

Curriculum vitae of Dr. Pralay Maiti



Present position

Professor & Coordinator

Work Address

School of Materials Science and Technology
Indian Institute of Technology (Banaras Hindu University)
Varanasi 221 005
India
Email: pmaiti.mst@itbhu.ac.in or pralay_maiti@yahoo.com
Tel & Fax: +(91)-542-236 8707 (Off.); 09935141321 (Mob)

Personal

Date of Birth: 12th June, 1968
Nationality : Indian
Sex & Marital status: Male & Married

Research Expertise

Period: December, 2004 – till date
IIT (BHU), Varanasi 221 005

Position: Professor

- Nanobiohybrids for drug delivery and tissue engineering
- Polymeric Gels & hybrids
- Polymers from renewable resources and controlled Biodegradation
- Self Assembly and controlled drug delivery
- Radiation resistant polymer

Period: May, 2004 – November, 2004
Central Leather Research Institute, Adyar, Chennai 600 020

Position: Quick Hire Scientist

- Polyurethane Gel
- Biodegradable Polymer
- Polymer / clay Nanocomposites

Period: March, 2002 – April, 2004
Cornell University, Material Science and Engineering, Ithaca, NY 14853, U.S.A

Position: Visiting Scientist

- Polymer/layered silicate nanocomposites
- Biodegradation of different Polyesters
- Structure, Rheology and crystallization of polymer from renewable resources

Period: October, 1999 – March, 2002
Toyota Technological Institute, 2-12-1 Hisakata, Tempaku Nagoya 468-8511, Japan

Position: Post-Doctorate Fellow

- Structure, morphology and mechanical properties of polymer / clay nanocomposite
- Biodegradable polymer / clay nanocomposites and crystallization behavior
- Rheology of novel cycloolefin copolymers
- Elongational Flow Opto-Rheometry (EFOR)

Period: July, 1997 - September, 1999

Venture Business Laboratory, Hiroshima University, 2-313 Kagamiyama, Higashi Hiroshima 739-8527, Japan

Position: Lecturer/COE Researcher

- Crystallization and morphology of polyolefins at high temperature
- Structure/property relationship (effect of tacticity) of polyolefins
- Lamellar thickening, nucleation and growth rate of isotactic polypropylene

Period: May, 1996 - 7July, 1997

Polymer Science Unit, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 700 032, India

Position: Research Associate

- Synthesis and characterization of liquid crystalline polymer containing hetero atom
- Kinetic immiscibility and morphology of polymer blends

Total Citation : ~4125

h-index : 23

Av. citation per paper: ~ 45

LIST OF PUBLICATIONS:

Papers in Peer-reviewed Journals

- 1) Electron beam induced piezoelectric phase in PVDF nanohybrid : The effect of at the molecular level
Vimal K. Tiwari, Madhab C. Rath, Sisir K. Sarkar, Vijay K. Patel, Biswajit Ray, Biswajit Maiti and Pralay Maiti
Polymer International (in press)
- 2) Synthesis, characterization, and solution behavior of well-defined double hydrophilic linear amphiphilic poly(N-isopropylacrylamide)-b-poly(ϵ -caprolactone)-b-poly(N-isopropylacrylamide) triblock copolymers
Avnish Kumar Mishra, Niraj Kumar Vishwakarma, Vijay Kumar Patel, Chandra Sekhar Biswas, Tapas Kumar Paira, Tarun Kumar Mandal, Pralay Maiti, Biswajit Ray
Colloid and Polymer Science (in press)
- 3) Bone cement based nanohybrid as super biomaterial for bone healing
Govinda Kapusetti, Nira Misra, Vakil Singh, Swati Srivastava, Partha Roy, Kausik Dana and Pralay Maiti
Journal of Materials Chemistry B 2(25), 3984-3997 (2014)
- 4) Mechanical and dielectric properties of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ and La doped $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ Poly(vinylidene fluoride) composites
Anshuman Srivastava, Pralay Maiti, Devendra Kumar and Om Parkash
Composites Science and Technology 93, 83-89 (2014)
- 5) Self-assembled Aliphatic Chain Extended Polyurethane Nanobiohybrids: Emerging Hemocompatible Biomaterials for Sustained Drug Delivery
Abhinay Mishra, Sunil K. Singh, Debabrata Dash, Vinod K. Aswal, Biswajit Maiti, Manjusri Misra and Pralay Maiti
Acta Biomaterialia 10, 2133-2146 (2014)
- 6) 5-Fluorouracil loaded poly(lactic acid)-poly(caprolactone) hybrid scaffold: potential chemotherapeutic implant
Kamal K. Gupta, Namrata Pal, Pradeep K. Mishra, Pradeep Srivastava, Sujata Mohanty, Pralay Maiti
Journal of Biomedical Materials Research: Part A 102A, 2600-2612 (2014)
- 7) Nanoparticle and Process Induced Super Toughened Piezoelectric Hybrid Materials: The Effect of Stretching on Filled System

- Vimal Tiwari, Amit Prasad, Vaishali Singh, Karun Jana, Manjusri Misra, C. Durga Prasad, Pralay Maiti
Macromolecules 46, 5595–5603 (2013)
- 8) CNT Induced β -phase in Polylactide : Unique Crystallization, Biodegradation and Biocompatibility"
Narendra K. Singh, Sunil K. Singh, Debabrata Dash, Prasad Gonugunta, Manjusri Misra, Pralay Maiti
Journal of Physical Chemistry C 117, 10163-10174 (2013)
- 9) Layered double hydroxide induced advancement in joint prosthesis using bone cement: The effect of metal substitution
Govinda Kapusetti, Raghvendra Raman Mishra, Swati Srivastava, Nira Misra, Vakil Singh, Partha Roy, Santhosh Kumar Singh, Chanchal Chakraborty, Sudip Malik, Pralay Maiti
Journal of Materials Chemistry B 1, 2275-2288 (2013)
- 10) Nanochannel Conduction in Piezoelectric Polymeric Membrane using Swift Heavy Ions and Nanoclay
Karun Kumar Jana, Niraj Kumar Vishwakarma, Biswajit Ray, Saif A. Khan, Devesh K. Avasthi, Manjusri Misra and Pralay Maiti
RSC Advances 3, 6147-6159 (2013)
- 11) Development of ciprofloxacin hydrochloride loaded poly(ethylene glycol)/chitosan scaffold as wound dressing
Mukty Sinha, Rathindra M. Banik, Chandana Haldar, Pralay Maiti
Journal of Porous Materials 20, 799-807 (2013)
- 12) Synthesis, Characterization, and application of novel Amphiphilic Poly(D- gluconamidoethyl methacrylate)-b-polyurethane-b- poly(D-gluconamidoethyl methacrylate) triblock Copolymers
Niraj Kumar Vishwakarma, Avnish Kumar Mishra, Abhinay Mishra, Tapas Paira, Vijay Kumar Patel, Chandra Sekhar Biswas, Tarun Kumar Mandal, Pralay Maiti and Biswajit Ray
Journal of Applied Polymer Science 128(3), 1369-1380 (2013)
- 13) Synthesis of Alkyne-terminated Xanthate RAFT Agents and Their Uses for the Controlled Radical Polymerization of N-Vinylpyrrolidone and the Synthesis of Its Block Copolymer Using Click Chemistry
Vijay Kumar Patel, Niraj Kumar Vishwakarma, Avnish Kumar Mishra, Chandra Sekhar Biswas, Pralay Maiti, Biswajit Ray
Journal of Applied Polymer Science 127(6), 4305-4317 (2013)
- 14) Enzymatic Degradation of Polylactide/Layered Silicate Nanocomposites: Effect of Organic Modifiers
Narendra. K. Singh, Biswa Pratim Das Purkayastha, Muktikanta Panigrahi, Rajeev K. Gautam, Rathindra M. Banik, Pralay Maiti
Journal of Applied Polymer Science 127(4), 2465-2474 (2013)
- 15) Hydrothermal in-situ preparation of TiO₂ particles onto poly(lactic acid) electrospun nanofibres
Kamal K. Gupta, Pradeep K. Mishra, Pradeep Srivastava, Mayank Gangwar, Gopal Nath, Pralay Maiti
Applied Surface Science 264, 375– 382 (2013)
- 16) Swift Heavy Ions Induced Controlled Biodegradation of Poly(ϵ -caprolactone) Nanohybrids
Vimal K. Tiwari, Narendra K. Singh, Devesh K. Avasthi, Manjusri Misra, and Pralay Maiti
Radiation Physics and Chemistry 82, 92–99 (2013)
- 17) Synthesis of well-defined amphiphilic poly(D,L-lactide)-b-poly(N- vinylpyrrolidone) block copolymers using ROP and xanthate-mediated -RAFT polymerization
K. Ramesh, Avnish Kumar Mishra, Vijay Kumar Patel, Niraj Kumar Vishwakarma, Chandra Sekhar Biswas, Tapas Kumar Paira, Tarun Kumar Mandal, Pralay Maiti, Nira Misra, Biswajit Ray
Polymer 53, 5743-5753 (2012)
- 18) Polycaprolactone composites with TiO₂ for Potential Nanobiomaterials: Tunable properties using different phases
Kamal K. Gupta, Akshay Kundan, Pradeep K. Mishra, Pradeep Srivastava, Sujata Mohanty, Narendra K. Singh, Abhinay Mishra, Pralay Maiti
Physical Chemistry Chemical Physics 14, 12844–12853 (2012)
- 19) Nanostructure Controlled Anti-Cancer drug delivery using Poly(ϵ -caprolactone) based Nanohybrids
Narendra K. Singh, Sunil K. Singh, Debabrata Dash, Biswa Pratim Das Purkayastha, Jagat K. Roy, and Pralay Maiti
Journal of Materials Chemistry 22, 17853-17863 (2012)

- 20) Bone cement / layered double hydroxide nanocomposites as potential biomaterials for joint implant
Govinda Kapusetti, Nira Misra, Vakil Singh, R.K. Kushwaha, Pralay Maiti
Journal of Biomedical Materials Research: Part A 100A, 3363–3373 (2012)
- 21) Silicon carbide-induced piezoelectric β -phase in poly(vinylidene fluoride) and its properties
Jay Sheth, Devendra Kumar, Vimal K. Tiwari, Pralay Maiti
Journal of Materials Research 27, 1838-1845 (2012)
- 22) Nanoparticle Controlled Self-Assembly in Varying Chain Extended Polyurethanes as Potential Nanobiomaterials
Abhinay Mishra, Biswa Pratim Das Purkayastha, Jagat K. Roy, Vinod K. Aswal, and Pralay Maiti
Journal of Physical Chemistry : C 116, 2260-2270 (2012)
- 23) Conducting Nano-channels in Induced Piezoelectric Polymeric Matrix Using Swift Heavy Ions and Subsequent Functionalization
Karun Kumar Jana, Biswajit Ray, Devesh K. Avasthi and Pralay Maiti
Journal of Materials Chemistry 22, 3955-3964 (2012)
- 24) Nanoparticle Induced Piezoelectric, Super Toughened, Radiation Resistant, Multi-functional Nanohybrids
Vimal K. Tiwari, T. Shripathi, N. P. Lalla and Pralay Maiti
Nanoscale 4, 167-175 (2012)
- 25) Tuned Biodegradation using Poly(hydroxybutyrate-co-valerate) Nanobiohybrids: Emerging Biomaterials for Tissue Engineering and Drug Delivery
Narendra K. Singh, Biswa Pratim Das Purkayastha, Jagat K. Roy, Rathindra M. Banik, Prasad Gonugunta, Manjusri Misra, and Pralay Maiti
Journal of Materials Chemistry 21, 15919-15927 (2011)
- 26) Effects of Tacticity and Molecular Weight of Poly(*N*-isopropylacrylamide) on Its Glass Transition Temperature
Chandra Sekhar Biswas, Vijay Kumar Patel, Niraj Kumar Vishwakarma, Vimal K. Tiwari, Biswajit Maiti, Pralay Maiti, Masami Kamigaito, Yoshio Okamoto, and Biswajit Ray
Macromolecules 44(14), 5822-5824 (2011)
- 27) Swift heavy Ion Induced Ordering and Piezoelectric β -phase in Poly(vinylidene fluoride)
Vimal K. Tiwari, Devesh K. Avasthi and Pralay Maiti
ACS Applied Materials and Interfaces 3, 1398-1401 (2011)
- 28) Highly Efficient Polyurethane Ionomer Corrosion Inhibitor: The Effect of Chain Structure
Sitashree Banerjee, Abhinay Mishra, Madan M. Singh, Biswajit Maiti, Biswajit Ray and Pralay Maiti
RSC Advances 1, 199-210 (2011)
- 29) Thermoreversible Gelation of Poly(vinylidene fluoride-co-chlorotrifluoro ethylene): Structure, Morphology, Thermodynamics and Theoretical Prediction
P. Jaya Prakash Yadav, B. Maiti, B. Ghorai, P.U. Sastry; A. Patra, V.K. Aswal, and Pralay Maiti
Macromolecules 44, 3029-3038 (2011)
- 30) Aromatic Polyurethanes: The Effect of Hard Segment and Chain Structure on the Properties
Abhinay Mishra and Pralay Maiti
Journal of Polymer Engineering 31, 253-259 (2011)
- 31) Toughening of bone cement using nanoparticle : The effect of solvent
Nira Misra, Govinda Kapusetti, Shilpa Jaiswal and Pralay Maiti
Journal of Applied Polymer Science 121, 1203-1213 (2011)
- 32) Morphology of Polyurethanes at Various Length Scale: The Influence of Chain Structure
Abhinay Mishra and Pralay Maiti
Journal of Applied Polymer Science 120, 3546-3555 (2011)
- 33) Effects of Nanoclay and Polyurethanes on Inhibition of Mild Steel Corrosion
Sitashree Banerjee, Abhinay Mishra, Madan M. Singh and Pralay Maiti
Journal of Nanoscience and Nanotechnology 11, 966-978 (2011)
- 34) Chitosan Nanoparticles of 5-Fluorouracil for Ophthalmic Delivery: Characterization, *in-Vitro* and *in-Vivo* Study

- Ramesh Chand Nagarwal, Paras Nath Singh, Shri Kant, Pralay Maiti, and Jayanta Kumar Pandit
Chemical & Pharmaceutical Bulletin 59(2), 272-278, (2011)
- 35) Chitosan Coated PLA Nanoparticles for Ophthalmic Delivery: Characterization, In-Vitro and In-Vivo Study in Rabbit Eye
Ramesh Chand Nagarwal, Paras Nath Singh, Shri Kant, Pralay Maiti, and Jayanta Kumar Pandit
Journal of Biomedical Nanotechnology 6(6), 648-657, (2010)
- 36) Tunable Properties of Self-assembled Polyurethane Using Two-Dimensional Nanoparticles: Potential Nano-Biohybrid
Abhinay Mishra, Biswa Pratim Das Purkayastha, Jagat K. Roy, Vinod K. Aswal, and Pralay Maiti
Macromolecules 43(23), 9928-9936 (2010)
- 37) Solvent Retention, Thermodynamics, Rheology and Small Angle X-ray Scattering Studies on Thermoreversible Poly(vinylidene fluoride) Gels
P. Jaya Prakash Yadav, A.K. Patra, P.U. Sastry, Binay K. Ghorai and Pralay Maiti
Journal of Physical Chemistry : B 114(35), 11420-11429 (2010)
- 38) Nanoparticles Induced Controlled Biodegradation and its Mechanism in Poly(ϵ -caprolactone)
Narendra K. Singh, Biswapratim Das Purkayastha, Jagat K. Roy, Rathindra M. Banik, Madhu Yashpal, Gajendra Singh, Sudip Malik, and Pralay Maiti
ACS Applied Materials and Interfaces 2(1), 69-81 (2010)
- 39) Nanostructure to Microstructure Self-Assembly of Aliphatic Polyurethanes: The Effect on Mechanical Properties
Abhinay Mishra, Vinod K. Aswal, and Pralay Maiti
Journal of Physical Chemistry : B 114(16), 5292-5300 (2010)
- 40) Specific interactions in partially miscible Polycarbonate (PC)/Poly (methyl methacrylate) (PMMA) Blends
A K. Singh, R. K Mishra, R. Prakash, Pralay Maiti, A. K. Singh, D. Pandey
Chemical Physics Letters 486, 32-36 (2010)
- 41) Improved Biodegradation and Thermal Properties of Poly(lactic acid)/Layered Silicate Nanocomposites
Muktikanta Panigrahi, Narendra K. Singh, Rajeev K. Gautam, Rathindra M. Banik, Pralay Maiti
Composite Interfaces 17, 143-158 (2010)
- 42) Nanoparticles Induced Biodegradation of Poly(ϵ -caprolactone)
Narendra K. Singh, R M. Banik, P.K. Kulriya, D.K. Avasthi, S. Malik, and Pralay Maiti
Nanoscience and Nanotechnology Letters 1(1), 52-56, (2009)
- 43) Radiation Resistant Behavior of Poly(vinylidene fluoride) / Layered Silicate Nanocomposites
Vimal K. Tiwari, Pawan K. Kulriya, Devesh K. Avasthi and Pralay Maiti
ACS Applied Materials and Interfaces 1(2), 311-318, (2009)
- 44) Polymeric Nanoparticulate System: A Potential Approach for Ocular Drug delivery
Ramesh C. Nagarwal, Shri Kant, P.N. Singh, Pralay Maiti and J.K. Pandit
Journal of Controlled Release 136, 2-13 (2009)
- 45) Poly(Vinylidene Fluoride-co-Hexafluoro Propylene)/Layered Silicate Nanocomposites : The Effect of Swift Heavy Ion
Vimal K. Tiwari, Pawan K. Kulriya, Devesh K. Avasthi and Pralay Maiti
Journal of Physical Chemistry : B 113 (34), 11632-11641 (2009)
- 46) Thermoreversible Gelation of Poly(vinylidene fluoride-co-hexafluoro propylene) in Phthalates
P. Jaya Prakash Yadav, Vinod K. Aswal, P.U. Sastry, A.K. Patra, and Pralay Maiti
Journal of Physical Chemistry : B 113 (41), 13516-13525 (2009)
- 47) Biodegradable Nanocomposites of Poly(hydroxybutyrate-co-hydroxyvalerate) : The Effect of Nanoparticles
Pralay Maiti and P. Jaya Prakash Yadav
Journal of Nanoscience and Nanotechnology 8, 1858-1866, (2008)
- 48) Thermoreversible Gelation of Poly(Vinylidene Fluoride) in Phthalates : The Influence of Aliphatic Chain Length of Solvents
P. Jaya Prakash Yadav, G. Ghosh, B. Maiti, V. K. Aswal, P. S. Goyal, and Pralay Maiti

- Journal of Physical Chemistry : B** 112(15), 4594-4603 (2008)
- 49) Studies on Ethylene Propylene Diene Rubber and Thermoplastic Polyurethane Blends: The Effect of Maleation.
R. Dhamodharan, Pralay Maiti, and Ganga Radhakrishnan
Polymer-Plastics Technology and Engineering 47(11), 1081–1089, (2008)
- 50) Study on Blends of Ethylene Propylene Diene Rubber and Thermoplastic Polyurethanes
R. Dhamodharan, Pralay Maiti, and Ganga Radhakrishnan
Polymer-Plastics Technology and Engineering 46, 163–168, (2007)
- 51) New Biodegradable Polyhydroxybutyrate/Layered Silicate Nanocomposites
Pralay Maiti, Carl A. Batt and Emmanuel P. Giannelis
Biomacromolecules 8, 3393-3400, (2007)
- 52) Novel Polyurethane Gels: The Effect of Structure on Gelation
Pralay Maiti, Ganga Radhakrishnan, Palanisamy Aruna, Goutam Ghosh
Macromolecular Symposia 241, 51 (2006)
- 53) Effect of nanoparticle mobility on toughness of polymer nanocomposites
D. Shah, P. Maiti, D. Jiang, E.P. Giannelis
Advanced Materials –17 (5), 525 (2005)
- 54) Nanocomposites and nanofluids
D. Shah, P. Maiti, A. Bourlinos, Q. Zhang, L.A. Archer, E.P. Giannelis
Polymeric Materials Science and Engineering 92, 257 (2005)
- 55) Structural development in cycloolefin copolymers under uniaxial elongational flow
Pralay Maiti and Masami Okamoto
Journal of Applied Polymer Science 91, 3421 (2004)
- 56) Dramatic enhancements in toughness of polyvinylidene fluoride nanocomposites via nanoclay-directed crystal structure and morphology
D. Shah, P. Maiti, E. Gunn, D.F. Schmidt, D.D. Jiang, C.A. Batt and E.P. Giannelis
Advanced Materials 16(14), 1173 (2004)
- 57) Crystallization controlled by silicate surfaces in Nylon 6-Clay Nanocomposites

Pralay Maiti, Masami Okamoto
Macromolecular Materials and Engineering 288, 440 (2003)
- 58) Biodegradable polyester / layered silicate nanocomposites
Pralay Maiti, Carl A. Batt, Emmanuel P. Giannelis
Material Research Society Symposium Proceedings 740, 141 (2003)
- 59) Renewable plastics: Synthesis and properties of PHB nanocomposites
Pralay Maiti, Carl A. Batt, Emmanuel P. Giannelis
Polymeric Materials Science and Engineering 88, 58 (2003)
- 60) Influence of miscibility on the viscoelasticity, structure and intercalation of oligo-polycaprolactone / layered silicate nanocomposite.
Pralay Maiti
Langmuir 19, 5502 (2003)
- 61) Effect of organic modifier on the structure of oligo-poly(caprolactone) / layered silicate nanocomposites
Pralay Maiti
Polymer Preprints 44(2), 258 (2003)
- 62) Influence of intercalation on the structure, morphology and mechanical properties of polypropylene / clay nanocomposite
P. Maiti, P.H. Nam, M. Okamoto, T. Kotaka, N. Hasegawa, A. Usuki
Polymer Engineering & Science 42, 1864 (2002)
- 63) Foam processing and cellular structure of PP/clay nanocomposites

- P.H.Nam, P. Maiti, M. Okamoto, T. Kotaka, M. Takada, M. Ohshima, N. Hasegawa, A. Usuki
Polymer Engineering & Science 42, 1907 (2002)
- 64) Influence of crystallization on intercalation, morphology and mechanical properties of polypropylene / clay nanocomposites
P. Maiti, P.H. Nam, M. Okamoto, N. Hasegawa, A. Usuki
Macromolecules 35, 2042 (2002)
- 65) New Polylactide-layered silicate nanocomposites 1 : Preparation, characterization and properties
S. SinhaRay, P. Maiti, M. Okamoto, K. Yamada, K. Ueda
Macromolecules 35, 3104 (2002)
- 66) New poly(butylene succinate) / layered silicate nanocomposites. 1: Preparation and mechanical properties
S. SinhaRay, K. Okamoto, P. Maiti, M. Okamoto
Journal of Nanoscience and Nanotechnology 2, 171 (2002)
- 67) New Polylactide/Layered Silicate Nanocomposites : Role of Organoclays
P. Maiti, K. Yamada, M. Okamoto, K. Ueda, K. Okamoto
Chemistry of Materials 14, 4654 (2002)
- 68) Glass transition temperature of poly(vinylidene fluoride)/poly(methyl acrylate) blends:Influence of aging and chain structure
Pralay Maiti, Asok Dixit and Arun K. Nandi
Journal of Applied Polymer Science 79, 1541 (2001)
- 69) Elongational flow birefringence of ethylene-tetracyclododecene copolymer
Pralay Maiti, Masami Okamoto and Tadao Kotaka
Polymer 42, 3939 (2001)
- 70) A house of cards structure in polypropylene/clay nanocomposites under elongational flow
Masami Okamoto, Pham Hoai Nam, Pralay Maiti, Tadao Kotaka, Naoki Hasegawa and Arimitsu Usuki
Nano Letters 1, 295 (2001)
- 71) Biaxial Flow-Induced Alignment of Silicate Layers in Polypropylene/Clay Nanocomposite Foam
M. Okamoto, P. H. Nam, P. Maiti, T. Kotaka, T. Nakayama, M. Takada, M. Ohshima, A. Usuki, N. Hasegawa and H. Okamoto
Nano Letters 1, 503 (2001)
- 72) Flow birefringence and strain-induced hardening of cycloolefin copolymers under elongational flow
Pralay Maiti, Masami Okamoto and Tadao Kotaka
Polymer 42, 9827 (2001)
- 73) A Hierarchical structure and properties of intercalated polypropylene/clay nanocomposites
P.H.Nam, P. Maiti, M. Okamoto, T. Kotaka, N. Hasegawa, A. Usuki
Polymer 42, 9633 (2001)
- 74) Elongational flow birefringence of cycloolefin copolymers
P. Maiti, M. Okamoto, T. Kotaka
Polymeric Materials Science and Engineering 84, 418 (2001)
- 75) Lamellar Thickening in Isotactic Polypropylene with High Tacticity Crystallized at High Temperature
Pralay Maiti, Masamichi Hikosaka, Koji Yamada, Akihiko Toda, and Fangming Gu
Macromolecules 33, 9069 (2000)
- 76) Nucleation and crystallization of isotactic poly(propylene) droplets in an immiscible polystyrene matrix
M.L. Arnal, A.J. Muller, P. Maiti and M. Hikosaka
Macromolecular Chemistry and Physics 201, 2493 (2000)
- 77) Morphology of poly(vinylidene fluoride)/poly(methyl acrylate) blends : Influence of chain structure
Pralay Maiti and Arun K. Nandi
Macromolecular Chemistry and Physics 199, 1479 (1998)
- 78) Influence of chain structure on the crystallization mechanism of poly(vinylidene fluoride)/poly(methyl acrylate) blends : Evidence of chain extension due to blending
Pralay Maiti and Arun K. Nandi

- Polymer** 39, 413 (1998)
- 79) Kinetic immiscibility of crystalline polymer/amorphous polymer blends
Arun K. Nandi and Pralay Maiti
Polymer 38, 2171 (1997)
- 80) Influence of chain structure on the miscibility of poly(vinylidene fluoride) with poly(methyl acrylate)
Pralay Maiti and Arun K. Nandi
Macromolecules 28, 8511 (1995)
- 81) On the gelation rates of thermoreversible poly(vinylidene fluoride) gels
Sukumar Mal, Pralay Maiti and Arun K. Nandi
Macromolecules 28, 2371 (1995)
- 82) Oxidation of polypropylene using phase-transferred permanganate as oxidant
J. Konar and P. Maity
Journal of Material Science Letter 13, 197 (1994)
- 83) Melting and crystallization behaviour of poly(vinylidene fluoride) samples in its blends with some polyacrylates, poly(vinyl esters) and poly(aryl ether ether ketone)
P. Maiti, J. Chatterjee, D. Rana and A. K. Nandi
Polymer 34, 4273 (1993)

Book / Book Chapter

- 1) “Nonlinear viscoelasticity of one dimensional filler reinforced elastomer composites and nanocomposites” in “Advances in Polymer Science; Volume: Nonlinear viscoelasticity of rubber composites”
Karun K. Jana, Mrinal Patel, Dipak Rana, and Pralay Maiti
Advances in Polymer Sciences; Eds: P. Deepalekshmi, Sabu Thomas
Publisher: **Springer** – Advances in Polymer Science (in press)
- 2) “Biodegradable polymers for potential delivery systems for therapeutics” in “Advances in Polymer Science; Volume: Multifaceted Development and Applications of Biopolymers towards Biology, Biomedical and Nanotechnology
Sanjeev K. Pandey, Chandana Halder, Dinesh K. Patel and Pralay Maiti
Advances in Polymer Sciences; Eds: P.K. Dutta and Joydeep Dutta
Publisher: **Springer** – Advances in Polymer Science 254: 169–202, (2013)
- 3) “Polycaprolactone based Nanobiomaterials” in “Biomedical Nanomaterials and Diagnostic Devices”
Narendra K. Singh and Pralay Maiti
Eds: Ashutosh Tiwari, Murugan Ramalingam, Hisatoshi Kobayashi and Anthony P.F. Turner
Publisher: **Wiley-Scrivener Publishing LLC.** – (2012)
- 4) “Self-assembly in Polyurethanes: Effect of Two Dimensional Nanoparticles” in ‘Nanotechnology in Polymers’
Abhinay Mishra and Pralay Maiti
Eds: Vijay K. Thakur and Amar Singh
Publisher: **Studium Press (USA)** – (2012)
- 5) “Biodegradable Nanocomposites Based on Poly(hydroxyalkanoates)” in ‘Nanocomposites with Biodegradable Polymers: Synthesis, Properties and Future Perspectives’
Narendra K. Singh and Pralay Maiti
Ed: V. Mittal
Publisher: **Oxford University Press (UK)** – (2011)
- 6) “Polyamide Nanocomposites” in ‘Polymer Nanocomposite Research Advances’
Pralay Maiti
Eds: Sabu Thomas and Gennady Zaikov
Publisher: **Nova Science Publishers, Inc., USA** – (2008)

Patent

- 1) A Novel Viscoelastic Polyurethane and a Process for the Preparation Thereof
 G. Saraswathy, G. Gautham, B.N. Das, R. Mohan, P. Aruna, P. Maiti and G. Radhakrishnan
 Indian Patent Application No. 2413Del2008 filed on October 23, 2008.

PAPERS PRESENTED IN CONFERENCES: 85

Key Note addresses : 6

Invited talks : 59

Ongoing / Completed Projects

| Sl. No. | Title | Funding agency | Amount (Rs. In lakh) |
|----------------|---|-----------------------|-----------------------------|
| 1. | Thermoreversible gelation of soft materials | UGC-DAE-CSR, Mumbai | 4.5 |
| 2. | The effect of ion beam on PVDF/layered silicate nanocomposites | IUAC, New Delhi | 3.5 |
| 3. | Synthesis and structural characterization of novel segmental polyurethane/layered silicate nanocomposites | CSIR | 5.0 |
| 4. | Sustainable Green Nanocomposites from Renewable Resources | DBT | 40.72 |
| 5. | Development of optically active polymers for data storage applications | DIT-MBIL | 200.7 |
| 6. | Improvement of physical properties of polymer through nanocomposites route: Special application to paint technology | Asian Paints Ltd. | 5.0 |
| 7. | Porous polymeric membrane using swift heavy ions | IUAC | 4.0 |
| 8. | Synthesis and characterization of novel segmented polyurethane-graphene nanocomposites for biomedical applications | CSIR | 23.0 |