

# Curriculum Vitae

## Yannis E. Dimakopoulos

Assistant Professor in Transport Phenomena

### PERSONAL DATA

Work Address: Laboratory of Fluid Mechanics & Rheology,  
Department of Chemical Engineering,  
University of Patras, Greece

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Site: <http://fluidslab.chemeng.upatras.gr/index.php/2016/11/07/assistant-professor/>

Google Scholar: <https://scholar.google.gr/citations?user=SOTORwAAAAJ&hl=el&oi=ao>

ORCID: <https://orcid.org/0000-0002-8671-0657>

Marital Status: Single

Foreign Languages: English

### MEMBER OF SCIENTIFIC COMMUNITIES

1. Technical Chamber of Greece
2. Greek Association of Chemical Engineers
3. Hellenic Society of Rheology
4. European Mechanics Society
5. Society of Plastics Engineers
6. European Society of Rheology
7. European Society of Biomechanics

### MILITARY SERVICES

**Completed** **2/2004-2/2005**  
Assignment in Supply and Transport with specialty of Chemical Engineer

### EDUCATION

**Diploma in Chemical Engineering,** **9/1992 - 6/1997**  
Graduated from the graduate program of the Department of Chemical Engineering,  
University of Patras, Greece.  
Thesis Title: 'Calculations of Sound Intensity in the interior of aircrafts'

**Master in the Simulation, Optimization and Control of Processes** **10/1997 – 12/2003**  
Graduated from the post-graduate program of the Department of Chemical Engineering,  
University of Patras, Greece.  
Grade: Excellent

**Doctoral Diploma in Chemical Engineering,** **10/1997 – 12/2003**  
Grade: Excellent

Thesis Title: 'Displacement of Newtonian and Non-Newtonian fluids from tubes with varying cross section'

## TEACHING EXPERIENCE

1. Teaching Assistant of the following courses:
  - a. "Introduction in Computers and Scientific Programming (Fortran)", two semesters: October 1998 - December 1998, October 1999 - December 1999.
  - b. "Numerical Analysis", three semesters: January 1997 - June 1997, January 1998 - June 1998, January 1999 - June 1999.
2. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2005-2006, teaching the course "Computational Transport Phenomena" (XM897) for undergraduate students.
3. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2006-2007, teaching the course "Numerical Analysis" (XM660) for undergraduate students.
4. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2006-2007, teaching the course "Computational Transport Phenomena" (XM69) for undergraduate students.
5. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2011-2012, teaching the course "Introduction in Computers and Scientific Programming" for undergraduate students.
6. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2011-2012, teaching the course "Numerical Analysis" (XM660) for undergraduate students.
7. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2011-2012, teaching the course "Computational Transport Phenomena" (XME69) for undergraduate students.
8. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2012-2013, teaching the course "Numerical Analysis" (XM660) for postgraduate students.
9. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2012-2013, teaching the course "Computational Transport Phenomena" (XME69) for undergraduate students.
10. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras for the academic year 2012-2013, teaching the course "Numerical Methods" (E741) for postgraduate students.
11. Member of the Interdepartmental Post-graduate program on Science and Technology of Polymers for 2014-2015, teaching the "Rheology of Polymers".
12. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2014-2015, teaching the course "Numerical Analysis" for undergraduate students.
13. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2014-2015, teaching the course "Rheology of Polymers" for undergraduate students.
14. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2014-2015, teaching the course "Numerical Methods" (E741) for postgraduate students.

15. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2015-2016, teaching the course "Numerical Analysis" for undergraduate students.
16. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2015-2016, teaching the course "Rheology of Polymers" for undergraduate students.
17. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2015-2016, teaching the course "Computational Transport Phenomena" for postgraduate students.
18. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2015-2016, teaching the course "Fluid Mechanics" for postgraduate students.
19. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2016-2017, teaching the course "Production and Shaping of Industrial Materials" for undergraduate students.
20. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2016-2017, teaching the course "Computational Transport Phenomena" for postgraduate students.
21. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2014-2015, teaching the course "Numerical Methods" (E741) for postgraduate students.
22. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2015-2016, teaching the course "Numerical Analysis" for undergraduate students.
23. Assistant Professor of the Department of Chemical Engineering of the University of Patras for the academic year 2015-2016, teaching the course "Dynamics & Control of Process" for undergraduate students.

## **PROFESSIONAL EXPERIENCE**

1. Chemical Engineer, November 1997 - present.
2. Chemical Analyst in the Department of Analysis of Mineral Oils (TAO/AOAP) of the 872 AK, April 2004 - September 2004.
3. Research associate of University of Patras, March 2005 – November 2007.
4. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras, 2005- 2007.
5. Post- Doctoral Researcher of the Biomedical Department of the Technical University of Eindhoven & Institute of Material Technology (MaTE), December 2007- February 2010.
6. Research associate of Laboratory of Computational Fluid Dynamics, Department of Chemical Engineering, University of Patras, March 2005 – present.
7. Post- Doctoral Researcher of the FORTH/ICE-HT, December 2012 – May 2013.
8. Researcher of the University of Cyprus, July 2012 – July 2014.
9. Adjunct Lecturer of the Department of Chemical Engineering of the University of Patras, 2011- 2012, 2012-2013.

10. Non-Tenured Assistant Professor, Department of Chemical Engineering, University of Patras, January 2014 – October 2017.
11. Tenured Assistant Professor, Department of Chemical Engineering, University of Patras, October 2017 – present.
12. Member of the Interdepartmental post-graduate program on Science and Technology of Polymers, University of Patras, September 2014 - present.

### **PROFESSIONAL ACTIVITIES**

1. Member of the general assembly of the Department of Chemical Engineering, from January 2014 - present.
2. Member of the Committee of Undergraduate studies the Department of Chemical Engineering, from September 2014 - present.
3. Member of the Committee of Physical Processes of the Department of Chemical Engineering, from January 2014 - present.
4. In charge of the examination and course scheduling of the Department of Chemical Engineering, from September 2014 - September 2016.
5. Coordinator of Erasmus+ at the Department of Chemical Engineering, from September 2014 - present.
6. In charge of the official web page of the Department of Chemical Engineering, from September 2014 - present.
7. Member of the execution committee of the Interdepartmental Post-Graduate Program on Science and Technology of Polymers, University of Patras, September 2017 - present.
8. Member of the execution committee of the Hellenic Society of Rheology, June 2016 - present.

### **DIPLOMA THESIS SUPERVISIONS**

1. George Delidakis, Department of Chemical Engineering, September 2014 – July 2015.
2. Spyros Tsolas, Department of Chemical Engineering, September 2015 – July 2016.
3. Hanin Alexaki, Department of Chemical Engineering, April 2017 – July 2018.
4. Ellie Chrysou, Department of Civil Engineering, December 2017 – expected to finish June 2019.
5. Maro Malliaroudaki, Department of Chemical Engineering, September 2018 - expected to finish June 2019.
6. Dimitris Zagganas, Department of Chemical Engineering, September 2018 – expected to finish June 2019.
7. Kyriaki Bagourdi, Department of Chemical Engineering, April 2019 – expected to finish June 2020.
8. Eleni Kouni, Department of Chemical Engineering, April 2019 – expected to finish June 2020.

### **MASTER THESIS SUPERVISIONS**

1. Michalis Kaffetzakis, Interdepartmental post-graduate program on Science and Technology of Polymers, University of Patras, January 2017 – July 2018.
2. Kostas Yannokostas, Post-graduate program on Chemical Engineering, University of Patras, January 2015 –October 2017.
3. George Makrygiorgos, Post-graduate program on Chemical Engineering, University of Patras, January 2016 – July 2018.
4. Vlasis Mitsoulas, Post-graduate program on Chemical Engineering, University of Patras, January 2017 – expected to finish July 2019.
5. Pantelis Moschopoulos, Department of Chemical Engineering, September 2017 - expected to finish July 2019.

### **PhD THESIS SUPERVISIONS**

1. Kostas Yannokostas, Post-graduate program on Chemical Engineering, University of Patras, October 2017 –

### HONORS and AWARDS

1. Prize of the Technical Chamber of Greece (TEE) for his performance in lectures during the academic year 1996-1997.
2. Post Doctoral scholar of the National Institute of Scholarships (IKY) for the academic year 2005-2007.
3. Scholarship for attending DEISA/PRACE Spring School in Edinburgh (2011).
4. Scholarship for attending Cyprus Advanced HPC Workshop Winter in Nicosia (2012).
5. Walters Prize 2018 for best paper published in JNNFM in 2018. The award will be made at the 2019 Society of Rheology meeting in Raleigh, North Carolina.

### SOCIAL RECOGNITION

1. Who's Who in the World, Silver Anniversary Edition (2008).
2. Who's Who in the World (2009 - 2019).
3. Who's Who in Science (2011).
4. International Biographical Centre, Cambridge (2009).

### GUEST EDITOR

1. Guest Editor of special issue on "*Rheology of Advanced Complex Fluids*" in *Materials MDPI*, 2019.

### EDITORIAL BOARD

1. Member of the Editorial Board of *ISRN Applied Mathematics*, since March 2011 - December 2017.
2. Member of the Editorial Board of *Mathematical Problems in Engineering*, since July 2012.
3. Member of the Editorial Board of *Journal of Oil, Gas and Petrochemical Sciences*, since October 2017.
4. Member of the Editorial Board of *International Journal of Bioprocessing and Biotechniques*, since January 2018.
5. Review Editor in *Soft Matter Physics* part of the journal(s) *Frontiers in Physics*, since April 2018.
6. Member of the Editorial Board of *International Journal of Petroleum and Petrochemical Engineering*, since June 2018.
7. Member of the Editorial Board of *CPQ Medicine*, since June 2018.
8. Member of the Editorial Board of the *Frontiers in Drug, Chemistry and Clinical Research*, since June 2018.
9. Associate Editor in *Evolutions in Mechanical Engineering (EME)*, since June 2018.
10. Member of the Editorial Board of *Chemical Engineering Open Access Open Journal (CEOAOJ)*, since July 2018.
11. Member of the Editorial Board of *Advances in Mathematical Physics*, since August 2018.
12. Member of the Editorial Board of *Insights in Mining Science & Technology*, since October 2018.
13. Associate Editor in *Prospects of Mechanical Engineering & Technology*, since November 2018.
14. Member of the Editorial Board of *Applied Cell Biology*, since November 2018.
15. Member of the Editorial Board of *Journal Clinical and Medical Research (CMR)*, since May 2019.

## INVITED PRESENTATIONS

11. Tsamopoulos, J., and Dimakopoulos, Y., "A flexible and robust numerical method for solving moving boundary problems with large deformations: Application in Polymer processing and rheology.", PPS-2005, August 2005, Quebec City, CANADA.
12. Tsamopoulos, J., and Dimakopoulos, Y., "Yield stress phenomena and known solutions of visco-plastic flows.", BIRS Workshop: 05w5028 Visco-plastic fluids: from theory to application, October 2005, Banff, CANADA.
13. Tsamopoulos, J., and Dimakopoulos, Y., "Steady bubble rise and deformation in Bingham fluids and conditions for their entrapment.", IUATM Symposium on Recent Advances in Multiphase Flows: Numerical and Experimental, June 2007, Istanbul, TURKEY.
14. Tsamopoulos, J., and Dimakopoulos, Y., "A finite-element based methodology for solving moving boundary problems with large deformations in complex geometries: Applications in polymer processing and rheology.", PPS-24, June 2008, Salerno, ITALY.
15. Dimakopoulos, Y., Bogaerds, A.C.B., Anderson, P.D., Hulsen, M.A., Baaijens, F.P.T., "Fluid-structure interaction simulations of a stented aortic valve.", AIO Meeting, September 2009, Eindhoven, THE NETHERLANDS.
16. Tsamopoulos, J., and Dimakopoulos, Y., "Viscoplastic fluids: Recent developments and new challenges.", 6<sup>th</sup> East Mediterranean Chemical Engineering Conference, March 2010, Istanbul, TURKEY.
17. Dimakopoulos, Y., "Hemodynamics of the aortic valve: Numerical simulation and open issues", HSR 2011, May 2011, Athens, GREECE (plenary lecture).
18. Dimakopoulos, Y., "Fluid structure interaction of the aortic valve with the hemodynamic environment: A fictitious domain/Lagrange multiplier approximation", Workshop on Hemodynamics and Hemorheology, February 2012, Nicosia, CYPRUS.
19. Dimakopoulos, Y., Tsamopoulos, Y., "What is the role of blood viscoelasticity in the formation of cell-depletion-layer in microvessels line with glycocalyx layer?", 24th ICTAM, August 2016, Montreal, CANADA.

## MEETINGS ORGANIZED - SESSIONS CHAIRED

1. 6<sup>th</sup> Panhellenic Conference in Chemical Engineering, Athens, Greece, May 2007, Chaired Session on "Transport Phenomena-Fluid Mechanics".
2. 10<sup>th</sup> Panhellenic Conference in Chemical Engineering, Patras, Greece, May 2015, Chaired Session on "Transport Phenomena-Fluid Mechanics".
3. Molecular Biology Summit, London, London, UK, October 2016, Chaired 2<sup>nd</sup> Microfluidics Congress.
4. Flow2016, Patras, Greece, November 2016, Chaired Session on "Computational Fluid Mechanics".
5. HSR 2017, Limassol, Cyprus 2017, Member of the Scientific Committee.
6. HSR 2017, Limassol, Cyprus 2017, Chaired Session on "Hemorheology".
7. 12<sup>th</sup> European Fluid Mechanics Conference, Vienna, Austria, September 2018, Chaired Session on "Biological Flows".
8. HSR 2019, Ko Island, Greece 2019, Member of the Scientific Committee.
9. 12<sup>th</sup> Panhellenic Conference in Chemical Engineering, Athens, Greece, May 2019, Chaired Session on "Transport Phenomena-I".
10. 12<sup>th</sup> Panhellenic Conference in Chemical Engineering, Athens, Greece, May 2019, Chaired Session on "Polymers and Nanocomposites-I".
11. 12<sup>th</sup> Panhellenic Conference in Chemical Engineering, Athens, Greece, May 2019, Member of the Scientific Committee.

## PROPOSAL EVALUATOR

1. GNET, HPC, since February 2014
2. GSRT, Greece, since January 2017
3. RPF, Cyprus, since October 2017
4. IKY, Greece, since May 2018

## REVIEWER OF SCIENTIFIC ARTICLES

Article reviewer of the following international scientific journals:

1. *Polymer Engineering & Science* since June of 2005,
2. *International Polymer Processing* since February of 2007,
3. *International Journal of Advanced Manufacturing Technology* since June of 2007,
4. *Rheologica Acta* since July of 2007,
5. *Journal of Materials Processing Technology* since October of 2007,
6. *Journal of Zhejiang University-SCIENCE A* since November of 2007
7. *Chemical Engineering Science* since February of 2008
8. *Nonlinear Analysis: Modelling and Control* since October of 2009,
9. *Journal of Engineering Science and Technology Review* since November of 2009,
10. *The IMA Journal of Applied Mathematics* since April of 2010,
11. *Journal of Process Mechanical Engineering* since February of 2011,
12. *Journal of Engineering Mathematics* since February of 2011,
13. *Applied Mathematical Modeling* since February of 2011,
14. *Composites Part A: Applied Science and Manufacturing* since April 2011,
15. *Journal of Non-Newtonian Fluid Mechanics* since May 2011,
16. *Discrete dynamics in nature and society* since June 2011,
17. *Journal of Hazardous Materials* since February 2012,
18. *Physical Review & Research International* since April 2012,
19. *International Journal of Engineering Science and Technology* since June 2012,
20. *Engineering with Computers* since September 2012,
21. *Applied Energy* since April 2013,
22. *Journal of Archaeological Science* since November 2013,
23. *The Korean Journal of Chemical Engineering* since July 2014,
24. *Journal of Chemical Technology and Biotechnology* since August 2014,
25. *British Journal of Applied Science & Technology*, since September 2014,
26. *Chemical Engineering Journal*, since October 2014,
27. *Fluid Dynamics Research*, since April 2015.
28. *Soft matter*, since October 2015,
29. *Multidiscipline Modeling in Materials and Structures*, since January 2016,
30. *Chemical Engineering Journal*, since January 2016,
31. *Korea-Australia Rheology Journal*, since February 2016,
32. *Chinese Journal of Chemical Engineering*, since April 2016,
33. *ASME, Applied Mechanics Reviews*, since May 2016,
34. *Computer Methods in Applied Mechanics and Engineering*, since January 2017,
35. *Ain Shams Engineering Journal*, since January 2017,
36. *Physics of Fluids*, since March 2017,
37. *Journal of Rheology*, since March 2017,
38. *International Journal for Numerical Methods in Engineering*, since April 2017,
39. *European Journal of Mechanics / B Fluids*, since February 2018,
40. *International Journal for Numerical Methods in Fluids*, since March 2018,
41. *Journal of Biological Physics*, since March 2018,
42. *Soft Matter Physics part of the journal(s) Frontiers in Physics*, since April 2018,
43. *Fluids*, since June 2018,
44. *European Biophysics Journal*, since July 2018,
45. *Applied Sciences*, since Augustus 2018,
46. *Water*, since September 2018,

47. *Microgravity Science and Technology*, since October 2018,
48. *Materials*, since October 2018,
49. *International Journal for Numerical Methods in Biomedical Engineering*, since December 2018,
50. *Symmetry*, since January 2019,
51. *Minerals*, since March 2019,
52. *Energies*, since May 2019,

Article reviewer of the following international conferences:

53. *7th GRACM International Congress on Computational Mechanics* in April of 2011.
54. *MDEE2017* in November of 2017.
55. *ICBEB2017* in October of 2017, Guangzhou.
56. *2<sup>nd</sup> International Conference on Mechanical, Electric and Industrial Engineering (MEIE2019)* in May 2019, Hangzhou.

## SCIENTIFIC & RESEARCH INTREST

1. Applied Mathematics: Analytical methods for the solution of partial differential methods, linear algebra, Green's functions, perturbations methods, stability analysis and bifurcation theory, differential geometry
2. Unit Operations and Transport Phenomena.
3. Fluid Dynamics: Single- and two-phase flows, free surface and moving boundary flows, nonisothermal flows, flows of Non-Newtonian fluids, physiological flows.
4. Computational Mechanics: Soft Tissue Engineering, Elastic solids.
5. Rheology of viscoplastic and viscoelastic materials: calculations of rheological properties, forming processes of polymeric materials.
6. Computational Linear Algebra: Solution methods of large-scale problems, iterative techniques and preconditioning, eigenvalues and eigenvector calculations of large systems, solution of saddle point problems.
7. Numerical Methods: Solution of ordinary differential equations (Runge-Kutta, Finite Differences, Shooting method), interpolation methods (Lagrange polynomials, Splines), integration techniques (Gauss, Newton-Cotes).
8. Numerical Techniques for the Solution of Partial Differenetal Equations: Finite element, Discontinuous elements, finite differences, finite volumes, boundary elements.
9. Computational Techniques: Differential and algebraic techniques of grid generation, parallelization of algorithms, calculation speed up, 'sparse' matrix computations.

## FRONT COVER

1. Soft Matter, 2018,**14**, 4218-4218. DOI: [10.1039/C8SM90095G](https://doi.org/10.1039/C8SM90095G)  
<http://pubs.rsc.org/en/content/articlelanding/2018/sm/c8sm90095g#ldivAbstract>

## JOURNAL ARTICLES

- A1. Kouris, Ch., Dimakopoulos, J., Georgiou, G. and 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).



- A2. Dimakopoulos, Y., and Tsamopoulos, J., "Transient displacement of a Newtonian fluid by air in straight or suddenly constricted tubes", *Phys. Fluids*, **15** (7), 1973-1991 (2003).
- A3. Dimakopoulos, Y., and Tsamopoulos, J., "Transient displacement of a viscoplastic fluid by air in straight or suddenly constricted tubes", *J. Non-Newtonian Fluid Mech.*, **112**, 43-75 (2003).
- A4. Dimakopoulos, Y., and Tsamopoulos, J., "A quasi-elliptic transformation for moving boundary problems with large anisotropic deformations", *J. Comp. Physics*, **192**, 494-522 (2003).
- A5. Dimakopoulos, Y., and 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).
- A6. Dimakopoulos, Y., and Tsamopoulos, J., "Gas assisted injection molding with fluids partially occupying straight and complex tubes", *Polym. Eng. Sci.*, **46** (1), 47-68 (2006).
- A7. Foteinopoulou, K., Mavrantzas, V., Dimakopoulos, Y., and Tsamopoulos, J., "Numerical simulation of multiple bubbles growing in a Newtonian liquid filament undergoing stretching", *Phys. Fluids*, **18** (4), art. no 042106, 1-24 (2006).
- A8. Dimakopoulos, Y., and Tsamopoulos, J., "Transient displacement of Newtonian liquid by air in periodically constricted circular tubes", *AIChE J.*, **52** (8), 2707-2726 (2006).
- A9. Dimakopoulos, Y., and Tsamopoulos, J., "Transient displacement of Newtonian and viscoplastic liquid by air in complex tubes", *J. Non-Newtonian Fluid Mech.*, **142** (1-3), 117-139 (2007).
- A10. Zacharioudaki, M., Kouris, C., Dimakopoulos, Y., and Tsamopoulos, J., "A direct comparison between volume and surface tracking methods with a boundary-fitted coordinate transformation and 3<sup>rd</sup> order upwinding", *J. Comp. Physics*, **227** (2), 1428-1469 (2007).
- A11. Tsamopoulos, J., Dimakopoulos, Y., Chatzidai, N., Karapetsas, G., and Pavlidis, M., "Steady bubble rise, deformation and entrapment in Bingham fluids", *J. Fluid Mech.*, **601**, 123-164 (2008).
- A12. 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).
- A13. Dimakopoulos, Y., and Tsamopoulos, J., "On the transient coating of a straight tube with a viscoelastic material", *J. Non-Newtonian Fluid Mech.*, **159** (1-3), 95-114 (2009).
- A14. Papaioannou, J., Karapetsas, G., Dimakopoulos, Y., and Tsamopoulos, J., "Injection of a viscoplastic material inside a tube or between two parallel disks: Conditions for wall detachment of the advancing front", *J. Rheology*, **53** (5), 1155-1191 (2009).
- A15. Pavlidis, M., Dimakopoulos, Y., and Tsamopoulos, J., "Analytical and numerical solutions for the flow of an undeformed viscoelastic film down a vertical cylinder", *Rheologica Acta*, **48** (9), 1031-1048(2009).
- A16. Dimakopoulos, Y., "An efficient parallel fully implicit algorithm for the simulation of transient free surface flows of multimode viscoelastic liquids", *J. Non-Newtonian Fluid Mech.*, **165** (7-8), 409-424 (2010).
- A17. Pavlidis, M., Dimakopoulos, Y., and Tsamopoulos, J., "Steady viscoelastic film flow over 2D topography: I. The effect of viscoelastic properties under creeping flow", *J. Non-Newtonian Fluid Mech.*, **165** (11-12), 576-591 (2010).
- A18. Chatzidai, N., Dimakopoulos, Y., and Tsamopoulos, J., "Viscous effects on the oscillations of two equal and deformable bubbles under a step-change in pressure", *J. Fluid Mech.*, **673**, 513-547 (2011).

- A19. Dimakopoulos, Y., Bogaerds, A., Anderson, P., Hulsen, M., Baaijens, F.P.T., "Direct numerical simulation of a 2D idealized aortic heart valve at physiological flow rates", *Comp. Meth. Biomech. and Biomed. Engrg*, **15** (11), 1157-1179 (2012).
- A20. Dimakopoulos, Y., Pavlidis, M., and Tsamopoulos, J., "Steady bubble rise in Herschel–Bulkley fluids and comparison of predictions via the Augmented Lagrangian Method with those via the Papanastasiou model", *J. Non-Newtonian Fluid Mech.*, pp. 34-51 (2013), DOI information: 10.1016/j.jnnfm.2012.10.012
- A21. Tseropoulos, G., Dimakopoulos, Y., Tsamopoulos, J., and Lyberatos, G., "On the flow characteristics of the conical Minoan pipes used in water supply systems, via Computational Fluid Dynamics", *J. Archaeological Sc.* **40** (4), 2057-2068 (2013).
- A22. Dimakopoulos, Y., Karapetsas, G., Malamataris, N.A., Mitsoulis, E., "The Free (open) Boundary Condition at Inflow Boundaries", *J. Non-Newtonian Fluid Mech.*, **187-188**, 16-31 (2012).
- A23. Tsouka, S., Dimakopoulos, Y., Mavrantzas V., and Tsamopoulos, J., "Stress gradient induced migration of polymers in corrugated channels", *J. Rheol.* **58**, 911-947 (2014). <http://dx.doi.org/10.1122/1.4880245>.
- A24. Papaioannou, J., Giannousakis, A., Dimakopoulos, Y., and Tsamopoulos, J., "Bubble deformation and growth inside viscoelastic filaments undergoing very large extensions", *Industrial and Engineering Chemistry Research* **53** (18), 7548-7569 (2014).
- A25. Dimakopoulos, Y., Kelesidis, G. Tsouka, S., Georgiou, G., and Tsamopoulos, J., "Hemodynamics in stenotic vessels of small diameter under steady state conditions: Effect of viscoelasticity and migration of Red Blood Cells", *Biorheology* **52**, 183-210 (2015).
- A26. Fraggedakis, D., Kouris, C., Dimakopoulos, Y., and Tsamopoulos, J., "Flow of two immiscible fluids in a periodically constricted tube: Transitions to stratified, segmented, churn, spray or segregated flow", *Phys. Fluids* **27**, 082102 (2015); <http://dx.doi.org/10.1063/1.4928052>.
- A27. Pettas, D., Karapetsas, G., Dimakopoulos, Y., and Tsamopoulos, J., "On the origin of extrusion instabilities: Linear stability analysis of the viscoelastic die swell", *J. Non-Newtonian Fluid Mech.* **224**, 61-77 (2015).
- A28. Fraggedakis, D., Pavlidis, M., Dimakopoulos, Y., and Tsamopoulos, J., "On the velocity discontinuity at a critical volume of a bubble rising in a viscoelastic fluid", *J. Fluid Mech.* **789**, 310-346 (2016).
- A29. Tsouka, S., Dimakopoulos, Y., and Tsamopoulos, J., "Stress gradient induced migration of polymers in corrugated channels", *J. Non-Newtonian Fluid Mech.* **228**, 79-95 (2016). doi:10.1016/j.jnnfm.2015.12.011
- A30. Lampropoulos, N., Dimakopoulos, Y., and Tsamopoulos, J., "Transient flow of gravity-driven viscous films over substrates with rectangular topographical features", *Microfluidics & Nanofluidics* **20** (3), 1-24 (2016).
- A31. Syrakos, A., Dimakopoulos, Y., Georgiou, G., and Tsamopoulos, J., "Viscoplastic flow in an extrusion damper", *J. Non-Newtonian Fluid Mech.* **232** (1), 102-124 doi:10.1016/j.jnnfm.2016.02.011 (2016).
- A32. Pavlidis, M., Karapetsas, G., Dimakopoulos, Y., and Tsamopoulos, J., "Steady viscoelastic film flow over 2D topography: II. The effect of capillarity inertia and substrate geometry in preparation", *J. Non-Newtonian Fluid Mech.* **234** (1), 201-214 (2016).
- A33. Fraggedakis, D., Dimakopoulos, Y., and Tsamopoulos, J., "Yielding the yield stress analysis: A thorough comparison of recently proposed elasto-visco-plastic (EVP) fluid models", *J. Non-Newtonian Fluid Mech.* **236**, 104-122 (2016).
- A34. Fraggedakis, D., Dimakopoulos, Y., and Tsamopoulos, J., "Yielding the yield stress analysis: A study focused on the effects of elasticity on the settling of a single spherical particle in simple yield-stress-fluids", *Soft Matter* **12** (24), 5378-5401 (2016).

- A35. Karapetas, G., Lampropoulos, N., Dimakopoulos, Y., and Tsamopoulos, J., "Transient flow of gravity-driven viscous films over 3D patterned substrates: Conditions leading to Wenzel, Cassie and intermediate states", *Microfluidics & Nanofluidics*, **21**:17 (2017).
- A36. Pettas, D., Karapetsas, G., Dimakopoulos, Y., Tsamopoulos, J., "On the degree of wetting of a slit by a liquid film flowing along an inclined plane", *Journal of Fluid Mechanics* **820**, 5-41 (2017).
- A37. Fraggedakis, D., Papaioannou, J., Dimakopoulos, Y., Tsamopoulos, J., "Discretization of Three-Dimensional Free Surface Flows and Moving Boundary Problems via Elliptic Grid Methods based on Variational Principles", *Journal of Computational Physics* **344**, 127-150 (2017).
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- P103. Varchanis, S., Dimakopoulos, Y., Wagner, C., and Tsamopoulos, J., "Identification of the viscoelastic properties of human blood plasma", AERC 2018, April 2018, Sorrento, ITALY.
- P104. Mitsoulas, V., Giannokostas, K., Dimakopoulos, Y., Tsamopoulos, J., "Multiscale modeling of the Glycocalyx Layer: Its impact on hemodynamics", 8<sup>th</sup> World Congress of Biomechanics, July 2018, Dublin, Ireland.
- P105. Giannokostas, K., Dimakopoulos, Y., Tsamopoulos, J., "Transient effects of NO production/diffusion in microvessels", 8<sup>th</sup> World Congress of Biomechanics, July 2018, Dublin, Ireland.
- P106. Mitsoulas, V., Giannokostas, K., Dimakopoulos, Y., Tsamopoulos, J., "Investigation of the impact of the endothelial surface layer on the hemodynamics capillary vessels through multiscale modeling and simulations", EFMC12, September 2018, Vienna, Austria.
- P107. Pettas, D., Karapetsas, Y., Dimakopoulos, Y., Tsamopoulos, J., "Stability Analysis of Viscoelastic Fluid Over a Structured Topography", EFMC12, September 2018, Vienna, Austria.
- P108. Karapetsas, G., Dimakopoulos, Y., Tsamopoulos, J., "Acoustic excitation of a bubble inside a viscoplastic medium", EFMC12, September 2018, Vienna, Austria.
- P109. De Corato, M., Saint-Michel, B., Makrygiorgos, G., Dimakopoulos, Y., Tsamopoulos, J., Garbin, V., "Acoustically enhanced bubble removal from yield-stress fluids", SOR 90, October 2018, Houston, USA.

- P110. Syrakos, A., Dimakopoulos, Y., and Tsamopoulos, J., "*Simulation of the cavity flow of an elastoviscoplastic fluid*", 11<sup>th</sup> FLOW Meeting, November 2018, Kozani, GREECE.
- P111. Karapetsas, G., Photeinos, D., Dimakopoulos, Y., Tsamopoulos, J., "Use of acoustic excitation to enhance the mobility of buoyancy driven bubbles inside a viscoplastic material", APS 2017 DFD, November 2018, Atlanta, Georgia, USA.
- P112. Tsamopoulos, J., Makrygiorgos, G., Moschopoulos, P., Dimakopoulos, Y., "*Extensional Dynamics of viscoplastic and shear thinning liquid bridges*", APS 2018 DFD, November 2018, Atlanta, Georgia, USA.
- P113. Pettas, D., Karapetsas, G., Dimakopoulos, Y., Tsamopoulos, J., "*Linear stability of viscoelastic film flow over structured surfaces*", APS 2018 DFD, November 2018, Atlanta, Georgia, USA.
- P114. Varchanis, S., Syrakos, A., Dimakopoulos, Y., Tsamopoulos, J., "*A new finite element formulation for viscoelastic flows: circumventing simultaneously the LBB condition and the high-Weissenberg number problem*", AERC 2018, April 2019, Portorož, SLOVENIA.
- P115. Varchanis, S., Ioannou, G., Kordalis, A., Dimakopoulos, Y., Tsamopoulos, J., "Yield-stress analysis of elasto-visco-plastic materials in strong extension", AERC 2018, April 2019, Portorož, SLOVENIA.
- P116. Syrakos, A., Dimakopoulos, Y., Tsamopoulos, J., "*Lid-driven elastoviscoplastic flow in a cavity*", HSR 2019, June 2019, Samos, GREECE.
- P117. Mitsoulas, V., Giannokostas, K., Dimakopoulos, Y., Tsamopoulos, J., "*Investigation of the scaling of the endothelial surface layer permeability of microvessels through multiscale modeling and simulations*", HSR 2019, June 2019, Samos, GREECE.
- P118. Varchanis, S., Syrakos, A., Moschopoulos, P., Dimakopoulos, Y., Tsamopoulos, J., "*3-Dimensional Flows of non-Newtonian fluids with free surfaces*", HSR 2019, June 2019, Samos, GREECE.
- P119. Varchanis, S., Dimakopoulos, Y., Tsamopoulos, J., "*New, faster and consistent FEM for viscoelastic flows*", IWNMNNF 2019, June 2019, Peso da Regua, PORTUGAL.
- P120. Karapetsas, G., Pettas, D., Dimakopoulos, Y., Tsamopoulos, J., "*Linear stability analysis of the flow of thin film over a partially wetted and varying topography*", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.
- P121. Moschopoulos, P., Syrakos, A., Psaraki, K., Dimakopoulos, Y., Tsamopoulos, J., "*A study of the rheological behavior of viscoplastic materials under extension*", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.
- P122. Yannocostas, K., Dimakopoulos, Y., "*An integrated model for the simulation of tissue dynamics of arterioles*", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.
- P123. Malliaroudaki, M., Yannocostas, K., Dimakopoulos, Y., "*Modeling and simulation of the platelet motion in microvessels*", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.
- P124. Mitsoulas, V., Giannokostas, K., Dimakopoulos, Y., Yannis, Tsamopoulos, J., "*Investigation of The Impact of The Endothelial Surface Layer on The Capillary Vessels Through Multiscale Modeling And Simulations*", ESB 2019, July 2019, Vienna, AUSTRIA.
- P125. Dimakopoulos, Y., Giannokostas, K., Tsamopoulos, J., "*An Integrated Model of Arteriole Tissue Dynamics Accounting for Passive and Active Stresses*", ESB 2019, July 2019, Vienna, AUSTRIA.
- P126. Dimakopoulos, Y., Moschopoulos, P., Varchanis, S., Syrakos, A., Georgiou, G., Tsamopoulos, J., "*From PAL to PAL-PSPG: A fast and stable method for viscoplastic flows*", 91th SOR meeting, October 2019, Raleigh, USA.

P127. Varchanis, S., Dimakopoulos, Y., Tsamopoulos, J., "Novel numerical simulations of the debonding process of pressure sensitive adhesives", 91th SOR meeting, October 2019, Raleigh, USA.

P128. Moschopoulos, P., Chryssou, E., Giannokostas, K., Kaltsoukala, C., Dimakopoulos, Y., Tsamopoulos, J., "Modeling of the human blood rheology and simulation of its flow in elastic micro-vessels", 91th SOR meeting, October 2019, Raleigh, USA.

P129. Varchanis, S., Pettas, D., Dimakopoulos, Y., Tsamopoulos, J., "Non-linear analysis of extrusion instabilities in polymer melt processing", 91th SOR meeting, October 2019, Raleigh, USA.

## PAPERS IN CONFERENCE PROCEEDINGS

C1. Dimakopoulos, Y., and Tsamopoulos, J., "Displacement of a viscous fluid by air in a cylindrical pipe", 3rd Panhellenic Conference in Chemical Engineering, Athens, GREECE, May 2001. Paper in the Proceedings, pp. 797-800, (2001).

C2. Dimakopoulos, Y., and Tsamopoulos, J., "Fluid displacement by air in a capillary tube", 6th National Congress on Mechanics (dedicated to the memory of the late Professor & Academician P. S. Theocaris). Organized by the Hellenic Society of Theoretical and Applied Mechanics (HSTAM), July 2001, Thessaloniki, GREECE. Paper in the Proceedings, Vol. I, pp. 84-89, (2001).

C3. Dimakopoulos, Y., and Tsamopoulos, J., "A finite element method for simulating the penetration of a long bubble through a viscous fluid in a tube with a 4 to 1 contraction", 1st National Conference on Recent Advances in Mechanical Engineering, September 2001, Patras, GREECE. Paper in the Proceedings (CD available).

C4. Dimakopoulos, Y., and Tsamopoulos, J., "Gas-assisted Injection molding in straight and constricted tubes", 18th International Conference of the Polymer Processing Society, June 2002, Guimaraes, PORTUGAL. Paper in the Conference Proceedings, pp. 1-9.

C5. Dimakopoulos, Y., and Tsamopoulos, J., "Simulations of liquid displacement in a tube by pressurized air using a quasi-elliptic mesh generation scheme", GRACM 2002, June 2002, Patras, GREECE, Abstract in Book of Abstracts and Paper in the Proceedings, pp 1-6, (CD available).

C6. Dimakopoulos, Y., and Tsamopoulos, J., "Gas-assisted injection molding of Bingham plastics in straight and constricted tubes", 6<sup>th</sup> European Conference on Rheology, September 2002, Erlangen, GERMANY, Paper in the Conference Proceedings 427-428

C7. Dimakopoulos, Y., and Tsamopoulos, J., "Displacement of a viscoplastic fluid by air in straight and constricted tubes", FLOW 2002, October 2002, Patras, GREECE, Paper available in Proceedings (CD available).

C8. Zacharioudakis, Y., Dimakopoulos, Y., and Tsamopoulos, J., "Nonisothermal Displacement of a viscous fluid by air in a cylindrical pipe", 4rd Panhellenic Conference in Chemical Engineering, Patras, GREECE, May 2003. Paper in the Proceedings, pp. 809-812.

C9. Chantzidai, N., Pavlidis, M., Karapetsas, G., Dimakopoulos, Y. and Tsamopoulos, J., "On the flow and the deformation of a bubble in a viscoplastic fluid", FLOW 2006 (5<sup>th</sup> meeting), November 2006, Patras, GREECE, Paper available in Proceedings (CD available).

C10. Dimakopoulos, Y. and Tsamopoulos, J., "MPI-Parallel calculations for viscoelastic flows with free surfaces", FLOW 2006 (5<sup>th</sup> meeting), November 2006, Patras, GREECE, Paper available in Proceedings (CD available).

C11. Dimakopoulos, Y., and Tsamopoulos, J., "MPI-Parallel calculations for viscoelastic flows with free surfaces", 6th Panhellenic Conference in Chemical Engineering, June 2007, Athens, GREECE.

- C12. Dimakopoulos, Y., and Zacharioudaki, M., *"Instabilities during the displacement of viscoelastic liquids by air in periodically constricted circular tubes"*, 6th Panhellenic Conference in Chemical Engineering, June 2007, Athens, GREECE.
- C13. Zacharioudaki, M., Kouris, Ch., and Dimakopoulos, Y., *"Comparison between numerical methods for the simulation of two-phase flows"*, 6th Panhellenic Conference in Chemical Engineering, June 2007, Athens, GREECE.
- C14. Dimakopoulos, Y., Pavlidis M., and Tsamopoulos, J., *"Transient coating of the inner wall of a straight tube with a viscoelastic material"*, The XV international congress on Rheology: The Society of Rheology 80<sup>th</sup> Annual Meeting, August 2008, California, USA. (AIP Conference Proceedings 1027, pp. 18-20)
- C15. Papaioannou, J., Yiannousakis, A, Dimakopoulos, Y., and Tsamopoulos, J., *"Deformation of a bubble in a viscoelastic liquid subjected to axisymmetric extensional flow"*, 8th Panhellenic Conference in Chemical Engineering, May 2011, Thessaloniki, GREECE, (CD available).
- C16. Pavlidis, M., Dimakopoulos, Y., and Tsamopoulos, J., *"Effect of viscoplasticity and shear thinning in the motion and the deformation of a bubble"*, 8th Panhellenic Conference in Chemical Engineering, May 2011, Thessaloniki, GREECE, (CD available).
- C17. Dimakopoulos, Y., Baaijens, F., Hulsen, M., and Bogaerds, A., *"Simulations of the motion of a stented aortic valve interacting with hemodynamic environment"*, 8th Panhellenic Conference in Chemical Engineering, May 2011, Thessaloniki, GREECE, (CD available).
- C18. Pavlidis, M., Dimakopoulos, Y., and Tsamopoulos, J., *"An improved augmented Lagrangian technique for free surface viscoplastic flows"*, GRACM 2011, June-July 2011, Athens, GREECE, Abstract in Book of Abstracts and Paper in the Proceedings (CD available).
- C19. Dimakopoulos, Y., Bogaerds, A., Anderson, P., and Baaijens, F., *"Application of the fictitious domain/Lagrange multiplier method on the simulation of the aortic valve"*, GRACM 2011, June-July 2011, Athens, GREECE, Abstract in Book of Abstracts and Paper in the Proceedings, (CD available).
- C20. Papaioannou, J., Dimakopoulos, Y., and Tsamopoulos, J., *"A fully implicit 3D elliptic mesh generator for moving boundary flow problems with large arbitrary deformations"*, ECCOMAS 2012, September 2012, Vienna, AUSTRIA, Abstract in Book of Abstracts and Paper in the Proceedings, (CD available).
- C21. Tseropoulos, G., Dimakopoulos, Y., Tsamopoulos, J., and Lyberatos, G., *"Computational Fluid Dynamics (CFD) evaluation of the flow characteristics of the Conical Minoan Terracotta Pipes in the Bronze Age"*, IWA Specialized Conference on Water & Wastewater Technologies in Ancient Civilizations, March 2012, Instabul, TURKEY, Abstract in Book of Abstracts and Paper in the Proceedings, (CD available).
- C22. Dimakopoulos, Y., Papaioannou, J., and Tsamopoulos, J., *"A fast explicit-implicit integration method for non-linear integral constitutive models casted in a Lagrangian Finite Element framework: Application to the filament stretching of pressure sensitive adhesives"*, 20<sup>th</sup> ECCOMAS, September 2012, Vienna, AUSTRIA, Abstract in Book of Abstracts and Paper in the Proceedings, (CD available).
- C23. Tsouka, S., Tsamopoulos, J., and Dimakopoulos, Y., *"Polymer Stress-Gradient Induced Migration in Thin Film Flow Over Topography"*, 9<sup>th</sup> FLOW Meeting, December 2014, Athens, GREECE. Abstract in Book of Abstracts and Paper in the Proceedings, (CD available).
- C24. Fraggedakis, D., Dimakopoulos, Y., and Tsamopoulos, J., *"Transitions from core-annular flow to bubbling, pulsing or spray flow in a periodically constricted circular tube"*, 9th FLOW Meeting, December 2014, Athens, GREECE. Abstract in Book of Abstracts and Paper in the Proceedings, (CD available).
- C25. Vasilopoulos, Y., Dimakopoulos, Y., *"On the simulation of two-phase incompressible flows based on Cahn-Hilliard Equation"*, 10th Panhellenic Conference in Chemical Engineering, May 2015, Patras, GREECE.

C26 Syrakos, A., Dimakopoulos, Y., Georgiou, G., "Direct numerical simulation of a viscoplastic flow in a extrusion damper", 10th Panhellenic Conference in Chemical Engineering, May 2015, Patras, GREECE.

C27 Fraggedakis, D., Dimakopoulos, Y., and Tsamopoulos, J., "On the velocity discontinuity at a critical bubble volume when it rises in a viscoelastic fluid", 10th Panhellenic Conference in Chemical Engineering, May 2015, Patras, GREECE.

C28 Karapetsas, G., Pettas, D., Dimakopoulos, Y., Tsamopoulos, J., "Linear stability analysis of the flow of thin film over a partially wetted and varying topography", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.

C29 Moschopoulos, P., Syrakos, A., Psaraki, K., Dimakopoulos, Y., Tsamopoulos, J., "A study of the rheological behavior of viscoplastic materials under extension", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.

C30 Yannocostas, K., Dimakopoulos, Y., "An integrated model for the simulation of tissue dynamics of arterioles", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.

C31 Malliaroudaki, M., Yannocostas, K., Dimakopoulos, Y., "Modeling and simulation of the platelet motion in microvessels", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.

C32 Mitsoulas, V., Giannokostas, K., Dimakopoulos, Y., "Investigation of the Impact of the Endothelial Surface Layer on the Capillary Vessels through Multiscale Modeling and Simulations", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.

## POSTERS

PO1. Dimakopoulos, Y., Bogaerds, A.C.B., Anderson, P.D., Hulsen, M.A., Baaijens, F.P.T., "Direct Numerical Simulation of physiological flows through an idealized aortic heart valve", Mate Poster Contest, Eindhoven, NETHERLANDS, December 2008.

PO2. Dimakopoulos, Y., Bogaerds, A.C.B., Anderson, P.D., Hulsen, M.A., Baaijens, F.P.T., "Direct Numerical Simulation of physiological flows through an idealized aortic heart valve", Research Day, Eindhoven, NETHERLANDS, May 2009.

PO3. Dimakopoulos, Y., Bogaerds, A.C.B., Anderson, P.D., Hulsen, M.A., Baaijens, F.P.T., "3D large scale simulation of a stented aortic heart valve", Mate Poster Contest, Eindhoven, NETHERLANDS, December 2009.

PO4. Tsouka, S., Dimakopoulos, Y., Mavrantzas, V., and Tsamopoulos, J., "Stress induced migration in polymeric flows", HSR 2014, July 2014, Heraklion, GREECE.

PO5. Tsouka, S., Dimakopoulos, Y., Mavrantzas, V., and Tsamopoulos, J., "Application of the DCR Tube Model in Thin Film Flow of Dilute Entangled Polymer Solutions that Exhibit Flow-Induced Concentration Changes", 10th Annual European Rheology Conference, April 2015, Nantes, FRANCE.

PO6. Martino, E., Athanasiou, M., Kiliyas, G., Dimakopoulos, J., Katsaounis, A., Tsamopoulos, J., and Vayenas C.G., "Modeling and optimization of triode fuel cells", 14<sup>th</sup> Symposium of Catalysis, Hellenic Catalysis Society, October 2016, Patras, GREECE.

PO7. Dimakopoulos, Y., and Tsamopoulos, J., "Investigation of the migration mechanism for the formation of the Cell Free Layer in microvessels", Molecular Biology Summit, London, October 2016, London, UK.

PO8. Syrakos, A., Dimakopoulos, Y., and Tsamopoulos, J., "The operation of an extrusion damper containing viscoplastic or viscoelastic materials", 11<sup>th</sup> Annual European Rheology Conference & 26<sup>th</sup> Nordic Rheology Conference, April 2017, Copenhagen, DENMARK.

PO9. Varchanis, S., Dimakopoulos, Y., and Tsamopoulos, J., "Constitutive Modelling Of Blood Plasma: Numerical Simulations And Comparisons With Experiments", ESB Seville, July 2017, Seville, SPAIN.

PO10. Moschopoulos, P., Dimakopoulos, Y., Tsamopoulos, J., "Analytical expressions for the velocity field of polymeric fluids and polyelectrolyte in microchannels", HSR 2017, July 2017, Limassol, CYPRUS.

PO12. Moschopoulos, P., Dimakopoulos, Y., Tsamopoulos, J., "Physical aspects of the electro-osmotic flow and their effects on the transportation of DNA in lab-on-chip systems", AERC 2018, April 2018, Sorrento, ITALY.

PO13. Varchanis, S., Makrygiorgos, G., Moschopoulos, P., Dimakopoulos, Y., Tsamopoulos, J., "Modeling the rheology of thixotropic Elasto-visco-plastic materials", AERC 2018, April 2019, Portorož, Slovenia.

PO14. Mitsoulas, V., Giannokostas, K., Dimakopoulos, Y., "Investigation of the Impact of the Endothelial Surface Layer on the Capillary Vessels through Multiscale Modeling and Simulations", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE.

PO15. Ioannou, G., Varchanis, K., Dimakopoulos, Y., Tsamopoulos, J., "Dynamics of Elasto-Visco-Plastic Materials in Strong Extension", 12th Panhellenic Conference in Chemical Engineering, May 2019, Athens, GREECE. Best paper award in «Transport Phenomena» received by G. Ioannou.

## PRESENTATIONS IN ACADEMIA

1. Dimakopoulos, Y., "Fluid displacement in cylindrical tubes by pressurized air", University of Patras, Department of Chemical Engineering, GREECE, December 2001.

2. Dimakopoulos, Y., "Displacement of Newtonian and Non-Newtonian fluids in cylindrical tubes by pressurized air", University of Patras, Department of Chemical Engineering, GREECE, December 2003.

3. Dimakopoulos, Y., "Accurate simulations of free-surface flows using advanced computational techniques", University of Peloponnese, Department of Computer Science, GREECE, October 2006.

4. Dimakopoulos, Y., "Accurate simulations of Free Surfaces problems using advanced numerical techniques", ETHZ, Department of Computer Science, SWITZERLAND, March 2007.

5. Dimakopoulos, Y., "Fluid-structure interaction simulations of a stented aortic valve", TUE, Department of Biomedical Engineering, THE NETHERLANDS, November 2009.

## PARTICIPATION IN RESEARCH PROGRAMMES

### EPET:

- National research program: *Increase in the national recyclability of used motor oils*
- Code: EPET/KA-3

### EOK:

- European research program: *Molecular-Based approach to the simulation of polymer fluid flows in processing operations*
- Code: EOK/M-6

### INCO:

- European research program: *Cavitation Phenomena in waste water treatment by ultra sound*
- Code: INCO-COPERNICUS 97/98 program, contract no IC15CT980141
- Total Budget 240 KECU, share of our lab was 58.75 KECU
- Duration: Three (3) years (1998-2001)

### Caratheodory:

- European research program: *Stability Analysis of Heat Transfer from Saturated Vapor through Condensation on a Cooled Surface*
- Code: Caratheodory Program
- Total Budget 20 KECU
- Duration: Three (3) years (1998-2001)

EKBAN:

- National research program: *Reinforced Polymers*
- Code: GSRT/EPET II-EKVAN #88
- Total Budget 940 KECU, share of our lab was 150 KECU
- Duration: Three (3) years (1998-2001)

IKY:

- National research program: "Development of innovative algorithms for the simulation of material forming processes"
- Code: IKY Post-Doctoral Scholarships
- Total Budget 10,800 €
- Duration: One and a half (1 1/2) years (2005-2007)

PYTHAGORAS II:

- National research program: "New numerical techniques for the computation of flows of viscoelastic materials for industrial applications"
- Code: PYTHGORAS II
- Total Budget 50,000 €
- Duration: Two (2) years (2005-2007)

MODIFY:

- European research program: *"Multi-scale modeling of interfacial phenomena in acrylic adhesives undergoing deformation"*
- Code: MODIFY, NMP-2008-25-2
- Duration: Three (3) years (2009-2012)

FSISOLVERS:

- European research program: *"Accelerating FSI solvers using general purpose graphical processing units (GPGPUs)"*
- Code: FSISOLVERS, ΤΠΕ/ΠΛΗΡΟ/0609(BE)/11
- Duration: Two (2) years (2012-2014)

FCELL:

- European research program: *"Mathematical modeling of the operation of a fuel cell"*
- Code: GA:298300
- Duration: six (6) months (2012-2013)

PHARMAMUDS:

- Greece-Israel research program: "Physicochemical and biological characterization and improvement natural sludges to produce product of large added value"
- Code: GA:3163
- Duration: eighteen (18) months (2013-2015)

MicroBlooM:

- Internal research program: "Microrheological Blood Modeling"
- Duration: thirty six (36) months (2016-2019)

ΔΙΑΚΤΟΡ:

- European research program: *"An in-silico Modelling of the effective transport of Drug-Carrying particles to treat atherosclerosis"*



- Duration: Two (2) years (2018-2020)