

Thanasis D. Papathanasiou; MSc, PhD, CEng

Department of Mechanical Engineering

University of Thessaly

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Greece

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RESEARCH INTERESTS

- Materials processing (injection molding and calendering of polymers and blends, liquid molding and pultrusion of composites)
- Computer-aided design of composites forming operations
- Meso-scale characterization and prediction of processing-structure-property interactions in composites through meso-scale modelling

POSITIONS

- 2016-
2008-2016 Professor of Mechanical Engineering
Associate Professor of Mechanical Engineering (tenured)
Department of Mechanical Engineering
University of Thessaly, Volos, Greece
- 1997-2008 Associate Professor of Chemical Engineering (tenured)
Department of Chemical Engineering
University of South Carolina, Columbia, SC 29208, USA
- 2002-03 Associate Director for Engineering
South Carolina Center for Manufacturing & Technology (CMAT)
College of Engineering and Information Technology
University of South Carolina, Columbia, SC 29208
- 1993-1997 Unilever Lecturer in Process Engineering
Department of Chemical Engineering & Chemical Technology
Imperial College, London SW7 2BY, UK
- 1993-1997 Associated Academic
Center for Composite Materials, Imperial College, London SW7 2BY, UK
- 1991-1992 Director's Post-Doctoral Fellow
Engineering Sciences & Applications Division (ESA/EPE)
Los Alamos National Laboratory, Los Alamos, NM 87545, USA
- 1990 R&D Scientist, Aluminium Castings Division
ALCAN International Ltd., Kingston R&D Center, Kingston, Canada.

EDUCATION

- 1990 PhD, Department of Chemical Engineering
McGill University, Montreal, Canada
Polymer Processing (Injection Molding)
- 1987 MSc, Department of Chemical & Petroleum Engineering
The University of Calgary, Calgary, Canada
Biochemical Engineering (Reactor Design)
- 1984 Chemical Engineering Diploma
National Technical University of Athens, Athens, Greece

RESEARCH FUNDING

(before 1998 Department of Chemical Engineering & Center for Composite Materials, Imperial College, London, UK; 1998-2008 Department of Chemical Engineering, University of South Carolina; since 2008 Department of Mechanical Engineering, University of Thessaly, Greece)

Federal Support

- European Community MIRG-CT-2007-208341 "Micro-Scale Flows in Fibrous Media", EUR 100,000, 10/2007-10/2011¹
- US National Science Foundation – Division for Manufacturing Innovation (NSF/DMI) "IREE: Micro-scale flows in fibrous media", \$43,750, 10/2006-10/2007²
- US Environmental Protection Agency EPA/SBIR Phase-I: "Novel Feedstock for Biodegradable Plastic", \$11,300, 3-9/2006³
- US National Science Foundation – Division for Manufacturing Innovation (NSF/DMI), "A hierarchical, structure-oriented and stochastic approach to model liquid molding processes", \$180,000, 9/2005-9/2008
- US National Science Foundation, "Durability of the Bond Between Concrete and Fiber Reinforced Polymer Composites", \$210,000, 09/2000-08/2003, (co-PI in team of 4)
- US Department of Defense, Army Research Office, "An Automated, Large-Area and High-Resolution System for the Meso-Scale Characterization of Fiber-Reinforced Composites", \$135,000, 03/1999-03/2000
- US Department of Energy, "Flow and Infiltration through Structured Fibrous Media", \$150,000, 9/1998-9/2001
- Great Lakes Composites Consortium (GLCC Inc.), "Analysis of Composites Manufacturing Processes", \$29,782, 10/2000-09/2001
- GLCC Inc. and Office of Naval Research, "Fabrication of Composite Components using RIRM", \$70,563, 09/1999-09/2001
- GLCC Inc., "Analysis of Composites Manufacturing Processes", \$34,928, 05/1999-09/2000

Industrial Research

- Eastman Chemical Company, "Science and Engineering of Polymer-Clay Nanocomposites", \$75,000, 8/2003-8/2006
- Montana Biosciences SE, Inc. (SC), "Processability of a Novel Polymer", \$1,500, 6/2003
- Fuji Films Inc. and South Carolina Center for Manufacturing and Technology (SCCMAT), "Dynamic contact points in curtain coating", \$20,000 for 9/2002-6/2003
- Montsinger Technologies Inc. (Charlotte, NC) and SCCMAT, "Modeling and characterization of the Thermostran manufacturing process for long-fiber molding compound", \$18,500 for 9/2002-6/2003; also \$10,000 for 9/2003-5/2004
- Fuji Films Inc., "Fluid Dynamics of Coating Processes", \$29,511 for 4/2002-10/2002
- Intradigm Corp. (Rockville, Maryland) and SCCMAT, "Engineering tumor targeting of colloidal drug delivery", co-PI in team of two, \$20,000 for 12/2002-6/2003
- The Fyfe Company (San Diego, CA) and SCCMAT, "Characterization of the Interface between FRP Overlays and Concrete", \$18,973, 03/2002-06/2002
- Lindau Chemicals Ltd. (Columbia, SC) and SCCMAT, "Raman and Optical Imaging in Composites Produced by Resin Transfer Molding", \$14,984, 03/2002-06/2002
- Lindau Chemicals Ltd. (Columbia, SC) and SCCMAT, "Distribution of Porosity in Woven Glass Composites", \$9,801 for 03/02-06/02; also "Microstructure of Pultruded Composites", \$11,000 for 9/2003-5/2004
- Composites Solutions Inc. and SCCMAT, "Microstructural Investigation of Woven Glass Composites", \$32,400 09/2001-06/2002

Institutional Support

- University of South Carolina - Office of Research, "Polymer/Clay Nanocomposites", \$211,000, 07/02-06/03 (PI in team of 4)
- University of South Carolina College of Engineering and Office of the VP for Research; seed funding: "Purchase of a twin-screw extruder for the compounding of micron-sized additives with thermoplastic polymeric matrices", \$150,000, 09/2001-09/2002

¹ University of Thessaly, Department of Mechanical Engineering, Greece

² International Collaboration Grant with Lulea Technical University, Sweden

³ University of South Carolina, Department of Chemical Engineering

PROFESSIONAL ACTIVITIES

Reviewer

AIChE Journal, ASME Journal of Manufacturing Science & Engineering, Chemical Engineering Science, Composites Science & Technology, Composites: Part A, International Polymer Processing, International Journal of Thermophysics, Journal of Colloid and Interface Science, Journal of Materials Research, Journal of non-Newtonian Fluid Mechanics, Journal of Porous Media, Journal of Tribology, Polymer Composites, Polymer Engineering & Science, Polymers & Polymer Composites, Separation Science & Technology, Physics of Fluids

Other recent activities

12/2017	Organizer of Symposium on "Composites" and Session Chair, 33 rd PPS Annual Meeting, Cancun, Mexico, 12/2017
7/2015	Session Chair, 8 th GRACM, Volos, Greece
6/2015	Session Chair, 10 th Hellenic Congress of Chemical Engineers, Patras, Greece
6/2014	Organizer of Symposium on "Composites" and Session Chair, 30 th Annual Meeting of the Polymer Processing Society, Cleveland, USA
11/2012	Conference Organizing Committee and Session Chair, "Flow-2012", Volos, Greece
4/2007	Panelist, NSF/DMI (Panel on Processing of Polymers and Composites), National Science Foundation (NSF), Arlington, VA, 3/21/2007, USA
3/2006	Panelist, NSF/DMI (Panel on Nanotechnology), NSF, Arlington, VA, 3/21/2006
3/2005	Panelist, NSF/DMI (Panel Number 5305 on Nanotechnology), NSF, Arlington, VA

EDUCATIONAL ACTIVITIES

1 Supervision of post-graduate research

PhD

2017-	S. Samioti	"Micropolar Flows in Fibrous Media"
2016-	A. Tsiantis	"Flake-Reinforced composites"
2016(aw)	N. Polychronopoulos	"Squeezing flows in polymer composites fabrication"
2005 (aw)	X. Chen	"The permeability of random fibrous media"
2001(aw.)	B.Markicevic	"The hydraulic permeability of structured fibrous media"
2000(aw.)	B.Bijeljic	"Microstructural Aspects of Transport in Porous Media"
1998(aw.)	S. Ogadho	"Microstructure Development During Injection Molding of Particulate Polymeric Composites"
1997(aw.)	G.Corfield ⁴	"The Rheology of Soft Solids"
1997(aw.)	S. Rough ⁴	"Wall Friction in Net Shape Forming of Ceramics"
1997(aw.)	W. Sontaranun ⁵	"Morphology-Processing Interactions in Polymer Blends"

MSc.

2016	A. Tsiantis	"Misalignment effect on composite membrane permeability"
2015	A. Drosatos	"Flow through dual porosity fibrous media"
2014	S. Karagianis	"CAD of the filling of a center-gated disk"
2011	N. Polychronopoulos	"3D flow analysis of the Calendering process"
2010	L. Nakis	"Diffusion through composite membranes"
2003	P. Pressler	"Polymer-clay nanocomposites"
2003	S. Barwick	"Meso-structural characterization of composite materials"
2002	Amit Sinha	"Porosity in resin transfer molding"
2000	Erik Juhlin	"Misalignment and stiffness of short-fiber composites" ⁶
2000	Henrik Sieurin	"Misalignment and stiffness of short-fiber composites" ⁸
1997	Arad Gluska	"Structure in Resin Transfer Molding" ⁷
1995	C. Angelidis	"Rapid Processing of Thermoplastic Composites" ⁹

⁴ Co-advised with Prof. Briscoe, Imperial College, UK

⁵ Co-advised with Prof. J.S.Higgins, Imperial College

⁶ Exchange student from KTH-Sweden

⁷ MSc in Composite Materials, Centre for Composite Materials, Imperial College, London, UK

1995	T. Laws,	"The Processing of Structured Fluids" ⁸
1996	R. Janes	"The Extrusion of Soft Solids"
1994	R. Soininen,	"The Thermal Conductivity of Composites" ⁹
1994	B. Louwagie,	"Viscous Dissipation Effects on Fiber Orientation" ⁹
1994	G. Nikolopoulos	"Microstructure in Injection Molding of Particulates"

2 Teaching

2008-		Mechanical Engineering, University of Thessaly
Thermodynamics II		3 rd semester core course
Heat Flow Analysis		5 th semester core course
Introduction to Polymer Technology		8 th semester, elective course
Analysis of Polymer Processing Operations		Graduate course in Mechanical Engineering
1997-2008		U. South Carolina, Chem.Engg Department
ECHE320 (Chem.Eng Fluid Mechanics)		Core course in Chemical Engineering
ECHE389P (Introduction to Polymers)		Chemical Engineering Elective
ECHE321 (Heat Transfer)		Core course in Chemical Engineering
ECHE310 (Introduction to Thermodynamics)		Core course in Chemical Engineering
ECHE720 (Advanced Fluid Mechanics)		Core graduate course in Chemical Engineering
ECHE789A (Principles of Polymer Processing)		Graduate elective in Chemical Engineering
ECHE456 (Comput Methods in Engg)		New course for seniors in Chemical_Engineering dealing with the numerical solution of differential equations encountered in modeling of engineering systems
1993-1997		Chem. Engg, Imperial College, London, UK
Manufacturing of Polymer Composites		Senior elective course
Fluid and Particle Mechanics		Third year annual core course.
Elements of Particulate Technology		Third and fourth year elective course.
Mass Transfer		Second year Laboratory-based core course.

SOME ADMINISTRATIVE ACTIVITIES

University of Thessaly, Department of Mechanical Engineering

2009-2014	Manager and Faculty Advisor, "Practical Training of Mechanical Engineering Students"
2009-	Member, External Evaluation Committee

University of South Carolina, Department of Chemical Engineering

2003-2008	Member, Public Relations Committee
1999-2002	Faculty Advisor to the AIChE Student Chapter. Our student Chapter was designated "Outstanding Chapter" by National AIChE for each of these years

Imperial College, London, UK, Department of Chemical Engineering

1996-1997	Co-ordinator, MSc course in Advanced Chemical Engineering
1996-1997	Departmental Representative, Engineering & Technology Board, U. of London
1993-1996	Liaison to the U.K. Institution of Chemical Engineers
1993-1997	Liaison to companies sponsoring plant visits to Chemical Engineering students

⁸ External Supervisor in 2-year Trainee Program, Unilever Corporate Research, UK

EDITED BOOKS

- 1 Papathanasiou, T.D. and D.C. Guell (Eds.), "Flow-Induced Alignment in Composite Materials", ISBN 1 85573 254 8, Woodhead Publishing Ltd., Cambridge, UK, (1997)

ARTICLES IN BOOKS

- 4 Papathanasiou, T.D. and M.S. Ingber, "Micromechanical Prediction of Effective Properties in Aligned-Fiber Composites using the Boundary Integral Method", in "Flow-Induced Alignment in Composite Materials", Woodhead Publishing Ltd., Cambridge, UK, 1997
- 3 Papathanasiou, T.D., "Flow-Induced Alignment in Injection Molding of Fiber-Reinforced Polymeric Composites", in "Flow-Induced Alignment in Composite Materials", Woodhead Publishing Ltd., Cambridge, UK, 1997
- 2 Papathanasiou, T.D., "Plastics Extrusion", in Encyclopaedia of Heat and Mass Transfer, Hewitt G.F. (Ed.), CRC Publishers, pp. 408-409, 1997
- 1 Papathanasiou T.D., Kalogerakis N. and L.A. Behie, "Modelling the Dynamic Behaviour of Immobilised Cell/Enzyme Bioreactors: The Tanks in Series Model", Scale-up and Mixing of Biotechnological Processes, (Ho, C.S and Oldshue, J.Y; Eds), pp.238-248, 1987

ARTICLES IN REFEREED JOURNALS

- 64 A. Tsiantis and T.D. Papathanasiou, "The Barrier Properties of Flake-Filled Composites with Precise Control of Flake Orientation", Materials Sciences and Applications: Special Issue on Additive Manufacturing, **8**:234-246, 2017
- 63 T.D. Papathanasiou and A. Tsiantis, "Orientational Randomness and its Influence on the Barrier Properties of Flake-Filled Composite Films", Journal of Plastic Film and Sheeting, in print, 2017 DOI: 10.1177/8756087916682793)
- 62 N. Polychronopoulos and T.D. Papathanasiou, "Fluid Penetration in a Deformable Permeable Web moving past a Stationary Rigid Cylinder", Transport in Porous Media, **116**:393-411, 2017 (DOI: 10.1007/s11242-016-0780-1)
- 61 T.D. Papathanasiou and N. Polychronopoulos, "Predicting the Extent of Resin Infiltration in Pin-Assisted Pultrusion", SPE Research Online, 2016 (<http://www.4spepro.org/pdf/006343/006343.pdf>)
- 60 N. Polychronopoulos and T.D. Papathanasiou, "A Novel Model for Resin Infiltration in Pin-Assisted Pultrusion", Polymer Composites, 2015 (DOI 10.1002/pc.23860).
- 59 N. Polychronopoulos and T.D. Papathanasiou, "A Study on The Effect of Drawing on Extrudate Swell in Film Casting", J. of Applied Rheology, **25**(4), 31-37, 2015
- 58 N. Polychronopoulos and T.D. Papathanasiou, "Pin-Assisted Resin Infiltration of Porous Substrates", Composites Part A – Applied Science and Manufacturing, **71**, 126-135, 2015
- 57 N. Polychronopoulos, I. Sarris and T.D. Papathanasiou, "3D Features in the Calendering of Thermoplastics: A Computational Investigation", Polymer Engineering & Science, **54**,1712-1722, 2014
- 56 A.G. Andersson, L.G. Westerberg, T.D. Papathanasiou, T.S. Lundström, "Flow through a two-scale porosity material", Research Letters in Materials Science, Paper ID 701512, 2009
- 55 T.D. Papathanasiou and X. Chen, "The effect of certain morphological features on the permeability of clustered fibrous media", Polymers and Polymer Composites, **17**(1), 1-12, 2009
- 54 X. Chen and T.D. Papathanasiou, "The transverse permeability of disordered fiber arrays: A statistical correlation in terms of the mean interfiber spacing", Transport in Porous Media, **71**(2), 233-251, 2007

- 53 X. Chen and T.D. Papathanasiou, "Barrier properties of flake-filled membranes: Review and numerical evaluation", *Journal of Plastic Film and Sheeting*, **23**(4), 319-346, 2007
- 52 X. Chen and T.D. Papathanasiou, "Micro-Scale Modelling of Axial Flow through Unidirectional Disordered Fiber Arrays", *Composites Science and Technology*, **67**, 1286-1293, 2007
- 51 X. Chen and T.D. Papathanasiou, "On the variability of the Kozeny constant for saturated flow across unidirectional, disordered, fiber arrays", *Composites Part A: Manufacturing and Applied Science*, **37**(6), 836-846, 2006
- 50 B.Bijeljic, M.D.Mantle, A.J.Sederman, L.F.Gladden and T.D.Papathanasiou , "Slow flow across macroscopically semi-circular fibre lattices and a free flow region of variable width - visualisation by magnetic resonance imaging", *Chemical Engineering Science*, Vol.**59**(10) pp. 2089-2103, 2004
- 49 X. Chen and T.D. Papathanasiou, "Interface Stress Distributions in Transversely Loaded Continuous Fiber Composites: Parallel Computation in Multi-Fiber RVEs Using the Boundary Element Method", *Composites Science & Technology*, vol. **64**, 1101-1114, 2004
- 48 B. Markicevic and T.D. Papathanasiou, "An Explicit Physics-Based Model for the Transverse Permeability of Multi-Material Dual Porosity Fibrous Media", *Transport in Porous Media*, **53**(3), 265-280, 2003
- 47 S.C. Barwick and T.D. Papathanasiou, "Identification of Fiber Misalignment in Continuous Fiber Composites", *Polymer Composites*, **24**(3), 475-486, 2003
- 46 B. Markicevic and T.D. Papathanasiou, "A model for the transverse permeability of bi-material layered fibrous preforms", *Polymer Composites*, **24**(1), 68-82, 2003
- 45 S.C. Barwick and T.D. Papathanasiou, "Identification of Sample Preparation Defects in Automated Topological Characterization of Composite Materials", *Journal of Reinforced Plastics and Composites*, **22**(7), pp. 655-669, 2003
- 44 B. Markicevic and T.D. Papathanasiou, "On the Apparent Permeability of Regular Arrays of non-Uniform Fibers", *Physics of Fluids*, **14**(9), 3347-3349, 2002
- 43 E.M. Gravel and T.D. Papathanasiou, "Development of permeability models for saturated fluid flow across arrays of fiber clusters", *Advanced Composites Letters*, **11**(3), 123-130, 2002
- 42 E. Juhlin, X. Chen and T.D. Papathanasiou, "On the effects of fiber length and spatial distribution on the stiffness of short-fiber reinforced composites", *Polymers & Polymer Composites*, **10**(3), 205-210, 2002
- 41 V. Kolli, S.O. Ogadhoh, S.M. Abel, F.Gadala-Maria and T.D. Papathanasiou, "Particle motion in the Fountain Flow Region During Filling of a Tube with a Viscoelastic Fluid", *Polymer Engineering & Science*, **42**(2), 403-412, 2002
- 40 T.D. Papathanasiou, E. Gravel, S.C. Barwick and E.D. Dendy, "Non-isotropic structured fibrous media: The permeability of regular arrays of fiber bundles of elliptical cross-section", *Polymer Composites*, **23**(4), 520-529, 2002
- 39 S.C. Barwick and T.D. Papathanasiou, "Quantification of the internal topology of continuous fiber composites", *Advanced Composites Letters*, **10**(6), 275-283, 2001
- 38 T.D. Papathanasiou, B. Markicevic and E. Dendy, "A computational evaluation of the Ergun and Forchheimer equations for fibrous media", *Physics of Fluids*, **13**(10), 2795-2804, 2001
- 37 B.Bijeljic, M.D.Mantle, A.J.Sederman, L.F.Gladden and T.D.Papathanasiou, "Slow Flow Across Macroscopically Rectangular Fiber Lattices and an Open Region - Visualisation by Magnetic Resonance Imaging", *Physics of Fluids*, **13**(12), 3652-3663, 2001

- 36 S.O. Ogadhoh and T.D. Papathanasiou, "Particle Motion and Segregation near an Advancing Free Surface in Viscoelastic Fluids", *Polymers & Polymer Composites*, **9**(5), 319-326, 2001
- 35 T.D. Papathanasiou, "The hydraulic permeability of periodic arrays of cylinders of varying size", *Journal of Porous Media*, **4**(4), 323-336, 2001
- 34 B. Markicevic and T.D. Papathanasiou, "The Hydraulic Permeability of Dual Porosity Fibrous Media", *Journal of Reinforced Plastics and Composites*, **20**(10), 871-880, 2001
- 33 T.D. Papathanasiou, "Flow across structured fiber bundles: A dimensionless correlation", *International Journal of Multiphase Flow*, **27**, 1451-1461, 2001
- 32 T.D. Papathanasiou, J.S. Higgins and W. Soontaranun, "An Investigation of Shear-Induced Mixing in the PSAN/PMMA Blend", *Polymer Engineering & Science*, **39**(12) 2461-2474, 1999
- 31 T.D. Papathanasiou, J.S. Higgins and W. Soontaranun, "An Experimental Study of Polymer Blend Mixing in a Twin-Screw Extruder", *Polymers & Polymer Composites*, **6**(4), 223-227, 1998
- 30 T.D. Papathanasiou and B. Bijeljic, "Intra-Particle Diffusion Alters the Dynamic Response of Immobilized Cell/Enzyme Columns", *Bioprocess Engineering*, **18**(6), 419-426, 1998
- 29 T.D. Papathanasiou, "Explicit Corrections for the Effect of Viscous Heating in Circular Couette Viscometers", *International Journal of Thermophysics*, **19**(1), 71-88, 1998
- 28 M.S. Ingber and T.D. Papathanasiou, "A Parallel-Supercomputing Investigation of the Stiffness of Aligned, Short-Fiber-Reinforced Composites using the Boundary Element Method", *International Journal for Numerical Methods in Engineering*, **30**, 3477-3491, 1997
- 27 K.A. Caridis and T.D. Papathanasiou, "Effective permeability of multi-channel microfiltration membranes from permeate flux measurements using the Boundary Integral Method", *Journal of Chemical Engineering of Japan*, **30**(5), 839-845, 1997
- 26 S.O. Ogadhoh and T.D. Papathanasiou, "On Microstructure at the Weldline in Injection Molded Particulate Composites", *Scripta Materialia*, **37**(8), 1143-1149, 1997
- 25 Adams, M.J., Briscoe, B.J., Corfield, G.M., Lawrence, C.J. and T.D. Papathanasiou, "An Analysis of the Plain-Strain Compression of Viscoplastic Materials", *J. Applied Mechanics*, **64**, 420-424, 1997
- 24 T.D. Papathanasiou, "Circular Couette Flow of Temperature-Dependent Materials: Asymptotic Solutions in the Presence of Viscous Heating", *Chemical Engineering Science*, **52**(12), 2003-2006, 1997
- 23 T.D. Papathanasiou, K.A. Caridis and B. Bijeljic, "Thermo-mechanical Coupling in Frictionally Heated Circular Couette Flow", *International Journal of Thermophysics*, **18**(3), 825-843, 1997
- 22 T.D. Papathanasiou and P.D. Lee, "Morphological Effects on the Transverse Permeability of Arrays of Aligned Fibers", *Polymer Composites*, **18**(2), 242-253, 1997
- 21 K.A. Caridis and T.D. Papathanasiou, "Pressure Effects in Cross-Flow Microfiltration of Suspensions of whole Bacterial Cells", *Bioprocess Engineering*, **16**(4), 199-208, 1997
- 20 K.A. Caridis, B. Luwagie and T.D. Papathanasiou, "Viscous Heating in Planar Couette Flow: Series Solutions for Temperature-Sensitive Fluids", *Journal of Chemical Engineering of Japan*, **30**(1), 123-136, 1997
- 19 T.D. Papathanasiou, "On the Effective Permeability of Square Arrays of Permeable Fiber Tows", *International Journal of Multiphase Flow*, **23**(1), 81-92, 1997

- 18 Soontaranun, W., Higgins, J.S. and T.D.Papathanasiou, "Rheology and Thermodynamics in Partially-Miscible Polymer Blends", *J. non-Newtonian Fluid Mechanics*, **67**, 191-212, 1996
- 17 T.D. Papathanasiou, "Microstructure Evolution During Molding of Particulate-Reinforced Thermoplastic Composites", *International Polymer Processing*, **11**(3), 275-283, 1996
- 16 T.D. Papathanasiou, "A Structure-Oriented Micromechanical Model for Slow Flow Through Square Arrays of Fiber Clusters", *Composites Science & Technology*, **56**(9), 1055-1069, 1996
- 15 Soontaranun, W., Higgins, J.S. and T.D. Papathanasiou, "Shear Flow and the Phase Behaviour of Polymer Blends", *Fluid Phase Equilibria*, **121**, 273-292, 1996
- 14 T.D. Papathanasiou, "Microstructural Effects in Viscous Flow Through Fiber Preforms", *J. Materials Science Letters*, **15**(17), 1507-1509, 1996
- 13 Ogadhoh, S.O. and T.D. Papathanasiou, "Particle Rearrangement During Processing of Glass-Reinforced Polystyrene by Injection Molding", *Composites Part A*, **27A**(1), 57-63, 1996
- 12 T.D. Papathanasiou, R. Soininen and K.A. Caridis, "Internal Microstructure and the Thermal Response of Functionally-Gradient Metal-Matrix Composites", *Scandinavian Journal of Metallurgy*, **24**, 159-167, (1995)
- 11 Caridis, K.A. and T.D. Papathanasiou, "The Dynamic Performance of an Immobilised -Urease Bioreactor in a Recycle Loop", *Bioprocess Engineering*, **14**(1), 41-50, 1995
- 10 T.D. Papathanasiou, "Modelling of Injection Mold Filling: Effect of Undercooling on Polymer Crystallisation", *Chemical Engineering Science*, **50**(21), 3433-3442, 1995
- 9 Papathanasiou, T.D. and S.O. Ogadhoh, "Inhomogeneous Phase Distribution in Injection Molded Glass-Filled Polystyrene", *Scripta Metallurgica et Materialia*, **33**(7), 1133-1138, 1995
- 8 Papathanasiou, T.D., Ingber, M.S. and D.C. Guell, "Stiffness Enhancement in Aligned Short-Fiber Composites: A Computational and Experimental Investigation", *Composites Science & Technology*, **54**, 1-9, 1995
- 7 T.D. Papathanasiou, "A Micromechanical Investigation of Empirical Models for the Effective Properties of Aligned Short-Fiber Composites", *Advanced Composite Letters*, **4**(1), 5-8, 1995
- 6 Papathanasiou T.D., Ingber M.S., Mondy, L.A. and A.L. Graham, "The Effective Elastic Modulus of Fiber Reinforced Composites", *Journal of Composite Materials*, **28**(4) 288-304, 1994
- 5 Papathanasiou T.D. and M.R. Kamal, "Filling of a Complex-Shaped Mold with a Viscoelastic Polymer. Part I: The Mathematical Model", *Polymer Engineering & Science*, **33**(7), 400-409, 1993
- 4 Kamal, M.R. and T.D.Papathanasiou, "Filling of a Complex-Shaped Mold with a Viscoelastic Polymer. Part II: Comparison with Experimental Data", *Polymer Engineering & Science*, **33**(7), 410-417, 1993
- 3 Avramidis, S., Englezos, P. and T. Papathanasiou, "Dynamic, non-Isothermal Transport in Hygroscopic Porous Media: An Analysis of Moisture Diffusion in Wood", *AIChE Journal*, **38**(8), 1279-1287, 1992
- 2 Papathanasiou T.D. and M.R. Kamal, "Use of Boundary-Fitted Curvilinear Coordinates for the Numerical Simulation of Complex Viscoelastic Flows" *Journal of non-Newtonian Fluid Mechanics*, **37**, 139-156, 1990

- 1 Papathanasiou T.D., Kalogerakis N. and L.A. Behie, "Dynamic Modelling of Mass Transfer and Chemical Reaction in Immobilised Enzyme Bioreactors", *Chemical Engineering Science*, **43**(7), 1498, 1988

CONFERENCE PRESENTATIONS

- 63 T.D. Papathanasiou and A. Tsiantis, "The barrier properties of flake-filled composites", 33rd Annual Meeting of the Polymer Processing Society (PPS-33), 12/2017, Cancun, Mexico
- 62 T.D. Papathanasiou, "Structure-Permeability Interactions in aggregated fibrous media", Hellenic Society of Rheology Annual Meeting, 7/2017, Nicosia, Cyprus
- 61 A. Tsiantis, T.D. Papathanasiou and I. Sarris, "Study of flows in cavities having fractal wall topology", 10th National Meeting on Flow Processes (FLOW2016), 12/2016, Patras, Greece
- 60 Polychronopoulos N.D., Papathanasiou T.D., "Some New Results in Optimal Fluid Infiltration in a Flexible Permeable Substrate Moving Past a Rigid Cylinder", 32nd International Conference of the Polymer Processing Society (PPS-32), July 2016, Lyon, France
- 59 N. Polychronopoulos and T.D. Papathanasiou, "Fluid Infiltration of a permeable substrate moving past a cylinder", Annual Conference of the Polymer Processing Society, Gratz, Austria, 9/2015
- 58 N. Polychronopoulos and T.D. Papathanasiou, "A process model for pin-assisted pultrusion", 8th GRACM Congress of Computational Mechanics, Volos, Greece, 7/2015
- 57 N. Polychronopoulos and T.D. Papathanasiou, "A modelling study of the pin-assisted pultrusion for porous substrates", 10th Hellenic Congress of Chemical Engineering, Patras, Greece, 6/2015
- 56 N. Polychronopoulos, I Sarris & T.D. Papathanasiou, "Flow-Induced resin infiltration of porous substrates", Polymer Processing Society Annual Meeting, PPS-30, Cleveland, USA, June 2014
- 55 N. Polychronopoulos, I Sarris & T.D. Papathanasiou, Polymer Processing Society Annual Meeting, PPS-29, Germany, 6/2013
- 54 N. Polychronopoulos and T.D. Papathanasiou, "Spreading and Pressure development in 3D Calendering of Theroplastics", Proc. 8th Hellenic Congress on Fluid Flow - Flow-2012, pp. 70-72, Volos, Greece, 11/2012
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