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# PMSE

## DIVISION OF POLYMERIC MATERIALS SCIENCE AND ENGINEERING – **PREPRINT PRESENTATIONS ONLY**

M. Becker, S. Granados-Focil, A. Nelson, and C. Stafford, *Program Chairs*

### SUNDAY MORNING

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#### Section A: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer, Presiding*

Hyatt Regency Dallas  
Cumberland B

**8:50** [2. Polydicyclopentadiene aerogels via ROMP: Nanostructure control with first and second generation Grubbs catalysts.](#) **A. N. Bang**, D. Mohite, C. Sotiriou-Leventis, N. Leventis

**9:30** [4. Sequential graft-interpenetrating polymer networks of polyurethane and acrylic/vinyl ester based copolymers.](#) **R. A. Ballester**, B. M. Sundaram, H. V. Tippur, M. L. Auad

### SUNDAY AFTERNOON

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#### Section B: Supramolecular Assembly and Gelation in Organic Solvents Supramolecular Polymer Systems

Cosponsored by POLY<sup>‡</sup>

N. Ayres, *Organizer*

D. Savin, K. Cavicchi, *Organizers, Presiding*

Hyatt Regency Dallas  
Reunion Blrm A

**5:00** [52. Mega-supramolecules by end-association of very long telechelics: Highly potent rheology modifiers.](#) J. A. Kornfield, **B. Li**, M. Wei

### MONDAY MORNING

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#### Section C: Symposium in Honor of Bernhard Wunderlich

S. Cheng, *Organizer*

M. Jaffe, *Organizer, Presiding*

Hyatt Regency Dallas  
Cumberland C

**9:10** [89. Kinetics of nucleation and crystallization of poly\( \$\epsilon\$ -caprolactone\): Multiwalled carbon nanotube composites.](#) E. Zhuravlev, A. Wurm, P. Poetschke, R. Androsch, J. W. Schmelzer, **C. C. Schick**

**10:50** [94. Sequence of enthalpy relaxation, homogeneous crystal nucleation and crystal growth in the "32 glass of polyamide 6. R. Androsch, C. Schick](#)

**11:10** **95.** Melting kinetics of polymer crystals. **A. Toda**

**11:30** [96. Steric hindrance effect on phase behavior of dendronized crown ethers. B. Zhang, J. Wang, C. "34 Hsu, S. Yang, E. Chen](#)

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Section D: **Electrospinning and Nanofibers: Symposium in Honor of Darrell Reneker  
Biopolymers, Biomedical Applications and Composites**

H. Fong, J. Rabolt, *Organizers*  
C. Wang, L. Frazier, *Presiding*

Hyatt Regency Dallas  
Cumberland F

**8:35** [100. Electrospinning: A way to produce strongest polymer fibers. H. Hou, J. Zhu, S. Liu, Y. He "36](#)

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**MONDAY AFTERNOON**

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Section A: **Conjugated Polymers for Optoelectronics, Electronics and Biosensors  
OPV Devices**

Financially supported by 1-Material Inc. and  
Aldrich Materials Science  
X. Gong, S. Wang, *Organizers*  
B. Hu, J. Huang, *Presiding*

Hyatt Regency Dallas  
Cumberland B

**2:30** [108. Role of molecular conformation at the donor-acceptor interface in organic photovoltaics. M. '37 D. McGehee, K. R. Graham, C. Cabanetos, J. P. Jahnke, A. E. Labban, G. O. Ngongang Ndjawa, M. Idso, B. F. Chmelka, P. Beaujuge, A. Amassian](#)

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Section B: **Supramolecular Assembly and Gelation in Organic Solvents  
Mechanism-Driven Investigations**

Cosponsored by POLY<sup>†</sup>  
D. Savin, K. Cavicchi, *Organizers*  
N. Ayres, *Organizer, Presiding*  
K. Erk, *Presiding*

Hyatt Regency Dallas  
Reunion Blrm A

**4:40** [124. Self-organizing alkylated cage silsesquioxane oligomers for molecular-scale lithography. L. '38 Wang, Y. Ishida, R. Maeda, T. Hayakawa](#)

## TUESDAY MORNING

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### Section D: **Electrospinning and Nanofibers: Symposium in Honor of Darrell Reneker Filtration, Bioseparation and Membranes**

H. Fong, J. Rabolt, *Organizers*  
D. Reneker, Y. Chung, *Presiding*

Hyatt Regency Dallas  
Cumberland K

**11:25 179.** [Synthesis, characterization and application of cellulose acetate derived electrospun carbon <sup>13</sup>C: nanofibers. C. S. Sharma, L. Khobragade, C. Subrahmanyam](#)

## TUESDAY EVENING

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### Section A: **Joint PMSE/POLY Poster Session**

S. Granados-Focil, *Organizer*

Dallas Convention Center  
Hall A

**5:30 - 7:30**

**212.** [Fabrication of Cu<sub>2</sub>ZnSnS<sub>4</sub> \(CZTS\) nanofibers via electrospinning. B. Z. Buyukbekar, F. Ozel, H. <sup>3</sup>; Sakalak, M. Kus, M. S. Yavuz](#)

**213.** [Ability to control cancer cell growth by ampicillin-containing Group VA polyester amines. M. R. <sup>42</sup>Roner, C. E. Carraher, Jr., A. Moric, J. Dorestant](#)

**214.** [Control of cancer growth by Group VA polyesters containing chelidonic acid. M. R. Roner, C. E. <sup>45</sup>Carraher, Jr., A. Moric, M. Ayoub](#)

**215.** [Ability to inhibit a group of cancer cell lines by the polyamine derived by reaction of histamine <sup>49</sup>with Group VA dihalo reactants. M. R. Roner, C. E. Carraher, Jr., A. Moric, Z. Islam](#)

**216.** [Preliminary cancer cell line results for the polyester amines derived from reaction of norfloxacin <sup>53</sup>with triphenylarsenic, triphenylantimony, and triphenylbismuth dihalides. M. R. Roner, C. E. Carraher, Jr., A. Moric, R. Thibodeau](#)

**217.** [Preliminary cancer cell studies for the Group VA polyesters containing thiodiglycolic acid. M. R. <sup>57</sup>Roner, C. E. Carraher, Jr., A. Moric, N. Pham](#)

**218.** [MALDI TOF MS of organotin polyethers containing the anticoagulant dicumarol. C. E. Carraher, <sup>55</sup>Jr., N. Sookdeo, J. D. Johnson, M. R. Roner](#)

**222.** [Electrospun nanocomposite fibers of poly\(L-lactic acid\) with carbon nanotubes. B. Mao, Y. Zhu, S. <sup>64</sup>Hu, K. Geers, M. Mancera, M. Sandoval, P. Cebe](#)

- [232. Preparation of antibacterialorganic/inorganic hybrid coating based on spherical polyelectrolyte "66 brushes. T. Li, J. Wang, H. Jiang, X. Yu, L. Li, \*\*X. Guo\*\*](#)
- [233. Synthesis of multilayer spherical polyelectrolyte brushes using layer-by-layer technology. Y. Tian, "68 X. Liu, L. Li, J. Wang, \*\*X. Guo\*\*](#)
- [234. Preparation of nanocomposite polymer hydrogels and their adhesion measurement. X. Yu, Z. "6: Zhang, M. Shen, W. Wang, L. Li, \*\*X. Guo\*\*](#)
- [235. Two step surface modification of silica nanoparticles to introduce methacrylate groups. \*\*K. Ha, S.\*\* "72 Lee, S. Park](#)
- [238. Wild silk based biomaterials for medical applications. \*\*X. Hu,\*\* J. Buchicchio, E. Zulker, S. Mazzi, "74 B. Anderson, J. Hettinger](#)
- [239. Core-shell structure wood plastic composites with inorganic filler filled shells: Thermal expansion "76 and flexural properties. \*\*R. Huang,\*\* C. Zhou, K. Chi, Q. Wu](#)
- [242. Fabrication of hierarchical mesoporous TiO<sub>2</sub> nanowires using dual templates. \*\*Y. Jeon,\*\* S. Choi, S. "78 Kim](#)
- [243. PEO-based polymers as solid-state electrolyte: Synthesis and characterization. \*\*Z. Jia,\*\* W. Yuan, G. "79 L. Baker](#)
- [254. Enhanced thermoelectric performance of free-standing PEDOT:PSS/Sb<sub>2</sub>Te<sub>3</sub> films. H. Song, H. Shi, "7: Q. Jiang, \*\*C. Liu,\*\* J. Xu](#)
- [256. Functionalized polyaniline based membranes for water purification. \*\*Y. Min,\*\* Y. Yu, D. Wang, T. "82 Fan, K. Kinstedt, H. W. Walker, \*\*Y. Liu\*\*](#)
- [257. Synthesis and electrochromic properties of poly\(ethylene oxide\) functionalized poly\[3-thiophene "84 ethanol\] network films. S. Zhang, L. Qin, \*\*B. Lu,\*\* J. Xu, S. Zhen, D. Mo](#)
- [263. Fabrication of polyaniline-graphene hybrid papers and its applications. T. Fan, W. Zeng, D. Zhang, "86 C. Yuan, W. Tang, S. Tong, S. Mo, C. Zhao, \*\*Y. Liu, Y. Min\*\*](#)
- [264. Fabrication of graphene based 3D network. S. Tong, W. Zeng, T. Fan, L. Zhang, W. Yang, \*\*Y. Liu,\*\* "88 \*\*Y. Min\*\*](#)
- [265. Fabrication of graphene transparent film utilizing L-B method. T. Fan, W. Zeng, D. Zhang, C. "8: Yuan, W. Tang, S. Tong, S. Mo, C. Zhao, \*\*Y. Liu, Y. Min\*\*](#)
- [266. Fabrication of graphene oxide quantum dots \(GOQDs\) and graphene quantum dots \(GQDs\). T. Fan, "92 W. Zeng, D. Zhang, C. Yuan, W. Tang, S. Tong, S. Mo, C. Zhao, \*\*Y. Liu, Y. Min\*\*](#)

[275. One-pot synthesis of sub-100 nm scale boronic acid functionalized nanoparticles for fluorescent '94 diol sensing. \*\*H. Sakalak\*\*, M. Ulasan, S. T. Camli, M. S. Yavuz](#)

[281. Polycyclic polysiloxanes as optical polymers for LED applications. \*\*M. Tchoul\*\*, D. Johnston''95](#)

[283. Optoelectronic properties of a series of P3HT/dye composites. \*\*D. Wang\*\*, S. Sun ''97](#)

[288. Hybrid composites from wheat straw, inorganic filler and polypropylene: Water absorption and ''99 thermal expansion properties. \*\*R. Huang\*\*, M. Yu, C. Zhou, K. Chi, Q. Wu](#)

## WEDNESDAY MORNING

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### Section A: **Conjugated Polymers for Optoelectronics, Electronics and Biosensors** **Polymer Biosensors**

Financially supported by 1-Material Inc. and  
Aldrich Materials Science  
S. Wang, X. Gong, *Organizers*  
D. Whitten, D. Zhang, *Presiding*

Hyatt Regency Dallas  
Cumberland B

**11:40** [322. Effect of composition changes on sensitivity of glucose sensitive hydrogel studied by design '9; of experiments \(DOE\). \*\*S. Cho\*\*, J. J. Magda, P. Tathireddy, L. Rieth](#)

## WEDNESDAY AFTERNOON

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### Section B: **Dynamic Covalent Chemistry in Polymer Science**

Financially supported by IBM  
B. Sumerlin, *Organizer*  
D. Fulton, *Organizer, Presiding*

Hyatt Regency Dallas  
Reunion Blrm A

**2:45** [362. Dynamic covalent polymers with autonomous exchangeability and reorganizability at ambient ': 2 temperature. \*\*H. Otsuka\*\*, T. Kanehara, A. Irie, K. Imato, T. Ohishi, A. Takahara](#)

## THURSDAY MORNING

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### Section A: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer*

Hyatt Regency Dallas

A. Fuchs, *Presiding*

Reverchon B

**10:10 382.** [Morphology, physical properties, and transport phenomenon of TEOS-TIP-PBC hybrid inorganic-organic membranes depending on composition.](#) **F. Huang, C. J. Cornelius**

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### Section D: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer*

Hyatt Regency Dallas

J. Lu, *Presiding*

Sanger B

**10:30 407.** [Poly\(ionic liquid\)@mSiO<sub>2</sub> double shell nanospheres: An efficient hydrophobic@hydrophilic nanoreactor.](#) **Y. Yang, M. Antonietti, J. Yuan**

## THURSDAY AFTERNOON

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### Section A: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer*

Hyatt Regency Dallas

D. Janes, *Presiding*

Reverchon B

**1:50 411.** [Biofilm eradication using physically cross-linked hydrogels formed from vitamin E-functionalized polycarbonates.](#) **A. Lee, V. Ng, W. Wang, J. Hedrick, Y. Yang**

**3:30 415.** [Spectroscopic investigations on polyvinylidene fluoride – Fe<sub>3</sub>O<sub>4</sub> nanocomposites.](#) **E. E. Ibrahim, T. Mion, J. Hinthorne, K. J. Famitafreshi, S. C. Tidrow, D. M. Chipara, K. Lozano, M. Chipara**

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### Section B: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer, Presiding*

Hyatt Regency Dallas

Sanger B

**2:30 421.** [Quinic acid-based degradable poly\(thioether-co-carbonate\) networks via thiol-ene crosslinking.](#) **L. A. Link, A. T. Lonnecker, K. Hearon, J. E. Raymond, D. J. Maitland, K. L. Wooley**



**3:10** [422. Morphology, thermodynamics, and transport properties of solution-cast Penta block<sup>1</sup>; copolymers. \*\*D. Wang\*\*, T. Etampawala, D. Perahia, C. Cornelius](#)

**3:30** [423. Multiscale approach to parameterization of burning models for polymeric materials. \*\*J. Li, S.\*\* <sup>2</sup>; 3 I. Stoliarov](#)

**4:10** [425. Synthesis and characterization of functionalized poly\(phenylene\)s. \*\*T. D. Largier, C.\*\* <sup>3</sup>; 5 Cornelius](#)