

Prof. JUAN PAULO HINESTROZA

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Juan P. Hinestroza is a tenured Associate Professor of Fiber Science and directs The Textiles Nanotechnology Laboratory at the College of Human Ecology of Cornell University in Ithaca, NY. Professor Hinestroza obtained a Ph.D. from the Department of Chemical and Biomolecular Engineering at Tulane University and B.Sc. in Chemical Engineering from Universidad Industrial de Santander. Prior to pursuing doctoral studies, Professor Hinestroza worked as a process control engineer for The Dow Chemical Company.

Professor Hinestroza works on understanding fundamental phenomena at the nanoscale that are of relevance to Fiber and Polymer Science. *Hinestroza has received over 5.3 MM USD in research funding* (Federal and State agencies as well as Industrial Consortiums) for his pioneering work in exploring new pathways for creating multifunctional fibers via manipulation of nanoscale phenomena.

Professor Hinestroza has been the recipient of a myriad of awards including the *National Science Foundation CAREER Award*, the *J.D. Watson Young Investigator Award* from NYSTAR and the *Educator of the Year Award* from the Society of Professional Hispanic Engineers. Professor Hinestroza has delivered invited lectures worldwide at Universities and Research Centers in Italy, Korea, China, Japan, Taiwan, Mexico, Spain, Brazil, The Netherlands, Colombia, Argentina, Hungary, Czech Republic, Vietnam, Switzerland, Finland, Austria, France, Singapore, Thailand, Chile, Turkey and Germany. In addition, Professor Hinestroza is a U.S. Fulbright Scholar and has received visiting scientist fellowships from The Chubu Foundation for Science and Technology of Japan, The National Council for Scientific and Technological Development in Brazil and The Swiss National Science Foundation.

Professor Hinestroza's scientific work has been featured in *Nature Nanotechnology*, *MRS Bulletin*, *Materials Today*, *C&E News*, *National Geographic*, *ASEE Prism* as well as mainstream media outlets such as *CNN*, *Wired*, *TechReview*, *The Guardian*, *Popular Science*, *ABC News*, *NYTimes*, *Reuters*, *PBS*, *NPR* and *BBC*. In addition to his scientific endeavors, Professor Hinestroza and his research group are actively involved in community outreach activities aimed at increasing the number of members from underrepresented minority groups in Science, Technology, Engineering and Mathematics as well as engaging senior citizens in collaborative and inter-generational learning experiences.

EDUCATION

- May 2002 **Ph.D. Chemical and Biomolecular Engineering**
Tulane University New Orleans, LA. Advisor: Daniel De Kee
Dissertation: Mass Transfer Through Elongated Membranes. Effect of Mechanical deformation on the barrier properties of polymeric materials.
Research funded by the US Department of Defense and Department of Energy
- June 1995 **B.Sc. Chemical Engineering**
Universidad Industrial de Santander,
Honor Thesis: Optimization of the cooling fluids and process water systems of Dow Chemical's polystyrene production units at Cartagena, Colombia.
Thesis funded by The Dow Chemical Company

HONORS AND AWARDS

- Jun 2014 U.S. Fulbright Scholar
January 2014 Visiting Professor Brazilian Council for Scientific and Technology Development

Dec 2013	Visiting Fellow Chibu Foundation for Science and Technology Japan
Jan 2012	Visiting Fellow of the Swiss National Science Foundation
Nov 2008	Educator of the Year Award. Society of Professional Hispanic Engineers
Apr 2007	National Science Foundation Early CAREER Development Award
Oct 2006	National Textile Center Humanitarian Award
July 2005	NYSTAR James D. Watson Young Investigator Award
Feb 2001	Omega Chi Epsilon Award- Honor Society of Chemical Engineering
Nov 2001	Tulane University Outstanding Teaching Assistant of the Year.
Nov 1999	Tulane University Outstanding Teaching Assistant of the Year.
Nov 1998	Tulane University Outstanding Teaching Assistant of the Year.
Jan 1998	Graduate Studies Scholarship. Tulane University.
Jun 1995	Outstanding Honors Thesis of the Year. Universidad Industrial de Santander
Jan 1994	Undergraduate Thesis Scholarship- The Dow Chemical Company

ACCREDITATION AND MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- Member of the American Chemical Society (Since 1999)
 - Member of the Executive Committee of the ACS Division of Cellulose and Renewable Materials 2006-2011
 - Symposium Organizer for ACS National Meeting- Cellulose Division 2006-2010
- Member of the Society of Rheology (Since 1998)
- Member of the American Institute of Chemical Engineers (Since 1998)
- Member of the Society of Hispanic Professional Engineers (Since 2000)
- Member of the Fiber Society (Since 2003)
- E.I.T. Registered with the Board of Professional Engineers of the State of California (Since 1997)
- Alpha Gamma Sigma Honor Society (Since 1997)
- Omega Chi Epsilon Honor Society (Since 1998)

PROFESSIONAL EMPLOYMENT

Dec 2013 – July 2014	Visiting Professor	Shinshu University (Japan)
May 2013 – Aug 2013	Visiting Professor	Aalto University (Finland)
Aug 2012 – Dec 2012	Visiting Professor	Seoul National University (Republic of Korea)
Jan 2012 – July 2012	Visiting Scientist	EMPA Eidgenössische Materialprüfungs- und Forschungsanstalt. (Switzerland)
Jul 2011 - Current	Associate Professor	Cornell University
Jan 2006 – Jun 2011	Assistant Professor	Cornell University
Aug 2003 - Dec 2005	Assistant Professor	North Carolina State University
May 2002 - Aug 2003	Postdoctoral Fellow	Tulane Institute for Macromolecular Eng. & Sci.
Jan 1998 - May 2002	Teaching and Research Assistant	Tulane University
Jun 1994 - Dec 1997	Process Control Engineer	The Dow Chemical Company

INDUSTRIAL EXPERIENCE

- Jun 1994- Dec 1997 **THE DOW CHEMICAL COMPANY**
Project and Process Control Engineer
- Programmed process control computers for two polystyrene production units (100,000 tons per year).
 - Represented Latin America as a member of a global team for improvement in areas of polymerization, competitive analysis, and advanced process control strategies for the Polystyrene business.
 - Managed improvement projects for US\$1,250,000 per year at a Polystyrene Production Unit.

ACADEMIC EXPERIENCE

- Jul 2013 – Current **CORNELL UNIVERSITY**
Director of Graduate Studies – Fiber Science and Apparel Design
- Jul 2011- Current **CORNELL UNIVERSITY**
Associate Professor with Indefinite Tenure
- Jan 2006- Jun 2011 **CORNELL UNIVERSITY**
Assistant Professor
- **Recipient of the NSF Early CAREER Development Award**
 - **Recipient of the SHPE Educator of the Year Award**
 - **Recipient of the NYSTAR James D. Watson Young Investigator Award**
 - Awarded over 3.1 MM in external financial support for research in smart textiles and nanotechnology
 - Actively involved in recruitment of underrepresented minority graduate and undergraduate students
 - Developed a new graduate course on Rheology of Solids
 - Redesigned an undergraduate course of Textiles Apparel and Innovation involving the participation of community elders for intergenerational learning
 - Actively involved in interdisciplinary research across campus (CBE, MAE, BME, PHYS, CHEM)
 - Member of the CCMR Cornell Center for Materials Research
 - Actively involved in community outreach initiatives for K-12, High School Teachers, Community Colleges, underrepresented minority groups and senior citizens.
 - Worked with public media (NPR and PBS) to produce Radio and TV segments aimed at increasing awareness of science and nanotechnology among the general public
- Aug 2003- Dec 2005 **NORTH CAROLINA STATE UNIVERSITY**
Assistant Professor
- Awarded 2.1 MM in external financial support for research in smart textiles and nanotechnology
 - Taught Polymer Engineering (TE/BME 463) and Fiber Science Courses and Labs (TE201/TE201L).
 - Developed web-based interactive learning platforms for TE 463 and TE201 courses using Palm Pilots®.
 - Research advisor for graduate students (5 MS and 1 Ph.D. students)
 - Faculty Advisor for NC State Chapter of the Society of Hispanic Professional Engineers
- May 2002- Aug 2003 **TULANE INSTITUTE FOR MACROMOLECULAR ENGINEERING AND SCIENCE**
Postdoctoral Fellow
- Performed research work and applied knowledge of polymer rheology (shear, capillary and optical rheometry) and thermo-mechanical analysis in the characterization of novel macromolecules and nanostructures.
 - Planned and supervised graduate students research work in the area of polymer rheology.
 - Purchased, installed and operated customized research grade polymer processing equipment.

Jan 1998- Jan 2001 **TULANE UNIVERSITY**

Teaching Assistant

- **3-times recipient of the Omega Chi Epsilon Outstanding Teaching Assistant**
- Assisted with teaching activities for three undergraduate courses
- Lectured on the use of process simulation software (ASPEN and HYSIS)
- Managed course information using web based learning platforms.
- Coached undergraduate students for the AIChE Design Competition

Jan 1998- May 2002 **TULANE UNIVERSITY**

Research Assistant

- **Recipient of the Omega Chi Epsilon Award for Excellence in Academic and Leadership skills in Chemical Engineering**
- Designed, built and tested an apparatus to perform permeation experiments of organic chemicals through elongated polymeric materials.
- Developed a data acquisition algorithm to resolve FTIR spectra in real time.
- Worked in the development of a mathematical model for the permeation of organic compounds through polymeric materials.
- Assisted in the preparation of grant proposals for NSF, DOD, and DOE.

TEACHING EXPERIENCE

At Cornell

Fall 2014	FSAD4660	Textiles Apparel and Innovation
Fall 2014	FSAD6160	Rheology of Solids
Fall 2013	FSAD4660	Textiles Apparel and Innovation
Fall 2013	FSAD6160	Rheology of Solids
Fall 2011	FSAD4660	Textiles Apparel and Innovation
Fall 2011	FSAD 6160	Rheology of Solids
Fall 2010	FSAD 4660	Textiles Apparel and Innovation
Fall 2010	FSAD 6390	Mechanics of Fibrous Systems
Fall 2009	FSAD 6160	Rheology of Solids
Fall 2009	FSAD 4660	Textiles Apparel and Innovation
Fall 2008	FSAD 4660	Textiles Apparel and Innovation
Fall 2007	FSAD 639	Mechanics of Fibrous Systems
Spring 2007	FSAD 616	Rheology of Solids
Fall 2007	FSAD 466	Textiles Apparel and Innovation
Fall 2006	TXA466	Innovation and Technology in Textiles

At NCSU

Spring 2005	TE/BME 463	Polymer Engineering and Science
Fall 2004	TE201/201L	Fiber Science and Engineering
Fall 2003	TE/BME 463	Polymer Engineering

Scientific Publications

Refereed Journal Publications

1. Ozer, R., **Hinestroza, JP.**, One-step growth of isorecticular luminescent metal-organic frameworks on cotton fibers, *RSC Advances* (2015), DOI: 10.1039/C4RA15161E.
2. Rodriguez, H., **Hinestroza, JP.**, Ochoa-Puentes, C., Sierra, C. Soto, C. Antibacterial activity against *Escherichia coli* of Cu-BTC (MOF-199) metal-organic framework immobilized onto cellulosic fibers *Journal of Applied Polymer Science* (2014), 131,19, 40815-40820
3. Zhukovskiy, M., Sanchez-Botero, LM, McDonald, MP, **Hinestroza, JP.**, Kuno, M. Nanowire-functionalized cotton textiles, *ACS Applied Materials and Interfaces* (2014), 6, 4, 2262-2269

4. Lange, L., Ochanda, F., Obendorf, S.K., **Hinestroza, J.P.**, CuBTC Metal-organic Frameworks Enmeshed in Polyacrylonitrile Fibrous Membrane Remove Methyl Parathion from Solutions *Fibers and Polymers* (2014), 15,2, 200-207
5. Luz, Priscilla, Silva, M., **Hinestroza, J.P.**, Curcumin-Loaded Biodegradable Electrospun Fibers: Preparation, Characterization and Differences on the Fibers Morphology, *International Journal of Polymer Analysis and Characterization* (2013), 18-7, 534-544
6. Chacon-Patino, M., Blanco-Tirado, C., **Hinestroza, J.P.**, Combariza, M.Y., Biocomposite of nanostructured MnO₂ and Figue fibers for efficient dye degradation *Green Chemistry* (2013), 15, 2920-2928.
7. Alzate-Sanchez, D., **Hinestroza, J.P.**, Rodríguez, R., Sierra-Avila, C., Synthesis of the novel (E,E)-2,5-dimethoxy-1,4-bis[2-(4-ethylcarboxylatestyryl)] benzene by the Heck reaction, *Synthetic Communications* (2013), 43,17,2280-2285
8. Song, J., Wang, C., **Hinestroza, J.P.**, Electrostatic assembly of core-corona silica nanoparticles onto cotton fibers, *Cellulose* (2013), 20,4, 1727-1736
9. Nolasco-Arizmendi, V., Morales-Luckie, R., Sánchez-Mendieta, V., **Hinestroza, J.P.**, Castro-Longoria, E., Vilchis-Nestor, A.R., Formation of silk-gold nanocomposite fabric using grapefruit aqueous extract, *Textile Research Journal* (2013), 83, 12, 1229-1235.
10. Xiang, C., Taylor, A., **Hinestroza, J.P.**, Frey M.W., Controlled release of nonionic compounds from poly(lactic acid)/cellulose nanocrystal nanocomposite fibers, *Journal of Applied Polymer Science* (2013), 127,1, 79-86
11. Jiri, C., **Hinestroza J.P.**, Lukas, D., Production of Poly(vinylalcohol) Nanoyarns Using a Special Saw-like Collector, *Fibers & Textiles of Eastern Europe* (2013), 2,98,28-31
12. Bonilla, R., Montenegro, C., Ávila, A., **Hinestroza, J.P.**, Direct observation of spatial distribution of charge of an electret polypropylene fiber using Electrostatic Force Microscopy, *Journal of Microscopy* (2012), 248, 3, 266-270
13. Mendoza-Bello, S., Morales-Luckie, R.A., Flores-Santos, L., **Hinestroza, J.P.**, Sanchez-Mendieta, V., Size-controlled synthesis of Fe₂O₃ and Fe₃O₄ nanoparticles onto zeolite by means of a modified activated-coprecipitation method: effect of the HCl concentration during the activation, *Journal of Nanoparticle Research* (2012), 14,11, 1242-1251
14. Park, G., Jung, Y.L., Lee, G.W., **Hinestroza, J.P.**, Jeong, Y., Carbon Nanotube/Poly(vinyl alcohol) Fibers with a Sheath-core Structure Prepared by Wet Spinning, *Fibers and Polymers* (2012), 13,7,874-879
15. Castellanos, L., Blanco-Tirado C., **Hinestroza, J.P.**, Combariza, M.Y., In-situ synthesis of gold nanoparticles using Figue natural fibers as template, *Cellulose* (2012), 19,6,1933-1943
16. Becerril-Juárez, I., Morales-Luckie, R., Ureña-Nuñez, F., Arenas-Alatorre, J., **Hinestroza, J.P.**, Sánchez-Mendieta, V., Silver micro-, submicro- and nano-crystals using bovine bone as template. Formation of a silver/bovine bone composite (2012), *Materials Letters*, 85, 157-160
17. Silva da Pinto, M., Sierra-Avila, C., **Hinestroza, J.P.**, In situ synthesis of a Cu-BTC metal-organic framework (MOF 199) onto cellulosic fibrous substrates: cotton, (2012), *Cellulose*, 19,5, 1771-1779
18. Gangadharan, S., Kuznetsov, A., Zhu, H., **Hinestroza, J.P.**, Jasper, W., Modeling of Cross-Flow Across an Electrostatically Charged Monolith Filter, *Particulate Science and Technology*, (2012), 30, 5, 461-473
19. Barrera C, Herrera AP, Bezares N, Fachini E, Olayo-Valles R, **Hinestroza J.P.**, Rinaldi C., Effect of poly(ethylene oxide)-silane graft molecular weight on the colloidal properties of iron oxide nanoparticles for biomedical applications, *J Colloid Interface Science* (2012), 377, 40-50
20. Dabirian, F., Hosseini, S.A., **Hinestroza, J.P.**, Abuzade, R.A., Conformal coating of yarns and wires with electrospun Nanofibers, *Polymer Engineering and Science* (2012), 52,8, 1724-1732
21. Y. Li, Rojas, O.J., **Hinestroza, J.P.**, Boundary Lubrication of PEO-PPO-PEO Triblock Copolymer Physisorbed on Polypropylene, Polyethylene, and Cellulose Surfaces, *Ind. Eng. Chem. Res.*, (2012), 51, 7, 2931-2940
22. Song, J., Birbach, N., **Hinestroza, J.P.**, Deposition of silver nanoparticles on cellulosic fibers via stabilization of carboxymethyl groups, *Cellulose*, (2012), 19, 2, 411-424
23. Yu J-Y, Zheng N, Mane G, Min KA, **Hinestroza J.P.**, Zhu, H., Stringer, K., Rosania, G., A Cell-based Computational Modeling Approach for Developing Site-Directed Molecular Probes. *PLoS Comput Biol* (2012), 8,2: e1002378.

24. Mattana, G., Cosseddu, P., Fraboni, B., Malliaras, G., **Hinestroza, JP.**, Bonfiglio, A. Organic Electronics on natural cotton fibers, *Organic Electronics*, (2011) 12, 2033-2029
25. Li, Y, Liu, H., Song, J., Rojas, OJ., **Hinestroza, JP.**, Adsorption and Association of a Symmetric PEO-PPO-PEO Triblock Copolymer on Polypropylene, Polyethylene, and Cellulose Surfaces, *ACS Appl. Mater. Interfaces*, (2011),3,7, 2349-2357
26. Dabirian, F., Hosseini Ravandi, S.A., Hashemi Sanatgar, R., **Hinestroza, JP.**, Manufacturing of twisted continuous PAN nanofiber yarn by electrospinning process, *Fibers and Polymers* (2011) 12,5, 610-615
27. Kim, J., **Hinestroza, J.**, Jasper, W., Barber, R., Application of electrostatic force microscopy on characterizing an electret fiber: Effect of tip to specimen distance on phase shift , *Fibers and Polymers* (2011), 12,1,89-94
28. Flor, C, **Hinestroza, J.**, Surface modification of polyester fabrics using low pressure air radio frequency plasma, *Journal of Fashion Design, Technology and Education* (2010), 1, 1-9
29. Gomez, A., Avila,A., **Hinestroza, J.**, Surface charge estimation on hemispherical dielectric samples from EFM force gradient measurements, *Journal of Electrostatics* (2010), 68,1, 79-84
30. Talwar, S., Arjun, K., **Hinestroza, J.**, Khan., S., Pourdeyihimi, B., Electrospun Nanofibers with Associative Polymer-Surfactant Systems, *Macromolecules*(2010), 43,18,7650-7656
31. Zhang, X., Zheng N., Zou, P., Zhu, H., **Hinestroza, J.**, Rosania, G., Cells on Pores: A Simulation-Driven Analysis of Transcellular Small Molecule Transport, *Molecular Pharmaceutics* (2010), 7,2,456-467
32. Kim, J., Jasper, W., Barker, R., Hinestroza, J., Application of Electrostatic Force Microscopy on Characterizing an Electrically Charged Fiber, *Fibers and Polymers* (2010), 5,775-781
33. Kim, J., Montero, G., Habibi, Y., **Hinestroza, J.**, Genzer, J., Argyropoulos, D.,Rojas, O., Dispersion of cellulose crystallites by nonionic surfactants in a hydrophobic polymer matrix. *Polymer Engineering & Science* (2009), 49(10), 2054-2061.
34. Dong, H., **Hinestroza, J.**, Metal Nanoparticles on Natural Cellulose Fibers: Electrostatic Assembly and In Situ Synthesis, *ACS Applied Materials and Interfaces*, *ACS Appl. Mater. Interfaces*, (2009), 1 (4), pp 797-803
35. Song, J., Liang, J., Liu, X., Krause, W., **Hinestroza, J.**, Rojas, O., Development and Characterization of Thin Polymer Films Relevant to Fiber Processing, *Thin Solid Films* (2009) , 517, 4348-4354
36. Zhu, H., **Hinestroza, J.**, Collection Efficiency for Filters with Staggered Parallel Y and Triple Y Fibers: A Numerical Study (2009), *Journal of Engineered Fibers and Fabrics*, 4,1,16-25
37. Kim, J., **Hinestroza, J.**, Jasper, W., Barker, R., Effect of Solvent Exposure on the Filtration Performance of Electrostatically Charged Polypropylene Filter Media (2009), *Textile Research Journal*, 79, 4, 343-350
38. Dong, H., Wang, D., Sun, G., **Hinestroza, J.**, Assembly of Metal Nanoparticles on Electrospun Nylon 6 Nanofibers by Control of Interfacial Hydrogen Bonding Interactions, *Chemistry of Materials*, (2008), 20, 21, 6627-6632
39. Wu, H., Fan, J., Qin, X., Mo, S., **Hinestroza, J.**, Fabrication and characterization of a novel PP/PVA/Al hybrid layered assembly for high performance fibrous insulations, *Journal of Applied Polymer Science*, (2008) 110,4,2525-2530
40. Avila, A.G., **Hinestroza, J.** Tough Cotton , *Nature Nanotechnology*, (2008), 3,458-459
41. Talwar, S., **Hinestroza, J.** Pourdeyihimi, B., Khan, S., Associative Polymer Facilitated Electrospinning of Nanofibers, *Macromolecules*, (2008) 41,12,4275-4283
42. Wang, D., Sun, G., Chiou, B-S, **Hinestroza, J.**, Controllable Fabrication and Properties of Polypropylene Nanofibers, *Polymer Engineering & Science* (2007) 47,11, 1865-1872
43. Bellan, L., Craighead, H., **Hinestroza, J.**, Direct measurement of fluid velocity in an electrospinning jet using particle image velocimetry, *Journal of Applied Physics*, (2007)102, 10, 1-6
44. Hyde, G. K., Park, K. J., Stewart, S. M., **Hinestroza, J.** Parsons, G. N., Atomic Layer Deposition of Conformal Inorganic Nanoscale Coatings on Three-Dimensional Natural Fiber Systems: Effect of Surface Topology on Film Growth Characteristics *Langmuir*, (2007) 23, 9844 - 9849
45. Jasper, W., Mohan, A., **Hinestroza, J.**, Barker, R., Degradation Processes in Corona-Charged Electret Filter-Media with Exposure to Ethyl Benzene *Journal of Engineered Fibers and Fabrics*, (2007) 2,4, 19-24
46. Hyde, K. Dong, H., **Hinestroza, J.** Effect of surface cationization on the conformal deposition of polyelectrolytes over cotton fibers, , *Cellulose*, (2007)14, 6, 615-623

47. Kim, J., Jasper, W., **Hinestroza, J.** Probing Solvent-Induced Charge Degradation in Electret Fibers via Electrostatic Force Microscopy, *Journal of Microscopy*, (2007) , 20,1-8
48. Kim, J., Jasper, W. **Hinestroza, J.** Charge Characterization of an Electrically Charged Fiber Via Electrostatic Force Microscopy. *Journal of Engineered Fibers and Fabrics*, (2006) 1,2, 30-46
49. Jasper, W., **Hinestroza, J.**, Mohan, A., Kim, J., Shiels, B., Gunay, M., Thompson, D., & Barker, R. (2006). Effect of xylene exposure on the performance of electret filter media. *Journal of aerosol science*, 37(7), 903-911.
50. De Kee, D., Liu, Q., **Hinestroza, J.**, Viscoelastic Non-Fickian Diffusion, *Canadian Journal of Chemical Engineering* (2005), 83, 913-929
51. Jasper, W., **Hinestroza, J.**, Mohan, A., Thompson, D., Barker, R. (2005). Effect of phase of toluene on filtration performance of electret filter media against di-octyl-phthalate aerosols. *Journal of the International Society for Respiratory Protection* ,22, 97-105
52. Hyde, K., Rusa, M., **Hinestroza, J.** Electrostatic Self-assembly of polyelectrolytes on natural fibers: Cotton. *Nanotechnology*, 16 S422-S428 (2005)
53. Puri, P. **Hinestroza, J.** De Kee, D. Transport of small molecules through mechanically elongated polymeric membranes. *Journal of Applied Polymer Science*, 96 ,1200-1203 (2005).
54. **Hinestroza, J.**, De Kee, D. "Barrier properties of LLDPE geomembranes under mechanical deformation", *Journal of Environmental Engineering* , 12, 1468-1474(2004)
55. Qian, L., **Hinestroza, J.** Application of nanotechnology for high performance textiles. *Journal of Textile and Apparel, Technology and Management* , 4 (4), (2004)
56. **Hinestroza, J.**, Papadopoulos, K.D. "Using Spreadsheets and Visual Basic Applications as Teaching Aids for a Unit Operations Course", *Chemical Engineering Education*,37,316-320 (2003)
57. **Hinestroza, J.**, De Kee, Daniel; Pintauro, Peter N. Apparatus for Studying the Effect of Mechanical Deformation on the Permeation of Organics through Polymeric Films. *Industrial & Engineering Chemistry Research* (2001), 40(9), 2183-2187.
58. De Kee, D., Fong, C. F. Chan Man, Pintauro, P., **Hinestroza, J.**, Yuan, G. Burczyk, A., Effect of temperature and elongation on the liquid diffusion and permeation characteristics of natural rubber, nitrile rubber, and bromobutyl rubber. *Journal of Applied Polymer Science* (2000), 78(6), 1250-1255.
59. Lambert, C., Vincent, M., **Hinestroza, J.**, Sun, N., Gonzalez, R. Activity and selectivity of a Pd/g-Al₂O₃ catalytic membrane in the partial hydrogenation of acetylene. *Studies in Surface Science and Catalysis* (2000), 130C, 2687-2692.

Books and Book Chapters

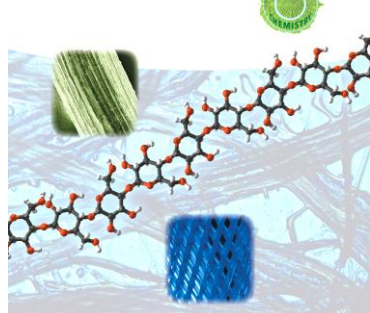
Books Edited



Edited by Juan Hinestroza and Anil N. Netravali

Cellulose Based Composites

New Green Nanomaterials



Hinestroza, J., Netravali, A., (2014) *Cellulose Based Composites*, Wiley-VCH Verlag GmbH & Co **ISBN 978-3-527-32719-5**

Book Chapters

1. Dong, H., **Hinestroza, JP.**, (2014) Conformal Coating of Antimicrobial Silver Nanoparticles on Cationic and Anionic Cellulosic Substrates. In Hinestroza and Netravali (Eds), *Cellulose Based Composites*, Wiley-VCH **ISBN 978-3-527-32719-5**
2. Morales-Luckie, R., Vilchis-Nestor, A., Sanchez-Mendieta, V., **Hinestroza, JP.**, (2014) Bio-inspired Synthesis of Metal Nanoparticles Using Cellulosic Substrates as Nature Templates. In Hinestroza and Netravali (Eds), *Cellulose Based Composites*, Wiley-VCH **ISBN 978-3-527-32719-5**
3. Morales-Luckie, R., Gama-Lara, S., Becerril-Juarez, I., Vilchis-Nestor, A., Sanchez-Mendieta, V., **Hinestroza, JP.**, (2014) Bio-composites made from bovine bone and crystals of silver and platinum. In Hinestroza and Netravali (Eds), *Cellulose Based Composites*, Wiley-VCH **ISBN 978-3-527-32719-5**

4. Song, J., Li, Y., **Hinestroza, JP.**, Rojas, O., (2009) Tools to Probe Nanoscale Surface Phenomena in Cellulose Thin Films: Applications in the Area of Adsorption and Friction. In Lucia, L. and Rojas, O., The Nanoscience and Technology of Renewable Biomaterials. John Wiley & Sons Ltd, LLC. **ISBN 978-1-405-16786-4**
5. Li, Y., **Hinestroza, JP.** (2008) Boundary lubrication phenomena in coated textile surfaces. In B.S. Gupta (Ed), Friction in Textile Materials. CRC Press, LLC. **ISBN 978-1-855-73920-8**
6. Hyde, G.K., **Hinestroza, JP.** (2006) Multilayered films via Electrostatic Self-Assembly: A novel approach to fiber functionalization. In P. Brown(Ed), Nanofiber and nanotechnology in textiles. (2007); Woodhead Publishing. **ISBN 978-1-420-04449-2**
7. Barrera, C., Rinaldi, C., Satcher, M., **Hinestroza, J.** (2007) Electrospun Nanofibers with Magnetic Domains for Smart Tagging of Textile Products, Handbook of Nanoscience, Engineering, and Technology, Second Edition Taylor and Francis Publishing **ISBN 978-0-849-31200-7**
8. De Kee, D., **Hinestroza, J.**, Liu, Q. (2005). Non-Fickian diffusion in systems with complex interfaces. In P. Chen (Ed.), Molecular interfacial phenomena of polymers and biopolymers. Abington, Cambridge, CB1 6AH, England : Woodhead Publishing Limited **ISBN 978-1-855-73928-4**

Patents and Invention Disclosures

Patents Issued

1. **US 8,491,668-** *Conformal Particle Coatings on Fibrous Materials*, **Hinestroza, J.**, Dong, H.
2. **US 8,679,197-** *Conformal Particle Coatings on Fibrous Materials*, **Hinestroza, J.**, Dong, H.

Patent Applications

1. PCT/US10/29438, *Conformal Particle Coatings on Fiber Materials in Spectroscopic Methods for Detecting Targets of Interest and Methods Based Thereon*. **Hinestroza, J.**, Batt, C., Strickland, A.
2. PCT/US10/062625, *"Fabrication of Polypropylene Monolith Filters Using Photolithography and Spin-coating Techniques"*, **Hinestroza, J.**, Zhu, H
3. PCT/US11/ 49083, *Metal Organic Framework Modified Materials, Methods of Making and Using Same*, **Hinestroza, J.**, Silva da Pinto, M., Sierra-Avila, C.

Invited Presentations and Lectures

1. **Hinestroza, JP.**, Multifunctional Fibers via Manipulation of Nanoscale Phenomena. University of Sao Paulo, Sao Paulo, Brazil, August 2012
2. **Hinestroza, JP.**, Multifunctional Fibers via Manipulation of Nanoscale Phenomena. Autonomous National University of Mexico in Mexico City, Mexico July 2012
3. **Hinestroza, JP.**, Nanotechnology and Design, Aalto School of Arts, Design and Architecture in Helsinki, Finland. June 2012
4. **Hinestroza, JP.**, Enhancing Surface of Fibers via Manipulation of Nanoscale Phenomena, Aalto University School of Chemical Technology, Espoo, Finland, June 2012
5. **Hinestroza, JP.**, Multifunctional Fibers via Manipulation of Nanoscale Phenomena, Institut für Forstbenutzung und Forstliche Arbeitswissenschaft of the University of Freiburg Freiburg, Germany, April 2012

6. Hinestroza, JP, Multifunctional Fibers via Manipulation of Nanoscale Phenomena , Ecole Nationale Supérieure d'Ingénieurs Sud Alsace, Mulhouse, France April 2012
7. Hinestroza, JP, Multifunctional Fibers via Manipulation of Nanoscale Phenomena, Research Institute for Textile Chemistry and Textile Physics of the University of Innsbruck, Dornbirn, Austria
8. Hinestroza, J., Can Nanotechnology be Fashionable?, Aalto University, Helsinki, Finland, February 2012
9. Hinestroza, J., Making fibers from polymers that do not make fibers, UNICAMP University, Campinas, SP Brazil, January 2012
10. Hinestroza, J., Nanoscale phenomena roles in modification of textile fiber, UNICAMP University, Campinas, SP Brazil, January 2012
11. Hinestroza, J., Can Nanotechnology be Fashionable?, Hong Kong Polytechnic Institute, Hong Kong, PRC, December 2011
12. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Manitoba, Winnipeg, MB, July 2011
13. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, 3M Corporate Research Laboratories, Minneapolis, MN, July 2011
14. Andere-Jones, A., Calero, V., Hinestroza, J., Manipulation of Electrified Jets of Polymer Solutions Loaded with Magnetic Nanoparticles Using Magnetic Fields, Invited presentation American Chemical Society, Division of Polymeric Materials, Science and Engineering, Anaheim, CA, March 2011
15. Hinestroza, J., Assembly of Metal Organic Frameworks on Cellulose Fibers, Vietnam-USA Symposium on MOF technologies, Ho Choi Minh City, Vietnam, March 2011
16. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, EMPA Swiss Federal Laboratories for Materials Science and Technology, St. Gallen, Switzerland, February 2011
17. Hinestroza, J., Can Nanotechnology be fashionable?, Samuel Ginn Distinguished Lecture of Engineering at Auburn University, Auburn, AL , February 1, 2011
18. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, United Arab Emirates University, Al-Ain, United Arab Emirates, December 30, 2010
19. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Twente, Faculty of Engineering Technology, Enschede, The Netherlands. Nov 25, 2010
20. Hinestroza, J., Making Fibers from Polymers that do not make Fibers: Molecular Strategies to Control the Behavior of Polymeric Materials., XIX International Materials Research Congress, Cancun, Mexico, Aug 17, 2010
21. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, III Amazonic Green Materials Meeting, Federal University of the Amazons, Manaus, Brazil, August 5, 2010
22. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Manitoba, College of Human Ecology, Winnipeg, Canada. Jul 25, 2010
23. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Industrial University of Santander, Bucaramanga, Colombia. Jul 2, 2010
24. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Canadian Textile Institute Annual Meeting, Montreal, Canada, June 23, 2010
25. Hinestroza, J., Making Fibers from Polymers that do not make Fibers: Molecular Strategies to Control the Behavior of Polymeric Materials., International Congress of Intelligent Textiles, Seoul, Korea, June 17, 2010
26. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Technical University of Liberec, Liberec, Czech Republic, May 24, 2010
27. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Technical University of Budapest, Budapest, Hungary May 20, 2010
28. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Bologna, Department of Physics, Bologna, Italy . Feb 18, 2010
29. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, National Autonomous University of Mexico, Mexico City, Mexico, Jan 8, 2010
30. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Virginia Tech University, Blacksburg, VA, October 23, 2009
31. Hinestroza, J., Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Mexican Congress of Inorganic Chemistry, Toluca, Mexico, August 20, 2009

32. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, XVIII International Materials Research Congress, Cancun, Mexico, Aug 17, 2009
33. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Buenos Aires, Department of Chemistry, Buenos Aires, Argentina, Aug 5, 2009
34. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Litoral National University, Department of Chemical Engineering, Santafe, Argentina, Aug 3, 2009
35. [Hinestroza, J.](#), Assembly of metal nanoparticles on the surfaces of nonwoven arrays of nylon nanofibers, University of Massachusetts, Department of Polymer Science and Engineering, Amherst, MA, April 30, 2009
36. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Tokyo Institute of Technology, Department of Organic and Polymer Materials, Tokyo, Japan, March 17, 2009
37. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, National University of Colombia, Medellin, Colombia, Jan 29, 2009
38. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Donghua University, Shanghai, China, December 18, 2008
39. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Polytechnic University of Catalunya, University, Barcelona, Spain, October 17, 2008
40. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, National Textile Research Center of Brazil, Rio de Janeiro, Brazil, September 28, 2008
41. [Hinestroza, J.](#), Assembly of Metal Nanoparticles on Electrospun Nylon 6 Nanofibers by Control of Interfacial Hydrogen Bonding Interactions, 28th Latin American Congress of Chemistry, San Juan, Puerto Rico, July 28, 2008
42. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Hong Kong Polytechnic University, Hong Kong, China, May 6, 2008
43. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Seoul National University, Department of Materials Sciences and Engineering, Seoul, Korea, May 2, 2008
44. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Catholic University of Korea, Department of Clothing and Textiles, Seoul, Korea, May 2, 2008
45. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Incheon, Department of Chemistry, Incheon, Korea, April 28, 2008
46. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Pittsburgh, Department of Chemical Engineering, Pittsburgh, PA, March 31, 2008
47. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, SUNY Oneonta, Department of Chemistry, Oneonta, NY, March 17, 2008
48. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Rhode Island School of Design, Department of Textiles, Providence, RI, March 7, 2008
49. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Iowa State University, Department of Chemical Engineering, Ames, IA, Feb 24, 2008
50. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Clemson University, Department of Materials Sciences and Engineering, Clemson, SC, Feb, 4 2008
51. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of Michigan, Department of Pharmaceutical Sciences, Ann Arbor, MI, Jan 25, 2008
52. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Feng Chia University, Department of Fiber and Composite Materials, Taichung, Taiwan, June 29, 2007
53. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Fifth Latin American and Caribbean Conference for Engineering and Technology, Tampico, México, May 30, 2007
54. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, autonomous University of San Luis Potosi, School of Chemical Sciences, San Luis Potosi, Mexico, January 25, 2007
55. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, 18th Latin American Congress of Textile Chemists, Buenos Aires, Argentina, November 8, 2006
56. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, University of California at Davis, Division of Textile Science, Davis, Ca, April 28, 2006
57. [Hinestroza, J.](#), Multifunctional Textiles Via Manipulation of Nanoscale Phenomena, Georgia Institute of Technology, Polymer Textile and Fiber Engineering, April 10, 2006

RESEARCH FINANCIAL SUPPORT RECORD

EXPLORING HYDROPHOBICITY AND OLEOPHOBIICITY USING NANOPARTICLES

PIs: J. Hinestroza, R. Ozer
Source of Funds: Cornell Center for Fiber and Fashion Innovation – TAL industries
Amount Funded: \$ 45,033
Starting Date: December 2014
Ending Date: June 2015

EXPLORING THE USE OF METAL-ORGANIC FRAMEWORKS TO ADD FUNCTIONALITY TO TEXTILE FIBERS

PIs: J. Hinestroza
Source of Funds: Cornell Center for Fiber and Fashion Innovation- Golden Quimica
Amount Funded: \$ 40,000
Starting Date: September 2014
Ending Date: August 2016

PERSONAL PROTECTIVE TECHNOLOGIES FOR CURRENT AND EMERGING OCCUPATIONAL AND ENVIRONMENTAL HAZARDS

PIs: J. Hinestroza
Source of Funds: Cornell Center for Fiber and Fashion Innovation- Golden Quimica
Amount Funded: \$ 40,000
Starting Date: September 2014
Ending Date: August 2016

REDUCING POLLUTION IN TEXTILE DYEING PROCESSES USING NANOIONIC MATERIALS

PIs: J. Hinestroza
Source of Funds: Lehman Fund for Scholarly Exchange with China
Amount Funded: \$ 17,000
Starting Date: June 2013
Ending Date: June 2014

GAS IN- LIGHT OUT

PIs: J. Hinestroza, SY Yoon
Source of Funds: Cornell Center for Arts
Amount Funded: \$ 5,000
Starting Date: May 2013
Ending Date: October 2014

EXPLORING THE USE OF BICOMPONENT FIBERS FOR HIGH PERFORMANCE FILTRATION SYSTEMS

PIs: S.K. Obendorf (PI), J. Hinestroza, C. Coffman
Source of Funds: USDA- National Institutes of Food- Hatch
Amount Funded: \$ 150,000
Starting Date: October 2012
Ending Date: September 2016

DEVELOPMENT OF BIOCHAR-BASED FIBERS FOR PERSONAL PROTECTIVE EQUIPMENT

PIs: A. Hay (PI), J. Hinestroza
Source of Funds: Atkinson Center for a Sustainable Future
Amount Funded: \$ 100,000
Starting Date: June 2010
Ending Date: May 2011

HUMAN CENTERED PHYSICAL INTERACTION MODELING FOR PERSONAL PROTECTIVE EQUIPMENT

PIs: D. Feathers (PI), S. Ashdown, J. Hinestroza
Source of Funds: Cornell College of Human Ecology
Amount Funded: \$ 50,000
Starting Date: March 2010
Ending Date: February 2011

ENABLING THE USE OF RENEWABLE, SUSTAINABLE, AND NATIVE CELLULOSIC MATERIALS FROM THE AMAZON RAINFOREST AND THE ARGENTINEAN WETLANDS INTO HIGH PERFORMANCE APPLICATIONS

PI: J. Hinestroza (PI)
Source of Funds: Cornell Mario Einaudi Center for International Studies
Amount Funded: \$ 10,000
Starting Date: September 2009
Ending Date: August 2010

INTERACTIONS OF NATURAL DYES WITH TEXTILE SUBSTRATES

PI: J. Hinestroza (PI)
Source of Funds: Cornell Center for Materials Research- Golden Quimica
Amount Funded: \$ 120,000
Starting Date: September 2008
Ending Date: September 2010

MODELING OF FLOW CONTAINING NANOPARTICLES THROUGH ELECTROSTATICALLY CHARGED MONOLITH FILTERS

PI: J. Hinestroza (PI)
Source of Funds: US Defense Threat Reduction Agency
Amount Funded: \$ 359,998
Starting Date: December 2007
Ending Date: September 2010

MANIPULATION OF NANOSCALE PHENOMENA AS A CLEAN AVENUE FOR THE PRODUCTION OF SMART AND MULTIFUNCTIONAL TEXTILES: A COLLABORATIVE ENDEAVOR OF CORNELL UNIVERSITY AND HONG KONG POLYTECHNIC UNIVERSITY

PI: J. Hinestroza (PI)
Source of Funds: Lehman Fund for Scholarly Exchange with China
Amount Funded: \$ 20,000
Starting Date: Jan 2008
Ending Date: December 2008

USING AGRICULTURAL WASTE PRODUCTS AS SUBSTRATES FOR BIOLOGICALLY INSPIRED SYNTHESIS OF CATALYTIC METAL NANOPARTICLES

PI: J. Hinestroza (PI)
Source of Funds: USDA HATCH
Amount Funded: \$75,000
Starting Date: September 2007
Ending Date: August 2010

METAL-ORGANIC POLYHEDRA BLENDED FIBERS FOR ADVANCED FILTRATION AND PERSONAL PROTECTION

PI: J. Hinestroza (PI)
Source of Funds: US Defense Threat Reduction Agency
Amount Funded: \$756,114
Starting Date: May 2008
Ending Date: December 2011

POLYMER FLOW IN CONFINED ELASTIC BOUNDARIES: STRONGER CONTINUOUS NANOFIBERS

PI: J. Hinestroza (PI)
Source of Funds: US Department of Commerce- National Textile Center
Amount Funded: \$80,689
Starting Date: June 2008
Ending Date: June 2011

LIGNOCELLULOSICS AS PRECURSORS OF HIGH PERFORMANCE BIOPOLYMER STRUCTURES

PIs: O. Rojas (PI), J. Kadhla, J. Hinestroza
Source of Funds: US Department of Agriculture- National Research Initiative
Amount Funded: \$435,000
Starting Date: July 2007
Ending Date: June 2012

ENGINEERING PHYSIOLOGICAL DISTRIBUTIONS OF ZONE-SPECIFIC PHENOTYPE AND FIBER ORIENTATION IN 3-D TISSUE-ENGINEERED CARTILAGE SCAFFOLDS

PIs: B. Kirby (PI), J. Hinestroza, M. Frey
Source of Funds: Morgan Family Tissue Engineering Fund
Amount Funded: \$ 115,000
Starting Date: September 2007
Ending Date: December 2008

CAREER: EXPLORING THE USE OF INDUCED NEGATIVE VISCOSITIES AS A NEW DEGREE OF FREEDOM IN POLYMER NANOMANUFACTURING

PI: J. Hinestroza (PI)
Source of Funds: National Science Foundation
Amount Funded: \$412,000
Starting Date: July 2007
Ending Date: June 2011

FUNCTIONALIZED NANOFIBERS FOR HIGH PERFORMANCE FILTRATION OF CONTAMINANTS, BIOLOGICAL AGENTS AND HAZARDOUS MATERIALS

PI: J. Hinestroza (PI)
Source of Funds: NY State Office of Science, Technology and Academic Research
Amount Funded: \$200,000
Starting Date: February 2006
Ending Date: January 2008

NER/COLLABORATIVE RESEARCH: MANIPULATION OF THE ELECTROSPINNING OF POLYMER FIBERS USING APPLIED MAGNETIC FIELDS

PI: J. Hinestroza (PI)
Source of Funds: National Science Foundation
Amount Funded: \$55,999
Starting Date: February 2006
Ending Date: February 2007

NANOLAYER SELF-ASSEMBLIES: NOVEL, ADAPTABLE FIBER SURFACES

PIs: J. Hinestroza (PI), P. Hauser
Source of Funds: National Textile Center
Amount Funded: \$163,500
Starting Date: May 2006
Ending Date: May 2007

BOUNDARY LAYER AND SELF-ASSEMBLY IN FIBER PROCESSING

PIs: O. Rojas (PI), J. Hinestroza, W. Krause
Source of Funds: National Textile Center
Amount Funded: \$95,756
Starting Date: May 2006
Ending Date: May 2007

SMART TEXTILES VIA SELF-ASSEMBLED NANOLAYERS AND ATOMIC LAYER DEPOSITION

PIs: J. Hinestroza (PI), G. Parsons
Source of Funds: NCSU Nanotechnology Steering Committee
Amount Funded: \$50,000
Starting Date: July 2005
Ending Date: June 2006

BIODEGRADABLE NANORODS FOR HIGH-PERFORMANCE MULTIFUNCTIONAL NANOCOMPOSITES

PIs: O. Rojas (PI), J. Hinestroza, J. Genzer
Source of Funds: NCSU Nanotechnology Steering Committee
Amount Funded: \$50,000
Starting Date: July 2005
Ending Date: June 2006

DEBOTTLENECKING THE ELECTROSPINNING PROCESS

PIs: J. Hinestroza (PI), C. Rinaldi

Source of Funds: Institute of Textile Technology
Amount Funded: \$45,000
Starting Date: March 2005
Ending Date: May 2006

BOUNDARY LAYER AND SELF-ASSEMBLY IN FIBER PROCESSING

PIs: O. Rojas (PI), J. Hinestroza, W. Krause
Source of Funds: National Textile Center
Amount Funded: \$158,000
Starting Date: May 2005
Ending Date: May 2006

HIGH MODULUS ALIPHATIC NYLON FIBERS

PIs: R. Kotek (PI), A. Tonelli, J. Hinestroza
Source of Funds: National Textile Center
Amount Funded: \$152,000
Starting Date: May 2005
Ending Date: May 2006

MECHANICAL PROPERTIES OF INDIVIDUAL NANOFIBERS

PIs: J. Hinestroza (PI)
Source of Funds: Nonwovens Cooperative Research Center
Amount Funded: \$120,000
Starting Date: August 2004
Ending Date: August 2006

NANOTECHNOLOGY IN TEXTILES

PIs: J. Hinestroza (PI), W. Krause
Source of Funds: Department of Energy/ Oak Ridge National Laboratory
Amount Funded: User Grant- Access to CNMS Instrumentation
Starting Date: December 2003
Ending Date: October 2005

LIGHT WEIGHT CBRN PROTECTIVE FIRE FIGHTER TURNOUT

PIs: R. L. Barker (PI), D. Thompson, J. Hinestroza, B. Pourdeyhimi
Source of Funds: Department of Homeland Security/ Technical Support Working Group
Amount Funded: \$836,217
Starting Date: January, 2004
Ending Date: June, 2005

INVESTIGATION OF FILTER DEGRADATION PROCESSES FOR RESPIRATORY PROTECTIVE SYSTEMS AND DEVELOPMENT OF MODELS FOR SYSTEM FUNCTION AND DETERIORATION

PIs: W. Jasper (PI), R. Grimes, J. Hinestroza, R. L. Barker, D. Thompson
Source of Funds: NIOSH, CDC
Amount Funded: \$497,322
Starting Date: May 2003
Ending Date: June 2005

ELECTROSPUN MAGNETIC NANOFIBERS

PI: J. Hinestroza (PI)
Source of Funds: NCSU Faculty Research and Professional Development Fund
Amount Funded: \$8,000
Starting Date March 2004
Ending Date March 2005

SELECTIVE MEMBRANES FOR THE SEPARATION OF BIOETHANOL FROM PLANT BIOMASS

PIs: J. Hinestroza (PI) and R. Sharma
Source of Funds: NCSU Faculty Research and Professional Development Fund
Amount Funded: \$20,000
Starting Date May 2004
Ending Date May 2005

TEXTILE ENGINEERING EDUCATION AND RESEARCH IN CENTRAL AMERICA

PIs: J. Hinestroza (PI)
Source of Funds: NCSU Office of International Affairs
Amount Funded: \$5,000
Starting Date May 2004
Ending Date July 2005

DEPOSITION OF FUNCTIONAL NANOLAYERS OVER TEXTILE FIBERS

PIs: J. Hinestroza (PI)
Source of Funds: Institute of Textile Technology
Amount Funded: \$45,000
Starting Date May 2004
Ending Date May 2005

SYNTHESIS OF FUNCTIONALIZED POLYMERIC RESINS WITH A REACTIVE AMINO GROUPS

PIs: R. Kotek (PI), J. Hinestroza and H. Freeman
Source of Funds: American Red Cross and PRD Technologies, Inc
Amount Funded: \$107,000
Starting Date May 2004
Ending Date July 2005

ADVISING AND MENTORING RECORD

Visiting Scholars

Profesor Ruya Ozer	(2014-2015)	Cornell University
Profesor Monica Alvarez	(2014)	EAFIT University, Colombia
Professor Cesar Franco	(2013-2015)	Federal University of Santa Catarina, Brazil
Professor Eugenio Otal	(2013)	National Technical University, Argentina
Professor Manuela Kim	(2013)	National Technical University, Argentina
Prof. Young-Jin Jeong	(2011-12)	Soongsil University, Korea
Prof. Rodrigo Torres	(2010-11)	Universidad Industrial de Santander, Colombia
Prof. David Lukas	(2010)	Technical University of Liberec, Czech Republic
Prof. Cesar Sierra	(2010, 2014)	National University of Colombia, Colombia

Updated January 2015

Prof. Chaoxia Wang	(2009-10)	Jiangnan University, China
Prof. Adalena Kennedy	(2009-2011)	Federal University Amazon, Brazil
Prof. Jintu Fan	(2009)	Hong Kong Polytechnic University, Hong Kong
Prof. Alba Avila	(2008)	Andes University, Colombia

Postdoctoral Scholars

Frederick Ochanda, Ph.D.	
Marcia Silva da Pinto, Ph.D.	Currently at Nestle Research Laboratories
Victoria Calero, Ph.D.	Currently at IBM Research
Huaning Zhu, Ph.D.	Currently at Dassault Systemes
Laura McJilton, Ph.D.	Currently at Intel
Sachin Talwar, Ph.D.	Currently at 3M
Junlong Song, Ph.D.	Currently Faculty at Nanjing National University
Hong Dong, Ph.D.	Currently at the U.S. Army Research Laboratory
HaoHao Huang, Ph.D.	Currently Faculty at Beijing University of Chemical Technology

Ph.D. Students

Diego Alzate (Expected 2018)	
Thesis: Light-responsive polymeric systems	
Marion Schelling (Expected 2018)	
Thesis: <i>Acoustic Force Microscopy in liquid filled fibers</i>	
Lina Sanchez-Botero (Expected 2015)	
Thesis: <i>Induced Negative Viscosity in Polymeric Suspensions</i>	
Yan Li, Ph.D. (2009), Cornell University	
Thesis: <i>Probing Friction at the Nanoscale using Lateral Force Microscopy</i>	
Jooyoun Kim, Ph.D. (2005) NC State University	
Thesis: <i>Investigation on Charge Deterioration of Electrically Charged Filter Media Using Electric Force Microscopy.</i>	

M.Sc. Students

Cornell University

1. Simge Uzun	(2014)	
2. Soshana Smith	(2012)	Currently at Cornell University
3. Camila Silva Flor	(2010)	Currently at L'Oreal Research
4. Karmann Mills	(2010)	Currently at Research Triangle Institute
5. Alejandra Andere-Jones	(2009)	Currently at 3M
6. Christina Diaz	(2009)	Currently at US Army Natick Center

NCSU

7. Timothy Price	(2006)	
8. Bilge Hatiboglu	(2006)	Currently at Intel, Inc
9. Melinda Satcher	(2006)	Currently at Kemira Chemicals, Inc
10. Kevin Hyde	(2005)	Currently at Alditri, LLC
11. Brian Shields	(2005)	Currently at PBI Performance Products, Inc

Undergraduate Researchers

Cornell University

1. Natasha Armbrust (CS)
2. Javier Jimenez (FSAD)
3. Mario Velado (HBHS)
4. Alejandro Garcia (PHYS)
5. Samuel Leyens (BEE)
6. Joseph Edwards (BEE)
7. Jessica Lin (BEE)
8. Zerui Sophie Zhu (CHEME)

9. Victor Haas (CHEM)
10. Catherine Sanchez (CHEM)
11. Zhe Hao Zhou (CHEME) Currently at Corning, Inc
12. Jason (YoonChul) Haam (FSAD)
13. Deanna Nardella (HBHS)
14. Alexander Hartoto (ECE)
15. Brian Choi (ECE) Currently at Intel, Inc
16. Ashley Weiner (FSAD)
17. Kelton Minor (DEA)
18. Emilija Mayer (MSE) Currently at GE, Inc
19. George Osae (CHEM)
20. Kathleen M. Donley (FSAD)
21. Carlos Becerril (UTSA-CCMR REU) Currently at Cymer, Inc
22. Rafael Aquino (MAE) Graduate School at Cornell University
23. Naomi Birbach (CHEM) Currently at US Patent and Trademark Office
24. Selina Lok (MAE)
25. Juan Uribe (CHEME) Currently at Procter and Gamble
26. Hekia Bodwitch (HBHS) Graduate School at UC Berkeley
27. Michael Crouch (NCSU-CCMR REU) Law School at UC Berkeley
28. Jimmy Zhou (ECE)
29. Elizabeth Franzen (HBS) Cornell Weill Medical School

NCSU

30. Troy Gould Grad School University of Colorado
31. William McGuire Currently at Solace Development Group
32. Mary Rebovich Graduate School Cornell University
33. Amika Olchovick
34. Errol Purkett Currently at Johnson and Johnson
35. Jordan Massey Graduate School U of Texas San Antonio

Reviewer of peer-reviewed publications:

Nature Nanotechnology
ACS Applied Materials and Interfaces
Macromolecules
Nanotechnology
Cellulose
Journal of Engineered Fibers and Fabrics
AIChE Journal
Journal of Biomaterials Science, Polymer Edition
Journal of the Textile Institute
Journal of Polymer Science: Part B: Polymer Physics
Current Opinions in Colloidal Science
Chemistry of Materials
Colloids and Surfaces A: Physicochemical and Engineering Aspects

Reviewer of research proposals:

National Science Foundation
U.S. Department of Agriculture
U.S. Civilian Research and Development Foundation
U.S. Department of Defense
U.S. Army Research Office
Czech Science Foundation
Ontario Ministry of Research and Innovation

COMMUNITY OUTREACH ACTIVITIES

Presentations and Science Demonstrations

CCMR- Cornell Center for Material Research

- Big Brothers Big Sisters of America- (After School Programs for K-12 kids)
- Microworld Festival in New York City and Puerto Rico (Elementary School Teachers)
- Materials Science Workshop in New York City (High School students)

CNS- Cornell Center for Nanoscale Systems

- Summer Institute for Physics Teachers (High School Teachers)
- Nanoday at Cornell Festival (K-12 students)

CNF (Cornell Nanoscale Science and Technology Facility)

- Kavli Institute Journalists Workshop in Nanotechnology (Science Journalists)

FSAD (Fiber Science & Apparel Design)

- Campus-wide Career Explorations Workshop (High School Students)

Technical Consultant to Small Businesses in New York State

CCMR- Cornell Center for Material Research

- NYSTAR Jumpstart project with NewTex, Inc. Victor, NY
- NYSTAR Jumpstart project with Select Fabricators, Inc. Canandaigua, NY

Public Media

- National Public Radio

- o Earth & Sky radio segment on nanotextiles
 - <http://nanotextiles.human.cornell.edu/HinestrozaNPR.mp3>
- o Science Friday
 - <http://nanotextiles.human.cornell.edu/ScienceFridayInterview.mp3>

- Public Broadcasting Service

- o DragonFly TV segment on nanosilver
 - <http://www.youtube.com/watch?v=72MYWTnn6Yo>

- NHK (Japanese Public TV)

- o Gatchan TV Segment on nanotextiles
 - <http://www.youtube.com/watch?v=gLPp-N8W1pk>

Underrepresented Minorities

- **Society of Hispanic Professional Engineers SHPE**
 - o Judge Technical Paper Competition
 - o Workshop for students interested in careers in academia
- **National Consortium for Graduate Degrees for Minorities in Engineering and Science, GEM**
 - o Reviewer of fellowship applications
- **Louis Stokes Alliance for Minority Participation Undergraduate Research**
 - o Workshop on preparing research posters
- **Society of Women Engineers**
 - o Mentoring of female engineering and science students
 - o Recruitment of REU and graduate students
- **College of Human Ecology Mentoring Program**
 - o Faculty Partner

Senior Citizens and Service Learning

- **LEAP (Living Environments Aging Partnership)**
 - o FSAD 4660- (2006-2011) Participation of elders in intergenerational service learning experiences