Aleck H Alexopoulos

Summary: Research scientist with 20+ years of experience in computational modelling of complex dynamic systems including dispersed phase processes, polymerization reactors, medical devices, and physiology. Most recent interests include dry powder inhalers and powder formulations, healthcare, exercise physiology and respiratory diseases. Founded ErgoSensePro Inc in 2017 and is an advisor to AsthmaFit.

Principal Research Scientist
Centre for Research and Technology Hellas - CERTH
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Laboratory of Polymer Reaction Engineering - LPRE
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RG: https://www.researchgate.net/profile/Aleck_Alexopoulos/

BIRTH PLACE	Melbourne, Australia
DATE OF BIRTH	September 19, 1960
CITIZENSHIP	Australian and Greek

DEGREES OBTAINED

Ph.D.	Chemical Engineering	1992	Purdue University
M.S.	Chemical Engineering	1988	Purdue University
Diploma	Chemical Engineering	1985	Aristotle University of Thessaloniki

EMPLOYMENT HISTORY

Centre for Process Engineering Research Institute

Research Associate Level "B"	Jan. 2008 – present
Research Associate Level "C"	Nov. 2004 – Dec. 2007
Research Associate Level "D"	Nov. 2001 – Nov. 2004
Post-Doctoral Associate	Nov. 1995 – Nov. 2001

University of Western Macedonia

Class Lecturer	Oct. 2006 – July 2009

Massachusetts Institute of Technology

Post-Doctoral Associate	Feb. 1992 – Nov. 1993.

Terronics Development Corporation, Elwood, IN.,

Consultant	July 1991 – Oct. 1991

ENTREPRENEURSHIP HISTORY

December 2015	Founder of ErgoSensePro
January – March 2016	MIT Enterprise Forum Startup Competition Greece
April 2017	Incorporation as a C-Corp in the state of MA.
December 2017	Co-founder of AsthmaFit
May 2018	NBG Business Seed startup competition - 5th prize.

PROFESSIONAL EXPERIENCE

Laboratory of Polymer Reaction Engineering, CPERI, CERTH Nov. 1995 – present.

Biomedical Engineering Research

Computational modelling of physiological systems (e.g., respiration and circulation).
Biomedical Engineering and Biodevices, e.g., cardiovascular stents and dry powder inhalers.
Population balance modelling of lipoprotein dynamics.
Environmental and worker exposure to inhaled nano- and micro- particles.

Polymer Reaction and Particulate Research

Multi-scale modelling of emulsion, precipitation, and suspension polymerization reactors
Rheology of latex-dispersions and polymer melts. Morphology of nanostructured particles
Solution of population balance equations for multi-variate particle size distributions.
Design and optimization of surfactant structure for latex particle stability.

Colloids and Dispersed Phase Systems

Stabilization in suspension and emulsion systems.
Colloidal stabilization.
Phase behaviour of liquid crystal systems.

Selected Activities:

Developed novel computational models of physiological and particulate systems integrating fluid flow, particulate/cell dynamics, and population dynamics.

Participated in numerous European research programs in the areas of particulate processes and biomedical engineering. Prepared and submitted numerous multi-partner proposals for European projects including: worker exposure to nanoparticles, drug delivery of anti-angiogenesis carrier particles, new biomaterials for cardiovascular stents, modelling of nanotoxicology, modelling of rheumatoidal arthritis.

Participated in the management and execution of research programmes involving industrial partners with specific goals and deadlines.

Post-Doctoral Associate Massachusetts Institute of Technology, Feb. 1992 – Nov. 1993.

Investigated the rheology of dense dispersions and particle migration phenomena.
Conducted theoretical studies of rapid granular flow of binary dense dispersions.

Consultant for Terronics Development Corporation, Elwood, IN., July 1991 – Oct. 1991.

Development of electrostatic sprayers for aqueous and organic fluids.

Research Assistant Purdue University, Aug. 1985 – Jan. 1992.

Interfacial and fluid mechanics of viscous and anisotropic fluids.
Modelling of droplet deformation and breakup of complex-fluids.
Surfactant, micelle, and liquid-crystal phase behaviour studies.

TEACHING EXPERIENCE

MultiMod Short Course on Population Balances May 2011, Thessaloniki Greece.

Lecturer for the class of "Modeling of Dynamic Systems" in the Mechanical Engineering Department at the University of Western Macedonia, (Fall 2006 to Fall 2009).
Teaching Assistant (Aristotle University of Thessaloniki, 1999) for Numerical Techniques in the multi-disciplinary graduate course "Processes and Technology of Advanced Materials".
Teaching Assistant (Purdue, 1990) for Topics in Transport Phenomena
Teaching Assistant (Purdue, 1988) for Heat and Mass Transfer
Teaching Assistant (Purdue, 1986) for Fluid Dynamics

AWARDS

Magoon award 1989 (Outstanding Undergraduate Teaching Assistant).

ACHIEVEMENTS of ErgoSensePro:

Semi-finalist MIT Enterprise
Finalist HYPE-SPorts
First Place Match and Develop
First Place in the NineSigma Technology Challenge ""
Finalist in NBG Business Seeds 2018 Startup Competition

PAPERS PUBLISHED: 26 in refereed journals + 1 chapter + 38 in conference proceedings
H-index = 13 Citations = 504

PAPERS REVIEWED:

Have reviewed >50 papers for numerous journals (e.g., Pharmaceutics, Chem. Eng. Sci., Plos ONE, Ind. Eng. Chem. Res.) and for Conference proceedings.

PROPOSALS REVIEWED:

Have reviewed >10 proposal in Greece, 2 International proposals (Inno-RUSS), and 1 Tech startup in the US (for Propel(x)).

Invited Lectures:

COST-Siminhale Workshop 2018
EU ChE conference Keynote

Papers published in refereed journals (H-index = 13, Citations = 405)

27. Alexopoulos, A.H. and Kiparissides, C. "*On the Prediction of Internal Particle Morphology in Suspension Polymerization of Vinyl Chloride: Part II: Determination of Grain Porosity*" (in preparation)

26. Bourganis, V., Kammona, O., Alexopoulos, A., Kiparissides, C. "Recent advances in carrier mediated nose-to-brain delivery of pharmaceutics" 2018. European Journal of Pharmaceutics and Biopharmaceutics, 128, 337.

25. Milenkovic, J., Alexopoulos, A.H. and Kiparissides, C. *"Optimization of a DPI Inhaler: A Computational Approach"* International Journal of Pharmaceutical Sciences, 106(3), 850–858, 2017.

24: Pladis, P., Alexopoulos, A.H., and Kiparissides, C. "*Mathematical Modeling and Simulation of Vinylidene Fluoride Emulsion Polymerization*" Ind. Eng. Chem. Res., 2014, 53 (18), pp 7352–7364.

23. Milenkovic, J., Alexopoulos, A.H. and Kiparissides, C. *"Dynamic Flow and Particle Deposition in the Turbuhaler DPI. A CFD Simulation."* Int J Pharm. 2014;461(1-2):129-136

22. Karakosta, P., Alexopoulos, A.H. and Kiparissides C. *Computational Model of Particle Motion, Deposition, and Deposition Distribution in the Nasal Cavity* Computer Methods in Biomechanics and Biomedical Engineering, 2013. 18(5), 514-526.

21. Milenkovic, J., Alexopoulos, A.H. and Kiparissides, C. *"Flow and Particle Deposition in the Turbuhaler DPI. A CFD Simulation."*International Journal of Pharmaceutics, 448, 205-213 2013.

20. Alexopoulos, A.H., Pladis, P., and Kiparissides, C. "*A Non-homogeneous Mixing Population Balance Model for the Prediction of Particle Size Distribution in Large Scale Emulsion Polymerization Reactors*" Industrial Engineering Chemistry Research, 52 (35), pp 12285–12296, 2013

19. Kammona, O., A.H. Alexopoulos, P. Karakosta, K. Kotti, V. Karageorgiou, and C. Kiparissides *"Nanocarrier Aided Nasal Vaccination: An Experimental and Computational Approach"* Ind. Eng. Chem. Res., 50, 590–601, 2010.

18. Kechagia, Z., O. Kammona, P. Pladis, A.H. Alexopoulos, C. Kiparissides "*A Kinetic Investigation of Removal of Residual Monomers From Polymer Latexes Via Post-polymerization and Nitrogen Stripping Methods*" Macromolecular Reaction Engineering, 5(9-10), 479–489, 2011.

17. Alexopoulos, A.H. Roussos, A.I., and Kiparissides, C. *"Part V: Dynamic Evolution of the Multivariate Particle Size Distribution in Particulate Processes: Combined Aggregation and Growth*" Chem. Eng. Sci., 64(14), 3260-3269, 2009.

16. Alexopoulos, A.H. and Kiparissides, C. "*On the Prediction of Internal Particle Morphology in Suspension Polymerization of Vinyl Chloride: Part I: The Effect of Primary Particle Size Distribution*" Chem. Eng. Sci., 62(15), 3970-3983, 2007.

15. Alexopoulos, A.H. and Kiparissides, C. "*Solution of the Bivariate Dynamic Population Balance Equation in Batch Particulate Systems: Combined Aggregation and Breakage*" Chem. Eng. Sci., 62(18), 5048-5053, 2007

14. Roussos, A.I., Alexopoulos, A.H. and Kiparissides, C. "*Part III: Dynamic evolution of the particle size distribution in batch and continuous particulate processes: A Galerkin on finite elements approach*", Chem. Eng. Sci., 60(24), 6998-7010, 2005.

13. Alexopoulos, A.H. and Kiparissides, C. *"Part II: Dynamic Evolution of the Particle Size Distribution in Particulate Processes Undergoing Simultaneous Particle Nucleation, Growth and Aggregation»*. Chem. Eng. Sci., 60(15): 4157-4169, 2005.

12. Roussos, A.I., Alexopoulos, A.H. and Kiparissides, C. *"Dynamic Evolution of PSD in Continuous Flow Reactors: A Comparative Study of Fixed and Moving Grid Numerical Techniques"*, Chem. Eng. Sci., 61(1) 124-134, 2006.

11. Kiparissides, C., Alexopoulos, A.H., Roussos, A., Dompazis, G., and Kotoulas, C. *"Population Balance Modeling of Particulate Polymerization Processes",* Ind. Eng. Chem. (Special Issue, Lyon Conference), 43(23), 7290-7302, 2004. (Special Issue, Lyon Conference),

10. Alexopoulos, A.H., Roussos, A.I., and Kiparissides C. "*Part I: Dynamic Evolution of the Particle Size Distribution in Particulate Processes Undergoing Combined Particle Growth and Aggregation*" Chem. Eng. Sci., 59(24), 5751-5769, 2004.

9. Alexopoulos, A.H., Maggioris, D., and Kiparissides, C., *"CFD analysis of turbulence inhomogeneity in mixing tanks: A two-compartment model",* Chem. Eng. Sci., 57, 1735, 2002.

8. Lazaridis, N., Alexopoulos, A.H., and Kiparissides, C., *"Semi-batch emulsion copolymerization of vinyl acetate and butyl acrylate using oligomeric nonionic surfactants"*, Macromol. Chem. Phys., 202, 2614, 2001.

7. Magioris, D., Alexopoulos, A.H., Chatzi, E.G., and Kiparissides, C., *"Prediction of Particle Size Distributions in Suspension Polymerization Reactors: Effect of Turbulence Nonhomogeneity"*, *Chem. Eng. Sci.,* 55, 4611, 2000.

6. Alexopoulos, A.H., Chatzi, E., Lazarides, N., and Kiparissides, C., *"Steric Stabilization in Emulsion Polymerization Using Oligomeric Non-Ionic Surfactants"*, Chem. Eng. Sci., 54, 3251, 1999.

5. Maggioris, D., Goulas, A., Alexopoulos, A.H., Chatzi, E.G. and Kiparissides, C., *"Use of CFD in Prediction of particle Size Distribution in Suspension Polymer Reactors"*, Computers Chem. Eng., 22, Suppl., S315-322, 1998.

4. Klibi, A., Alexopoulos, A.H., and Wiest, J.M., *"Singularity Cancellation in the Boundary Integral Equations of Axisymmetric Stokes Flow"*, Int. J. Num. Meth. Fluids, 15, 491-497, 1992.

3. Alexopoulos, A.H. and Franses, E.I., *"Surface Tensions of Viscous and Anisotropic Fluids"*, Colloids and Surfaces, 43, 263-277, 1990.

2. Alexopoulos, A.H., Puig, J.E., and Franses, E.I., *"Phase Continuity and Surface Properties of Dispersions of AOT/Water Liquid Crystals"*, J. Colloid Interf. Sci*.,* 128, 26-34, 1989.

1. Alexopoulos, A.H. and Markopoulos, J. *"Temperaturschwankungen an einer Wand bei der Tropfenkondensation", Chem. Ing. Tech.,* 59, 738-739, 1987.

Chapter

Milenkovic, J., Alexopoulos, A.H. and Kiparissides, C. *Airflow and Particle Deposition in a dry Power Inhaler. An Integrated CFD Approach* in "Advances in Intelligent and Soft Computing" series, 256, Springer-Verlag . M.S. Obaidat et al. (eds.), Simulation and Modeling Methodologies, Technologies and Applications

Papers Published in Conference Proceedings

38. Costas Kiparissides, Aleck H. Alexopoulos, Philippos Karageorgos, Athina Vasileiadou and Vassilis Bourganis, 2018*, A Process System Approach to Nose-to-Brain Delivery of Biopharmaceutics, Anton Friedl, Jiří J. Klemeš, Stefan Radl, Petar S. Varbanov, Thomas Wallek (Eds.), Proceedings of the 28th European Symposium on Computer Aided Process Engineering , June 10th to 13th, 2018, Graz, Austria. © 2018 Elsevier B.V.*

37. Alexopoulos, A.H., Milenkovic,M., and Kiparissides C. "An Integrated Computational Model of Powder Release, Dispersion, Breakage, and Deposition in a Dry Powder Inhaler" Andrzej Kraslawski and Ilkka Turunen (Editors) Proceedings of the 23rd European Symposium on Computer Aided Process Engineering – ESCAPE 23 June 9-12, 2013, Lappeenranta, Finland.

36. Milenkovic, J., A.H. Alexopoulos, and C. Kiparissides "Airflow and Particle Deposition in a Dry Powder Inhaler: A CFD Simulation" 2nd International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTEC), July 28-31, 2012, Rome, Italy.

35. Milenkovic J., Alexopoulos, A.H., and Kiparissides C. "An Integrated Computational Model of Powder Release, Dispersion, Breakage, and Deposition in a Dry Powder Inhaler", Proceedings of the 22nd European Symposium on Computer Aided Process Engineering, ESCAPE 22, 17 - 20 June 2012, London.

34. Milenkovic, J., A.H. Alexopoulos and C. Kiparissides "Flow and Particle Deposition in the Turbuhaler DPI: A CFD Simulation" International Conference on Biomedical Electronics and Devices, BIODEVICES 2012, 1-2 February, 2012, Vilamoura, Algarve, Portugal.

33. Papadimitriou, D., A.H. Alexopoulos, T. Gerasimidis, and C. Kiparissides *Computational Investigation of Vascular Surgical Interventions of Femoral Artery Aneurisms* 21st European Symposium on Computer Aided Process Engineering – ESCAPE 21, Porto Carras, May 29 - June 1, 2011, Greece.

32 Alexopoulos, A.H., P. Karakosta, and C. Kiparissides, *Flow and Particle Deposition using an Integrated CFD Model of the Respiratory System*, MNF11, Micro and Nano Flows, 22-24 August, Thessaloniki, Greece. 2011

31 Alexopoulos A.H., Karakosta P., Kiparissides C. *Particle Transfer and Deposition using an Integrated CFD Model of the Respiratory System*, European Symposium on Computer Aided Process Engineering, ESCAPE 20, Ischia, Naples, Italy, June 6-9, 2010.

30. Alexopoulos, A.H., Karakosta P., and Kiparissides C. *"Computational Model of Drug Release in the Nasal Cavity"* 6th International Conference on Nanosciences & Nanotechnology, Thessaloniki, Greece, July 13-15, 2009.

29. Alexopoulos, A.H., Karakosta, V. and Kiparissides, C. *"Computational Model for Deposition of Droplets and Drug Release in the Nasal Cavity"* 7th Panhellenic Conference in Chemical Engineering, Patra, Greece, June 4-6, 2009. (in Greek)

28. Alexopoulos, A.H. and Kiparissides, C. *"Dynamic Evolution of Bivariate Particle Size Distributions in Particulate Processes"*, 3rd International Conference on Population Balance Modeling, Quebec City, Canada, Sept. 18-20, 2007.

27. Alexopoulos, A.H. and Kiparissides, C. "Solution of the Bivariate Dynamic Population Balance Equation in Batch Particulate Systems", ISCRE, Berlin 2006.

26 Alexopoulos, A.H. and Kiparissides, C., "*Solution of the Bi-Variate Dynamic Population Balance Equation in Batch Particulate Systems*", EMCC4, 4th Eastern Mediterranean Chemical Engineering Conference, January 9-11, 2006, Le Meridien Hotel, Dead Sea, Israel.

25 Alexopoulos, A.H. and Kiparissides, C., *"On the Numerical Solution of Bi-Variate Population Balance Equations under the Combined Action of Nucleation, Growth and Aggregation Mechanisms"*, 2005 Annual Meeting AICHE, Cincinnati, OH, USA, October 30 – November 4, 2005.

24. Pladis P. Alexopoulos A.H., Bousquet J. Kiparissides C. "*Modelling of Vinylidene Fluoride Emulsion Polymerization*", ESCAPE-15, Barcelona, Spain, May 29 – June 1, 2005.

23. Alexopoulos A.H. and Kiparissides C. "*Solution of the Bi-variate Dynamic Population Balance Equation in Batch Particulate Systems*", ESCAPE-15, Barcelona, Spain, May 29 – June 1, 2005.

22. Alexopoulos, A.H. and Kiparissides, C. "Prediction of PSD in batch and continuous reactors. Study of nucleation, growth, and aggregation mechanisms", 4o Panhellenic Conference in Chemical Engineering Patra, May 29-31, 2003. p205-208 (in Greek)

21. Alexopoulos, A.H. and Kiparissides, C. *"Solution of Population Balance Equations in Particulate Systems: Coupled Nucleation, Aggregation, and Growth"*, 16th International Congress of Chemical and Process Engineering, Prague, Czech Republic, August 22-26, 2004

20. Roussos, A.I., Alexopoulos, A.H. and Kiparissides, C. *"Prediction of the Particle Size Distribution in Continuous Flow Particulate Processes"*, Proceedings, ESCAPE-14: European Symposium on Computer Aided Process Engineering, Lisbon, Portugal, May 16-19, 2004**.**

19. Alexopoulos, A.H. and Kiparissides, C. *"Solution of Population Balance Equations in Particulate Systems: Coupled Nucleation, Aggregation and Growth"*, 2nd International Conference on Population Balance Modeling, Valencia, Spain, May 5-7, 2004.

18. Roussos, A.I., Alexopoulos, A.H. and Kiparissides, C. *"Dynamic Evolution of PSD in Continuous Flow Reactors: A comparative Study of Fixed and Moving Grid Numerical Techniques"*, 2nd International Conference on Population Balance Modeling, Valencia, Spain, May 5-7, 2004.

17. Alexopoulos, A. and Kiparissides, C. *"Prediction of Particle size Distribution in non-Homogeneous Particulate Systems: two Compartment Model of an Emulsion Polymerization Reactor"*, International Symposium on Polymers in Dispersed Media, Lyon, France, April 4-8, 2004.

16. Roussos, A.I., Alexopoulos, A.H. and Kiparissides, C. *"Prediction of Particle Size Distribution in batch and continuous reactors: Investigation of Particle Nucleation, Growth, and Aggregation"*, XIX Panhellenic Conference in Solid-state Physics and Materials Science, 21-24 Sept., Thessaloniki, 2003 (in Greek).

15. Alexopoulos, A.H. Roussos, A.I., and Kiparissides, C. *"Nucleation Phenomena, Growth and Aggregation and Prediction of the PSD in Particulate Polymerization Reactors"*, 4th Panhellenic Conference in Chemical Engineering, Patra, May 29-31, 2003 (in Greek).

14. Alexopoulos, A.H. and Kiparissides, C., *"Solution of PBEs for Prediction of PSD in Particulate Systems: Effect of Combined Nucleation, Growth, and Aggregation"*, 2002 Annual Meeting AICHE, Indianapolis, USA, November 1-4, 2002.

13. Alexopoulos, A.H. and Kiparissides, C*., "Solution of Population Balance Equations for Prediction of Particle Size Distribution in Particulate Systems: Effect of Particle Nucleation, Growth and Aggregation Mechanisms"*, 51st Canadian Chemical Engineering Conference, Halifax, Canada, October 14-17, 2001.

12. Alexopoulos, A.H., Keramopoulos, A., Papadopoulos, E., and Kiparissides, C. *"Design of batch industrial polymerization reactors for the production of PVC"*, 3o Panhellenic Conference in Chemical Engineering, Athens, May 31 - June 2, 2001 (in Greek).

11. Alexopoulos, A.H. and Kiparissides, C. *"Development of Internal Structure in Systems Undergoing Nucleation, Growth and Aggregation",* Annual AIChE Meeting, Los Angeles, November 12-17, 2000.

10. Kiparissides, C., Alexopoulos, A and Papadopoulos, E., *"Computer Aided Design of Industrial PVC Batch Suspension Polymerization Reactors"*, 2nd Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean, Ankara, May 20-24, 2001.

9. Alexopoulos, A.H. and Kiparissides, C. *"Solution of Population Balance Equations for Prediction of Particle Size Distribution in Emulsion Polymerization: Comparison and Evaluation of Different Numerical Methods"*, 10th European Symposium on Computer Aided Process Engineering (ESCAPE-10), Florence, Italy, May 7-10, 2000, pg43-48.

8. Kiparissides, C., Chatzi, E.G., Alexopoulos, A., Yiannoulakis, H., and Yiagopoulos, A. *"Application of Population Balance Modeling to Particulate Polymerization Processes"*, Population Balance Modeling to Particulate Systems, Kona, Hawaii, January 23-28, 2000.

7. Alexopoulos, A.H., Lazaridis, N., and Kiparissides, C., *"Steric Stabilization in Emulsion Polymerization using non-ionic Surfactants"*, 2nd European Congress ECCE2, Montpellier, France (October 5-7, 1999).

6. Alexopoulos, A.H. and Kiparissides, C. *"CFD Simulations of Turbulent Flows in Mixing Tanks: Effect of Nonhomogeneity in Two-phase Systems"*, 3rd National Congress on Computational Mechanics, Volos (June 24-26, 1999).

5. Lazarides N., Alexopoulos, A.H.., Chatzi, E., και Kiparissides, C. *"Steric-stabilization in emulsion polymerization using non-ionic oligomeric surfactants"*. 1999, 2ο Panhellenic Conference in Chemical Engineering, Thessaloniki, May 27-29, p. 945, (in Greek).

4. Maggioris, D., Alexopoulos, A.H., Chatzi, E.G. and Kiparissides C., "*Prediction of Drop Size Distributions in Suspension Polymerization Reactors: Effects of Agitation Rate, Viscosity and Interfacial Tension*", DECHEMA, Berlin, Germany, October 5-7 (1998).

3. Lazarides, N., Alexopoulos, A.H., Chatzi. E.G., and Kiparissides, C., *"Steric Stabilization in Emulsion Polymerization Using Oligomeric Non-Ionic Surfactants"*, ISCRE 15, Newport, USA, September 13-16 (1998).

2. Alexopoulos, A., Maggioris, D., Chatzi, E., and Kiparissides, C., *"Prediction of the Particle Size Distribution in Suspension Polymerization Reactors"*, 1st Panhellenic Chemical Engineering Symposium, Patra, Greece, May 29-31 (1997) (in Greek).

1. Alexopoulos, A, Simoglou, Chatzi, E. and Kiparissides, C., *"Prediction of the Particle Size Distribution in Suspension Polymerization Reactors"*, ECCE-1, Florence, Italy, May 4-7 *(*1997).

Recent Presentations

ESCAPE

Costas Kiparissides, Vassilis Bourganis and Aleck Alexopoulos, "Recent Advances in Carrier-Mediated N2B Delivery of Pharmaceutics" ESB2017, H2020 Biomaterials Workshop, September 5, 2017, ICC, Athens, Greece

Alexopoulos, A.H., Milenkovic,M., and Kiparissides C. "An Integrated Computational Model of Powder Release, Dispersion, Breakage, and Deposition in a Dry Powder Inhaler" European Symposium on Computer Aided Process Engineering – ESCAPE 23 June 9-12, 2013, Lappeenranta, Finland.

Kiparissides, C., A.H. Alexopoulos and J. Milenkovic "CFD simulation of a Dry Powder Inhaler and Particle Deposition in the Respiratory Tract" 5th International Conference on Drug Discovery and Therapy, Feb. 18 - 21, 2013, Dubai, UAE.

Milenkovic J., A.H. Alexopoulos, and C. Kiparissides "An Integrated Computational Model of Powder Release, Dispersion, and Deposition in a Dry Powder Inhaler." AIChE Annual Meeting, Oct. 28 – Nov. 2, 2012, Pittsburgh, USA.

Alexopoulos, A.H., P. Karakosta, and C. Kiparisside "An integrated multi-scale multi-physics computational model of the respiratory system", Virtual Physiological Human (VPH), September 18-20, 2012, London, UK.

Milenkovic, J., A.H. Alexopoulos, and C. Kiparissides "Airflow and Particle Deposition in a Dry Powder Inhaler: A CFD Simulation" 2nd International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTEC), July 28-31, 2012, Rome, Italy.

Milenkovic, J., A.H. Alexopoulos and C. Kiparissides "Flow and Particle Deposition in the Turbuhaler DPI: A CFD Simulation" International Conference on Biomedical Electronics and Devices, BIODEVICES 2012, 1-2 February, 2012, Vilamoura, Algarve, Portugal.

Kiparissides, C., A.H. Alexopoulos, J. Milenkovic, and P. Karakosta *Simulation of a dry powder inhaler and particle deposition in the respiratory tract*, 8th European Congress of Chemical Engineers, ECCE-8, Sept. 25-29, Berlin, Germany. (Keynote Lecture).

Alexopoulos, A.H., P. Karakosta, and C. Kiparissides, *Flow and Particle Deposition using an Integrated CFD Model of the Respiratory System*, MNF11, Micro and Nano Flows, 22-24 August, Thessaloniki, Greece. 2011

Papadimitriou, D., A.H. Alexopoulos, T. Gerasimidis, and C. Kiparissides *Computational Investigation of Vascular Surgical Interventions of Femoral Artery Aneurisms* 21st European Symposium on Computer Aided Process Engineering – ESCAPE 21, Porto Carras, May 29 - June 1, Greece (poster).

Alexopoulos A.H., Karakosta P., Kiparissides C. *Particle Transfer and Deposition using an Integrated CFD Model of the Respiratory System*, European Symposium on Computer Aided Process Engineering, ESCAPE 20, Ischia, Naples, Italy, June 6-9, 2010.

Kiparissides, C. Karakosta P., and Alexopoulos, A.H. *Multiblock Multiscale CFD Model of Particle Deposition in the Respiratory System.* Nanoformulation 2010, June 9-11, Stockholm, Sweden. (poster)

Karakosta, P. Alexopoulos, A.H., and Kiparissides C. *Particle Transfer and Deposition in the Respiratory System: An Integrated Computational Model,* 7th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Valletta, Malta, March 8-11, 2010. (poster)

Karakosta, P. Alexopoulos, A.H. and Kiparissides C. *Development of a Computational Model for Drug Release in the Nasal Cavity* Symposium on New Frontiers in Chemical & Biochemical Engineering, Thessaloniki, Greece, November 26-27, 2009.

Karakosta, P., Alexopoulos, A.H., and Kiparissides C. *An Integrated Computational Model of Drug Delivery in the Respiratory System*. Annual AIChE Meeting. Nashville, TN, November 9-13, 2009.

Alexopoulos, A.H., Karakosta P., and Kiparissides, C. *Computational Model of Drug Release in the Nasal Cavity*. EuroNanoMedicine, Bled, Slovenia, September 28-30, 2009. (poster).

Alexopoulos, A.H., Karakosta P., and Kiparissides C. *"Computational Model of Drug Release in the Nasal Cavity"* 6th International Conference on Nanosciences & Nanotechnology, Thessaloniki, Greece, July 13-15, 2009.

Alexopoulos, A.H., Karakosta, V. and Kiparissides, C. *"Computational Model for Deposition of Droplets and Drug Release in the Nasal Cavity"* 7th Panhellenic Conference in Chemical Engineering, Patra, Greece, June 4-6, 2009.

Alexopoulos, A.H. and Kiparissides, C. *"Dynamic Evolution of Bivariate Particle Size Distributions in Particulate Processes"*, 3rd International Conference on Population Balance Modeling, Quebec City, Canada, Sept. 18-20, 2007.

Alexopoulos, A.H., Karageorgiou, V., Kammona, O., Karakosta, P. and Kiparissides, C. *"Pulmonary Drug Delivery : A Modeling Perspective"*, Nanomedicine, International Conference on Nanomedicine, Porto Carras Grand Resort, Chalkidiki, Greece, Sept. 9-11, 2007.

Alexopoulos, A.H. and Kiparissides, C., "Dynamic Evolution of Multi-Variate Particle Size Distributions in Particulate Processes : A Population Balance Perspective", 2006 Annual Meeting AICHE, San-Francisco, CA, USA, November 12-17, 2006.

Alexopoulos, A.H. and Kiparissides, C. "*Bi-variate Population Balance Modeling of Suspension Polymerization Reactors"*, (poster) European Polymer Congress, EPF 2007, Portoroz, Slovenia, July 2-6, 2007.

Alexopoulos, A.H. and Kiparissides, C. "*Solution of the Bivariate Dynamic Population Balance Equation in Batch Particulate Systems"*, ISCRE, Berlin 2006.

Alexopoulos, A.H. and Kiparissides, C., "*Solution of the Bi-Variate Dynamic Population Balance Equation in Batch Particulate Systems*", EMCC4, 4th Eastern Mediterranean Chemical Engineering Conference, January 9-11, 2006, Le Meridien Hotel, Dead Sea, Israel.