

JOHN TSAMOPOULOS

CONTACT INFORMATION:

Present Position: Professor of Chemical Engineering.
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EDUCATION:

Ph.D. in Chemical Engineering, Massachusetts Institute of Technology (MIT), Boston, USA.
Date awarded: January 1985.
Thesis Title: Nonlinear Dynamics of Simple and Compound Drops.
Supervising Professor: Robert A. Brown,
Minor: Applied Mathematics.
G.P.A.: 5.0/5.0
M.S. in Chemical Engineering, Massachusetts Institute of Technology (MIT), Boston, USA.
Date awarded: June 1981.
Thesis Title: The Effect of Design on the Dynamics of Fluidized Bed Dryers
Supervising Professor: C. Georgakis.
Chemical Engineering Diploma, National Technical University of Athens (NTUA).
Date awarded: June 1979.
Thesis Title: Mass Transport in Reverse Osmosis Membranes
Supervising Professor: G. Saravakos.
G.P.A.: 9.3/10
Graduation Rank: 1/60.

EMPLOYMENT HISTORY:

Feb. 1995 – present University of Patras, Professor.
Sep. 1992 - Jan. 1995 University of Patras, Associate Professor.
Feb. 1994 - Jan. 1995 State University of New York (SUNY), Buffalo, USA, Professor.
Sep. 1990 - Jan. 1994 State University of New York (SUNY), Buffalo, USA, Associate Professor.
Jan. 1985 - Aug. 1990 State University of New York (SUNY), Buffalo, USA, Assistant Professor.
Jun. 1986 - July 1986 Massachusetts Institute of Technology, (MIT), Boston, USA, Visiting Assistant Professor.
Sep. 1981 - Dec. 1984 Massachusetts Institute of Technology, (MIT), Boston, USA, Research and Teaching Assistant.
Summer 1978 AKZO CHEMIE NEDERLAND, Research Center, Amsterdam.

RESEARCH INTERESTS:

Newtonian and Non-Newtonian Fluid Mechanics.

Constitutive modeling and flow of elasto-visco-plastic materials.

Non-linear analysis of free boundary problems in drop and bubble dynamics.

Dynamics and stability of liquid films over solid and liquid substrates.

Momentum, Heat and Mass Transfer Applied to Materials Processing.

Production limits and dynamics in Polymer Processing Operations.

Fabrication of new materials by Chemical Vapor Infiltration & Chemical Vapor Deposition.

Modern numerical methods for solving basic and applied problems.

Finite Element, Boundary Element, Finite Difference, Spectral Element & Hybrid Numerical Methods.

Applied Mathematics.

Computer-aided Process Analysis. Stability analysis based on bifurcation theory.

HONORS AND AWARDS:

1978 & 1979: Prizes of the Technical Chamber of Greece.

1976 - 1979: Greek Scholarship Foundation Awards.

1980: "17th November 1973" prize, Technical Chamber of Greece.

Awarded for highest academic performance among all students at the National Technical University of Athens (NTUA).

1980: Chrysosoverghis Prize, National Technical University of Athens.

Awarded to the student ranking first overall in each graduating class in the School of Chemical Engineering.

Fall 1979-Spring 1982: Departmental Fellow, MIT, funded consecutively by A.D. Little, DuPont, Union Carbide, Halcon International companies.

1992, 1996, 2006: Who's Who in Science and Engin., New Providence NJ, (USA),

2001 – 2005, 2008-2009: Who's Who in the World, New Providence, NJ, (USA).

2007, Fall: The presentation entitled: "Steady bubble rise and deformation in Bingham fluids and conditions for their entrapment with Y. Dimakopoulos, N. Chatzidai, G. Karapetsas, M. Pavlidis, received the Best paper award in the 2nd Conference on Viscoplasticity: from Theory to Application, Ticino, SWITZERLAND, October 2007.

2015, Fall: Received the "Bingham fluid medal" during the 6th International Conference on Viscoplastic Fluids: From Theory to Application, Banff, CANADA, October 2015, <http://www.birs.ca/events/2015/5-day-workshops/15w5071>.

2016, Spring: Nelder Visiting Fellowship, Department of Mathematics, Imperial College (Sabbatical Leave) <https://www.imperial.ac.uk/natural-sciences/departments/mathematics/research/nelder-visiting-fellowships/professor-john-tsamopoulos/>

- 2016, Fall: Fellow of the American Physical Society, Division of Fluid Dynamics, <https://www.aps.org/units/dfd/fellowship/index.cfm?year=2016>
- 2018, Spring: Our paper entitled: “How viscoelastic is human blood plasma?” (A104) below, was featured in the inside front cover of the Journal “Soft Matter”
- 2019, Spring: Our paper entitled: “The PAL (Penalized Augmented Lagrangian) method for computing viscoplastic flows: A new fast converging scheme” (A105) below, with Dimakopoulos, Y., Makrygiorgos, G., and Georgiou, G. has been selected as the best paper of the Journal of NonNewt Fluid Mech. and winner of the 2018 Walters Award. The award will be made at the 2019 Society of Rheology meeting in Raleigh, North Carolina.
- 2019, Spring: Our poster entitled: “Dynamics of elasto-visco-plastic materials in a strong extensional flow”, (B248) below, with G. Ioannou, S. Varchanis and Y. Dimakopoulos, has been selected as the best poster presentation in the 12th PanHellenic Scientific Conference in Chemical Engineering, in Athens, GREECE.
- 2019, Summer: Our poster entitled: “The dynamic response of elastoviscoplastic fluids under extension”, (B251) below, with P. Moschopoulos, K. Psaraki, A. Syrakos and Y. Dimakopoulos, has been selected as the best poster presentation in the 9th International Conference of the Hellenic Society of Rheology, Samos, GREECE.
- 2019, Fall: Our paper entitled: “Viscoelastic film flows over an inclined substrate with sinusoidal topography, I. Steady State”, (A110) below, with Pettas, D., Karapetsas, G., and Dimakopoulos, Y., was selected as Editor’s Suggestion, in the Physical Review Fluids Journal.
- 2019, Fall: Our paper entitled: “Viscoelastic film flows over an inclined substrate with sinusoidal topography, II. Linear stability analysis” (A111) below, with Pettas, D., Karapetsas, G., and Dimakopoulos, Y., was selected as Editor’s Suggestion, in the Physical Review Fluids Journal.
- 2019, Fall: Our paper entitled: “The rising velocity of a slowly pulsating bubble in a shear-thinning fluid”, (A112) below, with De Corato, M., and Y. Dimakopoulos, was selected as Editor’s choice, in the Physics of Fluids Journal.
- 2020, Spring: Our paper entitled: “Asymmetric flows of complex fluids past confined cylinders: A comprehensive numerical study with experimental validation”, (A116) below, with Varchanis, S., Cameron C. Hopkins, A. Q. Shen, and S. J. Haward, was selected as featured article in the May 2020 issue of the Physics of Fluids Journal.

LANGUAGES:

Greek, English (fluent), German (elementary)

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

- American Institute of Chemical Engineers, 1980-1995.
- American Physical Society, 1981-1996, 2013-present.
- Sigma Chi, 1981-1985.
- Society of Rheology (USA), 1986-Present.
- Technical Chamber of Greece, 1979-Present.
- American Ceramic Society, 1989-1992.
- American Chemical Society, 1980-1986.
- European Society of Rheology, 1994-Present.
- Hellenic Society of Rheology, 1996-present (Founding Member, 1st Secretary (1996-1998) and past President of the Society (2000-2002)).

OTHER PROFESSIONAL ACTIVITIES:

- 1998-2001: Member of the National Advisory Research Council (EGSE), of the Ministry of Development of Greece.
- June 1999: As Chairman of the Graduate committee of the Department, organized the first external evaluation of the Graduate program. Members of the committee were: John Congalidis (Senior researcher, DuPont, USA); Christos Comminelis, (Professor, EPFL, Switzerland); Antony Beris (Professor, University of Delaware, USA); Athanasios Sambanis (Professor, Georgia Institute of Technology, USA); Spyros Svoronos (Professor, University of Florida, USA). In its evaluation report the committee praised the high level of studies and research carried out in the Department and recommended ways for its improvement.
- 2002: Co-edited with D. Vlassopoulos the special issue of the *J. Non-Newtonian Fluid Mech.* **102(2)**, (2002), dedicated to Prof. A. Acrivos on the occasion of his retirement from the Levich Institute and CCNY. The papers were reviewed upon submission to the Journal and were among those presented during the 3rd International conference of the Hellenic Society of Rheology, which took place in Patras (June, 2001). The conference had over 100 participants from Europe, USA, Australia, etc., many of whom are members of the “Academic Tree” of Prof. A. Acrivos.
- 2002-present: Member of the Editorial Board of the Journal *Non-Newtonian Fluid Mechanics*.
- July 2004: As Principal Investigator of the EPEAEK graduate program of the Department, organized the second external evaluation of the Graduate program. Members of the committee were: Christos Georgakis (Professor, Tufts University, USA); Antony Beris (Professor, University of Delaware, USA); Evangelos Goggolidis (Senior researcher, NCSR Democritus, Greece); Iakovos Vasalos (Professor, University of Thessaloniki, Greece). In its evaluation report the committee highlighted the high level of the postgraduate program and the fulfilment of the objectives set by the EPEAEK program, which was ranked nationwide among the top three.

- 2011: Member of the Editorial Board with Ian Frigaard, John Billingham and Marcio Carvalho the special issue entitled “Complex Flows and Fluids” of the “Journal of Engineering Mathematics”, 71(1).
- 2011-present: Member of the editorial Board of the International Scholarly Research Network (ISRN) Chemical Engineering.
- 2015-present: Member of the editorial Board of The Open Chemical Engineering Journal.
- 2019- : Member of the advisory board of the Journal “Physics of Fluids” appointment starting October 2019.

OVERVIEW OF PUBLICATIONS (until October 20, 2020)

Peer-reviewed articles:	120 published, 1 accepted, 3 submitted
Publications and presentations in Conferences:	263 given, 3 upcoming
Invited Lectures:	53 given.
Edited Journal Issues:	2 published
Other:	2 book reviews
Citations of Journal articles (web of science):	3061
Citations excluding self-citations	2423
Hirsch index (web of science):	31
Citations of Journal articles (Google scholar):	4358
Hirsch index (Google scholar):	35
i10 index (Google scholar):	88

PUBLICATIONS IN REFEREED JOURNALS:

- A1. **Tsamopoulos, J.** and Brown, R.A., "*Non-linear oscillations of inviscid drops and bubbles*", J. Fluid Mech., 127, 519-537, (1983).
- A2. **Tsamopoulos, J.** and Georgakis, G., "*The effect of the relative size on the dynamics of fluidized bed dryers*", Chem. Eng. Comm., 23, 343-362, (1983).
- A3. **Tsamopoulos, J.** and Brown, R.A., "*Resonant oscillations of inviscid charged drops*", J. Fluid Mech., 147, 373-395, (1984).
- A4. Beris, A., **Tsamopoulos, J.**, Brown, R.A. and Armstrong, R.C., "*Creeping motion of a sphere through a Bingham plastic*", J. Fluid Mech., 158, 219-244, (1985).
- A5. **Tsamopoulos, J.**, Akylas, T. and Brown, R.A., "*Dynamics of charged drop break-up*", Proc. Roy. Soc. Lond., A401, 67-88, (1985).
- A6. **Tsamopoulos, J.** and Brown, R.A., "*Dynamic centering of liquid shells*", Phys. Fluids, 30(1), 27-35, (1987), <http://dx.doi.org/10.1063/1.866190>.
- A7. **Tsamopoulos, J.**, Poslinski, A. and Ryan, M., "*Equilibrium shapes and stability of captive annular menisci*", J. Fluid Mech., 197, 523-549, (1988), dx.doi.org/10.1017/S0022112088003350.
- A8. **Tsamopoulos, J.**, "*Nonlinear dynamics and break-up of charged drops*", Amer. Instit. of Phys. Conf. Proc. Ser., 197, 169-187, (1989).
- A9. Gupte, S. and **Tsamopoulos, J.**, "*Densification of porous materials by chemical vapor infiltration*", J. Electrochem. Soc., 136(2), 555-561, (1989), doi: 10.1149/1.2096681
- A10. Goethel, P., **Tsamopoulos, J.** and Yang, R.T., "*Modeling the channeling action of catalysts in gas-carbon reactions*", AIChE J., 35(4), 686-689, (1989).
- A11. **Tsamopoulos, J.**, Dandekar, H. and Scholtz, J., "*Gasification of graphite by the channeling action of metal catalysts*", J. Catalysis, 117, 549-557, (1989).

- A12. Gupte, S. and **Tsamopoulos, J.**, "*An effective medium approach for modeling chemical vapor infiltration of porous ceramic materials*", *J. Electrochem. Soc.*, 137(5), 1626-1638, (1990), doi:10.1149/1.2086741.
- A13. Gupte, S. and **Tsamopoulos, J.**, "*Forced-flow, chemical vapor infiltration of porous ceramic materials*", *J. Electrochem. Soc.*, 137(11), 3675-3682, (1990), doi:10.1149/1.2086286.
- A14. Vincett, M., **Tsamopoulos, J.** and Lund, C.R., "*Carbon gasification by Group VIII metal catalysts*", *J. Catalysis*, 126, 279-290, (1990).
- A15. Pelekasis, N., **Tsamopoulos, J.** and Manolis, G., "*Equilibrium shapes and stability of charged and conducting drops*", *Phys. Fluids*, A2(8), 1328-1340, (1990), <http://dx.doi.org/10.1063/1.857583>.
- A16. Poslinski, A. and **Tsamopoulos, J.**, "*Nonisothermal parison inflation in Blow molding*", *AIChE J.*, 36(12), 1837-1850, (1990).
- A17. Poslinski, A. and **Tsamopoulos, J.**, "*Inflation dynamics of fluid menisci inside a mold cavity: I. Deformation driven by small gas pressures*", *Chem. Eng. Sci.*, 46(1), 215-232, (1991).
- A18. Poslinski, A., Orlicki, D. and **Tsamopoulos, J.**, "*Inflation dynamics of fluid menisci inside a mold cavity: II. Deformation driven by large gas pressures*", *Chem. Eng. Sci.*, 46(2), 597-608, (1991).
- A19. Pelekasis, N., **Tsamopoulos, J.** and Manolis, G., "*Nonlinear oscillations of liquid shells in zero gravity*", *J. Fluid Mech.*, 230, 541-582, (1991) doi:10.1017/S0022112091000897
- A20. Borkar, A. and **Tsamopoulos, J.**, "*Boundary layer analysis of the dynamics of axisymmetric capillary bridges*", *Phys. Fluids*, A3(12), 2866-2874, (1991).
- A21. Chitrapu, P., Lund, C.R. and **Tsamopoulos, J.**, "*A model for the catalytic growth of carbon filaments*", *Carbon*, 30(2), 285-293, (1992).
- A22. **Tsamopoulos, J.**, Chen, T.-Y. and Borkar, A., "*Viscous oscillations of capillary bridges*", *J. Fluid Mech.*, 235, 579-609, (1992).
- A23. Chen, T.-Y., **Tsamopoulos, J.** and R. Good, "*Capillary bridges between parallel and non-parallel surfaces and their stability*", *J. Coll. Interf. Sci.*, 151(1), 49-69, (1992).
- A24. Pelekasis, N., Manolis, G. and **Tsamopoulos, J.**, "*A hybrid finite-boundary element method for inviscid flows with a free surface*", *J. Comp. Phys.*, 101(2), 231-251, (1992), [doi:10.1016/0021-9991\(92\)90001-F](http://dx.doi.org/10.1016/0021-9991(92)90001-F).
- A25. Pelekasis, N. and **Tsamopoulos, J.**, "*Bjerknes forces between two bubbles: I. Response to a step change in pressure*", *J. Fluid Mech.*, 254, 467-499, (1993), <http://dx.doi.org/10.1017/S0022112093002228>.
- A26. Pelekasis, N. and **Tsamopoulos, J.**, "*Bjerknes forces between two bubbles: II. Response to an oscillatory pressure field*", *J. Fluid Mech.*, 254, 501-527, (1993),

<http://dx.doi.org/10.1017/S002211209300223X>.

- A27. Chen, T.-Y. and **Tsamopoulos, J.**, "*Nonlinear dynamics of capillary bridges: Theory*", *J. Fluid Mech.*, 255, 373-409, (1993).
- A28. Mollot, D., **Tsamopoulos, J.**, Chen, T.-Y. and Ashgriz, N., "*Nonlinear dynamics of capillary bridges: Experiments*", *J. Fluid Mech.*, 255, 411-435, (1993).
- A29. **Tsamopoulos, J.** and Borkar, A., "*Transient rotational flow of an Oldroyd-B fluid over a disk*", *Phys. Fluids*, 6(3), 1144-1157, (1994).
- A30. Borkar, A., **Tsamopoulos, J.**, Gupta, S. and Gupta, R., "*Spin coating of viscoelastic and nonvolatile fluids over a planar disk*", *Phys. Fluids*, 6(11), 3539-3553, (1994).
- A31. Chen, T.-Y. and **Tsamopoulos, J.**, "*Nonlinear dynamics of capillary bridges: Theory*" (Corrigendum), *J. Fluid Mech.*, 265, 375-376, (1994).
- A32. Borkar, A. and **Tsamopoulos, J.**, "*Start-up flow of an Upper convected Maxwell fluid over a rotating disk*", *J. Non-Newtonian Fluid Mech.*, 55, 163-189, (1994).
- A33. Pelekasis, N. and **Tsamopoulos, J.**, "*Dynamics of charged and conducting drops via the hybrid finite-boundary element method*", *Engr. Anal. Boundary Elements*, 15, 339-348, (1995).
- A34. **Tsamopoulos, J.**, Chen, M. F. and Borkar, A., "*On the Spin-coating of Viscoplastic Fluids*", *Rheol. Acta*, 35(6), 597-615, (1996).
- A35. Housiadas, C. and **Tsamopoulos, J.**, "*Unsteady flow of an axisymmetric annular film under gravity*", *Phys. Fluids*, 10(10), 2500-2516, (1998).
- A36. Kouris, Ch., Neophytides, St., Vayenas, C., and **Tsamopoulos, J.**, "*Unsteady state operation of catalytic particles with constant and periodically changing degree of external wetting*", *Chem. Eng. Sci.*, 53(17), 3129-3142, (1998).
- A37. Housiadas, C. and **Tsamopoulos, J.**, "*Unsteady extrusion of a viscoelastic annular film: I. General model and its numerical solution*", *J. Non-Newtonian Fluid Mech.*, 88(3), 229-259, (2000).
- A38. Housiadas, C. and **Tsamopoulos, J.**, "*Unsteady extrusion of a viscoelastic annular film: II. Linearized model and its analytical solution*", *J. Non-Newtonian Fluid Mech.*, 88(3), 303-325, (2000).
- A39. Housiadas, C. and **Tsamopoulos, J.**, "*Cooling of a viscoelastic film during unsteady extrusion from an annular die*", *Rheol. Acta*, 39(1), 44-61, (2000).
- A40. Housiadas, K., Georgiou, G. and **Tsamopoulos, J.**, "*The steady annular extrusion of a Newtonian liquid under gravity and surface tension*", *Intern. J. Numer. Meth. Fluids*, 33(8), 1099-1119, (2000).
- A41. Kouris, Ch. and **Tsamopoulos, J.**, "*Concentric core-annular flow in a constricted tube with*

- slowly varying cross section*", Chem. Eng. Sci., 55(22), 5509-5530, (2000).
- A42. Smyrnaio, D., Pelekasis, N. and **Tsamopoulos, J.**, "*Boundary layer flow of air past solid surfaces in the presence of rainfall*", J. Fluid Mech., 425, 79-110, (2000).
- A43. Kouris, Ch. and **Tsamopoulos, J.**, "*Core-annular flow in a periodically constricted circular tube, I. Steady state, linear stability and energy analysis*", J. Fluid Mech., 432, 31-68, (2001).
- A44. Pelekasis, N. and **Tsamopoulos, J.**, "*Linear stability of a gas boundary layer flowing past a thin liquid film that grows over a flat plate*", J. Fluid Mech., 436, 321-352, (2001).
- A45. Kouris, Ch. and **Tsamopoulos, J.**, "*Dynamics of axisymmetric core-annular flow in a straight tube: I. The more viscous fluid in the core, bamboo waves*", Phys. Fluids, 13(4), 841-858, (2001).
- A46. Kouris, Ch., Neophytides, St., Vayenas, C., and **Tsamopoulos, J.**, "*Unsteady state operation of catalytic particles with constant and periodically changing degree of external wetting*", (Corrigendum), Chem. Eng. Sci., 56, 2897, (2001).
- A47. Smyrnaio, D. and **Tsamopoulos, J.**, "*Squeeze flow of Bingham plastics*", J. Non-Newtonian Fluid Mech., 100(1-3), 165-190, (2001).
- A48. Pelekasis, N., St. Economou, C., and **Tsamopoulos, J.**, "*Linear oscillations and stability of a liquid bridge in an axial electric field*", Phys. Fluids, 13(12), 3564-3581, (2001).
- A49. Kouris, Ch. and **Tsamopoulos, J.**, "*Dynamics of axisymmetric core-annular flow: II. The less viscous fluid in the core, saw tooth waves*", Phys. Fluids, 14(3), 1011-1029, (2002).
- A50. Kouris, Ch., Dimakopoulos, J., Georgiou, G. & **Tsamopoulos, J.**, "*Comparison of spectral and finite element methods applied to the study of interfacial instabilities of the core-annular flow in an undulating tube*", Intern. J. Num. Meth. Fluids, 39(1), 41-73. (2002).
- A51. Smyrnaio, D., Pelekasis, N. and **Tsamopoulos, J.**, "*Boundary Layer Flow of Saturated Vapor and its Condensate over a Horizontal Tube*", Phys. Fluids, 14(6), 1945-1957 (2002).
- A52. Kouris, Ch. and **Tsamopoulos, J.**, "*Core-annular flow in a periodically constricted circular tube, II. Dynamics*", J. Fluid Mech., 470, 181-222 (2002).
- A53. **Tsamopoulos, J.** and Vlassopoulos, D. "*Personal report: Dedication*" J. Non-Newtonian Fluid Mech., 102, 111-113 (2002).
- A54. Dimakopoulos, Y. & **Tsamopoulos, J.**, "*Transient displacement of viscoplastic fluids by air in straight or suddenly constricted tubes*", J. Non-Newtonian Fluid Mech., 112/1, 43-75 (2003).
- A55. Dimakopoulos, Y. & **Tsamopoulos, J.**, "*Transient displacement of a Newtonian fluid by air in straight or suddenly constricted tubes*", Phys. Fluids, 15(7), 1973-1991 (2003).
- A56. Dimakopoulos, Y. & **Tsamopoulos, J.**, "*A quasi-elliptic transformation for moving boundary problems with large anisotropic deformations*", J. Comp. Phys., 192(2), 494-522

- (2003).
- A57. Pelekasis, N., Gaki, A. Doinikov, A. & **Tsamopoulos, J.**, "Secondary Bjerknes forces between two spherical bubbles and the phenomenon of acoustic streamers", *J. Fluid Mech.*, 500, 313-347 (2004), [doi: 10.1017/S0022112003007365](https://doi.org/10.1017/S0022112003007365).
- A58. Dimakopoulos, Y. & **Tsamopoulos, J.**, "On the gas-penetration in straight tubes completely filled with a viscoelastic fluid", *J. Non-Newtonian Fluid Mech.*, 117/2-3, 117-139 (2004).
- A59. Talaslidis, D., Manolis, D., Paraskevopoulos, E., Panagiotopoulos, C., Pelekasis, N. & **Tsamopoulos J.**, "Risk Analysis of industrial structures under extreme transient loads", *Soil Dynamics. & Earthquake Eng.*, 24/6, 435-448 (2004).
- A60. Lac, E., Pelekasis, N. Barthes-Biesel, D. & **Tsamopoulos, J.**, "Spherical Capsules in three-Dimensional unbounded Stokes Flows: effect of the membrane constitutive law and onset of buckling ", *J. Fluid Mech.*, 516, 303-334 (2004), [doi:10.1017/S002211200400062X](https://doi.org/10.1017/S002211200400062X).
- A61. Foteinopoulou, K., Mavrantzas, V. & **Tsamopoulos, J.** "Numerical simulation of bubble growth during filament stretching of pressure-sensitive adhesive materials", *J. Non-Newtonian Fluid Mech.*, 122(1-3), 177-200 (2004), [doi:10.1016/j.jnnfm.2004.02.012](https://doi.org/10.1016/j.jnnfm.2004.02.012)
- A62. Dimakopoulos, Y. & **Tsamopoulos, J.**, "Gas Assisted Injection Molding of fluids partially occupying straight or complex tubes", *Polym. Eng. & Sci.*, 46(1), 47-68 (2006), [doi: 10.1002/pen.20437](https://doi.org/10.1002/pen.20437).
- A63. Karapetsas and **Tsamopoulos, J.** "Transient squeeze flow of viscoplastic materials", *J. Non-Newtonian Fluid Mech.*, 133, 35-56 (2006), [doi:10.1016/j.jnnfm.2005.10.010](https://doi.org/10.1016/j.jnnfm.2005.10.010)
- A64. Foteinopoulou, K., Mavrantzas, V., Dimakopoulos, Y. & **Tsamopoulos, J.** "Numerical simulation of multiple bubbles growing in a Newtonian liquid filament undergoing stretching", *Phys. Fluids*, 18, 042106, 1-24 (2006), [doi: 10.1063/1.2194931](https://doi.org/10.1063/1.2194931)]
- A65. Dimakopoulos, Y. & **Tsamopoulos, J.**, "Transient Displacement of Newtonian Liquids By Gas in Periodically Constricted Tubes", *AIChE J.*, 52(8), 2707-2726 (2006), [doi: 10.1002/aic.10889](https://doi.org/10.1002/aic.10889).
- A66. Housiadas, K., Klidis, G. and **Tsamopoulos, J.**, "Two- and three-Dimensional Instabilities in the Film Blowing Process", *J. Non-Newtonian Fluid Mech.*, 141(2-3) 193-220 (2007), [doi:10.1016/j.jnnfm.2006.09.006](https://doi.org/10.1016/j.jnnfm.2006.09.006).
- A67. Dimakopoulos, Y. & **Tsamopoulos, J.**, "Transient displacement of Newtonian and Viscoplastic liquids by air from complex conduits", *J. Non-Newtonian Fluid Mech.*, 142(1-3) 162-182 (2007), [doi:10.1016/j.jnnfm.2006.08.002](https://doi.org/10.1016/j.jnnfm.2006.08.002)
- A68. Zacharioudaki, M., Kouris, Ch., Dimakopoulos, Y. and **Tsamopoulos, J.**, "A direct comparison between volume and surface tracking methods with a boundary-fitted coordinate transformation and 3rd order upwinding", *J. Comp. Phys.*, 227(2) 1428-1469 (2007), [doi: 10.1016/j.jcp.2007.09.004](https://doi.org/10.1016/j.jcp.2007.09.004).
- A69. **Tsamopoulos, J.**, Dimakopoulos, Y Chatzidai N., Karapetsas, G. and Pavlidis M., "Steady

- bubble rise and deformation in Newtonian and viscoplastic fluids and conditions for bubble entrapment*" *J. Fluid Mech.*, **601**, 123–164 (2008), [doi: 10.1017/S0022112008000517](https://doi.org/10.1017/S0022112008000517)
- A70. Karapetsas, G. and **Tsamopoulos, J.** "Steady extrusion of viscoelastic materials from an annular die", *J. Non-Newtonian Fluid Mech.*, **154**, 136–152 (2008). [doi: 10.1016/j.jnnfm.2008.04.007](https://doi.org/10.1016/j.jnnfm.2008.04.007).
- A71. Chatzidai, N. Giannousakis, A. Dimakopoulos, Y. and **Tsamopoulos, J.** "On the elliptic mesh generation in domains containing multiple inclusions and undergoing large deformations", *J. Comp. Phys.* **228** 1980–2011 (2009), [doi: 10.1016/j.jcp.2008.11.020](https://doi.org/10.1016/j.jcp.2008.11.020).
- A72. Dimakopoulos, Y. & **Tsamopoulos, J.**, "On the transient coating of a straight tube with a viscoelastic material", *J. Non-Newtonian Fluid Mech.*, **159**, 95-114 (2009), [doi: 10.1016/j.jnnfm.2009.02.001](https://doi.org/10.1016/j.jnnfm.2009.02.001).
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	Journal Title (all data are from web of science)	Rank (Quartile, 2017)	Categories	Impact Factor (2017)	5-year IF (2017)	Cited Half Life	Published+ accepted+ submitted
1	Journal of Non-Newt. Fluid Mechanics	39/134 (Q2)	Mechanics	2.293	2.512	11.9	26
2	Journal of Fluid Mechanics	16/134 (Q1) 7/31 (Q1)	Mechanics Physics, fluids and plasmas	2.893	3.157	17.1	22+0+1
3	Physics of Fluids	40/134 (Q2) 13/31 (Q2)	Mechanics Physics, fluids and plasmas	2.279	2.500	12.6	19
4	Chem. Engin. Science	29/137 (Q1)	Chemical engineering	3.306	3.346	11.0	5
5	J. Computational Physics	30/105 (Q2) 3/55 (Q1)	Interdiscipl. applic. Comp. sci. Mathematical physics	2.864	3.186	13.6	5
6	Journal of Rheology	15/134 (Q1)	Mechanics	2.969	3.419	14.4	4
7	Physical Rev. Fluids	14/31 (Q2)	Physics, fluids and plasmas	2.021	2.021	1.3	4+1+1
8	Rheologica Acta	65/134 (Q2)	Mechanics	1.833	2.018	13.4	4
9	Journal of the Electrochem. Society	10/28 (Q2) 2/19 (Q1)	Electrochemistry Materials sci., coat. & films	3.662	3.520	11.6	3
10	AIChE Journal	28/137 (Q1)	Chemical engineering	3.326	3.357	14.8	3
11	Journal of Catalysis	27/146 (Q1) 6/137 (Q1)	Physical chemistry Chemical engineering	6.759	7.502	11.8	2
12	Journal of Colloid & Interface Science	33/146 (Q1)	Physical chemistry	5.091	4.281	9.7	2
13	Soft matter	50/146 (Q2) 64/284 (Q1) 10/78 (Q1) 13/87 (Q1)	Physical chemistry Material science Multidiscipl. Physics Multidisciplinary Polymer Science	3.709	3.863	5.2	2
14	Microfluidics & Nanofluidics	53/92 (Q3) 18/61 (Q2) 11/31 (Q2)	Nanoscience & nanotechn. Instruments & instrumentation Physics, fluids and plasmas	2.384	2.668	5.9	2
15	International Journal for Numerical Methods in Fluids	63/105 (Q3) 36/103 (Q2) 71/134 (Q3) 18/31 (Q3)	Interdiscipl. applic. Comp. sci. Interdiscipl. applic. Mathem. Mechanics Physics, fluids and plasmas	1.673	1.822	11.4	2+0+1
16	Proc. of the Nat. Acad. of Sciences of the USA	7/10 (Q3)	Multidisciplinary sciences	9.58	10.6	6.4	1
17	Carbon	25/146 (Q1) 32/284 (Q1)	Physical chemistry Multidiscipl. materials science	7.082	7.088	6.1	1
18	Electrochimica Acta	5/28 (Q1)	Electrochemistry	5.116	4.857	5.1	1
19	Industrial & Engineering Chemistry	33/137 (Q2)	Chemical engineering	3.141	3.284	7.3	1
20	Materials	132/314 (Q2)	Materials Science, Multidisciplinary	3.057	3.424		1
21	Journal of Vascular Research	54/83 (Q3) 43/65.....(Q3)	Physiology Peripheral vascular disease	2.029	2.598	8.7	1
22	Journal Archaeolog. Sci.	7/85 (Q1)	Anthropology	3.061	3.095	8.2	1
23	Proceed. Royal Soc. London Series A	18/64 (Q2)	Multidisciplinary sciences	2.410	2.464	19.5	1
24	Polymer Engineering & Science	74/137 (Q3) 50/87 (Q3)	Chemical engineering Polymer science	1.551	1.575	13.2	1
25	Engineering Analysis with Boundary Elements	24/86 (Q2) 29/103 (Q2)	Engineering Multidisciplinary Mathem. Interdiscipl. Appl.	2.138	1.925	6.1	1
26	Soil Dynamics & Earthquake Engin.	17/36 (Q2) 87/190 (Q2)	Geological engineering Multidisciplinary geosciences	2.077	2.348	7.2	1
27	Biorheology	61/72 (Q4) 58/78 (Q3) 59/71 (Q4)	Biophysics Biomedical engineering Hematology	1.316	1.148	15.1	1
28	Chem. Engin. Comm.	84/137 (Q3)	Chemical engineering	1.282	1.277	11.0	1

29	J. Eng. Mathematics	55/86 (Q3) 60/103 (Q3)	Engineering Multidisciplinary Mathem. Interdiscipl. Appl.	1.099	1.022	11.7	1
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PRESENTATIONS AT SCIENTIFIC MEETINGS AND ABSTRACTS IN CONFERENCE PROCEEDINGS:

- B1. "*Nonlinear oscillations of inviscid drops and bubbles*", with R.A. Brown, 75th Annual AIChE Meeting, November 1982.
- B2. "*Oscillations of inviscid charged drops*", with R.A. Brown, 36th Annual Meeting of APS, Division of Fluid Mechanics, November 1983. Abstract in Bull. Am. Phys. Soc., 28, 1408, (1983).
- B3. "*Nonlinear dynamics of inviscid drops and liquid shells*", with R.A. Brown, 58th Annual Colloid and Surface Science Symposium of Amer. Chem. Soc., June 1984.
- B4. "*Analysis of a falling sphere in a Bingham plastic*", with A.N. Beris, R.A. Brown and R.C. Armstrong, International Rheology Conference, MEXICO, October 1984.
- B5. "*The motion of a solid sphere through a Bingham plastic*", with A. N. Beris, R.A. Brown and R.C. Armstrong, 77th Annual AIChE Meeting, November 1984.
- B6. "*Motion of a solid sphere through a Bingham plastic*", with A. N. Beris, R.A. Brown and R. C. Armstrong, Amer. Phys. Soc., Division of Fluid Mechanics, November 1984. Abstract in Bull. Am. Phys. Soc., 29, 1547, (1984).
- B7. "*Dynamics of charged drop break-up*", with T.R. Akylas and R.A. Brown, 37th Annual Meeting of Amer. Phys. Soc., Division of Fluid Mechanics, November 1984. Abstract in Bull. Am. Phys. Soc., 29, 1518, (1984).
- B8. "*Nonlinear equilibria and dynamics of liquid drops*", with R.A. Brown and R. Natarajan, Symposium on Variational Methods for Free Surface Interfaces, Menlo Park, September 1985.
- B9. "*Dynamic centering of liquid shells*", with R.A. Brown, 38th Annual Meeting of Amer. Phys. Soc., Division of Fluid Mechanics, November 1985. Abstract in Bull. Am. Phys. Soc., 30, 1691, (1985).
- B10. "*Nonlinear dynamics and break-up of charged drops*", with R.A. Brown, 78th Annual AIChE Meeting, November 1985.
- B11. "*Coupling engineering design with economics in an educational computer program*", with M. Vincett and R. Gupta, Amer. Soc. Eng. Education, August 1987.
- B12. "*Existence and stability of similarity solutions for the flow in a porous pipe*", with N. Pelekasis, 40th Annual Meeting of Amer. Phys. Soc., Division of Fluid Mechanics, November 1987. Abstract in Bull. Am. Phys. Soc., 32, 2033, (1987).
- B13. "*Inflation dynamics of fluid annular menisci*", with A. Poslinski, and M. Ryan, 41st Annual Meeting of Amer. Phys. Soc., Division of Fluid Mechanics, November 1988. Abstract in Bull. Am. Phys. Soc., 33, 2304, (1988).
- B14. "*Hybrid boundary-finite element method for drop dynamics*", with N. Pelekasis and G.

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- B15. "*Dynamics of Axisymmetric Capillary Bridges*", with A. Borkar, 41st Annual Meeting of Amer. Phys. Soc., Division of Fluid Mechanics, November 1988. Abstract in Bull. Am. Phys. Soc., 33, 2240, (1988).
- B16. "*Equilibrium shapes and stability of captive annual menisci*", with A. Poslinski and M. Ryan, 81st Annual AIChE Meeting, November 1988.
- B17. "*Densification of porous materials through chemical vapor infiltration*", with S. Gupte, 81st Annual AIChE Meeting, November 1988.
- B18. "*A model of nickel-catalyzed gasification*", with M. Vincett and C.R. Lund, Amer. Chem. Soc., Division of Fuel Chemistry, April 1989.
- B19. "*A hybrid boundary-finite element method for Axisymmetric Inviscid Flows*", with N. Pelekasis and G. Manolis, Newark, USA, 1989. Paper in Advances in Boundary Elements, Vol.2, 419-432, (1989).
- B20. "*Densification of ceramic composites*", with S. Gupte, Intern. Ceramic Science & Technology Congress, Anaheim, USA, November 1989.
- B21. "*Unsteady-state operation of gasification reactors*", with M. Vincett and C. Lund, 82nd AIChE Meeting, November 1989.
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- B23. "*Nonlinear dynamics of a liquid shell*", with N. Pelekasis, 83rd Annual AIChE Meeting, Abstract 161G, November 1990.
- B24. "*Nonisothermal parison inflation in blow molding*", with A. Poslinski, 83rd Annual AIChE Meeting, November 1990.
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- B26. "*Spin coating of viscoelastic fluids on a rotating disk*", with A. Borkar and R. Gupta, 43rd Annual Meeting of Amer. Phys. Soc. Division of Fluid Mechanics, November 1990. Abstract in Bull. Amer. Phys. Soc., 35, 2278, (1990).
- B27. "*Nonlinear interactions between bubbles: A study of Bjerknes forces*", with N. Pelekasis, 84th Annual AIChE Meeting, Abstract in p214, November 1991.
- B28. "*Chemical Vapor deposition of SiC from Trichloro-Methyl-Silane in a stagnation point flow reactor*", with S.M. Gupte, T.J. Mountziaris and C.R.F Lund, 84th Annual AIChE Meeting, November 1991.

- B29. "*Bjerknes forces between two bubbles in response to an oscillatory pressure field*", with N. Pelekasis, 85th Annual AIChE Meeting, Abstract in p193, November 1992.
- B30. "*Nonlinear Dynamics of Capillary Bridges*", with T.-Y. Chen and N. Ashgriz, 86th Annual AIChE meeting, November 1993.
- B31. "*Spin Coating of Bingham-Plastic Fluids*", with A. Borkar, 86th Annual AIChE meeting, November 1993.
- B32. "*On the Spin-Coating of viscoplastic materials*", with M.F. Chen and A. Borkar, 2nd National Congress on Computational Mechanics, Chania, GREECE, June 1996.
- B33. "*On the Spin-Coating of viscoplastic materials*", with M.F. Chen and A. Borkar, 12th International Congress on Rheology, Quebec, CANADA, August 1996.
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- B149. “Linear stability analysis of the cylindrical or planar stick-slip flow for a PTT fluid model” with G. Karapetsas, 5th Annual European Rheology Conference, AERC, April 15-17, 2009, Cardiff – UNITED KINGDOM.
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- B151. “Injection molding of a viscoplastic fluid inside a cylindrical tube or between two parallel coaxial disks”, with J. Papaioannou, G. Karapetsas, and Y. Dimakopoulos, 7th Panhellenic Conference in Chemical Engineering, Patras, GREECE, May 2009. Paper in the Proceedings, (6 pages in CD)
- B152. “Linear stability analysis of the cylindrical or planar stick-slip flow for a Phan-Tien and Tanner fluid model” with G. Karapetsas, 7th Panhellenic Conference in Chemical Engineering, Patras, GREECE, May 2009. Paper in the Proceedings, (7 pages in CD).
- B153. “Injection of a viscoplastic material with axial symmetry: Conditions for wall detachment of the advancing front”, with J. Papaioannou, G. Karapetsas, and Y. Dimakopoulos, Conference on Viscoplasticity: from Theory to Application, Limasol, CYPRUS, November 2009, Abstract in the Proceedings, p. 10.
- B154. "Steady viscoelastic film flow over 2D topography", with Pavlidis and Dimakopoulos, 6th Annual European Rheology Conference, AERC, Goteborg, SWEDEN, April 2010.
- B155. “Steady viscoelastic film flow over 2D topography”, with Pavlidis and Dimakopoulos, Intern. Conf. Multiscale Complex Fluid Flows and Interfacial Phenomena, MULTIFLOW, Brussels BELGIUM, November 2010.
- B156. “Influence of viscoplasticity and shear thinning on the motion and deformation of a gas bubble” with Pavlidis and Dimakopoulos, 8th Panhellenic Conference in Chemical Engineering, Thessaloniki, GREECE, May 2011. Paper in the Proceedings, (6 pages in CD).
- B157. "Bubble deformation in a viscoelastic fluid under axial extensional flow", with Papaioannou, Giannousakis and Dimakopoulos, 8th PanHellenic Conference in Chemical Engineering, Thessaloniki, GREECE, May 2011. Paper in the Proceedings, (7 pages in CD).
- B158. “Topography-induced thickness variation of viscoelastic films”, with Pavlidis and Dimakopoulos, HSR meeting, Athens, GREECE, June 2011. Abstract in the Conference Proceedings, p. 39
- B159. “Deformation of a Bubble in a Viscoelastic Liquid Subjected to Axisymmetric Extensional Flow” with Papaioannou, Giannousakis and Dimakopoulos, HSR meeting, Athens, GREECE, June 28-29, 2011. Abstract in the Conference Proceedings, p. 42.
- B160. “An improved augmented Lagrangian technique for free surface viscoplastic flows” with Pavlidis and Dimakopoulos, 7th GRACM International Congress on Computational Mechanics, Athens, July 2011, Paper in the Conference Proceedings, (5 pages in CD).
- B161. "Steady flow of a viscoelastic film over two-dimensional topography" with Pavlidis and Dimakopoulos, Workshop on Complex Fluids and Flows in Industry and Nature, Vancouver, CANADA, July 2011. Abstract in conference Proceedings, p. 21.
- B162. "Computational Fluid Dynamics (CFD) evaluation of the flow characteristics of the Conical

- Minoan Terracotta Pipes; Bronze Age” with Tseropoulos, Dimakopoulos and Lyberatos, Istanbul, TURKEY, IWA, Specialized conference on Water and Wastewater Technologies in Ancient Civilizations, March 2012. Abstract in Conference Proceedings
- B163. “Application of an improved Augmented Lagrangian scheme for viscoplastic material flows: the rising, deformable bubble”, with Pavlidis and Dimakopoulos, IWNMNNF 2012, 17th International Workshop on Numerical Methods for Non-Newtonian Flows, BLOIS Castle, FRANCE, March 25-28 2012. Abstract in Conference Proceedings.
- B164. “A hybrid explicit-implicit scheme for integral constitutive models: Application to the simulation of PSA materials”, with Dimakopoulos and Papaioannou, IWNMNNF 2012, 17th International Workshop on Numerical Methods for Non-Newtonian Flows, BLOIS Castle, FRANCE, March 25-28 2012. Abstract in Conference Proceedings.
- B165. “Cavity growth in pressure sensitive adhesive materials: 3D finite element calculations”, with Dimakopoulos and Papaioannou, the XVIth International Congress on Rheology (ICR) Lisbon, PORTUGAL, August 5 - 10, 2012, Paper in conference Proceedings
- B166. “Filament stretching of pressure sensitive adhesives with gas inclusions: a 3D hyperelastic-viscoelastic model and numerical simulation” with Dimakopoulos and Papaioannou, ICTAM XXIII, International Congress on Theoretical and Applied Mechanics, Beijing, CHINA, August 19-24, 2012, Paper in conference Proceedings
- B167. “Increase of the mean velocity of a bubble rise in a viscoplastic fluid induced by an oscillating pressure field” with Photeinos and Dimakopoulos, ICTAM XXIII, International Congress on Theoretical and Applied Mechanics, Beijing, CHINA, August 19-24, 2012, Paper in conference Proceedings.
- B168. A fully implicit 3D elliptic mesh generator for moving boundary flow problems with large arbitrary deformations, with Dimakopoulos and Papaioannou, September, 10-14, 2012, ECCOMAS, Vienna
- B169. Three dimensional volume deformation of a bubble under extension in a Newtonian filament, with Dimakopoulos and Papaioannou, November 16-17, 2012, FLOW conference, Volos, GREECE.
- B170. “Stress induced migration phenomena in corrugated channels”, with Tsouka S., and Dimakopoulos, Y., 8th Annual European Rheology Conference, AERC 2013, Leuven, BELGIUM, April, 2-5, 2013, Paper in conference proceedings.
- B171. “Effect of blood viscoelasticity on the flow in micro-vessels, with G. Kelesidis, Y. Dimakopoulos and G. Georgiou, Workshop on Bioengineering and patient-specific cardiovascular modeling, Limassol, CYPRUS, April 2013.
- B172. “Viscoelastic behavior of blood in small vessels: A numerical investigation” with G. Kelesidis, G. Georgiou and Y. Dimakopoulos, European Society of Biomechanics, ESB Congress 2013, Patras, GREECE, August 2013.
- B173. "Linear stability analysis of the stick-slip flow of a viscoelastic fluid following the Phan-Thien Tanner model", with G. Karapetsas, APS, Division of Fluid Dynamics, Pittsburg,

USA, November 2013.

- B174. "On the increase of the Mean Rise Velocity of a Bubble in a Viscoplastic Fluid Induced by an Oscillating Pressure Field" with Photeinos D., and Dimakopoulos, Y., 9th Annual European Rheology Conference, AERC 2014, Karlsruhe, GERMANY, April, 8-11, 2014. Abstract in conference proceedings, VP13, p. 110.
- B175. "On the abrupt increase of the rise velocity of a deformable bubble in viscoelastic solutions" with Fragedakis D., Pavlidis M., and Dimakopoulos, Y., 9th Annual European Rheology Conference, AERC 2014, Karlsruhe, GERMANY, April, 8-11, 2014. Abstract in conference proceedings, FM7, p. 60.
- B176. "Effect of RBC migration phenomena on the hemodynamics in stenotic microvessels under pulsating flow conditions", with Dimakopoulos Y., Syrakos Al., Georgiou G. and Papadopoulos K., 9th Annual European Rheology Conference, AERC 2014, Karlsruhe, GERMANY, April, 8-11, 2014. Abstract in conference proceedings, FM1, p. 58.
- B177. "Effect of RBC migration on the hemodynamics in stenotic microvessels under steady & pulsating flow conditions" with Y. Dimakopoulos, A. Syrakos, and G. Georgiou, 7th Intern. Meeting of the Hellenic Rheology Society (HSR 2014) and focused Meeting on Attractive Colloids & Gels", Heraklion, Crete, GREECE, July, 7 – 10, 2014. Abstract in Conference proceedings, p 6.
- B178. "Stress-Gradient Induced Migration in Polymeric Flows", with S. Tsouka, Y. Dimakopoulos and Vl. Mavrantzas, 7th Intern. Meeting of the Hellenic Rheology Society (HSR 2014) and focused Meeting on Attractive Colloids & Gels", Heraklion, Crete, GREECE, July, 7 – 10, 2014. Abstract in Conference proceedings, p 58.
- B179. "Steady Rise of a Deformable Bubble in an Elasto-Viscoplastic Fluid", with El. Michalaki and Dimakopoulos, 7th Intern. Meeting of the Hellenic Rheology Society (HSR 2014) and focused Y Meeting on Attractive Colloids & Gels", Heraklion, Crete, GREECE, July, 7 – 10, 2014. Abstract in Conference proceedings, p 20.
- B180. "Stress-gradient induced migration in thin film flow over topography" with Tsouka S. and Dimakopoulos Y. 11th World Congress on Comput. Mechanics (WCCM XI), 5th European Conf. on Comp. Mechanics (ECCM V) and 6th European Conf. on Comput. Fluid Dynamics (ECFD VI), Barcelona, SPAIN, July 20 - 25, 2014.
- B181. "Steady rise of a deformable bubble in an elastoviscoplastic fluid" with Michalaki El, Pavlidis M., and Dimakopoulos Y., 11th World Congress on Comput. Mechanics (WCCM XI), 5th European Conf. on Comp. Mechanics (ECCM V) and 6th European Conf. on Comput. Fluid Dynamics (ECFD VI), Barcelona, SPAIN, July 20 - 25, 2014.
- B182. "Transitions from core-annular flow to bubbling, pulsing or spray flow in a periodically constricted circular tube" with D. Fragedakis and Y. Dimakopoulos, European Fluid Mechanics Conference, EFMC-10, Copenhagen, DENMARK, September, 14-18, 2014.
- B183. "Liquid Film Coating over Patterned Substrates with Air Inclusion inside the Trench", with P. K. Nguyen, M. Pavlidis and Y. Dimakopoulos, European Fluid Mechanics Conference, EFMC-10, Copenhagen, DENMARK, September, 14-18, 2014.

- B184. “On the rise velocity discontinuity of a deformable bubble in unbounded viscoelastic solutions”, with D. Fraggedakis, and Y. Dimakopoulos, 67th Annual Meeting of the APS, Division of Fluid Dynamics, San Francisco, USA, November, 23-25, 2014.
- B185. “Effect of viscoelasticity and RBC migration phenomena in stenotic microvessels” with Y. Dimakopoulos, A. Syrakos and G. Georgiou, 67th Annual Meeting of the APS, Division of Fluid Dynamics, San Francisco, USA, November, 23-25, 2014.
- B186. “Polymer stress-gradient induced migration in thin film flow over topography”, with S. Tsouka and Y. Dimakopoulos, 67th Annual Meeting of the APS, Division of Fluid Dynamics, San Francisco, USA, November, 23-25, 2014.
- B187. “Partial liquid-penetration inside a deep trench by film flowing over it” with P-K Nguyen, and Y. Dimakopoulos, 67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, USA, November, 23-25, 2014.
- B188. “Transition of core-annular, two-phase flow to flow of droplets or discrete phases or pulsing flow” with D. Fraggedakis and Y. Dimakopoulos, 9th PanHellenic conference on Fluid-Flow Phenomena, Athens, GREECE, December, 12-13, 2014.
- B189. “Polymer migration due to stress-gradients in film flow along a solid substrate with sinusoidally varying topography”, with S. Tsouka and Y. Dimakopoulos, 9th PanHellenic conference on Fluid-Flow Phenomena, Athens, GREECE, December, 12-13, 2014.
- B190. “Linear stability analysis during the extrusion of a viscoelastic liquid from a planar die”, with D. Pettas, G. Karapetsas and Y. Dimakopoulos, 9th PanHellenic conference on Fluid-Flow Phenomena, Athens, GREECE, December, 12-13, 2014.
- B191. “Sedimentation of a single particle in a cylinder filled with a yield-stress, elastic and shear thinning material” with Fraggedakis D., Dimakopoulos Y., 10th Annual European Rheology Conference, AERC 2015, Nantes, FRANCE, April 14-17, 2015. Abstract in conference proceedings, CR26, p. 95.
- B192. “Linear stability analysis of viscoelastic fluid extrusion through a planar die”, with D. Pettas, G. Karapetsas, Y. Dimakopoulos, 10th Annual European Rheology Conference, AERC 2015, Nantes, FRANCE, April 14-17, 2015. Abstract in conference proceedings, CR14, p. 50.
- B193. “Application of the DCR Tube Model in Thin Film Flow of Dilute Entangled Polymer Solutions that exhibit Flow-Induced Concentration Changes”, with S. Tsouka, Y. Dimakopoulos and Vl. Mavrantzas, 10th Annual European Rheology Conference, AERC 2015, Nantes, FRANCE, April 14-17, 2015. Abstract in conference proceedings, CR56, p. 122.
- B194. “Investigation of the flow stability during extrusion of a viscoelastic fluid from a planar die” with D. Pettas, G. Karapetsas, Y. Dimakopoulos, 10th PanHellenic Scientific Conference in Chemical Engineering, Patras, GREECE, June 4-6, 2015. Abstract and paper in conference proceedings, P0277.
- B195. “Buoyancy driven flow of a deformable bubble in a viscoelastic solution: Analysis of the discontinuous variation of the rise velocity with the increase of its volume”, With Fraggedakis

- and Y. Dimakopoulos, 10th PanHellenic Scientific Conference in Chemical Engineering, Patras, GREECE, June 4-6, 2015. Abstract and paper in conference proceedings, P0313.
- B196. “Stretching of Liquid Bridges containing Gas Inclusions” with J. Papaioannou, D. Photeinos, and Y. Dimakopoulos, 10th PanHellenic Scientific Conference in Chemical Engineering, Patras, GREECE, June 4-6, 2015. Abstract and paper in conference proceedings, P0315.
- B197. “Transient Flow of Gravity-Driven Viscous Films Used for Coating Substrates with Variable Topography” with N. Lampropoulos and Y. Dimakopoulos, 10th PanHellenic Scientific Conference in Chemical Engineering, Patras, GREECE, June 4-6, 2015. Abstract and paper in conference proceedings, P0318.
- B198. “Simulation of two phase flow of incompressible Newtonian fluids using the Cahn-Hilliard diffuse interface method” with Y. Vasilopoulos and Y. Dimakopoulos, 10th PanHellenic Scientific Conference in Chemical Engineering, Patras, GREECE, June 4-6, 2015. Abstract and paper in conference proceedings, P0443.
- B199. “Simulation of viscoplastic flow in an extrusion damper” with Al. Syrakos, Y. Dimakopoulos, and G. Georgiou, 10th PanHellenic Scientific Conference in Chemical Engineering, Patras, GREECE, June 4-6, 2015. Abstract and paper in conference proceedings, P0448.
- B200. “Viscoplastic flow in a periodically driven annular cavity” with Al. Syrakos, Y. Dimakopoulos, and G. Georgiou, 8th GRACM Congress on Computational Mechanics, Volos, GREECE, July 12-15, 2015.
- B201. “On the velocity discontinuity at a critical bubble volume when it rises in a viscoelastic fluid”, with D. Fragedakis and Y. Dimakopoulos, 8th GRACM Congress on Computational Mechanics, Volos, GREECE, July 12-15, 2015.
- B202. “The settling of a spherical particle in Carbopol: Elastic effects are as important as yielding” with D. Fragedakis and Y. Dimakopoulos, 6th International Conference on Viscoplastic fluids: From Theory to application, Banff, CANADA, October, 25-30, 2015.
- B203. “Transient coating of substrates with variable topography by viscous films”, with N. Lampropoulos and Y. Dimakopoulos, 68th Annual Meeting of the APS, Division of Fluid Dynamics, Boston, USA, November, 22-24, 2015.
- B204. “Effects of a protein glycocalyx in the hemodynamics of small blood vessels” with Delidakis G. and Dimakopoulos Y., 68th Annual Meeting of the APS, Division of Fluid Dynamics, Boston, USA, November, 22-24, 2015.
- B205. “Flow of two immiscible fluids in a periodically constricted tube: Transitions to stratified, segmented, churn, spray or segregated flow, with D. Fragedakis and Y. Dimakopoulos, 68th Annual Meeting of the APS, Division of Fluid Dynamics, Boston, USA, November, 22-24, 2015.
- B206. “Does Carbopol Elasticity affect its Yielding Dynamics? A study based on the Settling of a Particle in “Plastic” materials”, with D. Fragedakis and Y. Dimakopoulos, 68th Annual Meeting of the APS, Division of Fluid Dynamics, Boston, USA, November, 22-24, 2015.

- B207. “Yielding the Yield-Stress Analysis: A study focused on the effects of elasticity on the settling of a single particle, with D. Fraggedakis and Y. Dimakopoulos, ICMF 2016 International Conference on Multiphase Flow, Firenze, ITALY, May 22 - 27, 2016
- B208. “Steady film flow over 2D topography with air inclusion” with St. Varhanis, D. Pettas and Y. Dimakopoulos, ICMF 2016 International Conference on Multiphase Flow, Firenze, ITALY, May 22 - 27, 2016.
- B209. “On the microrheological modelling of red-blood-cells motion in microvessels lined with glycocalyx layer, with Y. Dimakopoulos, 11th HSTAM, International Congress on Mechanics, in Athens, GREECE, 27 – 30 May, 2016.
- B210. “Improving the efficiency of finite volume methods for the simulation of viscoelastic flows, with Al. Syrakos and Y. Dimakopoulos, ECCOMAS, 5-10 June, 2016, Crete Island, GREECE.
- B211. “Deformation of a bubble rising in an elasto-visco-plastic fluid” with D. Fraggedakis and Y. Dimakopoulos, ICR, 17th International Conference Rheology, Kyoto, JAPAN, Aug 8 - 13, 2016.
- B212. “What is the role of blood viscoelasticity in the formation of cell-depletion-layer in microvessels lined with a glycocalyx layer?” with Y. Dimakopoulos and E. Mparmpoutsis, XXIV ICTAM International Congress of Theoretical and Applied Mechanics), 21-26 August 2016, Montreal, CANADA.
- B213. “Jumping” of Bubbles in Viscoplastic Fluids with Elasticity” with D. Fraggedakis and Y. Dimakopoulos, 69th Annual Meeting of the APS, Division of Fluid Dynamics, Portland, USA, November, 20-22, 2016.
- B214. “Steady film flow over 2D topography with air inclusion formed inside the trench”, with St. Varhanis, and Y. Dimakopoulos, 69th Annual Meeting of the APS, Division of Fluid Dynamics, Portland, USA, November, 20-22, 2016.
- B215. “Evaluation of tube theories for linear entangled polymers in simple and complex flows”, with S. Varchanis and Y. Dimakopoulos, AERC 2017, Copenhagen, DENMARK, April 3-6, 2017.
- B216. “The operation of an extrusion damper containing viscoplastic or viscoelastic materials” with A. Syrakos and Y. Dimakopoulos, AERC 2017, Copenhagen, DENMARK, April 3-6, 2017.
- B217. “Partial wetting of 2D topography by a viscoelastic film” with D. Pettas and Y. Dimakopoulos, AERC 2017, Copenhagen, DENMARK, April 3-6, 2017.
- B218. “Mathematical modeling and optimization of triode operation of fuel cells” with E. Martino, G. Kiliyas, M. Athanasiou, Y. Dimakopoulos, A. Katsaounis, and C. Vayenas, 11th PanHellenic Scientific Conference in Chemical Engineering, Thessaloniki, GREECE, May, 25-27, 2017.
- B219. “Gravity-driven viscous films over 3D patterned substrates: conditions for air entrapment”

- with G. Karapetsas, N. K. Lampropoulos, and Y. Dimakopoulos, 11th PanHellenic Scientific Conference in Chemical Engineering, Thessaloniki, GREECE, May, 25-27, 2017.
- B220. “An apparent slip law for the accurate calculation of wall shear stress in microcirculation” with K. Giannokostas and Y. Dimakopoulos, 11th PanHellenic Scientific Conference in Chemical Engineering, Thessaloniki, GREECE, May, 25-27, 2017.
- B221. “Steady and unsteady flows of gel-like materials with elasticity” with G. Makrygiorgos, D. Fragedakis and Y. Dimakopoulos, 11th PanHellenic Scientific Conference in Chemical Engineering, Thessaloniki, GREECE, May, 25-27, 2017.
- B222. “Evaluation of tube theories for linear entangled polymers in simple and complex flows”, with S. Varchanis and Y. Dimakopoulos, 11th PanHellenic Scientific Conference in Chemical Engineering, Thessaloniki, GREECE, May, 25-27, 2017.
- B223. “Analytical expressions for the velocity field of polymeric fluids and polyelectrolyte in microchannels” with P. Moschopoulos and Y. Dimakopoulos, HSR2017: 8th International Meeting of the Hellenic Society of Rheology, Limassol, CYPRUS, July 12-14, 2017.
- B224. “Structural processes in elastoviscoplastic materials” with G. Makrygiorgos, D. Fragedakis and Y. Dimakopoulos, HSR2017: 8th International Meeting of the Hellenic Society of Rheology, Limassol, CYPRUS, July 12-14, 2017.
- B225. “Flow in a fluid damper: investigation of the effects of shear thinning and viscoelasticity through numerical simulations” with A. Syrakos and Y. Dimakopoulos, HSR2017: 8th International Meeting of the Hellenic Society of Rheology, Limassol, CYPRUS, July 12-14, 2017.
- B226. “A fast and efficient algorithm for computing viscoplastic flows”, with Y. Dimakopoulos, G. Makrygiorgos and G. Georgiou, HSR2017: 8th International Meeting of the Hellenic Society of Rheology, Limassol, CYPRUS, July 12-14, 2017.
- B227. “Constitutive modelling of blood plasma: numerical simulations and comparisons with experiments”, with S. Varchanis and Y. Dimakopoulos, 23rd Congress of the European Society of Biomechanics, Seville, Spain, July 2017.
- B228. “Linear Stability analysis of a Newtonian film flowing over a substrate with topographical features” with D. Pettas, G. Karapetsas, Y. Dimakopoulos, 70th Annual Meeting of the APS, Division of Fluid Dynamics, Denver, USA, November 19-21, 2017.
- B229. “Blood plasma is viscoelastic: Numerical simulations and comparisons with experiments” with S. Varchanis, Y. Dimakopoulos, 70th Annual Meeting of the APS, Division of Fluid Dynamics, Denver, USA, November 19-21, 2017.
- B230. “Simulation of the flow in fluid dampers: effects of fluid elasticity and plasticity”, with Al. Syrakos and Y. Dimakopoulos, AERC 2018, Sorento, ITALY, April 16-20, 2018.
- B231. “Identification of the viscoelastic properties of human blood plasma”, with S. Varchanis and Y. Dimakopoulos, AERC 2018, Sorento, ITALY, April 16-20, 2018.

- B232. “Transient Effects of NO Production/Diffusion in Microvessels”, with K. Giannokostas, Y. Dimakopoulos, 8th World Congress of Biomechanics, Dublin, IRELAND, July 8-12, 2018.
- B233. “Multiscale modeling of the Glycocalyx Layer: Its impact on hemodynamics”, with V. Mitsoulas, K. Giannokostas and Y. Dimakopoulos, 8th World Congress of Biomechanics, Dublin, IRELAND, July 8-12, 2018.
- B234. “Stability Analysis of Viscoelastic Fluid Over a Structured Topography”, with D. Pettas, G. Karapetsas and Y. Dimakopoulos, 12th European Fluid Mechanics Conference (EFMC), Vienna, AUSTRIA, 9-13 September 2018.
- B235. “Investigation of the impact of the endothelial surface layer on the hemodynamics capillary vessels through multiscale modeling and simulations”, with V. Mitsoulas, K. Giannokostas and Y. Dimakopoulos, 12th European Fluid Mechanics Conference (EFMC), Vienna, AUSTRIA, 9-13 September 2018.
- B236. “Acoustic excitation of a bubble inside a viscoplastic medium” with G. Karapetsas and Y. Dimakopoulos, 12th European Fluid Mechanics Conference (EFMC), Vienna, AUSTRIA, 9-13 September 2018.
- B237. “Acoustically enhanced bubble removal from yield-stress fluids” with M. De Corato, Br. Saint-Michel, G. Makrigiorgios, Y. Dimakopoulos, and V. Garbin, 90th Annual Meeting of The Society of Rheology, Houston, USA, October 14-18, 2018.
- B238. “Extensional Dynamics of viscoplastic and shear thinning liquid bridges” with G. Makrigiorgios, P. Moschopoulos, A. Syrakos and Y. Dimakopoulos, 71st Annual Meeting of the APS, Division of Fluid Dynamics, Atlanta, USA, November 18-20, 2018.
- B239. “Linear stability of viscoelastic film flow over structured surfaces”, with D. Pettas, G. Karapetsas, and Y. Dimakopoulos, 71st Annual Meeting of the APS, Division of Fluid Dynamics, Atlanta, USA, November 18-20, 2018.
- B240. “Use of acoustic excitation to enhance the mobility of buoyancy driven bubbles inside a viscoplastic material”, with G. Karapetsas, D. Photeinos, and Y. Dimakopoulos, 71st Annual Meeting of the APS, Division of Fluid Dynamics, Atlanta, USA, November 18-20, 2018.
- B241. “Simulation of elastoviscoplastic flow in a lid-driven cavity”, A. Syrakos, and Y. Dimakopoulos, 11th PanHellenic conference on Fluid-Flow Phenomena, Kozani, GREECE, November 23-24, 2018.
- B242. “Yield-stress analysis of elasto-visco-plastic materials in strong extension”, with S. Varchanis, G. Ioannou, A. Kordalis, and Y. Dimakopoulos, Annual European Rheology Conference (AERC), Portoroz, SLOVENIA, April 8 – 11, 2019.
- B243. “A new finite element formulation for viscoelastic flows: Circumventing simultaneously the LBB condition and the high-Weissenberg number problem” with S. Varchanis, A. Syrakos, and Y. Dimakopoulos, Annual European Rheology Conference (AERC), Portoroz, SLOVENIA, April 8 – 11, 2019.
- B244. “Filament-Stretching Dynamics of Yield-Stress Fluids”, with P. Moschopoulos, A.

- Syrakos, K. Psaraki, and Y. Dimakopoulos, Annual European Rheology Conference (AERC), Portoroz, SLOVENIA, April 8 – 11, 2019.
- B245. “Modeling the Rheology of Thixotropic Elasto-Visco-Plastic Materials”, with S. Varchanis, G. Makrigiorgos, P. Moschopoulos, and Y. Dimakopoulos, Annual European Rheology Conference (AERC), Portoroz, SLOVENIA, April 8 – 11, 2019.
- B246. “Linear stability analysis of thin film flow over a partially wetted variable topography” with G. Karapetsas and D. Pettas, 12th PanHellenic Scientific Conference in Chemical Engineering, Athens, GREECE, May 25-27, 2019.
- B247. “Stability of a viscoelastic film flowing over a substrate with sinusoidal corrugations” D. Pettas, and G. Karapetsas, 12th PanHellenic Scientific Conference in Chemical Engineering, Athens, GREECE, May 25-27, 2019.
- B248. “Rheological study of elasto-visco-plastic fluids in the cross-slot geometry, with A. Kordalis, and S. Varchanis, 12th PanHellenic Scientific Conference in Chemical Engineering, Athens, GREECE, May 25-27, 2019.
- B249. “Dynamics of elasto-visco-plastic materials in a strong extensional flow”, with G. Ioannou, S. Varchanis and Y. Dimakopoulos, 12th PanHellenic Scientific Conference in Chemical Engineering, Athens, GREECE, May 25-27, 2019.
- B250. “New, faster and consistent FEM for viscoelastic flows” with S. Varchanis and Y. Dimakopoulos, 19th International Workshop on Numerical Methods for Non-Newtonian Flows, (IWNMNF), June 16- 20th 2019, Peso da Régua, PORTUGAL.
- B251. “Lid-driven elastoviscoplastic flow in a cavity” with A. Syrakos and Y. Dimakopoulos, 9th International Conference of the Hellenic Society of Rheology, 23-27 June, 2019, Pythagorion, Samos, GREECE.
- B252. “The dynamic response of elastoviscoplastic fluids under extension” with P. Moschopoulos, K. Psaraki, A. Syrakos and Y. Dimakopoulos, 9th International Conference of the Hellenic Society of Rheology, 23-27 June, 2019, Pythagorion, Samos, GREECE.
- B253. “Investigation of the scaling of the endothelial surface layer permeability of microvessels through multiscale modeling and simulations” with V. Mitsoulas, K. Giannokostas and Y. Dimakopoulos, 9th International Conference of the Hellenic Society of Rheology, 23-27 June, 2019, Pythagorion, Samos, GREECE.
- B254. “Three-Dimensional flows of non-Newtonian fluids with free surfaces” with S. Varchanis, A. Syrakos, P. Moschopoulos and Y. Dimakopoulos, 9th International Conference of the Hellenic Society of Rheology, 23-27 June, 2019, Pythagorion, Samos, GREECE.
- B255. “An integrated model of arteriole tissue dynamics accounting for passive and active stresses” with Y. Dimakopoulos and K. Giannokostas, European Society of Biomechanics, July 7-10, 2019, Vienna, AUSTRIA.
- B256. “Investigation of the impact of the endothelial surface layer on the capillary vessels through multiscale modelling and simulations” with V. Mitsoulas, K. Giannokostas and Y. Dimakopoulos, 9th International Conference of the Hellenic Society of Rheology, 23-27 June, 2019, Pythagorion, Samos, GREECE.

Dimakopoulos, European Society of Biomechanics, July 7-10, 2019, Vienna, AUSTRIA.

- B257. "Elastic instabilities and nonlinear dynamics of yield stress fluids in cross-slot extensional rheometers" with S. Varchanis, S. Haward, C. Hopkins, G. Ioannou, A. Kordalis, A. Shen, and Y. Dimakopoulos, 8th International Conference on Viscoplastic fluids: From Theory to Application, Cambridge, ENGLAND, September, 16-20, 2019.
- B258. "Modeling of the human blood rheology and simulation of its flow in elastic microvessels" with P. Moschopoulos, K. Giannokostas and Y. Dimakopoulos, 91st Annual Meeting of The Society of Rheology, Raleigh, North Carolina, USA, 20-24 October 2019.
- B259. "Non-linear analysis of extrusion instabilities in polymer melt processing", with S. Varchanis, D. Pettas and Y. Dimakopoulos, 91st Annual Meeting of The Society of Rheology, Raleigh, North Carolina, USA, 20-24 October 2019.
- B260. "From PAL to PAL-PSPG: A fast and stable method for viscoplastic flows" with Y. Dimakopoulos, P. Moschopoulos, G. Makrigrigorgos, S. Varchanis, A. Syrakos and G. Georgiou" 91st Annual Meeting of The Society of Rheology, Raleigh, North Carolina, USA, 20-24 October 2019.
- B261. "Novel numerical simulations of the debonding process of pressure sensitive adhesives" with S. Varchanis and Y. Dimakopoulos, 91st Annual Meeting of The Society of Rheology, Raleigh, North Carolina, USA, 20-24 October 2019.
- B262. "Flow stability of a liquid film partially wetting a substrate with rectangular trenches, with D. Pettas, G. Karapetsas and Y. Dimakopoulos, 72nd Annual Meeting of the American Physical Society's Division of Fluid Dynamics, APS/DFD, Seattle, WA, Nov. 23-26, 2019.
- B263. "The rising velocity of a slowly pulsating bubble in a shear-thinning fluid" with M. De Corato and Y. Dimakopoulos, 72nd Annual Meeting of the American Physical Society's Division of Fluid Dynamics, APS/DFD, Seattle, WA, Nov. 23-26, 2019.

INVITED LECTURES AT UNIVERSITIES, INDUSTRIES, LABORATORIES AND CONFERENCES:

- C1. "*Nonlinear dynamics of charged drops*", Amoco, Tulsa, OK, USA, September 1983.
- C2. "*Nonlinear dynamics of charged drops in MicroGravity: An analytical solution to a free boundary problem*", Jet Propulsion Laboratory, Pasadena, USA, January 1984.
- C3. "*Nonlinear dynamics of charged drops*", UCLA, USA, January 1984.
- C4. "*Nonlinear dynamics and breakup of charged drops*", University of California at Davis, USA, February 1984.
- C5. "*Nonlinear dynamics of charged drops*", Shell Oil Co., Houston, TX, USA, February 1984.
- C6. "*Resonant oscillations of charged drops*", Exxon, Houston, TX, USA, February 1984.

- C7. *"Nonlinear dynamics and breakup of charged drops"*, DuPont De Nemours & Co., Wilmington, DE, USA, February 1984.
- C8. *"Nonlinear dynamics of charged drops"*, Chevron, La Habra, CA, USA, February 1984.
- C9. *"Nonlinear dynamics of charged drops"*, Arco, Houston, TX, USA, February 1984.
- C10. *"Resonant oscillations of charged drops"*, Cornell University, USA, March 1984.
- C11. *"Nonlinear dynamics and breakup of charged drops"*, SUNY at Buffalo, USA, March 1984.
- C12. *"Modeling of free and moving boundary problems: Examples from surface tension dominated flows and Chemical Vapor Deposition"*, DuPont De Nemours & Co., Wilmington, USA, May 1987.
- C13. *"Flow in a porous pipe: Existence and stability of similarity solutions"*, Center for Integrated Process Systems Technology, SUNY at Buffalo, USA, March 1988.
- C14. *"Nonlinear dynamics and break-up of charged drops"*, 3rd International Colloquium on Drops and Bubbles, Monterey, California, USA, September 18-21, 1988.
- C15. *"Analysis of the blow molding process"*, Oak Ridge National Laboratory, Tennessee, USA, February 1989.
- C16. *"Spin Coating of Planar Disks: Solution by the Similarity Method"*, IBM Research Division, Yorktown Heights, USA, November 1989.
- C17. *"Thermal and Fluid Mechanical Effects in Blow Molding"*, Mechanical Engineering Department, SUNY at Binghamton, USA, March 1990.
- C18. *"Analytical and Numerical Studies of the Nonlinear Dynamics and Stability of charged and Compound Drops"*, Microgravity Fluids Workshop, NASA Lewis Research Center, Ohio, USA, August 1990.
- C19. *"Inertia, Elastic and Mass Transfer Effects on the Spin Coating of Planar Substrates"*, IBM Research Division, Yorktown Heights, USA, July 1991.
- C20. *"Studies of Polymer Processing Operations Using Numerical Methods"*, National Technical University of Athens, GREECE, May 1992.
- C21. *"Nonisothermal Parison Inflation in Blow Molding"*, University of California at Riverside, USA, October 1992.
- C22. *"Nonisothermal Parison Inflation in Blow Molding"*, Cornell University, USA, September 1993.
- C23. *"Nonisothermal Inflation of a Polymer preform inside a Mold cavity"*, University of Patras, GREECE, October 1994.
- C24. *"Peculiarities in the flow of Bingham Plastics"*, Inst. of Electronic Structure and Laser,

- FORTH, Crete, GREECE, June 1996.
- C25. "*Spin-Coating and squeeze flow of Viscoplastic Fluids*" Symposium on Rheology and Computational Fluid Mechanics (Dedicated to the Memory of Prof. Tasos Papanastasiou), CYPRUS, July 1996. Paper in the Proceedings , p. 23-26, (1996)
- C26. "*Peculiarities of Bingham Fluids in non-Uniform Flow Fields*", Dimokritos, Athens, GREECE, Jan. 1998.
- C27. "*Scaling and Asymptotic Analysis in Transport Phenomena*", a series of five 4-hour Lectures, SASOL Industries, Johannesburg, SOUTH AFRICA, Jan 1999.
- C28. "*Two Phase Flow in a Constricted Tube*", SASOL Industries, Johannesburg, SOUTH AFRICA, Jan 1999.
- C29. "*Steady and Dynamic Analysis of Extruded Thin Annular Films*", University of Compiègne, FRANCE, June 1999.
- C30. "*Stability and Dynamics of core-annular Flow in a circular tube*", ETH, Zurich, SWITZERLAND, May 2000.
- C31. "*Stability and Dynamics of the Core-Annular flow in a periodically constricted tube*", The International Conference on Multiphase Systems, ICMS'2000, Ufa, RUSSIA, June 2000. Paper in the Proceedings of the International Conference on Multiphase Systems, p.71-77, (2000).
- C32. "*Stratified boundary layer flow of a gas stream and a liquid film past solid surfaces*" with Pelekasis and Smyrniotis, 3rd International Conference of the Hellenic Society of Rheology, Patras, GREECE, June 2001. Abstract in the Conference Proceedings p. 43.
- C33. "Two-phase flow in straight and undulating tubes" Department of Mechanical Engineering, University of Thessaly, May 2002.
- C34. "Two-phase flow in conduits of constant and variable cross-section" CPERI-FORTH, Thessaloniki, February 2004.
- C35. "A flexible and robust numerical method for solving moving boundary problems with large deformations: Applications in polymer processing and rheology", Key note Lecture, Polymer Processing Society, PPS 2005, Quebec, CANADA, August 2005.
- C36. A new numerical method for solving moving boundary problems with large domain deformations, Dep. of Chem. Engineering, SUNY/Buffalo, Buffalo, USA, August 2005.
- C37. "Yield stress phenomena and known solutions of viscoplastic flows" with Y. Dimakopoulos, Plenary Lecture in the workshop "Visco-plastic fluids, from theory to application", Banff, Alberta, CANADA, October 2005.
- C38. "Steady bubble rise and deformation in Newtonian and Bingham fluids and conditions for their entrapment" with Y. Dimakopoulos, IUTAM Symposium on recent advances in Multiphase flows: Numerical and experimental", Istanbul, TURKEY. June 2007, Abstract in

- conference Proceedings, p. 51.
- C39. "Using advanced computational techniques for analysing flows with moving boundaries" Dep. of Materials Science and Technology, University of Crete, GREECE, November 2007.
- C40. "A finite element based methodology for solving moving boundary problems with large deformations in complex geometries: Applications in polymer processing and rheology", with Y. Dimakopoulos, The 26th Annual Meeting of the Polymer Processing Society (PPS) Salerno, ITALY, June 15-19, 2008. Paper in conference Proceedings (4 pages).
- C41. "Steady solution and linear stability analysis of the cylindrical or planar stick-slip flow for a Phan-Tien and Tanner fluid model", with Karapetsas. Invited speaker in the "Symposium on the New Frontiers in Chemical and Biochemical Engineering", to honor the life-long contribution of Professors *Anastasios Karabelas* and *Stavros Nychas* to Chemical Engineering in Greece, Thessaloniki, GREECE, November 2009, Abstract in the Proceedings.
- C42. "Viscoplastic fluids: Recent developments and new challenges", with Dimakopoulos, 6th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries (EMCC6), Antalya, TURKEY, March 2010. Abstract in the Proceedings.
- C43. "Bubble rise in a shear-thinning viscoplastic material" with Pavlidis & Dimakopoulos, Keynote Lecture in the XVIth International Congress on Rheology (ICR) Lisbon, PORTUGAL, July 5 - 10, 2012, Paper in conference Proceedings.
- C44. "Effects of elasticity and pressure oscillations on simulations of yield stress fluids: The case of a rising bubble" with Y. Dimakopoulos, M. Pavlidis and D. Photeinos, Keynote Lecture in the 5th Conference on "Viscoplastic Fluids: From Theory to Application", Paris, FRANCE, Nov. 18-21. 2013.
- C45. "Motion of rigid and deformable particles in complex fluids: resolving some old and intriguing problems", Seminar in the Levich Institute of the CCNY, USA, December 2015.
- C46. "Motion of rigid and deformable particles in complex fluids: Resolving two old and intriguing problems", Seminar in the Applied Mathematics Department Imperial College, UK, May, 2016
- C47. "Thin film flow over sharp topography: I. Transient coating flow leading to Cassie, Wenzel and intermediate states", Seminar in the Applied Mathematics Department Imperial College, UK, May, 2016
- C48. "Thin film flow over sharp topography: II. Steady flow with and without air inclusions inside the trench", Seminar in the Applied Mathematics Department Imperial College, UK, May, 2016
- C49. "Motion of rigid and deformable particles in complex fluids: Resolving two old and intriguing problems", Seminar in the Complex Fluids Group, UCL, UK, May, 2016.
- C50. "What is the role of blood viscoelasticity in the formation of cell-depletion-layer in microvessels lined with glycocalyx layer?" with Yannis Dimakopoulos, XXIV ICTAM,

Montreal, CANADA, 21-26 August, 2016.

- C51. "Motion of rigid and deformable particles in complex fluids", joint seminar in the Departments of Mathematics and Mechanical Engineering of the University of Cyprus, Sept. 2016.
- C52. "From the Rheological Characterization of Complex Materials to Large Scale Simulations of Physical Processes of Industrial Interest", BiC VIOLEX SA, Athens, Feb. 2017
- C53. "Yield-stress materials: Continued efforts to predict their intriguing behaviour" SIAMUF, Swedish Association for Industrial Multiphase Flows, Gothenburg, Sweden, Oct. 8-10, 2019.

MEETINGS ORGANIZED - SESSIONS CHAIRED:

- D1. Society of Engineering Science, 23rd Annual Meeting, August 25-27, 1986, Buffalo, New York, USA. Chaired Session on "Instabilities and Transport Phenomena".
- D2. Division of Fluid Mechanics, American Physical Society, Member of the Organizing Committee of the 41st annual Meeting, November 1988, Buffalo, New York, USA. Chaired session on "Taylor-Couette Instability".
- D3. Microgravity Fluids Workshop, NASA, Ohio, USA, Chaired Session on "Isothermal Capillarity and Interface Dynamics". Led discussion and presented summary in the final Plenary Session.
- D4. Division of Fluid Mechanics, American Physical Society, 43rd Annual Meeting, November 1990, Cornell University, USA. Chaired Session on "Non-Newtonian Flows."
- D5. American Institute of Chemical Engineers, 1993 Annual Meeting, co-chaired the Session entitled "Non-Newtonian Fluids and Flows".
- D6. 17th Boundary Element Conference, Madison Wisconsin, USA, July 1995, co-chaired Workshop on "Boundary Element Methods in Fluid Mechanics".
- D7. 1st Panhellenic Conference in Chemical Engineering, Patra, GREECE, May 1997, Chaired Session on "Fluid Mechanics".
- D8. 4th Panhellenic Conference on Polymers, Patra, GREECE, November 1997, member of the Organizing Committee.
- D9. 2nd Meeting of the Hellenic Society of Rheology and International Symposium, Crete, GREECE, August 1998, member of the Organizing and the Scientific Committee
- D10. 2nd Panhellenic Conference in Chemical Engineering, Thessaloniki, GREECE, May 1999, Chaired Session on "Transport Phenomena".
- D11. 2nd International Symposium on Two-Phase Flow Modelling and Experimentation, Pisa, ITALY, May 1999, Chaired Session on "Interfacial and Film Flow Phenomena".

- D12. 6th National Conference of the Institute on Solar Technology, November 1999, Volos, GREECE, Member of the Scientific Committee.
- D13. International Conference on Multiphase Systems'2000, June 2000, Member of the International Scientific Committee, Ufa, RUSSIA.
- D14. 4th EUROMECH Fluid Mechanics Conference, November 2000, Chaired Session on "Multi-Phase Flow", Eindhoven, THE NETHERLANDS.
- D15. 3rd Panhellenic Conference in Chemical Engineering, Athens, GREECE, May 2001, Chaired Session on "Transport Phenomena".
- D16. 3rd International Meeting of the Hellenic Society of Rheology, June 2001, Chairman of the Scientific Committee and member of the Organizing Committee, Patras, GREECE.
- D17. 1st National Conference on Recent Advances in Mechanical Engineering, September 2001, Chaired Session on Fluid Mechanics, Patras, GREECE.
- D18. FLOW 2002, October 2002, Chaired Session on Computational Fluid Mechanics, Patras, GREECE.
- D19. 4th Panhellenic Conference in Chemical Engineering, Patras, GREECE, May 2003, Chaired Session on "Transport Phenomena".
- D20. International Conference on Computational & Experimental Engineering & Sciences, July 2003, Member of the Organizing committee, Corfu, GREECE.
- D21. PPS 2003 (Polymer Processing Society) Europe-Africa meeting, September 2003, Member of the Organizing Committee, Athens, GREECE.
- D22. 4th International Meeting of the Hellenic Society of Rheology, June 2004, Member of the Scientific and Organizing Committees and Chaired Session on "Numerical Simulations", Athens, GREECE.
- D23. 21st International Congress of Theoretical and Applied Mechanics (ICTAM), August 2004, Chaired session on "Flow in thin films" (session block code: FM14_L1, scheduled for Tuesday 11:00 - 13:00), Warsaw, POLAND.
- D24. AERC 2005, 2nd Annual European Rheology Conference, April 2005, Member of the Scientific Committee and Chairman of the "Symposium on Materials Processing and flow instabilities", Grenoble, FRANCE.
- D25. AERC 2005, 2nd Annual European Rheology Conference, April 2005, Chairman of a Session on "Modelling, Simulation and Computational Rheology", Grenoble, FRANCE.
- D26. 5th Panhellenic Conference in Chemical Engineering, Thessaloniki, GREECE, May 2005, Chaired Session on "Transport Phenomena".
- D27. AERC 2006, 3rd Annual European Rheology Conference, Hersonisos, GREECE, April 2006, Chaired Session on "Non-Newtonian Fluid Mechanics, Turbulence and Processing".

- D28. AERC 2007, 4th Annual European Rheology Conference, Naples, ITALY, April 2007, Chaired Session on “Non-Newtonian Fluid Mechanics, Turbulence and Processing”.
- D29. 6th Panhellenic Conference in Chemical Engineering, Athens, GREECE, May 2007, Chaired Session on "Transport Phenomena-Fluid Mechanics".
- D30. XVth International Workshop on Numerical Methods for non-Newtonian Flows, Rhodes, GREECE, June 2007, Chaired Session on “Viscoelastic Fluids - Modelling and Simulations”.
- D31. AERC 2009, 5th Annual European Rheology Conference, Cardiff, GREAT BRITAIN, April 2009, Chaired Session on “Non-Newtonian Fluid Mechanics”.
- D32. 7th Panhellenic Conference in Chemical Engineering, Patras, GREECE, May 2009, member of the scientific committee and Chaired Session on "Transport Phenomena-Fluid Mechanics".
- D33. The European/African regional meeting of the Polymer Processing Society, Larnaca, CYPRUS, October 2009, member of the organizing committee.
- D34. Conference on Viscoplasticity: from Theory to Application, Limasol, CYPRUS, November 2009, chaired session.
- D35. "7th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries (EMCC7)", Corfu, GREECE, April 27th-May 1st, 2012, member of the scientific program committee.
- D36. 4th International Conference on Viscoplasticity: from Theory to Application, Paris, FRANCE, November 2013, chaired session.
- D37. 10th Panhellenic Conference in Chemical Engineering, Patras, GREECE, May 2015, member of the scientific committee and Chaired Session on "Transport Phenomena-Fluid Mechanics".
- D38. 8th GRACM Congress on Computational Mechanics, Volos, GREECE, July 12-15, 2015, member of the scientific committee and Chaired Session on "NonNewtonian Fluid Mechanics".
- D39. 5th International Conference on Viscoplastic fluids: From Theory to application, Banff, CANADA, October 25-30, 2015, Chaired Session on "NonNewtonian Fluid Mechanics" and open discussion that followed.
- D40. 9th International Conference on Multiphase Flow (ICMF), Firenze, ITALY, May 22-27, 2016, member of the scientific committee.
- D41. 17th International Congress on Rheology (ICR), Kyoto, JAPAN, August 8-13, 2016, Chaired session on NonNewtonian Fluid Mechanics.
- D42. 11th Panhellenic Conference in Chemical Engineering, Thessaloniki, GREECE, May 2017, member of the scientific committee.
- D43. AERC 2019, Annual European Rheology Conference, Portoroz, SLOVENIA, April 8 – 11,

2019, chaired session on “non-Newtonian Fluid Mechanics”.

JOURNAL REVIEWING:

1. Reviewer for the Journal of Fluid Mechanics (since 1984).
2. Reviewer for the Physics of Fluids (since 1984).
3. Reviewer for the Chemical Engineering Communications Journal (since 1985).
4. Reviewer for the AIChE Journal (since 1987).
5. Reviewer for the Chemical Engineering Science Journal (since 1990).
6. Reviewer for the Journal of Colloid and Interface Science (since 1990).
7. Reviewer for the Canadian Journal of Chemical Engineering (since 1991).
8. Reviewer for the Journal of Electrochemical Society (since 1991).
9. Reviewer for the Journal of Applied Mechanics (since 1991).
10. Reviewer for the Journal of Computational Physics (since 1991).
11. Reviewer for the Journal of Computers & Chemical Engineering (since 1991).
12. Reviewer for the Journal of Fluids Engineering (since 1992).
13. Reviewer for the Journal of Polymer Engineering and Science (since 1992).
14. Reviewer for the International Journal of Multiphase Flow (since 1994).
15. Reviewer for the Journal of Theoretical & Computational Fluid Dynamics (since 1994)
16. Reviewer for the Journal of Rheology (since 1996).
17. Reviewer for Rheologica Acta (since 1996).
18. Reviewer for the Journal Acta Mechanica (since 1996).
19. Reviewer for the Zeitschrift fur Angewandte Mathematic und Physik (since 1996)
20. Reviewer for the Journal of Heat Transfer (since 1997).
21. Reviewer for the Journal Engineering Analysis with Boundary Elements (since 1998)
22. Reviewer for the Chemical Engineering Journal (since 1999).
23. Reviewer for the International Journal for Numerical Methods in Fluids (since 1999).
24. Reviewer for the European Journal of Mechanics B/Fluids (since 2000).
25. Reviewer for the Journal of Engineering Mathematics (since 2001).
26. Reviewer for the Transactions of the Canadian Society of Mech. Engineers (since 2005).
27. Reviewer for the Industrial & Engineering Chemistry Research (since 2005).
28. Reviewer for the Journal of Hazardous Materials (since 2005).
29. Reviewer for the Journal of Applied Rheology (since 2008).
30. Reviewer for the Journal of Microelectronics Engineering (since 2008).
31. Reviewer for the Journal of Materials Science (since 2009).
32. Reviewer for the Quarterly of Applied Mathematics Journal (since 2009).
33. Reviewer for: Langmuir (since 2010).
34. Reviewer for: Applied Mathematical Modeling (since 2011).
35. Reviewer for: Physical Review Letters (since 2011).
36. Reviewer for: Physical Review E (since 2011).
37. Reviewer for Physical Review Fluids (since 2016).
38. Reviewer for Soft Matter (since 2017).
39. Reviewer for Current opinion in Colloid & Interface Science (since 2019).
40. Reviewer for Experiments in Fluids (since 2019).

PROPOSAL REVIEWING:

1. Reviewer and panelist for NSF, DOE, PRF and NASA proposals (since 1986).

2. Reviewer of the Study: "Prediction of Technological Developments in the area of Polymers", GSRT (1994).
3. Reviewer of Proposals to the Greek Secretariat for Research & Technology (since 1995).
4. Reviewer of Bilateral Research Proposals for the Greek Secretariat for Research & Technology (since 1999).
5. Reviewer of Proposals to the Greek Ministry of Education (since 2002).
6. Technical reviewer for EU proposals and reports (since 2002).
7. Reviewer of Proposals to the Canadian Space Agency (since 2003).
8. Reviewer of Proposals to Israel Science Foundation (since 2004).
9. Reviewer of Proposals to National Sciences and Engineering Research Council of Canada (since 2007).
10. Reviewer of Proposals to the foundation of Advancement of Research of the Republic of Cyprus (since 2009).
11. Reviewer of Proposals for the ESF (since 2017)
12. Reviewer of Proposals for the ERC (since 2014).
13. Reviewer of Proposals for ELIDEK by Post Graduate Associates (since 2018)

BOOK REVIEWS

1. "Introduction to Theoretical and Computational Fluid Dynamics" by C. Pozrikidis, Oxford, 1997, upon invitation of the publisher.
2. "Viscous Fluid Flow" by T. Papanastasiou, G. Georgiou and A. Alexandrou, CRC Press, 2000.

SERVICES TO THE UNIVERSITY:

A. State University of New York at Buffalo

1. Member of the Computing Committee in the School of Engineering at SUNY/Buffalo, 1985-1988.
2. Coordinator of the Departmental Seminar Series at SUNY/Buffalo, 1985-1989.
3. Member of the Undergraduate Committee in the Chemical Engineering Department, at SUNY/Buffalo, 1986-1987.
4. Wrote, edited, and supervised the printing and typesetting of the new Brochure of the Department of Chemical Engineering at SUNY/Buffalo, 1987.
5. Member of the Graduate Committee in the Chemical Engineering Department, at SUNY/Buffalo, 1987-1991.
6. Member of the qualifying examinations committee in the Chemical Engineering Department at SUNY/Buffalo, 1987-1991.
7. Director of the Executive Committee of the Western New York Section of the AIChE, 1987-1988.
8. Member of the Search Committee for Chairman of the Chemical Engineering Department at SUNY/Buffalo, 1988-1989.
9. Member of the Faculty Recruiting Committee of the Chemical Engineering Department at SUNY/Buffalo, 1988-1991.
10. Examination Committee member for awarding M.S. and PhD degrees, SUNY/Buffalo, 1986-1992.

B. University of Patras

1. Member of the Student affairs committee of the Chemical Engineering Department in the

- University of Patras, 1992-1997.
2. Member of the University-wide committee on computers and networking, University of Patras, 1994-2004.
 3. Director of the 4th Division, "Unit Operations and Environment", in the Department of Chemical Engineering, University of Patras, 1995 - 1996, Sept. 1996 – 1997.
 4. Member of the Undergraduate Program Committee, in the Department of Chemical Engineering, University of Patras, 1996-1997.
 5. Chairman of the Committee of Graduate Studies in the Department of Chemical Engineering, University of Patras, 1997- 2001.
 6. Member of the University-wide committee for the “Evaluation of the Educational system and Quality control”, University of Patras, 2000-2003.
 7. Member of the Committee of Graduate Studies in the Department of Chemical Engineering, University of Patras, 2001-present.
 8. Member of the Committee of Educational Laboratories in the Department of Chemical Engineering, University of Patras, 1999- 2014.
 9. Chairman of the Committee for space/office allocation in the Department of Chemical Engineering, University of Patras, Sept. 2001- 2003.
 10. Chairman of the EPEAEK Committee (graduate program), in the Department of Chemical Engineering, University of Patras, Sept. 1997- 2005.
 11. Member of examination Committees for awarding Ph.D. degrees, University of Patras, 1993 - present.
 12. Director of the 1th Division, "Process Engineering and Environment", in the Department of Chemical Engineering, University of Patras, Sep. 2009-2011, Sep. 2011-2013.

TEACHING EXPERIENCE:

A. State University of New York at Buffalo

1. CE 318, Transport Processes II, Junior Level, Spring 1986, 1987, 1990, 1991.
2. CE 427, Chemical Engineering Laboratory, Senior Level, Fall 1985, 1986.
3. CE 500, Special Topics in Transport Phenomena, Graduate Level, Spring 1988, 1989.
4. CE 509, Transport Phenomena, Graduate Level, Fall 1986, 1987, 1988, 1989, 1990, Spring 1993.
5. CE 527, Colloid and Surface Phenomena, Graduate Level, Fall 1992.
6. CE 532, Numerical Methods for Chemical Engineers, Graduate Level, Spring 1985, 1986, 1988, 1990, Fall, 1992.
7. CE 533, Introduction to Finite Element Methods, Graduate Level, Spring 1987, 1989, 1991.

B. University of Patras

1. Chemical Engineering Laboratory I, 3rd year, Spring 1992,
2. Unit Operations Laboratory, 4th year, Fall 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000.
3. Numerical Analysis I, 3rd year, Spring 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011.
4. Numerical Analysis II, 4th year, Fall 1995, 1997, 1998.
5. Heat Transfer, 3rd year, Fall 2002, 2003, Spring 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020.
6. Transport Phenomena, Graduate Level, Fall 1994, 1996, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2019.
7. Finite Element Methods, Graduate Level, Fall 1995, 1997, 1998, 2002, 2004, 2007, 2009,

- 2010, 2011, 2012.
8. Rheology and Processing of Polymers, Graduate Level, Fall 1999, 2000, Spring 2002, 2003, 2004, 2005.
 9. Fluid Mechanics, 3rd year, Fall 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2019.

C. Short courses given in other Institutions

1. “Numerical solution of flow and diffusion equations” Lectures on the Finite Difference method for solving PDEs in the above topics as well as solving two-phase flow problems with Eulerian grids. It was given in the **Institute of Chemical Engineering Sciences (ICE-HT)**, as part of a summer school for graduate students from all over Europe in May 2008.
2. “Finite Element Analysis for Interfacial Flows” Lectures given on the Finite Element method for solving PDEs in two-phase flows via the Arbitrary Lagrangian-Eulerian mesh generation methods. It was given in the **Mech. Engineering Dep., University of Thessaly**. The course was part of a summer school for graduate students from all over Europe in July 2012.
3. “Rheology of Viscoelastic and viscoplastic fluids”. Presented a series of lectures in the **Applied Mathematics Department of Imperial College**, where they were formally scheduled and announced. These lectures were based on personal notes, the books “Understanding Rheology” by Faith Morrison and “Dynamics of Polymeric Liquids” by Bird, Armstrong and Hassager. They were divided in six parts as follows:
 - Introduction to NonNewtonian fluids
 - Rheometry with shear flows
 - Rheometry with elongational flows
 - Generalized Newtonian fluid model
 - Linear viscoelastic fluid models
 - Nonlinear viscoelastic fluid models

POST-DOCTORAL ASSOCIATES:

1. Orlicki, D., 1989-1991, SUNY/Buffalo
2. Pelekasis N., 1996-2001, University of Patras
3. Housiadas K., 1999-2001, University of Patras
4. Foteinopoulou, K., 2005-2006, jointly with V. Mavrantzas, University of Patras
5. Dimakopoulos, Y., 2005-2007 & 2010-2013, University of Patras
6. Aggelidis, K. 2009-2011, University of Patras
7. Khanh, Nguyen Phuc, 2012-2014, University of Patras
8. Photeinos, D., 2013-2016, University of Patras
9. Lampropoulos N., 2014-2015, University of Patras
10. Syrakos, Al., 2014-2020, University of Patras
11. Karapetsas, G., 2015-Jan. 2018, University of Patras
12. D. Pettas, 2020-present University of Patras

FORMER DOCTORAL STUDENTS AND POST-DOCTORAL ASSOCIATES WHO ARE CURRENTLY FACULTY MEMBERS

1. Pelekasis, N., Professor, Dep. Mech. Engineering, Univ. of Thessaly
2. Housiadas, K., Professor, Dep. Mathematics, Univ. of Aegean
3. Dimakopoulos, Y., Assist. Professor, Dep. Chem. Engineering, Univ. of Patras

4. Karapetsas, G., Assist. Professor, Dep. Chem. Engineering, Aristotle Univ. of Thessaloniki
5. Syrakos, Al., Lecturer, Dep. Mech. Eng. University of Cyprus
6. Chatzidai, N. Assist. Professor, Dep. Industrial Management & Technology, Univ. Piraeus.

DOCTORAL THESES SUPERVISED:

1. "A Finite Element Analysis of the Inflation and Cooling Stages in Blow Molding Operations," A.J. Poslinski, May 1990.
2. "Chemical Vapor Infiltration for the Production of New Ceramic Materials," S.M. Gupte, September 1990.
3. "Static and dynamic analysis of liquid bridges," T. Y. Chen, September 1991.
4. "A Study on Drop and Bubble Dynamics via a Hybrid Boundary - Element-Finite Element Methodology", N. Pelekasis, October 1991.
5. "Transient rotational flow and Spin Coating of non-Newtonian Fluids", A. Borkar, September 1993.
6. "Flow of Bingham Fluids in axisymmetric geometries", M.-F. Chen, December 1997.
7. "Static and Dynamic Analysis of Extruded Thin and Annular Fluid Films", K. Housiadas, May 1999.
8. "Linear Stability Analysis and Nonlinear Dynamics of two-phase Flow in a Tube of Constant and Variable Cross-section", Ch. Kouris, December 2000.
9. "Interfacial Phenomena and Hydrodynamic Instabilities in two-phase Flows", D. Smyrniaios, May 2002.
10. "Displacement of Newtonian and non-Newtonian liquids from conduits of varying cross section", J. Dimakopoulos, December 2003.
11. "Computational study of the effect of cavitation phenomena on the rheological and mechanical properties of adhesive materials", K. Foteinopoulou, jointly with Vl. Mavrantzas, February 2005.
12. "A study on time-dependent and conditionally unstable flows of viscoplastic and viscoelastic fluids", G. Karapetsas, December 2007.
13. "Motion, deformation and interaction of bubbles due to gravity or/and of the pressure of the ambient fluid", N. Chatzidai, December 2008.
14. "Film flow over solid substrates: The effect of fluid rheology and substrate geometry", M. Pavlidis, December 2009.
15. "Study of the extensional flow of Newtonian and micro-structured filaments containing bubbles", Y. Papaioannou, December 2015.
16. "Steady flow and stability analysis of a thin film over variable topography" D. Pettas, December 2019.
17. "Determination of the mechanical properties of pressure sensitive adhesives" St. Varchanis, June 2020.

MASTER'S THESES SUPERVISED:

1. "Viscous Fingering in Hele Shaw Cells: Viscous and Elastic Effects," K. Manoussidis, March 1988 (Jointly with R. Gupta).
2. "The Dynamics of Axisymmetric Capillary Bridges," A. Borkar, March 1989.
3. "A Model for the Catalytic Growth of Carbon Filaments," P. Chitrapu, May 1989 (Jointly with C. Lund).
4. "Carbon Gasification by Group VIII Metal Catalysts", M. Vincett, July 1992, (jointly with C.

- Lund).
5. “Linear stability analysis in two-phase flow”, Ch. Kouris, December 2000.
 6. “Squeeze flow of Bingham plastics” D. Smyrniaios, May 2002.
 7. “A quasi-elliptic transformation for moving boundary problems with large anisotropic deformations”, I. Dimakopoulos, December 2003.
 8. “Instabilities during the film blowing process”, G. Klidis, January 2005.
 9. “Simulation of Polymer Processing operations: On the influence of the external cooling air on the film blowing process”, N. Karakosta, October 2006.
 10. “Solution methods of time-dependent or conditionally unstable flows of viscoelastic or viscoplastic fluids, G. Karapetsas, February 2008.
 11. “Steady rise and deformation of a bubble in Newtonian and viscoplastic fluids”, M. Pavlidis, March 2008.
 12. “Motion, deformation and interaction of bubbles due to a step change in the ambient fluid, N. Chatzidai, February 2009.
 13. “Study of the three-dimensional extrusion from an extruder with multiple exits”, I. Katsipou, 2009.
 14. “Stretching of Liquid Bridges containing gas inclusions” Arindam Sen, Nov. 2013.
 15. “Linear stability analysis of viscoelastic fluid extrusion through a planar die”, D. Pettas, June 2015.
 16. “Stress-gradient induced migration of polymers in complex geometries” S. Tsouka, June 2015.
 17. “Computations of two-phase fluid flows with phase-field models” Y. Vasilopoulos, Feb., 2016.
 18. “Steady film flow over 2D topography with air inclusion”, St. Varchanis, June 2016.
 19. “Modelling and simulations of EVP fluids”, G. Makrygiorgos, July 2018.

CURRENT POSITION OF SOME FORMER DIPLOMA THESIS STUDENTS

1. Ioannou G. Dipl. Completed 2019, currently PhD candidate, Univ. Cambridge, DAMPT, UK.
2. Makrygiorgos, G. MS completed 2018, currently PhD candidate, *Univ. California, Berkeley, USA*
3. Tsolas, S., Dipl. completed: 2016, currently PhD candidate, *Texas A & M, Univ., USA.*
4. Fraggedakis, D, Diploma completed: 2015, currently PhD candidate, *MIT, USA.*
5. Delidakis, G. Dipl. completed: 2015, currently PhD candidate, *Univ. Texas Austin, USA.*
6. Tsouka S., Diploma completed: 2014, currently PhD candidate, *EPFL, Switzerland.*
7. Michalaki, E. Diploma completed: 2014, currently PhD candidate, *Stanford Univ., USA.*
8. Kelesidis, G., Diploma completed: 2013, currently PhD candidate, *ETH, Switzerland*
9. Tseropoulos, G, Diploma completed: 2012, currently PhD candidate, *SUNY/Buffalo, USA*

INDUSTRIAL EXPERIENCE

- Summer Employment: AKZO CHEMIE NEDERLAND, Research center, Amsterdam (1978).
- Consultant for: BAXTER, USA, (1989); SASOL Industries, S. AFRICA, (1999); EBGA, GREECE (2003).

RECENT COLLABORATORS

- Ecole Supérieure de Physique et Chimie Industrielles de la Ville de Paris (ESPCI) (Prof. C. Creton)
- Centre National de la Recherche Scientifique (CNRS) (Dr. M. Plapp)

- Université Catholique de Louvain-La-Neuve (UCL) (Prof. Chr. Bailly)
- Eidgenössische Technische Hochschule Zürich (ETH-Z) (Prof. H-C Ottinger)
- Eidgenössische Technische Hochschule Zürich (ETH-Z) (Prof. Th. Schweizer)
- Dow Benelux B.V. (DOW) (Dr. Koopmans)
- LyondellBasell Industries (LBI) (Dr. I. Vittorias)
- Université de Technologie de Compiègne, Bioengineering Dep., Biomechanics & Biomedical Engineering (UMR CNRS 6600), , FRANCE (Prof. Dominique BARTHÈS-BIESEL)
- University of Tokyo, Dep. of Applied Physics (Prof. Maso Doi)
- Imperial College, Dep. of Mathematics (Prof. D. Papageorgiou)
- University of British Columbia, Dep. of Mathematics (Prof. I. Frigaard)
- Universitaet Goettingen, Drittes Physikalisches Institut, (Prof. Dr. W. Lauterborn)
- Ufa Branch of the Russian Academy of Sciences, Institute of Mechanics (Prof. I. Akhatov)
- Institute of Nuclear Problems, Belarus (Dr. Al. Doinikov)
- Universitaet Goettingen, Drittes Physikalisches Institut, (Dr. R. Mettin)
- Ufa Branch of the Russian Academy of Sciences, Institute of Mechanics (Dr. D. Khismatullin)
- Joint research Centre of the European Commission in Ispra (Dr. Andritsos)
- Technion Israel, Dep. of Chemical Engineering (Prof. A. Nir)
- University of Massachusetts at Amherst, Dep. of Chemical Engineering (Prof. Pozrikidis)
- Imperial College, Dep. of Chemical Engineering (Prof. S. Kalliadasis)
- University of Delaware, Dep. of Chemical Engineering (Prof. A. Beris)
- APIVITA, R & D (Dr. C. Gardikis)
- University of Central Florida, Dep. of Civil Engineering (Prof. N. Makris)
- University of Thessaly, Dep. of Mechanical Engineering (Prof. V. Bontozoglou)
- University of Cyprus, Dep. of Mathematics (Prof. G. Georgiou)
- University of Crete, Dep. of Materials Science (Prof. D. Vlassopoulos)
- National Technical University of Athens, Dep. of Chem. Engineering (Prof. D. Theodorou)
- University of Thessaly, Dep. of Mechanical Engineering (Prof. N. Pelekasis)
- University of Cyprus, Dep. of Mechanical Engineering (Prof. A. Alexandrou)
- Mass. Institute of Technology, Dep. of Mechanical Engineering (Prof. Tr. Akylas)
- National Technical University of Athens, Dep. of Metallurgy (Prof. Ev. Mitsoulis)

MAJOR RESEARCH GRANTS AWARDED:

More than 11 proposals have been funded with a total budget of over \$900,000 in the US and more than 33 proposals have been funded with a total budget of over 4250 k€ from Greek and European sources.

1. A fundamental study of Cavitation phenomena: Bubble interactions with other moving and deforming interfaces." NSF Engineering Initiation Grant, MSM-8705735, 2 years, (1987-89), \$69,874, plus \$10,000 in matching funds. My proposal was ranked 2nd among 58 other submitted to the Fluid Dynamics Program in the Division of Mechanics, Structures and Materials.
2. A number of University-wide competitive proposals were funded. Some examples:
 - Internal Arterial wall shear and Atheroma: A more realistic model development and testing with testing with data for atherogenesis", Biomedical Research Support Grant (from NIH, \$7,600, 1 year (1986).

- "Strategy for the Economic Survival of Engineering Projects", Central Awards Committee, SUNY \$4,000, 1 year (1986).
 - "Study and prevention of mechanical failure of artificial heart valves", Biomedical Research Support Grant (NIH), \$2,500, 1 year (1988).
 - Faculty Development Awards from NYS/UUP Professional Development and Quality of Working Life Committee, \$1,000 (1985); \$750 (1987); \$1,000 (1991); \$750 (1993).
3. "A fundamental study of Cavitation phenomena," Cornell National Supercomputer Facility (CNSF), 100 Service Units, at a cost of \$1,000 per Service Unit, (1988) and additional 300 Service Units, at a cost of \$1,000 per Service Unit, (1990).
 4. "Study and prevention of mechanical failure of artificial heart valves", New York Science and Technology Foundation, \$37,500, 1 year, (1989).
 5. "Fundamentals of electronic materials processing: The spin coating process", IBM Research Division, \$70,000, 1 year (1990) and additional \$75,385, for 1 year (1991, continuation).
 6. "Prevention of Cavitation Damage in Artificial Heart Valves", HIDI, NSF-NYS Center for Advanced Technology, \$24,160, 1 year, (1990).
 7. "Engineering Research Equipment: High-Performance Workstation for Flow Visualization", NSF, \$81,000, jointly with T. Mountziaris, D. Kofke and J. Nitsche, (1992).
 8. "Nonlinear bubble Interactions in Acoustic Pressure Fields", NASA, \$100,000, 2 years (1993-1995).
 9. "Development of new modified polymers and blends for packaging and agricultural applications", GSRT/EPET II, total budget 1842 kECU, share of our lab was 72 KECU, for 3 years, (1994-1997).
 10. "Increase of the domestic production capacity and recycling of used lube oils", GSRT/EPET II, total budget 2000 kECU, share of our lab was 85 KECU, for 3 years, (1994-1997).
 11. "Numerical Methods for flow of deforming Particulates", with C. Pozrikidis, NATO, \$7500 US, 2 years, (1995-1997).
 12. Study of the stability of layered flow between liquid and gas", GSRT/PENED, 36 KECU (26+10 kECU for a scientist living abroad), for 2 years, (1996-1999).
 13. "Modelisation numerique de la Mecanique de capsules a membrane liquide ou elastique" GSRT/France PLATO, 10.6 KECU (7.5 KECU from GSRT & 3.1 KECU from the French Embassy), for 2 years, (1997-1999).
 14. "Improvement of the Graduate Program in the Chemical Engineering Department at UP" Ministry of Education, grant No 51, 432 kECU, for 3 years, start Oct. 1997.
 15. "Cavitation Phenomena in Waste Water Treatment by Ultrasound" INCO-COPERNICUS 97/98 program, contract no IC15CT980141, total budget 240 KECU, share of our lab was 58.75 kECU, for 3 years, start 1998.

16. "Stability Analysis of Heat Transfer from Saturated Vapor through Condensation on a Cooled Surface" Caratheodory Program, 20 kECU, for 3 years, start 1998.
17. "Reinforced Plastics" GSRT/EPET II-EKVAN #88, total budget 940 kECU, share of our lab was 150 kECU, for 3 years, (1998-2001).
18. "Advanced NATO Fellowship" for Al. Doinikov, 3.5 kEU, for 1 year, 1999.
19. "Optimization in the Production of Master Batches by model development and software and verification in Industrial Scale", GSRT/PAVE, 65 kEU, share of our Lab was 31 kEU, for 2 years, start 2000.
20. "Study of the Production and Characterization of Polymeric Films by the Film Blowing Process", GSRT/PENED, 140 kEU, share of our Lab was 64,5 kEU, for 2 years, start 2000.
21. "Advanced NATO Fellowship" for Al. Doinikov, 3.5 kEU, for 1 year, 2000.
22. "Improvement of the Graduate Program in the Chemical Engineering Department at UP" Ministry of Education, continuation of grant No 51, 47 kECU, for 1 year, start Sep. 2000.
23. "Mouvement et deformation de cellules sous l'effet de contraintes visqueuses ou acoustiques" GSRT/France PLATO, 12 kECU, for 2 years, (2001-2003).
24. "Study of bubble-bubble interaction, coalescence and break-up", Programme IKYDA 2000, 15 kECU, for 3 years (2001-2003).
25. "Optimization of two-phase flows in the oil and chemical Industries", GSRT/PENED, 138 K€, share of our Lab was 52 k€, for 3 years, start 2002.
26. "Studies of the effect of mechanical stresses and temperature on the extrusion of reinforced polyethylene pipes", GSRT/PENED, 194 k€, share of our Lab was 40 K€, for 3 years, start 2002.
27. "Effect of Rainfall on the aerodynamic characteristics of an airplane wing", GSRT/PENED, 123 k€, share of our Lab was 35 k€, for 3 years, start 2002.
28. "Improvement of the Graduate Program in the Chemical Engineering Department at UP" Ministry of Education, new grant, 143 k€, for 2 years, start 2002.
29. Equipment for the improvement of the Graduate Program in the Chemical Engineering Department at UP" Ministry of Education, new grant, 100 k€, for 2 years, start 2002.
30. "Study of the production of Polymeric film via the film Blowing process" Caratheodory Program, 24.5 k€, for 3 years, start 2003.
31. "New numerical techniques for the computation of flows of viscoelastic materials under conditions of industrial applications", Pythagoras Program, Ministry of Education of Greece, 50 k€, 2 years, start 2005.
32. "Critical forming technologies for producing CMOS circuits with dimension <100nm in

- industrial scale”, GSRT/PENED, 160 k€, share of our lab was 52 K€, for 3 years, start 2005.
33. “Multi-scale modelling of interfacial phenomena in acrylic adhesives undergoing deformation, Proposal acronym: MODIFY”, EU, 3100 k€, share of our lab was 300 k€, for 3 years, start 2009.
 34. "Film rupture of nanostructured liquids in processing of composite materials"
GSRT/Heraklitos program, 45 k€, for 3 years, start 2010.
 35. “Complex Visco-elastic and Visco-plastic Materials: From Microscopic Structure and Dynamics to Macroscopic Flow” COVISCO, GSRT/Thales program, Grant Number: 648, 600 k€, share of our lab was 70 k€, for 45 months, start 2012.
 36. “Thin film flows of complex fluids in microfluidic applications”, FilCoMicA,
GSRT/Excellence program, Grant Number: 1918, 300 k€, for 3 years, start 2012.
 37. “Physicochemical and biological characterization and improvement of natural muds to produce high added-value products”, PHARMAMUDS, GSRT/Bilateral Cooperation program between Greece and Israel, Grant Number: 3163, 300 k€, share of our lab was 85 k€, for 16 months, start 2014.
 38. “MIFIS: Internal Flow Simulations” European Commission, Joint research Centre, Ispra, Service contract #259592, 59.2 k€, share of our lab 30 k€, for 16 months, start 2014.
 39. “Multiscale Simulations of Complex Polymer Systems”, (MuSiComPS), LIMMAT Foundation, 1,050 k€, share of our lab 350 k€, for 5 years, start 2015.
 40. “Mesoscopic modelling and investigation of blood rheology via DNS simulations”, GSRT-support of investigators with emphasis on young investigators, 45.4 k€, for 15 months, start 2019.
 41. “Modeling and flow of Elasto-Visco-Plastic materials,” H.F.R.I (Hellenic Foundation for Research & Innovation, 188 k€, for 36 months, start 2020.
 42. “YIELD-stress fluid flow beyond Bingham: closing the GAP in modelling real-world yield-stress materials” MARIE SKŁODOWSKA-CURIE ACTIONS, Innovative Training Networks (ITN), Call: H2020-MSCA-ITN-2020, total budget 3,205k€, budget of our lab 730k€, for 48 months, start 1/1/2021.

Last update: October 20, 2020