

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 (recent: 2006-12, PI of 21 funded projects, ca. \$2.6M): Sumitomo Chemical–JAPAN [2 projects], Kraft Foods Global [5], Oscar Mayer, Bayer Polymers, Bayer MaterialScience [3], Coca-Cola, PolySet, Air Products [2], Saint-Gobain–USA [2], Carmel Olefins–ISRAEL, International Fuel Cells, UTC.

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–
- Distinguished Professor of the Honors College, Penn State University, 2013–
- Distinguished Scholar in Nanotechnology of Materials, Kingdom of Saudi Arabia, 2012
- “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
Felipe Salcedo Galan	“High-performance polyolefin-blend/inorganic composites”, Ph.D. 2012
Hungoo Cho ³	“Development of high-T polymer membranes for fuel cells”, [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 T _g 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”, 2010-11
Panos Xidas	“Thermoset/carbon-nanostructures conductive composites”, 2011-

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, 12/31/13): Total Citations: **6228**; h-Index: **35**; m-factor: **1.97**.

90. G. Polizos, R.A. Vaia, H. Koerner, E. Manias, "Dynamics of Amphiphilic Surfactants Confined in Montmorillonite Slits with Different Cation Exchange Capacities", **J. Physical Chemistry B**, *117*, 1366-13678 (2013).
89. Z. Matusinovic, R. Shukla, E. Manias, C.G. Hogshead, C.A. Wilkie "Polystyrene/MoS₂ and poly(methyl methacrylate)/MoS₂ nanocomposites with enhanced thermal stability", **Polymer Degradation and Stability**, *97*, 2481-2486 (2012).
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).

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

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).
71. (*, Ψ) 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].
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. (*, \natural) 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. (\natural) 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. (*, Ψ) 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).
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. (*, \dagger , Ψ) 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]**
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. (\dagger) 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. (*, \dagger) E. Hackett, E. Manias, E.P. Giannelis, "Computer Simulation Studies of PEO/Layered-Silicate Nanocomposites", **Chemistry of Materials**, 12, 2161-2167 (2000).
32. (*, \dagger , Ψ) 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).

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. (★, †, Ψ) E. Manias, G. Hadziioannou, G. ten Brinke, "Inhomogeneities in sheared ultra-thin lubricating films; NEMD simulations", **Langmuir**, *12*, 4587-4593 (1996). [REVIEW]
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).
16. E. Manias, A.M. Kisselev, "Equation-of-State Model for Temperature-Responsive Polymers with Tunable Response Onset", in: "*Lectures Series on Computer and Computational Sciences*", editors: T. Simos, G. Maroulis, VSP Brill, Leiden, the Netherlands (2007).
15. E. Manias, G. Polizos, and M.J. Heidecker, "Limitations of mechanical improvement for high-stiffness polymers layered-inorganic nanocomposites", in: "*Polymer Nanocomposites*", editor: D. Misra, TMS ed., Warrendale, PA (2006).
14. K.E. Strawhecker, E. Manias, "Nanocomposites based on water soluble polymers and unmodified smectite clays", in: "*Polymer nanocomposites*", editors: Y Mai and Z Yu, Woodhead Publishing Ltd, Cambridge, UK (2006).
13. E. Manias, "Novel Organic Modifications for Silicates and Clays for Nanocomposite Formation" in: "*Additives 2003*" editor: A. Golovoy, Exec. Conf, San Francisco, CA (2003).
12. E. Manias, A.Z. Panagiotopoulos, D.B. Zax, E.P. Giannelis, "Structure and Dynamics of Nanocomposite Polymer Electrolytes" in: "*CMS Workshop Lectures*" vol. 10, 185-205, editor: Allanah Fitch, CMS, W. Lafayette, IN (2002).
11. E. Manias, "The Role of Nanometer-Thin Layered Inorganic Fillers as Flame Retardants in Polymers" in: "*Advances in Fire Retardant Chemicals*", FRCA, Lancaster, PA (2002).
10. E. Manias, V. Kuppala, "Molecular Simulations of Ultra-Confined Polymers. Polystyrene Intercalated in Layered Silicates" in: "*Polymer Nanocomposites: Synthesis, Characterization, and Modeling*" chapter 12, pp 193-207, Oxford University Press, New York, NY (2001).

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Citation Analysis

Summary	Citations	h-index	m-factor	(date)	Pubs cited more than		
					>250	>100	>50
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Google Scholar	8241	39	2.16	(12/31/2013)	7	16	37
Scopus	6089	38	2.10	(12/31/2013)	7	14	35