



## CURRICULUM VITAE

Thanasis D. Papathanasiou; MSc, PhD, CEng  
([athpapathan@mie.uth.gr](mailto:athpapathan@mie.uth.gr); 58 yrs; Greece/USA Citizen)

### **INTERESTS**

Injection, liquid molding and pultrusion of composites  
Computer-aided design of composites forming operations  
Multi-scale composites; Biomedical Engineering  
Processing-structure-property correlations

### **POSITIONS**

- 2016- Professor of Mechanical Engineering  
2008-2016 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
- 2002-2003 Associate Director for Engineering  
South Carolina Center for Manufacturing & Technology (CMAT)  
**University of South Carolina**, Columbia, SC, USA
- 1993-1997 Unilever Lecturer in Process Engineering  
Department of Chemical Engineering & Chemical Technology
- 1993-1997 Associated Academic  
Center for Composite Materials  
**Imperial College**, London, UK
- 1991-1992 Director's Post-Doctoral Fellow  
Engineering Sciences & Applications Division (ESA/EPE)  
**Los Alamos National Laboratory**, Los Alamos, NM, 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

- European Community MIRG-CT-2007-208341 "Micro-Scale Flows in Fibrous Media", EUR 100,000, 10/2007-10/2011 (Single PI)
- US Environmental Protection Agency EPA/SBIR Phase-I: "Novel Feedstock for Biodegradable Plastic", \$11,300, 3-9/2006 (Single PI)
- US National Science Foundation – Division for Manufacturing Innovation (NSF/DMI), "A hierarchical, structure-oriented and stochastic approach to model liquid molding processes", \$223,750, 9/2005-9/2008 (Single PI)
- 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 (Single PI)
- US Department of Energy, "Flow and Infiltration through Structured Fibrous Media", \$150,000, 9/1998-9/2001 (Single PI)
- GLCC Inc. and Office of Naval Research, "Fabrication of Composite Components using RIRM", \$140,563, 09/1999-09/2001 (Single PI)

## Past 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 (Single PI)
- 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 (Single PI)
- Fuji Films Inc., "Fluid Dynamics of Coating Processes", \$29,511 for 4/2002-10/2002
- Lindau Chemicals Ltd. (Columbia, SC) and SCCMAT, "Raman and Optical Imaging in Composites Produced by Resin Transfer Molding", \$34,984, 03/2002-06/2002

## Past Institutional Support

- University of South Carolina - Office of VP for 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 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

## EDUCATIONAL ACTIVITIES

### 1 Supervision of Post-Doctoral Researchers

2020	A. Tsiantis	"Transport in heterogeneous media"
2019-2020	E. Karvelas	"Simulation of micro-polar flows in fibrous media"
2018	S. Sumbekova	"Clustering in Composite Materials"
2018-2020	A. Dobri	"Heat and Mass Transfer in Multi-Scale Composites"
2005-2008	X. Chen	"Structure-Permeability Correlations in Fibrous Media"

### 2 Supervision of post-graduate research

#### PhD

2020	A. Tsiantis	"Flake-Reinforced composites"
2016	N. Polychronopoulos	"Squeezing flows in polymer composites fabrication"
2005	X. Chen	"The permeability of random fibrous media"
2001	B. Markicevic	"The hydraulic permeability of structured fibrous media"
2000	B. Bijeljic	"Microstructural Aspects of Transport in Porous Media"
1998	S. Ogadhoh	"Microstructure Development During Injection Molding of"

1997	G. Corfield <sup>1</sup>	Particulate Polymeric Composites"
1997	S. Rough <sup>1</sup>	"The Rheology of Soft Solids"
1997	W. Sontaranun <sup>2</sup>	"Wall Friction in Net Shape Forming of Ceramics"
		"Morphology-Processing Interactions in Polymer Blends"

### MSc.

Total of (16) MSc Theses, at Imperial College (5), University of South Carolina (5), University of Thessaly (5).

## 3 Teaching

### 2008-2020

Aerodynamics  
Thermodynamics II  
Heat Flow Analysis  
Polymer Rheology and Processing  
Analysis of Polymer Processing Operations

### Mechanical Engineering, University of Thessaly

8<sup>th</sup> semester elective course  
3<sup>rd</sup> semester core course  
5<sup>th</sup> semester core course  
8<sup>th</sup> semester elective course  
Graduate course in Mechanical Engineering

### 1997-2008

Chem. Eng. Fluid Mechanics  
Introduction to Polymers  
Heat Transfer  
Introduction to Thermodynamics  
Advanced Fluid Mechanics  
Principles of Polymer Processing  
Computational Methods in Engineering

### Chemical Engineering, U. South Carolina, USA

Core course in Chemical Engineering  
Chemical Engineering Elective  
Core course in Chemical Engineering  
Core course in Chemical Engineering  
Core graduate course in Chemical Engineering  
Graduate elective in Chemical Engineering  
New course for seniors in Chemical\_Engineering dealing with the numerical solution of differential equations encountered in modeling of engineering systems

### 1993-1997

Manufacturing of Polymer Composites  
Fluid and Particle Mechanics  
Elements of Particulate Technology  
Mass Transfer

### Chemical Engineering, Imperial College, UK

Senior elective course  
Third year core course.  
Third and fourth year elective course.  
Second year Laboratory-based core course.

## ADMINISTRATIVE ACTIVITIES

### University of Thessaly, Department of Mechanical Engineering

2020-2022 Deputy Head of Department  
2020-2022 Director of Graduate Studies – MSc Program on Analysis and Management of Energy Systems  
2009-2014 Manager and Faculty Advisor, "Practical Training of Mechanical Engineering Students"  
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

<sup>1</sup> Co-advised with Prof. Briscoe, Imperial College, UK

<sup>2</sup> Co-advised with Prof. J.S.Higgins, Imperial College

## 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)
- 2 Papathanasiou, T.D. and A. Benard (Eds.), "Flow-Induced Alignment in Composite Materials, 2<sup>nd</sup> Edition", Elsevier, contract signed, expected mid-2021

ARTICLES IN REFEREED JOURNALS (corresponding author where underlined)

- 78 A. Tsiantis and T.D. Papathanasiou, "Estimating the lateral dimensions of 2D flakes by randomly sectioning a layered flake composite", subm. *Physica A.*, 5/2021
- 77 A. Tsiantis, Y. Wang, X. Huang, T.D. Papathanasiou, "From flakes to ribbons: The barrier factor of composites containing flakes of rectangular shape", subm. *J. Composite Materials*, 4/2021
- 76 A. Dobri, A. Tsiantis, T.D. Papathanasiou, Y. Wang, "Investigation of transient heat transfer in multi-scale PCM composites using a semi-analytical model", *International Journal of Heat and Mass Transfer*, 175, 121389, 2021
- 75 E. Karvelas, G. Sofiadis, I. Sarris, T.D. Papathanasiou, "Effect of micropolar fluid properties on blood flow in the human carotid artery", *Fluids*, 5, 125, 2020
- 74 V.J. Azat, E. Arkhangelsky, T. Papathanasiou, A. Zorpas, A. Abirov, V. Inglezakis, "Synthesis of biosources silica-Ag nanocomposites and amalgamation reaction with mercury in aqueous solutions", *Comptes Rendus Chimie*, 23(1), 77-92, 2020
- 73 A. Tsiantis and T.D. Papathanasiou, "A general scaling for the barrier factor of composites containing layered flakes of square, circular and hexagonal shape", *International Journal of Heat and Mass Transfer*, 157, 119962, 2020
- 72 C. Erisken, A. Tsiantis, T.D. Papathanasiou, E.G. Karvelas, "Collagen fibril diameter distribution affects permeability of ligament tissue: A comparison between healthy and injured tissues", *Computer Methods and Programs in Biomedicine*, 196, 105554, 2020
- 71 Dobri, A. , Y. Wang and T.D. Papathanasiou, "Transient heat transfer in fibrous composites: A semi-analytical model and its numerical validation", *Numerical Heat Transfer: Part A*, 77(9), 840-852, 2020 [doi.org/10.1080/10407782.2020.1746154](https://doi.org/10.1080/10407782.2020.1746154)
- 70 E.G. Karvelas, A. Tsiantis and T.D. Papathanasiou, "Effect of Micropolar Fluid Properties on the Hydraulic Permeability of Fibrous Biomaterials", *Computer Methods and Programs in Biomedicine*, 185, 1050135, [doi.org/10.1016/j.cmpb.2019.105135](https://doi.org/10.1016/j.cmpb.2019.105135), 2020
- 69 Dobri, A. and T.D. Papathanasiou, "Multi-Scale Modeling of the Dynamics of a Fibrous Reactor: Use of an Analytical Solution at the Micro-Scale to Avoid the Spatial Discretization of the Intra-Fiber Space", *Fluids* 5 (1), 3, 2020
- 68 A. Tsiantis and T.D. Papathanasiou, "A novel FastRSA algorithm: Statistical Properties and Evolution of Microstructure", *Physica A: Statistical Mechanics and its Applications*, 534, 122083, [doi.org/10.1016/j.physa.2019.122083](https://doi.org/10.1016/j.physa.2019.122083), 2019
- 67 A. Tsiantis and T.D. Papathanasiou, "An Evaluation of Models and Computational Approaches for the Barrier Properties of Coatings Containing Flakes of High Aspect Ratio", *Journal of Coatings Technology and Research*, 16 (2), 521-530, 2019

- 66 A. Tsiantis and T.D. Papathanasiou, "A closed-form solution for the barrier properties of randomly-oriented high aspect ratio flake composites", *Journal of Composite Materials*, 53, 16, 2239-2247, 2019
- 65 A. Dobri and T.D. Papathanasiou, "A multi-Scale, semi-Analytical Model for Transient Heat Transfer in a Nano Composite Containing Spherical Inclusions", *Eurasian Chemico-Technological Journal*, 21(2), 521-530, 2019
- 64 S. Sumbekova, A. Iskakova and A. Papathanasiou, "Microstructural Clustering in Multiphase Materials and its Quantification", *Physica A: Statistical Mechanics and its Applications*, 532, 121809 doi.org/10.1016/j.physa.2019.121809, 2019
- 63 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
- 62 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*, 33(4), 438-456, 2017
- 61 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
- 60 N. Polychronopoulos and T.D. Papathanasiou, "A Novel Model for Resin Infiltration in Pin-Assisted Pultrusion", *Polymer Composites*, 38(12), 2653-2662, 2017
- 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 (Q1)
- 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 (Q1)
- 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 (Q1)

- 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 (Q1)
- 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 (Q1)
- 47 S.C. Barwick and T.D. Papathanasiou, "Identification of Fiber Misalignment in Continuous Fiber Composites", *Polymer Composites*, **24**(3), 475-486, 2003 (Q2)
- 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 (Q2)
- 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 (Q1)
- 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 (Q1)
- 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 (Q3)
- 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 (Q1)
- 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

#### 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



## CONFERENCE PRESENTATIONS/PROCEEDINGS (partial list)

- 69 A. Tsiantis and T.D. Papathanasiou, "The effect of misorientation on the barrier properties of flake-filled composites: A 3D approach", SAMPE-2019, Charlotte, USA, <https://doi.org/10.33599/nasampe/s.19.1421>. May 2019
- 68 A. Tsiantis and T.D. Papathanasiou, "A novel structure-permeability correlation in random and aggregated fiber arrays", 35<sup>th</sup> International Conference of the Polymer Processing Society, Cesme, Turkey, May 2019.
- 67 T.D Papathanasiou, "Structure-oriented models for the permeability of random and aggregated fiber arrays", 7<sup>th</sup> Global Conference on Materials Science and Engineering - CMSE2018, Xian, China, 11/2018
- 66 S. Sumbekova, N. Kulmukhanova and T.D. Papathanasiou, "Microstructure clustering in multi-scale materials: effect of initial configuration", 6<sup>th</sup> Int. Conf. on Nanomaterials and Advanced Energy Storage Systems, Astana, 8/2018.
- 65 S. Sumbekova, A. Tsiantis and T.D. Papathanasiou, "Microstructure clustering in multiphase materials: The role of dimensionless temperature and surface fraction", 6<sup>th</sup> Int. Conf. on Nanomaterials and Advanced Energy Storage Systems, Astana, 8/2018.
- 64 A. Dobri, A. Zeinula and T.D. Papathanasiou, "A multi-scale model for transport and reaction in heterogeneous porous media", 6<sup>th</sup> Int. Conf. on Nanomaterials and Advanced Energy Storage Systems, Astana, 8/2018
- 63 A. Tsiantis, S. Sumbekova and T.D. Papathanasiou, "Computational Analysis of transport across flake-filled composites of realistic microstructure", 34<sup>th</sup> Annual Meeting of the Polymer Processing Society (PPS-34), Taipei, Taiwan AIP Conference Proceedings 2065 (1), 030039, 5/2018,
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