

Mihaela C. Stefan

Assistant Professor Department of Chemistry University of Texas at Dallas

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Educational History:

Ph.D., 1998, Chemistry, Politehnica University, Bucharest, Romania,

Thesis: Synthesis of random and block copolymers of styrene by anionic polymerization

M.S., 1995, Chemistry, Politehnica University, Bucharest, Romania,

Thesis: Anionic coordinative polymerization of dienes using neodymium catalysts

B.S., 1994, Chemical Engineering, Politehnica University, Bucharest, Romania, Chemical Engineering

Employment History – principal positions since the Bachelor’s degree:

Assistant Professor, 08/01/2007 - present, University of Texas at Dallas, Department of Chemistry, 800 West Campbell Road, Richardson, TX, 75080

Research Scientist (Research Faculty Track), 06/01/2006 - 08/01/2007, Carnegie Mellon University, Department of Chemistry, 4400 Fifth Avenue, Pittsburgh, PA, 15213

Visiting Assistant Professor, 07/01/2003 - 06/01/2006, Carnegie Mellon University, Department of Chemistry, Advisor: Richard D. McCullough

Postdoctoral Fellow, 02/01/2002 - 07/01/2003, Carnegie Mellon University, Department of Chemistry, Advisor: Krzysztof Matyjaszewski

Postdoctoral Fellow, 10/01/1999-01/01/2002, University of the Western Cape, Cape Town, South Africa, Advisor: Selwyn Mapolie

Chemical Engineer, 02/01/1998 – 10/01/1999, National Institute for Chemical Research, Bucharest Romania

Employment History – concurrent temporary or visiting appointments, consultantships:

Affiliate Faculty, 01/01/2009 – present, University of Texas at Dallas, Department of Materials Science & Engineering

Visiting Assistant Professor, 09/01/1998- 09/01/1999, Politehnica University, Bucharest, Romania

Professional recognitions and honors (study, teaching, research, service):

Recipient of NSF Early Career Award, 2010-2015

NS&M Outstanding Teacher Award, 2009, University of Texas at Dallas

Student Merit Award, 1995, Politehnica University, Bucharest, Romania

Student Merit Award, 1994, Politehnica University, Bucharest, Romania

Professional memberships:

American Chemical Society, 2002 – present

Materials Research Society, 2007 - present

Achievements in original investigation:

Books authored or co-authored:

1) Ewbank, Paul.C; Stefan, Mihaela C.; Sauve, Genevieve; McCullough, R.D, Synthesis, characterization and properties of regioregular polythiophenes-based materials, *Thiophene-Based Materials*, Wiley, **2009**.

Articles in refereed journals:

(Before 2008 Mihaela C. Stefan was published under the name Mihaela C. Iovu)

Independent Contributions: (underlined names belong to undergraduate students)

1) Sista, P.; Bhatt, M. P.; McCarry, A. R.; Nguyen, H.; Hao, J.; Biewer, M.C.; **Stefan Mihaela C.**, Enhancement of OFET Performance of Semiconducting Polymers Containing Benzodithiophene Upon Surface Treatment with Organic Silanes, *Journal of Polymer Science, Part A*, **2011**, *49*, 2292-2302.

2) Palaniappan, K.; Hundt, N.; Sista, P.; Nguyen, H.; Hao, J.; Bhatt, M.; Han, Y. Y.; Schmiedel, E. A.; Sheina, E. E.; Biewer, M. C.; **Stefan, Mihaela C.**, Block Copolymers Containing Regioregular Poly(3-Hexylthiophene) and Poly(4-Vinylpyridine): Synthesis and Its Interaction with CdSe Quantum Dots for Hybrid Organic Applications, *Journal of Polymer Science, Part A*, **2011**, *49*, 1802-1808.

3) Hundt, N.; Hoang, Q.; Nguyen, H.; Sista, P.; Hao, J.; Servello, J.; Palaniappan, K.; Alemseghed, M.; Biewer, M. C.; **Stefan, Mihaela C.**, Synthesis and Characterization of a block copolymer containing regioregular poly(3-hexylthiophene) and poly(γ -benzyl-L-glutamate), *Macromolecular Rapid Communications*, **2011**, *32*, 302-308.

4) Sista, P.; Nguyen, H.; Murphy, J. W.; Hao, J.; Dei, D. K.; Palaniappan, K.; Servello, J.; Kularatne, R. S.; Gnade, B. E.; Xue, B.; Dastoor, P. C.; Biewer, M. C.; **Stefan, Mihaela C.**, Synthesis and electronic properties of semiconducting polymers containing benzodithiophene with alkyl phenylethynyl substituents, *Macromolecules*, **2010**, *43*, 8063-8070.

5) Hundt, N.; Palaniappan, K.; Sista, P.; Murphy, J. W.; Hao, J.; Nguyen, H.; Stein, E.; Biewer, M. C.; Gnade, B. E.; **Stefan, Mihaela C.**, Synthesis and characterization of polythiophenes with alkenyl substituents, *Polymer Chemistry*, **2010**, *1*, 1624-1632.

6) Alemseghed, M.; Servello J.; Hundt, N.; Biewer, M. C.; **Stefan, Mihaela C.**, Amphiphilic block copolymers containing regioregular poly(3-Hexylthiophene) and poly(2-ethyl-2-oxazoline), *Macromolecular Chemistry and Physics*, **2010**, *211*, 1291-1297.

7) Alemseghed, M.; Gowrisanker, S.; Servello J.; **Stefan, Mihaela C.**, Synthesis of Di-block Copolymers Containing Regioregular Poly(3-hexylthiophene) and Poly(tetrahydrofuran) by a combination of Grignard Metathesis and cationic polymerization, *Macromolecular Chemistry and Physics*, **2009**, *210*, 2007-2014.

- 8) Hundt, N.; Palaniappan, K.; Servello, J.; Dei, D. K.; **Stefan, Mihaela C.**; Biewer, M. C., Polymers containing benzodithiophene repeating unit with extended electron delocalization, *Organic Letters*, **2009**, *11(19)*, 4422-4425.
- 9) Palaniappan, K.; Murphy, J. W.; Khanam, N.; Horvath, J.; Alshareef, H.; Quevedo-Lopez, M.; Biewer, M. C.; Park, S. Y.; Moon, K. J.; Gnade, B.; **Stefan, Mihaela C.**, Poly(3-hexylthiophene)-CdSe quantum dot bulk heterojunction solar cells: Influence of the functional end-group of the polymer, *Macromolecules* **2009**, *42(12)*, 3845-3848.
- 10) Craley, R. C.; Zhang, R.; Kowalewski, T.; McCullough, R.D.; **Stefan, Mihaela C.**, Regioregular poly(3-hexylthiophene) in a novel conducting amphiphilic block copolymer, *Macromolecular Rapid Communications* **2009**, *30*, 11-16.

Publications prior joining University of Texas at Dallas: (underlined names belong to undergraduate students)

- 11) **Stefan, Mihaela C.**; Javier, A. E.; Osaka, I.; McCullough, R. D., Grignard Metathesis Method (GRIM): Toward a Universal Method for the Synthesis of Conjugated Polymers, *Macromolecules* **2009**, *42*, 30-32.
- 12) **Iovu, Mihaela C.**; Zhang, R.; Cooper, J. R.; Smilgies, D. M.; Javier, A. E.; Sheina, E. E.; Kowalewski, T.; McCullough, R. D., Conducting block copolymers of regioregular poly(3-hexylthiophene) and poly(methacrylates): electronic materials with variable conductivities and degrees of interfibrillar order, *Macromolecular Rapid Communications* **2007**, *28(17)*, 1816-1824.
- 13) **Iovu, Mihaela C.**; Craley, C. R.; Jeffries-EL, M.; Krankowski, A. B.; Zhang, R.; Kowalewski, T.; McCullough, R. D., Conducting regioregular polythiophene block copolymer nanofibrils synthesized by reversible addition fragmentation chain transfer polymerization (RAFT) and nitroxide mediated polymerization (NMP), *Macromolecules* **2007**, *40*, 4733-4735.
- 14) Li, B.; Santhanam, S.; Schultz, L.; Jeffries-EL, M.; **Iovu, Mihaela C.**; Sauv e, G.; Cooper, J.; Zhang, R.; Revelli, J. C.; Kusne, A. G.; Snyder, J. L.; Kowalewski, T.; Weiss, L. E.; McCullough, R. D.; Fedder, G. K.; Lambeth, D. N., Inkjet printed chemical sensor array based on polythiophene conductive polymers, *Sensors and Actuators B: Chemical* **2007**, *123*, 651-660.
- 15) Li, B.; Sauv e, G.; **Iovu, Mihaela C.**; Jeffries-EL, M.; Zhang, R.; Cooper, J.; Santhanam, S.; Schultz, L.; Revelli, J. C.; Kusne, A. G.; Kowalewski, T.; Snyder, J. L.; Weiss, L. E.; Fedder, G. K.; McCullough, R. D.; Lambeth, D. N., Volatile organic compound detection using nanostructured copolymers, *Nano Letters* **2006**, *6*, 1598-1602.
- 16) Zhang, R.; Li, B.; **Iovu, Mihaela C.**; Jeffries-EL, M.; Sauv e, G.; Cooper, J.; Jia, S.; Tristram-Nagle, S.; Smilgies, D. M.; Lambeth, D. N.; McCullough, R. D.; Kowalewski, T., Nanostructure dependence of field-effect mobility in regioregular poly(3-hexylthiophene) thin film field effect transistors, *Journal of the American Chemical Society* **2006**, *128*, 3480-3481.
- 17) **Iovu, Mihaela C.**; Jeffries-EL, M.; Zhang, R.; Kowalewski, T.; McCullough, R. D., Conducting block copolymer nanowires containing regioregular poly(3-hexylthiophene) and polystyrene, *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry*, **2006**, *43*, 1991-2000.
- 18) **Iovu, Mihaela C.**, Sheina E. E., Gil R. R., McCullough R. D., Experimental evidence for the quasi-“living” nature of the Grignard Metathesis Method for the synthesis of regioregular poly(3-alkylthiophenes), *Macromolecules* **2005**, *38*, 8649-8656.
- 19) **Iovu, Mihaela C.**; Jeffries-EL, M.; Sheina, E. E.; Cooper, J. R.; McCullough, R. D., Regioregular Poly(3-alkylthiophene) conducting block copolymers, *Polymer* **2005**, *46*, 8582.
- 20) McCullough, R. D.; Sauve, G.; Li, B.; Jeffries-EL, M.; Santhanam, S.; Schultz, L.; Zhang, R.; **Iovu, Mihaela C.**; Cooper, J.; Sreedharan, P.; Revelli, J. C.; Kusner, A. G.; Kowalewski, T.; Snyder, J. L.; Weiss, L. E.; Lambeth, D. N.; Fedder, G. K., Regioregular polythiophene nanowires and sensors, *Proceedings of SPIE-The International Society for Optical Engineering* **2005**, *5940* (Organic Field-

Effect Transistors IV), 594005/1.

- 21) Sheina, E. E.; Liu, J.; **Iovu, Mihaela C.**; Laird, D. W.; McCullough, R. D., Chain growth mechanism for regioregular nickel-initiated cross-coupling polymerizations, *Macromolecules* **2004**, *37*, 3526.
- 22) **Iovu, Mihaela C.**; Matyjaszewski, K., Controlled/living radical polymerization of vinyl acetate by degenerative transfer with alkyl iodides, *Macromolecules* **2003**, *36*, 9346.
- 23) **Iovu, Mihaela C.**; Buzdugan, E.; Ghioca, P.; Britchi, A. G.; Mapolie, S. F.; Iovu, H., Random anionic copolymerization of styrene with butadiene using methyl *tert*-butyl ether/*n*-Butyl lithium as initiator system. Reaction Mechanism and Kinetic Model, *Revue Romaine de Chimie* **2003**, *48*, 163.
- 24) **Iovu, Mihaela C.**; Maithufi, N. G.; Mapolie, S. F., Evaluation of bis(2-pyridinal)ethylenediimine as ligand for Atom Transfer Radical Polymerization of methyl methacrylate: Influence of polar solvents, *Polymer International* **2003**, *52*, 899.
- 25) **Iovu, Mihaela C.**; Maithufi, N. G.; Mapolie, S., Copper-Mediated ATRP of methyl methacrylate in polar solvents using a bifunctional pyridinal diimine ligand, *Macromolecular Symposia* **2003**, 209.
- 26) Stere, C.; Iovu, **Mihaela C.**; **Iovu**, H.; Boborodea, A.; Vasilescu, D. S.; Read, S. J., Anionic and ionic coordinative polymerization of ϵ -caprolactone, *Polymers for Advanced Technologies* **2001**, *12*, 300.
- 27) Stere, C.; **Iovu, Mihaela C.**; Vasilescu, D. S.; Boborodea, A.; Spurcaci, B., Aliphatic polyesters as biocompatible materials, *Romanian Chemical Quarterly Reviews* **2001**, *8*, 95.
- 28) **Iovu, Mihaela C.**; Mapolie, S.; Britchi, A. G., Styrene-Butadiene Rubber Synthesized by Anionic Polymerization, *Macromolecular Symposia* **2001**, *165*, 55.
- 29) **Iovu, Mihaela C.**; Buzdugan, E.; Teodorescu, M.; Britchi, A. G.; Hubca, G.; Iovu, H., Copolymerization of Styrene with Butadiene Using Methyl *tert*-Butyl Ether as Active Center Modifier, *Angewandte Makromolekulare Chemie* **1999**, *271*, 18.
- 30) Buzdugan, E.; Ghioca, P.; Stribeck, N.; Badea, E. G.; Serban, S.; **Iovu, Mihaela C.**, Mechanical Properties of Some Brominated Styrene-Diene Block Copolymers, *European Polymer Journal* **1998**, *34*, 1531.
- 31) Stere, C.; **Iovu, Mihaela**; Boborodea, A.; Vasilescu, D. S.; Fazakas-Anca, I. S. Anionic and Ionic Coordinative Polymerization of *L*-Lactide, *Polymers for Advanced Technologies* **1998**, *9*, 322.

Works in progress: (underlined names belong to undergraduate students)

- 1) Hao, J.; Servello, J.; Sista, P.; Biewer, M.C.; **Stefan, Mihaela C.**, Temperature-Sensitive Aliphatic Polyesters: Synthesis and Characterization of γ -Substituted Caprolactone Monomers and Polymers, accepted to *Journal of Materials Chemistry*, May 2011, DOI:10.1039/C1JM11288K.
- 2) Sista, P.; Hao, J.; Elkassih, S.; Sheina, E. E.; Biewer, M. C.; Jakesko, B. G.; **Stefan, Mihaela C.**, Synthesis, Characterization and Computational Modeling of Benzodithiophene Donor-Acceptor Semiconducting Polymers, submitted to *Journal of Polymer Science, Part A*, May 2011.
- 3) Magurudenyia, H.; Sista, P.; Ourso, T.; Nguyen, K.; Maher, M.; Alemseghed, M.; Biewer, M. C.; **Stefan, Mihaela C.**, Nickel Diimine Catalysts for Grignard Metathesis Polymerization, to be submitted to *Macromolecular Rapid Communications*, June 2011.
- 4) **Stefan, Mihaela C.**; Magurudenyia, H.; Sista, P.; Jeffries-EL, M.; Janesko, B. J.; McCullough, R. D., Mechanistic Study of Transition Metal (Ni, Pd, Pt)-Mediated Grignard Metathesis (GRIM) Polymerization, to be submitted to *Macromolecules*, June 2011.
- 5) Hao, J.; Granowski, P.; Servello, J.; Biewer, M. C.; **Stefan, Mihaela C.**, A Novel Zinc Catalyst for the Ring-Opening Polymerization of ϵ -Caprolactones, to be submitted to *Macromolecular Rapid Communications*, June 2011.
- 6) Hao, J.; Sista, P.; Hundt, N.; Biewer, M. C.; Stefan, Mihaela C.; Correlation of Electronic Properties and Morphology of Rod-Rod Block Copolymers Containing Semiconducting Poly(3-Hexylthiophene) and Liquid Crystalline Poly(γ -Benzyl-L-Glutamate), to be submitted to *ACS Applied Materials & Interfaces*, June 2011.

- 7) Servello, J.; Abubakar, A.; Sessoms, R.; Stefan, Mihaela C., Synthesis and Solvatochromic Properties of Amphiphilic Tri-block Copolymer Containing Regioregular Poly(3-Hexylthiophene) and Poly(ethylene glycol), to be submitted to *Journal of Polymer Science Part A*, July 2011.
- 8) Nguyen, H.; Rainbolt, E., **Stefan, Mihaela C.**; Semiconducting Polymers Containing Thieno[3,2-b:4,5-b']Dipyrrole, to be submitted to *Journal of Organic Chemistry*, July 2011

Invited talks/presentations to professional meetings and seminar or colloquia assemblies:

- 1) Benzodithiophene-Based Semiconducting Polymers for Organic Photovoltaics, 02/01/2011, MIT/Harvard Center for Excitonics.
- 2) Semiconducting Polymers for Organic Electronics, 10/08/2010, University of Iowa.
- 3) Semiconducting Polymers for Organic Electronics, 10/07/2010, Iowa State University.
- 4) Semiconducting Polymers for Organic Electronics, 09/30/2010, Oklahoma State University.
- 5) Semiconducting Polymers for Organic Photovoltaics, 09/17/2010, University of North Texas.
- 6) Semiconducting Polymers for Organic Photovoltaics, 04/20/2010, North Dakota State University
- 7) Semiconducting Polymers for Organic Photovoltaics, 10/09/2009, Duquesne University
- 8) New Materials for Photovoltaics, CHEMS Planning Grant Meeting, August 2009, Virginia Tech.
- 9) Polythiophene-based Materials for Organic Electronics, 04/14/2009, Texas Christian University
- 10) Polymers: From Research in the Laboratory to Real Life Applications, 02/28/2009, University of Texas at Dallas, Scholars' Day
- 11) Polythiophenes for Organic Electronics, 02/10/2009, Ouachita Baptist University
- 12) Polythiophenes for Organic Electronics, 11/21/2008, Southern Methodist University

Oral presentations at professional meetings:

- 1) Synthesis and optoelectronic properties of semiconducting polymers containing benzodithiophene with phenylethynyl substituents, Fall MRS Meeting, December 2010.
- 2) Novel Semiconducting Polymers Containing Benzodithiophene with Phenylethynyl Substituents, 239th *ACS National Meeting*, San Francisco, CA, United States, March 27-31, 2010.
- 3) Poly(3-hexylthiophene)-CdSe quantum dot bulk heterojunction solar cells: The influence of functional end-group of the polymer, 239th *ACS National Meeting*, San Francisco, CA, United States, March 27-31, 2010.
- 4) Polythiophene-Quantum Dot Hybrid Nanomaterials for Bulk Heterojunction Solar Cells, Fall MRS Meeting, December, 2008.
- 5) Nanostructured Materials from Regioregular Poly(3-Alkylthiophene) Block Copolymers, 232nd *ACS National Meeting*, San Francisco, CA, United States, Sept. 10-14, 2006.
- 6) Quasi-"Living" Grignard Metathesis Polymerization for the Synthesis of Regioregular Poly(3-Alkylthiophenes), 231st *ACS National Meeting*, Atlanta, GA, United States, March 26-30, 2006.
- 7) Grignard Metathesis (GRIM) Method for the Synthesis of Regioregular Poly(3-alkylthiophenes) with Well-Defined Molecular Weights, 229th *ACS National Meeting*, San Diego, CA, United States, March 13-17, 2005.
- 8) Regioregular Poly(3-Alkylthiophene) Conducting Block Copolymers Synthesized by Atom Transfer Radical Polymerization, *World Polymer Congress IUPAC Macro 2004*, Paris.
- 9) Regioregular Poly(3-Alkylthiophenes) with Well-Defined Molecular Weight and Narrow Molecular Weight Distribution Using the Grignard Metathesis (GRIM) Method, *World Polymer Congress IUPAC Macro 2004*, Paris.
- 10) Atom Transfer Radical Polymerization of Vinylic Monomers Using Novel Bifunctional Pyridinal Imine Ligands, *UNESCO School and IUPAC Conference*, April 2001, Stellenbosch, South Africa.

- 11) Star-like Polymers Synthesized by ATRP, *SACI 2000-35th Convention of South African Chemical Institute*, September 2000, Potchefstroom, South Africa.
- 12) The Synthesis, Characterization and Application of Some New Mono- and Polyfunctional Initiators for ATRP of Styrene, *UNESCO School and IUPAC Conference*, April 2000, Stellenbosch, South Africa.
- 13) Anionic Polymerization of Styrene with Butadiene Using Methyl-*tert*-Butyl Ether as an Active Center Modifier, *IUPAC Macro 1998*, Brisbane, Australia.
- 14) Some Aspects Regarding Anionic and Ionic-coordinative Polymerization of ϵ -Caprolactone, *IUPAC Macro 1998*, Brisbane, Australia.

Contributed (unrefereed) papers: (underlined names belong to undergraduate students)

- 1) Palaniappan, K.; Murphy, J. W.; Sista, P.; Gnade, B. E.; Biewer, M. C.; Stefan, Mihaela C., Poly(3-hexylthiophene)-CdSe quantum dot quantum dot bulk heterojunction solar cells: The influence of functional end-group of the polymer, *PMSE Preprints*, **2010**.
- 2) Hundt N.; Palaniappan, K.; Dei, D. K.; Hao, J.; Sista P.; Nguyen, H.; Alemseghed M.; Biewer, M. C.; Stefan, Mihaela C., Novel Semiconducting Polymers Containing Benzodithiophene with Phenylethynyl Substituents, *PMSE Preprints*, **2010**.
- 3) McCullough, R. D.; Kowalewski, T.; Sauve, G.; Zhang, R.; Javier, A. E.; Stefan, Mihaela; Cooper, J. R., Control of Mobility in Crystalline/Amorphous Conductive block Copolymers, *PMSE Preprints* **2009**, *100*, 346.
- 4) Zhang, R.; Iovu, Mihaela C.; Sauve, G.; Cooper, J. R.; Javier, A.; Smilgies, D. M.; McCullough, R. D.; Kowalewski, T., Nanoscale Organization in Thin Films of Regioregular Poly(3-Hexylthiophene) Block Copolymers, *PMSE Preprints* **2007**, *97*, 3.
- 5) Cooper, J. R.; Zhang, R.; Iovu, Mihaela C.; Sauve, G.; Kowalewski, T.; McCullough, R. D., Detection of Volatile Organic Chemicals by Use of Regioregular Poly(3-Alkylthiophene) Chemical Sensors Array, *PMSE Preprints* **2006**, *95*, 870.
- 6) Iovu, Mihaela C.; Zhang, R.; Kowalewski, T.; McCullough, R. D., Nanostructured Materials From Regioregular Poly(3-Alkylthiophene) Block Copolymers, *PMSE Preprints* **2006**, *95*, 382.
- 7) Zhang, R.; Li, B.; Iovu, Mihaela C.; Jeffries-EL, M.; Sauve, G.; Cooper, J.; Jia, S.; Tristram-Nagle, S.; Smilgies, D. M.; Lambeth, D. N.; McCullough, R. D.; Kowalewski, T., Nanostructure Dependence of Field-Effect Mobility in Regioregular Poly(3-Hexylthiophene) Thin Film Field Effect Transistors, *PMSE Preprints* **2006**, *95*, 862.
- 8) Cooper, J. R.; Zhang, R.; Iovu, Mihaela C.; Sauve, G.; Kowalewski, T.; McCullough, R. D., Detection of Volatile Organic Chemicals by Use of Regioregular Poly(3-Alkylthiophene) Chemical Sensor Array, *PMSE Preprints* **2006**, *95*, 870.
- 9) Javier, A. E.; Iovu, Mihaela C.; McCullough, R. D., Synthesis and Characterization of Block Copolymers Containing Regioregular Poly(3-Alkylthiophene), *Polymer Preprints* **2006**, *47*, 644.
- 10) Craley, C. R.; Iovu, Mihaela C.; McCullough, R. D., Incorporation of Poly(3-Hexylthiophene) into an Amphiphilic Block Copolymer, *Polymer Preprints* **2006**, *47*, 532.
- 11) Iovu, Mihaela C.; McCullough, R. D., Quasi-"Living" Grignard Metathesis Polymerization for the Synthesis of Regioregular Poly(3-Alkylthiophenes), *Polymer Preprints* **2006**, *47*, 242.
- 12) Sheina, E. E.; Iovu, Mihaela C.; McCullough, R. D., Synthesis of Regiospecific Poly(3-Substituted-Thiophenes) Using Ni(II)-Diimine-Initiated Cross-Coupling Reaction, *Polymer Preprints* **2005**, *46*, 1070.
- 13) Sauve, G.; Iovu, Mihaela C.; Jeffries-EL, M.; McCullough, R. D., Well-Defined Poly(3-Hexylthiophene)-*b*-Poly(Acrylate) di-Block Copolymers, *Polymer Preprints* **2005**, *46*, 496.
- 14) Cooper, J. R.; Zhang, R.; Iovu, Mihaela C.; McCullough, R. D.; Kowalewski, T., Comparative Study of Poly(3-Alkylthiophene) tri-Block Copolymers, *Polymer Preprints* **2005**, *46*, 185.
- 15) Cooper, J. R.; Sreedharan, P.; Iovu, Mihaela C.; McCullough, R. D., Synthesis and Characterization of tri-Block Copolymers Containing Regioregular Poly(3-Alkylthiophene), *Polymer Preprints* **2005**, *46*,

803.

16) Sheina, E. E.; Iovu, Mihaela C.; McCullough, R. D., Mechanism and Kinetics of the Nickel-Assisted Cross-Coupling Polymerizations of Regioregular 3-Alkyl-Functionalized Polythiophenes, *Polymer Preprints* **2005**, *46*, 682.

17) Iovu, Mihaela C.; Sheina, E. E.; McCullough, R. D., Grignard Metathesis (GRIM) Method for the Synthesis of Regioregular Poly(3-Alkylthiophenes) with Well-Defined Molecular Weights, *Polymer Preprints* **2005**, *46*, 660.

18) Li, B.; Santhanam, S.; Schultz, L.; Jeffries-EL, M.; Iovu, Mihaela C.; Sauve, G.; Cooper, J.; Zhang, R.; Reville, J. C.; Kusne, A. G.; Kowalewski, T.; Weiss, L. E.; McCullough, R. D.; Fedder, G. K.; Lambeth, D. N., Volatile Organic Compound Discrimination Using Nanostructured Polythiophene Sensors, *IEEE Sensors* **2005**, *1*, 191.

19) Iovu, Mihaela C.; Jeffries-EL, M.; Sheina, E. E.; Krankowski, A. B.; Sauve, G.; McCullough, R. D., Synthesis and Characterization of Poly(3-Hexylthiophene)-*b*-Polystyrene di-Block Copolymers, *Polymer Preprints* **2004**, *45*, 645.

20) Jeffries-EL, M.; Iovu, Mihaela C.; Sheina, E.; Sauve, G.; McCullough, R. D., End Functionalized Poly(3-Alkylthiophenes) as Building Blocks for the Synthesis of Diblock Copolymers, *Polymer Preprints* **2004**, *45*, 551.

21) Iovu, Mihaela C.; Simplaceanu, V.; Gil, R. R.; Matyjaszewski, K., ¹³C DEPT NMR Study of Poly(Vinyl Acetate) Synthesized by Degenerative Transfer Polymerization with Alkyl Iodides, *Polymer Preprints* **2004**, *45*, 988.

22) Iovu, Mihaela C.; Sheina, E. E.; Sauve, G.; Jeffries-EL, M.; Cooper, J.; McCullough, R. D., Synthesis of Poly(3-Hexylthiophene) di-Block Copolymers Using Atom Transfer Radical Polymerization, *Polymer Preprints* **2004**, *45*, 278.

23) Sauve, G.; Iovu, Mihaela; McCullough, R. D., In Situ End Group Modification of Regioregular Poly(3-Alkylthiophenes) via Grignard Metathesis (GRIM) Polymerization, *Polymer Preprints* **2004**, *45*, 183.

Grants/contracts awarded:

1) Conjugated Polymer-Quantum Dot Networks for Hybrid Solar Cell Applications, Plextronics Inc., 01/01/2008 - 12/31/2008, \$50,000.

2) Rational Design of Semiconducting Polymers with Tunable Opto-Electronic Properties: An Interdisciplinary Program for Research and Education, Mihaela C. Iovu, NSF (DMR), 03/01/2010 - 02/28/2014, \$490,000

3) Semiconducting Liquid Crystalline Polymers, Welch Foundation, 06/01/2010 - 05/31/2012, \$100,000

Teaching:

Doctoral supervision:

1) Mussie Alemseghed, Synthesis and Electronic Properties of Poly(3-Hexylthiophene)-based Semiconducting Polymers, graduated fall 2009.

2) Nadia Hundt, Novel thiophene containing semiconducting polymers for organic electronics applications, defended on 09/11/2009, graduated fall 2009.

3) Prakash Sista, Novel semiconducting polymers for bulk heterojunction solar cells, expected spring 2012.

4) Hien Nguyen, Thieno[3,2-*b*:4,5-*b'*]dipyrrole as building block for semiconducting polymers, expected fall 2013.

5) Jing Hao, Biodegradable and biocompatible polymers for drug delivery applications, expected fall 2013.

- 6) Mahesh Bhatt, Novel catalysts for Grignard metathesis polymerization, expected fall 2014.
- 7) Ruvini Kularatne, Donor-acceptor semiconducting polymers, expected fall 2014.
- 8) Harsha Magurudeniya, Block-copolymers containing regioregular polythiophenes and liquid crystalline polymers, expected fall 2015.
- 9) Elizabeth A. Schmiedel, Low band gap semiconducting polymers for organic photovoltaics, expected fall 2016.

Undergraduate supervision:

Current students:

- 1) Sussana Elkassih
- 2) Martin Huynh
- 3) Jacob Westbrook
- 4) Patrick Castro
- 5) Tanner Rawlings

Former students:

- | | |
|------------------------|------------------------------------|
| 1) John Servello, | Molecular Biology major |
| 2) Patricia Granowski, | Neuroscience major |
| 3) Elizabeth Schmiedel | Chemistry major |
| 4) Quan Hoang | Biology major |
| 5) Rebecca Kirby | Biochemistry major |
| 6) Ken Pham | Biology major |
| 7) Aruna Abubakar | Biochemistry major |
| 8) Jennifer Griesel | Biology major |
| 9) Saloumeh Esmaeili | Chemistry major |
| 10) Masha Fardin | Chemistry major |
| 11) Hema Jasti | Chemistry major |
| 12) Robert Lane | Business major and chemistry minor |
| 13) Amber Potts | Chemistry major |
| 14) Rebekah Sessoms | Biology major |
| 15) Taryn Ourso | Chemistry major |
| 16) Sean Olsen | Biochemistry major |
| 17) Khuong Nguyen | Psychology major |
| 18) Yun-Yue Han | Chemistry major |
| 19) Eugene Stein | Chemistry major |

Postdoctoral supervision

- 1) Kumaranand Palaniappan 2007-2009

Classroom teaching:

2007 Fall	CHEM 2325	Introductory Organic Chemistry II
2008 Spring	CHEM 4335	Polymer Chemistry
2008 Fall	CHEM 2325	Introductory Organic Chemistry II
2009 Spring	CHEM 4335	Polymer Chemistry
2009 Spring	MSEN 5340	Advanced Polymer Science and Engineering
2009 Fall	CHEM 2325	Introductory Organic Chemistry II
2009 Fall	CHEM 5331	Advanced Organic Chemistry
2010 Spring	CHEM 4335	Polymer Chemistry

2010 Fall	CHEM 2325	Introductory Organic Chemistry II
2011 Spring	CHEM 5340	Advanced Polymer Science and Engineering
2011 Spring	CHEM 4335	Polymer Chemistry

Service:

2008 - present: Seminar Program Coordinator in the Department of Chemistry (30 invited speakers)

2008 - 2010: Member of UTD Parking and Transportation Committee

2011- present: Graduate Advisor in the Department of Chemistry

Reviewing:

Reviewer for PRF, NSF, DOE

Reviewer for Macromolecules, Macromolecular Rapid Communications, Journal of Physical Chemistry, Biomacromolecules, Macromolecular Chemistry and Physics, Journal of Polymer Science, Chemistry of Materials., Soft Matter, Journal of the American Chemical Society, Polymer Chemistry.