaohsiung Medical University, Kaohsiung, Taiwan.

## PH2.3

**Catch and Release Chemistry – Reversible Adsorption at Dendronized Surfaces.** Kristian Schlick<sup>1</sup>, Eric Gobrogge<sup>1</sup>, Jas Pal Badyal<sup>2</sup>, Colin Bain<sup>2</sup>, Robert Walker<sup>1</sup> and Mary Cloninger<sup>1</sup>;

<sup>1</sup>Chemistry and Biochemistry, Montana State University, Bozeman, Montana; <sup>2</sup>Department of Chemistry, Durham University, Durham, United Kingdom.

## PH2.4

**Plasma Treated Ultra High Molecular Weight Polyethylene with Hyperbranched Antimicrobial Surfaces.** Lars T. Pichler, Daphne D. Pappas, Ben E. Stein, MyVan Baranoski, George R. Martin, Victor Rodriguez Santiago and Michelle S. Fleischman; Materials and Manufacturing Science Division, Army Research Laboratory, Aberdeen Proving Ground, Maryland.

## PH2.5

**A Comparative Study of Water Solubility and Binding Efficiency For Dendronized, Supramolecular Hosts.**

Marco Giles<sup>1</sup>, Simin Liu<sup>2</sup>, Bruce C. Gibb<sup>2</sup> and Scott M. Grayson<sup>1</sup>;

<sup>1</sup>Chemistry, Tulane University, New Orleans, Louisiana; <sup>2</sup>Chemistry, University of New Orleans, New Orleans, Louisiana.

SESSION PI1: Catalysis and Light Harvesting  
Tuesday Evening, June 28, 2011  
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## PI1.1

**Preparation and Electrocatalysis of Multilayer Composite Films Constructed from Transition Metal Substituted Polyoxometalate and Poly(amidoamine) Dendrimer.** Shen Lin, Shui Z. Li, Hong M. Luo, De Y. Shi and Feng X. Zhang; College of Chemistry and Materials Science, Fujian Normal University, Fuzhou, Fujian Province, China.

## PI1.2

**Supported N-Alkylated Imidazole-Decorated Dendrons as Heterogeneous Catalysts for the Baylis-Hillman Reaction.** Kerem Goren and Moshe Portnoy; School of Chemistry and the Center for Nanoscience and Nanotechnology, Tel-Aviv University, Tel-Aviv, Israel.

## PI1.3

**Synthetic Linear-dendritic Cofactors for Enzyme-catalyzed Polymerizations.** Lili Wang<sup>1</sup>, Nikolay G. Vladimirov<sup>2</sup>, James D.

Soucy<sup>1</sup> and Ivan Gitsov<sup>1</sup>; <sup>1</sup>Chemistry, State University of New York ESF, Syracuse, New York; <sup>2</sup>Ashland Chemical, Newark, Delaware.

**PI1.4**

**Preparation of M-G4OH Nanocomposites in Aqueous**

**Solution: Effect of Dialysis and pH Adjustment.**

Eleni Kyriakidou<sup>1</sup>, Paul T. Fanson<sup>2</sup>, Oleg S. Alexeev<sup>1</sup> and Michael D. Amiridis<sup>1</sup>; <sup>1</sup>Department of Chemical Engineering, University of South Carolina, Columbia, South Carolina; <sup>2</sup>Toyota Technical Center USA, Inc., Ann Arbor, Michigan.