

EVANGELOS MANIAS

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Education / Professional Preparation:

Aristotle Univ of Thessaloniki; Greece	Physics	M.Sc.	17 Oct 1991
University of Groningen; The Netherlands	Chemistry	Ph.D.	17 Nov 1995
Cornell University, Ithaca, NY; USA	Materials Sci & Eng	Postdoc	1995–1998

Experience / Professional Appointments:

Professor	Materials Sci & Eng Dept	Penn State University	2010-
Associate Professor	Materials Sci & Eng Dept	Penn State University	2004-2010
Councilor	Polymer Sci & Eng Program	Penn State University	2003-2007
Endowed Assist. Prof.	Materials Sci & Eng Dept	Penn State University	2001-2004
Assistant Professor	Materials Sci & Eng Dept	Penn State University	1998-2001

Synergistic Activities:

- Director, Polymer Nanostructures Lab–CSPS, A Penn State Center of Excellence, 1999–
- Member of Penn State’s NSF-MRSEC (IRG 1), NSF-NSEC (seed), NSF-IGERT (CEMBA); co-PI in two NSF-NER and in one NSF-NUE projects; PI of one NSF-MWN.
- Industrial Outreach & Funding (2002-10, PI of 27 funded projects, ca. \$2.7M): Sumitomo Chemical JAPAN [2 projects], Kraft Foods [6 projects], Bayer [4], Air Products & Chem [2], Coca-Cola, PolySet, ResTek, NanoKor S.KOREA, Carmel Olefins ISRAEL, UTC/IFC Fuel Cells, Saint-Gobain USA [2].

Selected Honors & Awards:

- *Materials Letters* (Elsevier), Associate Editor, 2005–11, Principal Editor, 2011–
- *J. Polym. Sci. B: Polym. Phys.* (Wiley), Guest Editor & Editorial Board, 2003
- *International Journal of Polymer Science* (Hindawi), Associate Editor, 2007–
- *J. Functional Biomaterials* (MDPI), Guest Editor & Editorial Board, 2010–
- *Materials Technology* (Maney), *Materials* (MDPI), Editorial Board, 2011–
- “Innovations in Nanotechnology” Award, National Academy of Spain & CSIC, 2008
- Amer. Physical Soc. (APS), Polymer Physics Prize, sponsored by JPSB/Wiley, 2006
- Associate Professor of Materials Science & Technology, U of Crete, Greece, 2006–08
- Faculty Fellow (CoBaSE), US National Academy of Engineering, 2005
- Faculty Fellow (SFFP at AFRL), US National Academies of Science, 2004
- “Virginia & Phillip Walker” Endowed Professorship, Penn State University, 2001-04
- Fellow, Dutton e-Education Institute, College of Earth & Mineral Sciences, 2004, '05, '06
- Gladys Snyder Teaching Award, College of Earth & Mineral Sciences, PSU, 2003
- Amer. Soc. of Composites, Div. of Polymer Matrix Composites Award, 2002
- Wilson Research Initiation Award, College of Earth & Mineral Sciences, PSU, 1999
- Invited Lecturer, Les Houches Ecole de Physique Theoretique, France, 1995
- Highest honours (*cum laude*) Ph.D., National Academy of Sciences, Netherlands, 1995
- Research Fellow, Dutch Institute of Technology (NWO-STW), The Netherlands 1991-95
- Honor Graduate, Physics Dept (M.Sc. GPA: 9.2 /10), Aristotle University, 1991
- National Scholarships for Excellency (IKY), Aristotle University 1989, 1990 & 1991
- Distinction, Summer School of Advanced Physics, University of Crete, 1990
- Greek Mathematical Society awards 1985 & 87; Greek Olympic Math team, 1987

Supervised Graduate Students

Jie Chen	“Polymer mechanical properties at the nm scale: An AFM study”, M.Sc. 2000
Sirilak Mennakanit	“Inorganic filler development for use in nanocomposites”, M.Sc. 2002
Kenneth Strawhecker	“AFM studies of polymer/inorganic nanocomposites”, Ph.D. 2003
Zhi-Ming Wang ²	“Synthesis of functional iPP and sPS and nanocomposites”, M.Sc. 2003
Vikram Kuppa	“Molecular modeling of PEO/inorganic nanocomposites”, Ph.D. 2003
Zijie Lu ³	“The nature of water in Nafion fuel cell H ⁺ -exchange membranes”, Ph.D. 2005
Zhiming Wang ²	“Synthesis of functional PP and PVDF and nanocomposites”, Ph.D. 2005
Sung-Woo Wee	“PE-based nanocomposites: Crystallization behavior & AFM”, M.Sc. 2006
Argyrios Karatrantos	“Classical computer simulations of aqueous PEO solutions”, M.Sc. 2006
Matthew Heidecker	“High-performance polymer/layered-silicate nanocomposites”, Ph.D. 2007
Alexei Kisselev ^P	“Theoretical insights into stimuli-responsive polymers”, Ph.D. 2007
Romesh Patel	“Fundamental studies of the glass/polycarbonate interface”, M.Sc. 2008
Theresa Foley	“Design & syntheses of regioregular stimuli-responsive copolymers”, Ph.D. 2008
Ponusa Songtipya ⁴	“Antimicrobial functionalities of polymers nanocomposites”, Ph.D. 2010
Daniel Lentz ⁵	“Nanostructured Elastomers: LCs & noble-metal nanocomposites”, Ph.D. 2010
Vivek Tomer ⁶	“Polymer nanocomposites for electrical energy storage”, Ph.D. 2010
Charles Hogshead	“Tunable temperature-responsive tethered polymer gradients”, Ph.D. 2010
Kiattikhun Manokruang	“Tunable dual-stimuli (T- & pH-) responsive copolymers”, Ph.D. 2010
Hungoo Cho ³	“Development of high-T polymer membranes for fuel cells”, [current]
Felipe Salcedo Galan	“High-performance polyolefin/inorganic nanocomposites”, [current]
Bo Li	“Nanocomposites with novel dielectric and mechanical behaviors”, [current]
Suppanat Kosolwattana	“Fundamentals of polymer surfaces and interfaces”, [current]

Visiting/Collaborating Graduate Students

C Manzi-Nshuti (Ecole Nat.Super.Lille, France, 2008,09),	C Nyambo (Marquette U, 2008),
MC Costache (Marquette U, 2006,07),	S Donadi (U Padua, Italy, 2010-11).

Post-Doctoral Associates & Visiting Scientists

Lixin Wu	“Mechanical properties polypropylene/clay nanocomposites”, 1999-00
Vassilios Koutsos ^V	“AFM determination of Tg in polymers and polymer nanocomposites”, 2003
Mindaugas Rackaitis	“Synthesis and AFM of thermoresponsive polymer coatings”, 2001-04
Jin Young Huh	“Reactive nanofillers for epoxy/inorganic nanocomposites”, 2001-04
Young-Kyu Chang	“Synthesis of novel polymers for H ⁺ conducting fuel cells”, 2002-03
Hiroyoshi Nakajima ^V	“Synthesis and Properties of polyolefin/clay nanocomposites”, 2002-04
Yang Jiang	“Stretched PET/clay hybrids for bottling applications”, 2002-03
Valentinas Snitka ^V	“CoBaSE: EFM studies of polymer nanostructures”, 2004
George Polizos	“Dynamics of nanoscopically confined polymers and liquids”, 2004-08
Subhendu Chowdhury	“PE and PP nanocomposite films for packaging applications”, 2005-06
Amos Ophir ^V	“Polymer nanocomposites with a biodegradable character”, 2006
Jinguo Zhang	“Polymer/clay nanocomposites for food-packaging applications”, 2006-08
Kostas S. Andrikopoulos	“Spectroscopy of T- and pH- responsive copolymers”, 2007-09
Lingbin Lu	“Molecular Modeling of polymer/LDH nanocomposites”, 2009-10
Glenna M. Malcolm ⁴	“Antimicrobial functionality of nanoparticles & polymers”, 2008-10
Charles Hogshead	“Flame-retardant optically transparent nanocomposites”, 2010-

Co-advised by: ²TC Chung; ³DD Macdonald; ⁴MM Jimenez-Gasco; ⁵R Hedden; and ⁶CA Randall.
^PPh.D. in Physics. ^VVisiting Scientist. Member of 34 more Ph.D. committees at Penn State.

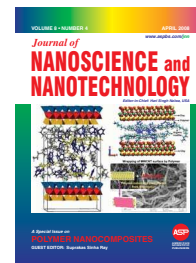
Selected Publications _____ (from a total of 138; chronologically sorted¹)

Citation Summary: (ISI, 11/11/11): Total Citations: **4745**; h-Index: **31**; m-factor: **1.95**.

88. V. Tomer*, E. Manias*, C. A. Randall "High field properties and energy storage in nanocomposite dielectrics of poly(vinylidene fluoride-hexafluoropropylene) [PVDF-HFP]" **J. Applied Physics**, 110, 044107 (2011).
87. C.G. Hogshead, E. Manias, P. Williams, A. Lupinsky, P. Painter, "Studies of Bitumen-Silica and Oil-Silica Interactions in Ionic Liquids", **Energy & Fuels**, 25, 293-299 (2011).
86. H.S. Muddana, R.R. Gullapalli, E. Manias, P.J. Butler, "Atomistic simulation of lipid and DiI dynamics in membrane bilayers under tension", **Phys. Chem. Chem. Phys.**, 13, 1368-1378 (2011).
85. V. Tomer, G. Polizos, C. A. Randall*, E. Manias*, "Polyethylene Nanocomposite Dielectrics: Implications of nanofiller orientation on high field properties and energy storage", **J. Applied Physics**, 109, 074113 (2011).
84. X. Wang, R. Rathore, P. Songtipya, M.M. Jimenez Gasco, E. Manias, C.A. Wilkie, "EVA-Layered double hydroxide (nano)composites: Mechanism of fire retardancy", **Polymer Degradation and Stability**, 96, 301-313 (2011).
83. G. Polizos, V. Tomer, E. Manias,* C. A. Randall*, "Epoxy-based nanocomposites for electrical energy storage, Part II: Nanocomposites with nanofillers of reactive montmorillonite covalently-bonded with barium titanate", **J. Applied Physics**, 108, 074117 (2010).
82. V. Tomer, G. Polizos, E. Manias,* C. A. Randall*, "Epoxy-based nanocomposites for electrical energy storage, Part I: Effects of montmorillonite and barium titanate nanofillers", **J. Applied Physics**, 108, 074116 (2010).
81. K. Manokruang, E. Manias, "Hollow microspheres and aqueous phase behavior of pH-responsive poly(methyl methacrylate-co-methacrylic acid) copolymers with a blocky comonomer distribution", **Materials Letters**, 63, 1144-1147 (2009).
80. E. Manias, J. Zhang, J.Y. Huh, K. Manokruang, P. Songtipya, M.M. Jimenez-Gasco, "Polyethylene Nanocomposite Heat-Sealants with a Versatile Peelable Character", **Macromolecular Rapid Communications**, 30, 17-23 (2009).
79. Z. Lu, M. Lanagan, E. Manias, D.D. Macdonald, "Two-Port Transmission Line Technique for Dielectric Property Characterization of Polymer Electrolyte Membranes", **J. Physical Chemistry B**, 113, 13551-13559 (2009).
78. Z. Lu, E. Manias, D.D. Macdonald, M. Lanagan, "Dielectric Relaxation in Dimethyl Sulfoxide/Water Mixtures Studied by Microwave Dielectric Relaxation Spectroscopy", **J. Physical Chemistry A**, 113, 12207-12214 (2009).
77. L. Xu, H. Nakajima, E. Manias, R. Krishnamoorti, "Tailored Nanocomposites of Polypropylene with Layered Silicates", **Macromolecules**, 42, 3795-3803 (2009).
76. C. Manzi-Nshuti, P. Songtipya, E. Manias, M.M. Jimenez-Gasco, J.M. Hossenlopp, C.A. Wilkie, "Polymer Nanocomposites using Zinc Aluminum and Magnesium Aluminum Oleate Layered Double Hydroxides: Effects of the Polymeric Compatibilizer and of Composition on the Thermal and Fire Properties of PP/LDH Nanocomposites", **Polymer Degradation & Stability**, 94, 2042-2054 (2009).
75. C. Manzi-Nshuti, P. Songtipya, E. Manias, M.M. Jimenez-Gasco, J.M. Hossenlopp, C.A. Wilkie, "Polymer Nanocomposites using Zinc Aluminum and Magnesium Aluminum Oleate Layered Double Hydroxides: Effects of LDH divalent metals on dispersion, thermal, mechanical and fire performance in various polymers", **Polymer**, 50, 3564-3574 (2009).
74. W.H. Awad, G. Beyer, D. Benderly, W.L. IJdo, P. Songtipya, M.M. Jimenez-Gasco, E. Manias*, C.A. Wilkie*, "Material Properties of Nanoclay PVC Composites", **Polymer**, 50, 1857-1867 (2009).
73. E. Manias*, J. Zhang, J.Y. Huh, K. Manokruang, P. Songtipya, M.M. Jimenez-Gasco, "Polyethylene Nanocomposite Sealants with a Peelable Character", **Macromol. Rapid Commun.**, 30, 554 (2009).
72. J. Zhang, E. Manias*, G. Polizos, J.Y. Huh, A. Ophir, P. Songtipya, M.M. Jimenez-Gasco, "Tailored polyethylene nanocomposite sealants: Broad-range peelable heat-seals through designed filler/polymer interfaces", **J. Adhesion Sci. & Technology**, 23, 709-737 (2009).

¹Added notations: * Prestigious or Review; †: Highly Cited Article Ψ: Featured on Cover of Journal.

71. J. Zhang, E. Manias, C.A. Wilkie, "Polymerically modified layered silicates: An effective route to nanocomposites", **Journal of Nanoscience and Nanotechnology**, 8, 1597-1615 (2008) [REVIEW].

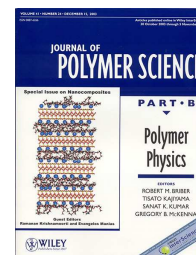


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70. C. Nyambo, P. Songtipya, E. Manias, M.M. Jimenez-Gasco, C.A. Wilkie, "Effect of MgAl-layered double hydroxide exchanged with linear alkyl carboxylates on fire retardancy of PMMA and PS", **J. Materials Chemistry**, 18, 4827-4838 (2008).
69. V. Tomer, C. A. Randall, G. Polizos, J. Kostelnick, E. Manias, "High- and low-field dielectric characteristics of dielectrophoretically aligned ceramic/polymer nanocomposites", **J. Applied Physics**, 103, 034115 (2008).
68. Z. Lu, G. Polizos, D.D. Macdonald, E. Manias, "State of water in perfluorosulfonic ionomer (Nafion 117) proton exchange membranes", **J. Electrochem. Soc.**, 155, B163-B171 (2008).
67. (*, Ψ) E. Manias, "Nanocomposites: Stiffer by Design", **Nature Materials**, 6, 9-11 (2007).
66. A.M. Kisselev, E. Manias, "Phase Behavior of Temperature-Responsive Polymers with Tunable LCST: An Equation-of-State Approach", **Fluid Phase Equilibria**, 261, 69-78 (2007).
65. M.C. Costache, M.J. Heidecker, E. Manias, G. Camino, A. Frache, G. Beyer, R.K. Gupta, C.A. Wilkie, "The influence of carbon nanotubes, organically modified montmorillonites and layered double hydroxides on the thermal degradation and fire retardancy of polyethylene, ethylene-vinyl acetate copolymer and polystyrene", **Polymer**, 48, 6532-6545 (2007).
64. M.C. Costache, M.J. Heidecker, E. Manias, R.K. Gupta, C.A. Wilkie, "Benzimidazolium Surfactants for Modification of Clays for Use with Styrenic Polymers", **Polym. Degradation & Stability**, 92, 1753-1762 (2007).
63. M.C. Costache, M.J. Heidecker, E. Manias, C.A. Wilkie, "Preparation and characterization of poly(ethylene terephthalate)/clay nanocomposites by melt blending using thermally stable surfactants", **Polymers for Advanced Technologies**, 17, 764-771 (2006).
62. M.C. Costache, D. Wang, M.J. Heidecker, E. Manias, C.A. Wilkie, "The thermal degradation of poly(methyl methacrylate) nanocomposites with montmorillonite, layered double hydroxides and carbon nanotubes", **Polymers for Advanced Technologies**, 17, 272-280 (2006).
61. E. Bernardo, P. Colombo, E. Manias, "SiOC glass modified by montmorillonite clays", **Ceramics International**, 32, 679-686 (2006).
60. (*, \dagger) K. Efimenko, M. Rackaitis, E. Manias, A. Vaziri, L. Mahadevan, J. Genzer, "Nested self-similar wrinkling patterns in skins", **Nature Materials**, 4, 293-297 (2005).
59. F.M. Uhl, Q. Yao, H. Nakajima, E. Manias, C.A. Wilkie, "Expandable Graphite/ polyamide-6 nanocomposites." **Polymer Degradation and Stability**, 89, 70-84 (2005).
58. V. Kuppa, E. Manias, "Effect of Cation Exchange Capacity on the Structure and Dynamics of Poly(ethylene oxide) in Li+ Montmorillonite Nanocomposites." **J. Polym. Sci. B: Polym. Phys.**, 43, 3460-3477 (2005).
57. K. Efimenko, J.A. Crowe, E. Manias, D.W. Schwark, D.A. Fischer, J. Genzer, "Rapid formation of soft hydrophilic silicone elastomer surfaces", **Polymer**, 49, 9329-9341 (2005).
56. (\dagger) Z.M. Wang, H. Nakajima, E. Manias, T.C. Chung, "Exfoliated PP/Clay Nanocomposites Using Ammonium-Terminated PP as the Organic Modification for Montmorillonite." **Macromolecules** 36, 8919-8922 (2003).
55. K. Strawhecker, E. Manias, "Crystallization Behavior of Poly(ethylene oxide) in the Presence of Na+ Montmorillonite Fillers" **Chemistry of Materials**, 15, 844-849 (2003).
54. Z.M. Wang, T.C. Chung, J.W. Gilman, and E. Manias, "Melt-Processable syndiotactic-Polystyrene/montmorillonite Nanocomposites." **J. Polym.Sci. B: Polym. Phys.** 41, 3173-3187 (2003).
53. R. Xu, E. Manias, A.J. Snyder, J. Runt, "Low permeability biomedical polyurethane nanocomposites" **J. of Biomedical Materials Research**, 64A, 114-119 (2003).
52. V. Kuppa, T.M.D. Foley, E. Manias "Segmental dynamics of polymers in nanoscopic confinements, as probed by simulations of polymer/layered-silicate nanocomposites" **Eur. Phys. J. E** 12, 159-165 (2003).

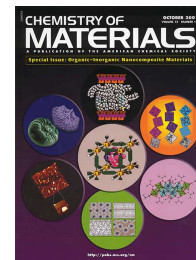
51. V. Kuppa, E. Manias “Dynamics of PEO in nanoscale confinements: A computer simulations perspective” **J. Chem. Phys.** *118*, 3421-3429 (2003).
50. M. Kanchanasopa, E. Manias, J. Runt “Solid-State Microstructure of Poly(L-lactide) and L-lactide/Meso-lactide Random Copolymers by Atomic Force Microscopy (AFM)” **Biomacromolecules**, *4*, 1203-1213 (2003).
49. V. Kuppa, S. Menakanit, R. Krishnamoorti, E. Manias “Simulation insights on the structure of nanoscopically confined poly(ethylene oxide)” **J. Polym. Sci. B: Polym. Phys.** *41*, 3285-3298 (2003).

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48. Z. Liang, M. Rackaitis, K. Li, E. Manias, Q. Wang “Micropatterning of Conducting Polymer Thin Films on Reactive Self-assembled Monolayers” **Chemistry of Materials**, *15*, 2699-2701 (2003).
47. M. Rackaitis, K. Strawhecker, E. Manias “Water Soluble Polymers with Tunable Temperature-Sensitivity: Solution Behavior” **J. Polym. Sci. B: Polym. Phys.**, *40*, 2339-2342 (2002).
46. J.Y. Dong, E. Manias, T.C. Chung “Functionalized syndiotactic polystyrene (s-PS) polymers prepared by the combination of Metallocene catalyst and Borane chemistry” **Macromolecules**, *35*, 3439-3447 (2002).
45. Y. Lu, Y. Hu, Z-M. Wang, E. Manias, T.C. Chung “Synthesis of new amphiphilic diblock copolymers containing poly(ethylene oxide) and poly(α -olefin)” **J. Polym. Sci. A: Polym. Chem.** *40*, 3416-3425 (2002).
44. E. Manias, J. Chen, X. Zhang “AFM study of Polymeric MEMS components with tunable stiffness”, **Applied Physics Letters**, *79*, 1700-1704, (2001.)
43. K. Strawhecker, E. Manias, “AFM studies of Poly(vinyl alcohol)/Clay Nanocomposites: Crystallization Behavior”, **Macromolecules**, *34*, 8475-8482 (2001).
42. (★, ‡) E. Manias, A. Touny, L. Wu, K. Strawhecker, B. Lu, T.C. Chung “Polypropylene/ Montmorillonite Nanocomposites: A Review of Synthetic Routes and Materials Properties”, **Chemistry of Materials**, *13*, 3516-3523 (2001). [REVIEW]

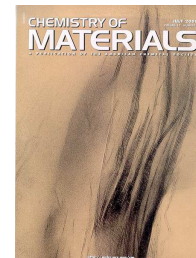
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41. H.J.M. Hanley, C.D. Muzny, D.L. Ho, C.J. Glinka, E. Manias, “A SANS study of organo-clay dispersions.” **Int. Journal of Thermophysics**, *22*, 1435-1448 (2001).
40. R. Xu, E. Manias, A.J. Snyder, J. Runt, “New Biomedical Poly(urethane urea)-Layered Silicate Nanocomposites”, **Macromolecules**, *34*, 337-339 (2001).
39. (★) E. Manias, V. Kuppa “Computer simulations of intercalated PS: The origins of fast segmental dynamics in 2nm-thin confined polymers” **Eur. Phys. J. E**, *8*, 193-199 (2002).
38. V. Kuppa, E. Manias “Computer simulations of PEO/Layered-Silicate Nanocomposites: 2. Lithium Dynamics” **Chemistry of Materials**, *14*, 2171-2175 (2002).
37. E. Manias, V. Kuppa, D.B. Zax, D-K. Yang, “Dynamics of nano-confined Polystyrene: A Molecular modeling study” **Colloids & Surfaces A**, *187-188*, 509-521 (2001).
36. E. Manias, V. Kuppa, “Molecular Simulations of ultra-confined polymers: Polystyrene intercalated in layered silicates.” **ACS Sympos. Ser.** *804*, 193-207 (2001).
35. (‡) E. Manias, H. Chen, R. Krishnamoorti, J. Genzer, E. J. Kramer, E. P. Giannelis, “Intercalation Kinetics of Long Polymers in 2 nm Confinements.” **Macromolecules**, *33*, 7955-7966 (2000).
34. D. B. Zax, D.-K. Yang, R. A. Santos, H. Hegemann, E. P. Giannelis and E. Manias, “Dynamical Heterogeneity in Nanoconfined Poly(styrene) Chains; NMR spectroscopy”, **J. Chem. Phys.** *112*, 2945-2951 (2000).

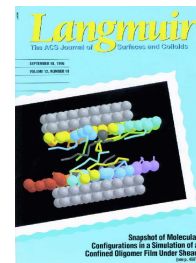
33. (★, †) E. Hackett, E. Manias, E.P. Giannelis, “Computer Simulation Studies of PEO/Layered-Silicate Nanocomposites”, **Chemistry of Materials**, 12, 2161-2167 (2000).
32. (★, †) J.W. Gilman, C.L. Jackson, A.B. Morgan, E. Manias, E.P. Giannelis, M. Wuthenow, D. Hilton and S.H. Phillips “Flammability Properties of Polymer/Layered-Silicate Nanocomposites. Polypropylene and Polystyrene Nanocomposites.” **Chemistry of Materials**, 12, 1866-1873 (2000).

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31. (★, †, Ψ) E. P. Giannelis, R. Krishnamoorti and E. Manias, “Polymer-Silicate Nanocomposites: Model Systems for Confined Polymers and Polymer Brushes,” **Advances in Polymer Science**, 138, 107-147 (1998). [REVIEW]
30. E. Hackett, E. Manias and E. P. Giannelis, “Molecular dynamics simulations of organically modified layered silicates.” **J. Chem. Phys.** 108, 7410-7415 (1998).
29. (★, †) K.E. Strawhecker, and E. Manias, “Structure and Properties of Poly(vinyl alcohol)/Na Montmorillonite Nanocomposites.”, **Chemistry of Materials**, 12, 2943-2949 (2000).
28. (★, †) S. H. Anastasiadis, K. Karatasos, G. Vlachos, E. P. Giannelis and E. Manias “Confinement-induced ultra-fast local dynamics in nanoscopically confined polymers”, **Phys. Rev. Lett.** 84, 915-919 (2000).
27. A. Subbotin, A. Semenov, G. Hadziioannou, G. ten Brinke, E. Manias, M. Doi “Theory of nonlinear dynamics of melted polymer layers.” **Macrom.Sym.** 121, 175-186 (1997).
26. (★, †) E. Manias, G. Hadziioannou, G. ten Brinke, “Inhomogeneities in sheared ultra-thin lubricating films; NEMD simulations”, **Langmuir**, 12, 4587-4593 (1996). [REVIEW]

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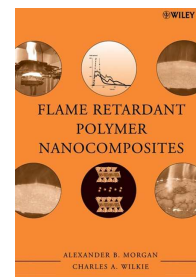


25. E. Manias, I. Bitsanis, G. Hadziioannou and G. ten Brinke, “On the nature of shear thinning in nanoscopically confined films.” **Europhysics Letters**, 33, 371-376 (1996).
24. E. Manias, G. Hadziioannou, G. ten Brinke, “Nanorheology of strongly confined oligomeric lubricants.” **J of Computer Aided Materials Design**, 3, 319-328 (1996).
23. A. Subbotin, A.N. Semenov, E. Manias, G. Hadziioannou and G. ten Brinke “Rheology of confined polymer melts under shear flow: strong adsorption limit.” **Macromolecules** 28, 1511-1515 (1995).
22. A. Subbotin, A.N. Semenov, E. Manias, G. Hadziioannou, and G. ten Brinke “Nonlinear rheology of melts under shear flow.” **Macromolecules** 28, 3898-3900 (1995).
21. E. Manias, A. Subbotin, G. Hadziioannou and G. ten Brinke, “Adsorption-desorption kinetics in nanoscopically confined oligomer films under shear.” **Molecular Physics**, 85, 1017-1036 (1995).
20. E. Manias, G. Hadziioannou and G. ten Brinke, “Effect of shear on the desorption of oligomers in nanoscopically confined films.” **J. Chem. Phys.**, 101, 1721-1724 (1994).
19. V. Koutsos, E. Manias, G. ten Brinke and G. Hadziioannou, “Atomic force microscopy (AFM) and real atomic resolution.” **Europhysics Letters**, 26, 103-107 (1994).
18. E. Manias, G. Hadziioannou, I. Bitsanis and G. ten Brinke, “Stick and slip behaviour of confined oligomer melts under shear.” **Europhysics Letters**, 24, 99-104 (1993).

[Selected Book Chapters, from a total of 21]

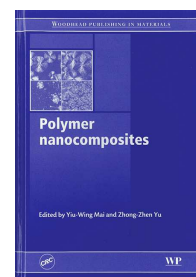
17. E. Manias, G. Polizos, H. Nakajima, and M.J. Heidecker, "Fundamentals of Polymer Nanocomposite Technology", in: "*Flame Retardant Polymer Nanocomposites*", editors: C. Wilkie, A. Morgan, Wiley & Sons, Hoboken, NJ (2007).

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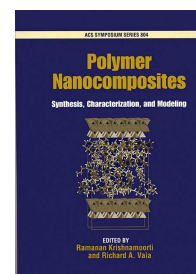
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Citation Analysis²

Summary	Citations	h-index	m-factor	(date)	Pubs cited more than		
					>250	>100	>50
ISI Web of Sci	4589	30	1.92	(08/08/2011)	4	11	17
Google Scholar	5604	33	2.11	(08/08/2011)	5	12	21
Scopus	5089	33	2.11	(09/09/2011)	5	12	17

²Up-to-date ISI-citations in: <http://www.researcherid.com/citation/A-7557-2011>; **Google Scholar** includes book chapters and some conference proceedings (both as cited items and as citing papers, search string "polymer author:"e manias"); **Scopus** data are under both "Journals" and "More" (search under AU-ID: 7005719367 and AU: manias, e); **ISI-Web of Science** indexes the smallest number of items (advanced search string: "AU=(manias) AND AD=(penn OR cornell OR groningen OR NIST)").

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Invited Presentations,³ Major Conferences & Venues

[Invited Only, Selected Conferences/Workshops]

66. E. Manias, "Selective Dispersion of nanofillers in Immiscible Polymer Blends", **Gordon Research Conference** on Composites, Invited Speaker, (**Plenary**), Ventura, CA, Jan.2010.
65. E. Manias, "Polymer Nanocomposite Technology, Fundamentals of Barrier", TAPPI Flexible Packaging Summit (PLACE 09) and Nanotechnology Workshop (**Keynote**), Columbus, OH, 2009.
64. E. Manias, "Polyethylene/Clay Nanocomposites: Designing High-Performance beyond FR", International Symposium Honoring Charles A. Wilkie, (**Plenary**), Milwaukee, WI, 2009.
63. Z.K Liu, L-Q. Chen, C.M. Colina, V.H. Crespi, T. DeRoy, and E. Manias, "Computational Materials Science and Engineering curriculum at Penn State", TMS Meeting, San Francisco; CA, 2009.
62. E. Manias, "Functional Polymer Nanocomposites: Adventures in the Nano-world", Departmental Seminar, Dept of Chemistry, Marquette University, 2009.
61. E. Manias, "Tailored Polyolefin/layered-silicate Nanocomposites with Novel Functionalities. Nanotechnology at ton quantities?", SPE National Meeting and "Polyolefins 09" Conference, Houston, TX, 2009.
60. E. Manias, "Temporal and Spatial Distributions of Water in Ion-Containing Perfluorosulfonic Polymers", APS National Meeting, New Orleans, 2008.
59. E. Manias, "Polymer/Inorganic Nanocomposites with Novel Functionalities", CSIC Innovations in Nanotechnology (**Plenary, Award Presentation**), Sevilla, Spain, 2008.
58. I.A. Bitsanis, E. Manias, A.N. Rissanou, "Collapse transitions in thermosensitive alternating copolymers: A Monte Carlo study", International Fine Particles Research Institute, AGM Meeting, Hersonissos, Greece, 2008.
57. E. Manias, "Advances in the Modeling of Smart Polymers and Nanostructures", Intern. Conf. on Computation and Comp. Science – ICCMSE-07, (**Keynote**) Corfu, Greece, 2007.
56. E. Manias, M.J. Heidecker, J-Y. Chung, J. Mason, "Selective dispersion of nanofillers in PET/PC blends,tailored by thermodynamics of mixing and melt-processing conditions", ACS National Meeting, Chicago, IL, 2007.
55. E. Manias, G. Polizos, V. Tomer, C. Randall, "Designed polymer nanocomposites for energy storage applications", AFOSR Workshop on Dielectrics, WPAFB, Dayton, OH, 2007.
54. R.A. Vaia, E. Manias, et.al, "Polymer Nanocomposites with Prescribed Morphology: Going beyond Nanoparticle-Filled Polymers", ACS National Meeting, Chicago, IL, 2007.
53. E. Manias, "Temperature-Responsive Polymers and Surfaces", SkiHut workshop on Biological Materials, Cornell U, Ithaca, NY, 2006.
52. E. Manias, M.J. Heidecker, G. Polizos, "Limitations of mechanical improvement for high-stiffness polymers layered-inorganic nanocomposites", TMS National Meeting, San Antonio, TX, 2006.
51. H. Koerner, E. Manias, R.A. Vaia, "3-D Morphology Control of Polymer Nanocomposites Using Electric Fields", TMS National Meeting, San Antonio, TX, 2006.
50. E. Manias "Polymer-Based Nanocomposites: Opportunities Relevant to Packaging in Food Packaging Innovations: The Science, Current Research and Future Research Needs", IFT Food Packaging Research Summit, (**Plenary**) Baltimore, MD, 2006.
49. E. Manias et.al, "Polymer Nanocomposites: Qualitative Changes in Polymer Matrices upon Reinforcement with Inorganic Nanoparticles", TMS PA NanoMaterials Commercialization Pittsburgh; PA, 2006.
48. E. Manias, "Polymer/Inorganic nanocomposites: Hype or Hypermaterials?", Carbon Workshop, State College, PA, 2006.
47. E. Manias, "Tunable Temperature-responsive Polymers and their Combinatorial Brushes", MRS meeting, Boston, MA, 2006.

³A large number (more than 100) of invited seminars are omitted: For example most of the invited talks co-authored by Manias and presented by collaborators, as well as almost all invited seminars by Manias as a single-presenter to venues like Academic Departments, Universities (US and abroad), National Organizations/Labs (DoD, NIST), etc...

46. E. Manias, "Molecular Dynamics simulations of PS and PEO in 1nm slit pores" Symposium on "Polymers in Confined Environments", ACS National Meeting, San Diego; CA, 2005.
45. E. Manias, "Limitations on the Possible Mechanical Improvements for Polymer/Clay Nanocomposites", Symposium on "Polymer/Inorganic nanocomposites", ACS National Meeting, (**Keynote** for the: "Mechanical Properties" session) San Diego; CA, 2005.
44. K. Anderson, B Farmer, R. Vaia, E. Manias, "Advances in Molecular Simulations of Polymer Inorganic Nanocomposites", Symposium on "Polymer/Inorganic nanocomposites", ACS National Meeting, San Diego; CA (Mar. 2005)
43. E. Manias, "Dielectric Spectroscopy and Computer Simulations studies of Polymers in nanoscopic Confinements", Div. of Non-Metallic materials, MLBP/AFRL, WPAFB, OH, 2005.
42. E. Manias, "Design & Realization of Temperature Responsive Water-Soluble Polymers with tunable onset of Response", Dillon Medal Symposium (Organizer: Composto) APS National Meeting (Dillon Medal session), Los Angeles; CA 2005.
41. E. Manias, "State of the Art of Polymer/Clay and Polymer/Inorganic Nanocomposites," 32nd International Conference of the Israel Polymers and Plastics Society, (**Keynote** and **Plenary**) Tel-Aviv, ISRAEL, 2004.
40. E. Manias, "Segmental Dynamics of Polymers in Extreme (1-2nm Slit Pore) Confinements", 56th SE Regional ACS Meeting, Research Triangle Park, NC, 2004.
39. E. Manias, "Polymer/Inorganic Nanocomposites for Biomedical Applications," TMS National Meeting, Charlotte, 2004.
38. E. Manias, M. Rackaitis, "Temperature-Responsive Polymers for Smart-Drug-Delivery Systems and Devices," TMS National Meeting, Charlotte, 2004.
37. E. Manias, "An Overview of the Polymer/Clay Nanocomposites, Challenges and Opportunities for Industrial Applications," National Starch & Co., Bridgewater, NJ, 2004.
36. E. Manias, "Temperature-Responsive Polymers in Aqueous Solutions," Invited Lectures on Nanotechnology, Materials & Manufacturing Dir., AFRL, WPAFB, OH, 2004.
35. E. Manias, H. Nakajima, "Effect of Inorganic Nanoparticles on the Crystallization of Polymers, An Overview," Hoffman Memorial Symposium, ACS National Meeting, Philadelphia, 2004.
34. E. Manias, "Novel Functionalizations for Inorganic Particles as Fillers in Polymer Nanocomposites," Polymer Additives 2003, San Francisco, 2003.
33. E. Manias et al, "Effect of nm-Thin Inorganic Layered Fillers on the Crystallization of Polymers," MRS National Meeting, Boston, 2003.
32. E. Manias et al, "Multifunctional Polymer/Inorganic Nanocomposites," 5th International Conference on Intelligent Materials University Park, 2003.
31. E. Manias, "Crystallization Behavior of Polymers in Presence of Inorganic Nanofillers," American Chemical Society National Meeting, New Orleans, 2003.
30. E. Manias, "New Perspectives of the Nature of Polymers in Nanoscopic Confinements," 2nd Intern.Workshop on Dynamics in Confinements, (**Plenary**), Grenoble, FRANCE, 2003.
29. E. Manias, "An Overview of New AFM Techniques for Polymer Interface Evaluation," Materials Research Society National Meeting, Boston, 2002.
28. E. Manias, "Advances in Polymer/Silicate Nanocomposites," Amer. Soc. for Composites, National Meeting, (**Plenary, Award Lecture**), West Lafayette, IN, 2002.
27. E. Manias, "Novel Functionalizations of Inorganic Fillers for Nanocomposite Formation," Clay Mineral Society South. Section, Gonzales, TX, 2002.
26. E. Manias, "The Role of nm-Sized Inorganic Fillers as Flame Retardants in Polymers," Fire Retardant Chemicals Assoc. National Meeting, San Antonio, TX, 2002.
25. E. Manias, "Concurrent Change of Materials Properties in Polymer/Clay Nanocomposites," American Society for Composites, NanoTechnology Symposium, Blacksburg, VA, 2001.
24. E. Manias, "Computer Simulations of Nanoscopically Confined Polymer Electrolytes" American Chemical Society National Meeting, PMSE division, Chicago, 2001.
23. E. Manias, "Mobility of Long Polymers in 2-nm Slit-Pores," American Chemical Society National Meeting of the Colloids Division, Pittsburgh, PA, 2001.
22. E. Manias, "The State of the Art Science of Polymer/Clay Nanocomposites", "Nanocomposites 2001", (**Keynote**), Chicago, 2001.

21. E. Manias, V. Kuppa "Molecular Simulations of Nanoscopically Confined Polystyrene TRI International Symposium on Confined Systems, Princeton, NJ, 2000.
20. E. Manias, "Polypropylene/Silicate Nanocomposites, Synthetic Routes and Materials Properties" American Chemical Society National meeting, (**Keynote**), Div. of Polymers, San Francisco, CA, 2000.
19. E. Manias, "Confinement-Induced Segmental Dynamics of Polymers in 2nm Slits", American Chemical Society National Meeting, Div. of PMSE, San Francisco, CA, 2000.
18. J. Gilman, C.L. Jackson, A.B. Morgan, R. Harris, E. Manias, et al "Flammability Properties of Polymer-Layered-Silicate Nanocomposites" American Chemical Society National Meeting, Div. of PMSE, San Francisco, CA, 2000.
17. S. Anastasiadis, Karatasos, K.; Vlachos, G.; Manias, E.; Giannelis, E.P., "Local Dynamics under Severe Confinement in Nanocomposites," American Chemical Society National Meeting, Div. of Polymers, San Francisco, CA, 2000.
16. H. Hanley, C. Muzny, D. Ho, C. Glinka, E. Manias, "A SANS Study of Toluene Dispersed Nanometer Thin Inorganic Layers," NIST International Symp. on Neutron Scattering, Gaithersburg, MD, 2000.
15. E. Manias, H. Chen, E. Giannelis, "Polymer Wetting in 2nm-Wide Slit Pores" American Chemical Society National Meeting, Div. of Phys. Chem, Boston, MA, 1999.
14. E. Manias, D. Zax, A.Z. Panagiotopoulos, E.P. Giannelis, "Polymer Electrolytes in nm Confinements," Clay Mineral Society National Meeting, West Lafayette, IN, 1999.
13. E. Manias, "The Nature of Nanometer-Thick Lubricating Films," Materials Research Society(MRS) National Meeting, San Francisco, CA, 1999.
12. E. Manias, D.B. Zax, E.P. Giannelis, "Segmental Dynamics of Polystyrene in 2nm Thin Slit-Pores; NMR and Molecular Modeling," American Physical Society National Meeting, Los Angeles; CA, 1998.
11. E. Manias, E.J. Kramer, E.P. Giannelis, "Diffusion of High Molecular Weight Polymers in nm-Thin Slit-Pores, American Chemical Society National Meeting, Boston; MA, 1998.
10. E. Manias, E.P. Giannelis, "PEO/Na Montmorillonite as a Novel Solid-State Polymer Electrolyte," Materials Research Society National Meeting, Boston; MA, 1997.
9. E. Manias, "Molecular Modeling of Nanoscopically Confined Polymer Films under Shear Flow," Computer Modeling for Industry, Santa Barbara; CA, 1996.
8. E. Manias, "Interfacial and Internal Slippage in Nanoscopically Confined Polymers under High Shear Flow," American Chemical Society National Meeting, Anaheim; CA, 1995.
7. E. Manias, "Inhomogeneities in Nanoscopically Confined Polymers under Flow," Dutch Physics Society (FOM) Statistical Physics, Lunteren Conference Centre; NETHERLANDS, 1995.
6. E. Manias, "NEMD Computer Simulations of Boundary Lubrication: The origin of Shear-Thinning under Extreme Confinements," Dutch Chemical Society (SON) Macromolecules, Lunteren Conference Centre; NETHERLANDS, 1995.
5. E. Manias, "Slip and Stick in Nanoscopically Confined Films under Shear," Ecole de Physique Theoretique, on "Molecular confined liquids" Les Houches; FRANCE, 1994.
4. E. Manias, "Structure and Dynamics of Ultra-Confined Oligomers under Flow," Dutch Chemical Society (SON) Macromolecules, Lunteren Conference Centre; NETHERLANDS, 1994.
3. E. Manias, "True Atomic Resolution in Contact AFM," German Physical Society National Meeting, Munster; GERMANY, 1994.
2. E. Manias, "Overview of Boundary Lubrication Polymers," Materials Science Society (MSC) Biannual Meeting, Vlieland; NETHERLANDS, 1993.
1. E. Manias, "NEMD Simulation of Polymer under Shear in Extreme Confinements," 3rd Euroconference on Polymers, Thessaloniki; GREECE, 1993.

Selected Professional Associations

ACS	American Chemical Society	PPS	Polymer Processing Society
APS	American Physical Society	TMS	The Minerals, Metals & Materials Society
MRS	Materials Research Society	ASC	American Society for Composites