

NAME **IOANNIS TSIVINTZELIS**  
 DATE OF BIRTH **14/12/1974**  
 PLACE OF RESIDENCE **THESSALONIKI**  
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- 3/2018 - **Assistant Professor**, Aristotle University of Thessaloniki, Department of Chemical Engineering.
- 1/2014 – 3/2018 **Lecturer**, Aristotle University of Thessaloniki, Department of Chemical Engineering.
- 2010 - 2013 **Senior Researcher**, Technical University of Denmark, DTU, Department of Chemical and Biochemical Engineering and Center for Energy Resources Engineering.
- 2007 - 2010 **Post Doctoral Researcher**, Technical University of Denmark, DTU, Department of Chemical and Biochemical Engineering and Center for Energy Resources Engineering (former Institute for Phase Equilibria and Separation Processes).
- 2006 - 2007 **Post Doctoral Researcher**, Aristotle University of Thessaloniki, Department of Chemical Engineering.
- 2006 **Teaching** the course “Characterization, production and types of gas fuels” 1<sup>st</sup> Institute of Vocational Training of Thessaloniki & Institute of Vocational Training of Neapoli, Greece.
- 2002 - 2006 **PhD in Chemical Engineering**, Aristotle University of Thessaloniki, Department of Chemical Engineering.
- 2000 – 2002 **Military service (obligatory)**
- 1994 – 2000 Part time employment at various periods, Librocom Publications, Development of textbooks and CD-ROMs for educational purposes.
- 2000 **Diploma in Chemical Engineering**, Aristotle University of Thessaloniki, Department of Chemical Engineering.

#### ***Publications and Research Overview***

|    |  |    |
|----|--|----|
| 1. | Publications in peer review journals   | 67 |
|    | First author                           | 29 |
|    | Corresponding Author                   | 17 |
| 2. | Chapters in books                      | 4  |
| 4. | Publications in conference proceedings | 61 |
|    | International conferences              | 32 |
|    | Greek conferences                      | 29 |
| 5. | Participation in research projects     | 11 |

#### ***Citations***

|  | <b>Scopus</b> | <b>Web of science</b> | <b>Google Scholar</b> |
|--|---------------|-----------------------|-----------------------|
| <b>Total Citations (1/2021)</b>          | 2001          | 1860                  | 2553                  |
| <b>Excluding self-citations (1/2021)</b> | 1739          | 1625                  |                       |
| <b>h-index (1/2021)</b>                  | 24            | 23                    | 25                    |

### **Participation in Research Projects**

- 2019 - 2022 *Aristotle University of Thessaloniki, Department of Chemical Engineering, “NAno-Reinforced Polypropylene multifilament Yarns (NARPY)”*, Principal Investigator (PI), Greek Secretariat of Research and Technology.
- 2017 - 2019 *Aristotle University of Thessaloniki, Department of Chemical Engineering, “Systematic Design and Testing of Advanced Rotating Packed Bed Processes and Phase-Change Solvents for Intensified Post-Combustion CO<sub>2</sub> Capture (ROLINCAP)”*, European Commission, Horizon 2020.
- 2014 - 2015 *Aristotle University of Thessaloniki, Department of Chemical Engineering, “CO<sub>2</sub> Capture, Transport and Storage Processes: Thermodynamic Investigation of Relevant Fluid Mixtures”*, Coordinator/ Principal Investigator (PI), John S. Latsis Public Benefit Foundation.
- 2014 - 2015 *Aristotle University of Thessaloniki, Department of Chemical Engineering, “Production of novel polymeric materials for biomedical applications”*, Principal Investigator (PI), AUTH Research Committee.
- 2008 - 2013 *Technical University of Denmark (DTU), Department of Chemical and Biochemical Engineering, Center for Energy Resources Engineering (CERE), former Institute for Phase Equilibria and Separation Processes (IVC-SEP). “Chemicals in gas and oil processing (CHIGP)”*, GASSCO Norway, Statoil Norway and others.
- 2007 - 2008 *Technical University of Denmark (DTU), Department of Chemical and Biochemical Engineering, Institute for Phase Equilibria and Separation Processes (IVC-SEP). “Advanced Thermodynamic Tools for Computer-Aided Product Design”*, Danish Research Council for Technology and Production Sciences.
- 2006 - 2007 *Aristotle University of Thessaloniki, Department of Chemical Engineering, in collaboration with the school of Dentistry. “Development of dental bioactive ceramic materials conjugated with biopolymer scaffolds for tissue engineering”*, GSRT/PENED 2003.
- 2005 - 2007 *Aristotle University of Thessaloniki, Department of Chemical Engineering, Laboratory of Physical Chemistry. Study of polyelectrolytic solutions of dendrimers and hyperbranched polymers as solubility enhancement agents and as vehicles for drug delivery and controlled/release purposes*, GSRT/PENED 2003.
- 2005-2007 *Aristotle University of Thessaloniki, Department of Chemical Engineering, in collaboration with the Faculty of Forestry and Natural Environment. “Development of New Ecological Composite Materials”*, Pythagoras II, 2005
- 2006-2007 *Aristotle University of Thessaloniki, Department of Chemical Engineering, Laboratory of Physical Chemistry. “Thermodynamics of mixtures with ionic liquids”*, INTAS (*International association for the promotion of co-operation with scientists from the new independent states of the former soviet union*).
- 2002-2005 *Aristotle University of Thessaloniki, Department of Chemical Engineering, Laboratory of Physical Chemistry. Production of biodegradable and biocompatible microcellular polymers for biomedical applications*, GSRT/PENED 2001.

### Teaching Activities

- 2018-** Post graduate level: Applied Thermodynamics, Modeling and Simulation of molecular systems
- 2014 -** Undergraduate level courses: Polymer science and Technology, Physical chemistry, Nanotechnology and soft matter, Chemistry lab.
- 2016-2017** Post graduate level: Physical Chemistry of molecular and macromolecular systems, Nanostructures and physical chemistry of soft matter,

### Supervision Of Graduate Students And Postdoctoral Fellows

- 2019 -** Supervisor of two post-doctoral fellows (one in polymer science), Department of Chemical Engineering, AUTH
- 2019 -** Supervisor of one PhD student (in polymer science), Department of Chemical Engineering, AUTH
- 2014 -** Supervisor of 17 graduate students (diploma thesis), Department of Chemical Engineering, AUTH
- 2010 - 2011** Co-Supervisor of 4 master students (diploma thesis), Department of Chemical and Biochemical Engineering of Technical University of Denmark, DTU

### Special Lectures

- **“Phase equilibria for biodiesel-related compounds with CPA”**, KT Consortium Annual Meeting 2018, Technical University of Denmark, Rungstedgaard, Denmark, 19-21 June 2018.
- **“Pharmaceuticals and polymers phase equilibria”**, KT Consortium Annual Meeting 2018, Technical University of Denmark, Rungstedgaard, Denmark, 19-21 June 2018.
- **“Screening of Solvents for Separation Processes”**, Natural Products, Biological Activities and Technological Applications Summer School, University of Thessaloniki, 27-29 April 2018.
- **“Interactions of Polymers and Supercritical Fluids: Advantages and Limitation of High Pressure Processes”**, Life Long Learning Intensive Course: "PIHPT - Process Intensification by High Pressure Technologies – Actual Strategies for Energy and Resources Conservation", 29<sup>th</sup> of June to 16th July 2014, University of Strathclyde, Glasgow, Scotland.
- **“Advanced Equations of State for Modeling the Phase Behavior of Systems with Supercritical, Liquid or Gaseous CO<sub>2</sub>”** Center for Energy Resources Engineering (CERE) discussion meeting, Technical University of Denmark, Snekkersten, Denmark, 25-27 June 2014,
- **“Modeling systems with triethylene glycol”**. Workshop of Chemicals in gas and oil processing (CHIGP) project, Technical University of Denmark, Department of Chemical and Biochemical Engineering, Center for Energy Resources Engineering (CERE), December 2014, Denmark.

### Reviewer in Scientific Journals

1. Journal of Supercritical Fluids
2. Chemical Engineering Data,
3. Fluid Phase Equilibria,
4. Journal of Natural Gas Science & Engineering,
5. Polymer,
7. Industrial and Engineering Chemistry Research

### **Key Research Topics**

- Processes with alternative solvents: Supercritical Fluids and Ionic Liquids.
- Thermodynamic models – Statistical thermodynamics.
- Biomaterials.
- Nanocomposite polymers, porous and nanofibrous polymer structures.
- Experimental measurement of phase equilibria.
- Modeling of mixtures with non ideal behavior (systems with polymers, pharmaceuticals, supercritical fluids, ionic liquids, and hydrogen bonding fluids).

### **Organization of conferences**

Member of the organizing committee of the 11<sup>th</sup> Panhellenic Scientific Conference of Chemical Engineering, 25-27 May, Thessaloniki.

### **Book Chapters:**

4. A.I. Papadopoulos, I Tsvintzelis, P. Linke, P. Seferlis ”[Computer Aided Molecular Design: Fundamentals, Methods and Applications](#)”, in “Elsevier Reference Module in Chemistry, Molecular Sciences and Chemical Engineering, Elsevier 2018 <https://doi.org/10.1016/B978-0-12-409547-2.14342-2>
3. I. Tsvintzelis, C. Panayiotou “[Molecular Thermodynamics of Solutions](#)” in [Enthalpy and Internal Energy: Liquids, Solutions and Vapours](#), Edited by Emmerich Wilhelm and Trevor Letcher, Royal Society of Chemistry, 2018.
2. I. Tsvintzelis, C. Panayiotou “[Equation-of-State Approach in Polymer Solution and Polymer Foaming Thermodynamics](#)” in Biofoams: Science and Applications of Bio-Based Cellular and Porous Materials, Edited by Salvatore Iannace, Chul B. Park, CRC Press, Boca Raton, London, New York, 2016.
1. I. Tsvintzelis, C. Panayiotou “[Molecular Thermodynamics of Hydrogen-Bonded Systems](#)”, in Handbook of Surface and Colloid Chemistry, Fourth Edition, Edited by K. S. Birdi, CRC Press, Boca Raton, London, New York, 2015.

### **Peer Review Journals:**

67. Papadopoulos A.I., Perdomo F.A., Tzirakis F., Shavaliyevac G., Tsvintzelis I., Kazepidis P., Nessi E., Papadokonstantakis S., Seferlis P., Galindo A., Jackson G., Adjiman C.S., (2020) [Molecular Engineering of Sustainable Phase-change Solvents: From Digital Design to Scaling-up for CO<sub>2</sub> Capture](#), Chemical Engineering Journal, In Press, <https://doi.org/10.1016/j.cej.2020.127624>
66. Tsiptsias C., Leontiadis K., Tzimpilis E., Tsvintzelis I., Polypropylene nanocomposite fibers: A review of current trends and new developments, Journal of Plastic Film & Sheeting, Accepted, DOI: 10.1177/8756087920972146
65. Tsvintzelis I., Karakatsani E., Kontogeorgis G.M., Costa Tsonopoulos – his legacy and some personal reflections on cubic equations of state and beyond, Fluid Phase Equilibria, In press.
64. Kontogeorgis G.M., Liang X., Arya A., (2020) Tsvintzelis I., [Equations of State in Three Centuries. Are we closer to arriving to a single model for all applications?](#) Chemical Engineering Science: X, 7, 100060.
63. Tsvintzelis, I., Ali, S., Kontogeorgis, G.M., (2020) [Modeling systems relevant to the biodiesel production using the CPA equation of state. Part 2. Systems with supercritical CO<sub>2</sub>](#), Fluid Phase

Equilibria, 504, 112337.

62. Leontiadis K, Tzimpilis E., Aslanidou D., Tsvintzelis I., (2019) [Solubility of CO<sub>2</sub> in 3-amino-1-propanol and in N-methyldiethanolamine aqueous solutions: Experimental investigation and correlation using the CPA equation of state](#), Fluid Phase Equilibria, 500, 112254.
61. Papadopoulos A.I., Tzirakis F., Tsvintzelis I., Seferlis P., (2019) Phase-Change Solvents and Processes for Postcombustion CO<sub>2</sub> Capture: A Detailed Review, Industrial and Engineering Chemistry Research, 58 (13), pp 5088–5111. DOI: [10.1021/acs.iecr.8b06279](#)
60. Tzirakis, F., Tsvintzelis, I., Papadopoulos, A.I., Seferlis, P. (2019) [Experimental measurement and assessment of equilibrium behaviour for phase change solvents used in CO<sub>2</sub> capture](#), Chemical Engineering Science, 199, pp. 20-27.
59. Tsvintzelis, I., Bjørner, M.G., Kontogeorgis, G.M. Recent advances with association models for practical applications, (2018) Molecular Physics, 116 (15-16), pp. 1921-1944. DOI: [10.1080/00268976.2018.1465604](#)
58. Tsvintzelis, I., Kontogeorgis, G.M., Panayiotou, C., [Dimerization of Carboxylic Acids: An Equation of State Approach](#) (2017) Journal of Physical Chemistry B, 121 (9), pp. 2153-2163.
57. Baklavaridis A., Tsvintzelis I., Zuburtikudis I., Panayiotou C., Preparation of porous poly(L-lactic acid)-co-(trimethylene-carbonate) structures using supercritical CO<sub>2</sub> as antisolvent and as foaming agent (2017) Polymer Engineering & Science, 57 (9) 1005-1015, DOI: [10.1002/pen.24478](#).
56. Tsvintzelis, I., Ali, S., Kontogeorgis, G.M. Modeling systems relevant to the biodiesel production using the CPA equation of state, (2016) Fluid Phase Equilibria, 430, pp. 75-92. [\[Abstract and full text\]](#)
55. Tsvintzelis, I., Sanxaridou, G., Pavlidou, E., Panayiotou, C., Foaming of polymers with supercritical fluids: A thermodynamic investigation, (2016) *Journal of Supercritical Fluids*, 110, pp. 240-250. [\[Abstract and full text\]](#)
54. Dimopoulou M. , Tsvintzelis I., Ritzoulis C. , Panayiotou C., Thermodynamics of a food macromolecular assembly: the case of okra mucilage, *RSC Advances*, 2016,6, 20916-20925. [\[Abstract and full text\]](#)
53. Awan, J.A., Coquelet, C., Tsvintzelis, I., Kontogeorgis, G., Phase Equilibrium Measurements and Modeling of 1-Propanethiol +1-Butanethiol + CH<sub>4</sub> in Methane Ternary System at 303, 336, and 368 K and Pressure up to 9 MPa, (2016) *Journal of Chemical and Engineering Data*, 61 (1), pp. 41-44. [\[Abstract and full text\]](#)
52. Tsvintzelis I., Kontogeorgis G.M., Modelling phase equilibria for acid gas mixtures using the CPA equation of state. Part VI. Multicomponent mixtures with glycols relevant to oil and gas and to liquid or supercritical CO<sub>2</sub> transport applications, (2016) *Journal of Chemical Thermodynamics*, 93, pp. 305–319. [\[Abstract and full text\]](#)
51. Liang X, Maribo-Mogensen B., Tsvintzelis I., Kontogeorgis G.M., A comment on water's structure using monomer fraction data and theories, (2016) *Fluid Phase Equilibria*, 407, pp. 2-6. [\[Abstract and full text\]](#)
50. Panayiotou, C., Tsvintzelis, I., Aslanidou, D., Hatzimanikatis, V., Solvation quantities from a COSMO-RS equation of state, (2015) *Journal of Chemical Thermodynamics*, 90, pp. 294-309. [\[Abstract and full text\]](#)
49. Tsvintzelis, I., Kontogeorgis, G.M. Modelling phase equilibria for acid gas mixtures using the CPA equation of state. Part V: Multicomponent mixtures containing CO<sub>2</sub> and alcohols, (2015) *Journal of Supercritical Fluids*, 104, pp 29-39. [\[Abstract and full text\]](#)
48. Tsvintzelis, I., Ali, S., Kontogeorgis, G.M. Modeling phase equilibria for acid gas mixtures using the CPA equation of state. Part IV. Applications to mixtures of CO<sub>2</sub> with alkanes, (2015) Fluid Phase Equilibria, 397, pp. 1-17. [\[Abstract and full text\]](#)
47. Liang X., Tsvintzelis I., Kontogeorgis G.M., Modeling Water Containing Systems with the Simplified PC-SAFT and CPA Equations of State, (2014) *Industrial and Engineering Chemistry Research*, 53 (37), pp 14493–14507. [\[Abstract and full text\]](#)
46. Arya A., Maribo-Mogensen B., Tsvintzelis I., Kontogeorgis G.M., Process Design of Industrial Triethylene Glycol Processes Using the Cubic-Plus-Association (CPA) Equation of State, (2014),

*Industrial and Engineering Chemistry Research*, 53 (29), pp 11766–11778 [\[Abstract and full text\]](#)

45. Tsvintzelis I., Shahid A., Kontogeorgis G.M., Modeling phase equilibria for acid gas mixtures using the CPA equation of state. Part 3. Applications relevant to liquid or supercritical CO<sub>2</sub> transport, (2014) *Journal of Chemical & Engineering Data*, 59 (10), pp 2955–2972 [\[Abstract and full text\]](#)
44. Tsvintzelis I., Kontogeorgis G.M., “On the predictive capabilities of CPA for applications in the chemical industry: Multicomponent mixtures containing methyl-methacrylate, dimethyl-ether or acetic acid”, (2014) *Chemical Engineering Research and Design*, 92 (12), pp 1947-1969. [\[Abstract and full text\]](#)
43. Tsvintzelis I., Bøgh D., Karakatsani E., Kontogeorgis G., “The role of monomer fraction data in association theories—can we improve the performance for phase equilibrium calculations?” (2014) *Fluid Phase Equilibria*, 365, pp. 112-122. [\[Abstract and full text\]](#)
42. Tsvintzelis I, Panayiotou C, “Designing Issues in Polymer Foaming with Supercritical Fluids”, (2013) *Macromolecular Symposia*, 331-332 (1), pp. 109-114. [\[Abstract and full text\]](#)
41. Tsvintzelis, I., Musko, N.E., Baiker, A., Grunwaldt, J.-D., Kontogeorgis, G.M., “Experimental determination and modeling of the phase behavior for the direct synthesis of dimethyl carbonate from methanol and carbon dioxide”, (2013) *Journal of Supercritical Fluids*, 84, pp. 155-163. [\[Abstract and full text\]](#)
40. Awan, J.A., Kontogeorgis, G.M., Tsvintzelis, I., Coquelet, C., “Vapor-liquid-liquid equilibrium measurements and modeling of ethanethiol + methane + water, 1-propanethiol + methane + water and 1-butanethiol + methane + water ternary systems at 303, 335, and 365 K and pressure up to 9 MPa”, (2013) *Industrial and Engineering Chemistry Research*, 52 (41), pp. 14698-14705. [\[Abstract and full text\]](#)
39. Tsimliaraki, A., Tsvintzelis, I., Marras, S.I., Zuburtikudis, I., Panayiotou, C., “Foaming of PCL/clay nanocomposites with supercritical CO<sub>2</sub> mixtures: The effect of nanocomposite fabrication route on the clay dispersion and the final porous structure”, (2013) *Journal of Supercritical Fluids*, 81, pp. 86-91. [\[Abstract and full text\]](#)
38. Maia, F.M., Tsvintzelis, I., Rodriguez, O., Macedo, E.A., Kontogeorgis, G.M., “Equation of state modelling of systems with ionic liquids: Literature review and application with the Cubic Plus Association (CPA) model”, (2012) *Fluid Phase Equilibria*, 332, pp. 128-143. [\[Abstract and full text\]](#)
37. Tsvintzelis, I., Kontogeorgis, G.M., “Capabilities and limitations of an association theory for chemicals in liquid or supercritical solvents”, (2012) *Industrial and Engineering Chemistry Research*, 51 (41), pp. 13496-13517. [\[Abstract and full text\]](#)
36. Awan, J.A., Tsvintzelis, I., Valtz, A., Coquelet, C., Kontogeorgis, G.M., “Vapor-liquid-liquid equilibrium measurements and modeling of the methanethiol + methane + water ternary system at 304, 334, and 364 K”, (2012) *Industrial and Engineering Chemistry Research*, 51 (35), pp. 11561-11564. [\[Abstract and full text\]](#)
35. Afzal, W., Breil, M.P., Tsvintzelis, I., Mohammadi, A.H., Kontogeorgis, G.M., Richon, D., “Experimental study and phase equilibrium modeling of systems containing acid gas and glycol” (2012) *Fluid Phase Equilibria*, 318, pp. 40-50. [\[Abstract and full text\]](#)
34. Awan, J.A., Tsvintzelis, I., Coquelet, C., Kontogeorgis, G.M., “Phase equilibria of three binary mixtures: Methanethiol + methane, methanethiol + nitrogen, and methanethiol + carbon dioxide”, (2012) *Journal of Chemical and Engineering Data*, 57 (3), pp. 896-901. [\[Abstract and full text\]](#)
33. Beier, M.J., Grunwaldt, J.-D., Tsvintzelis, I., Jensen, A.D., Kontogeorgis, G.M., Baiker, A., “Selective oxidation of benzyl alcohol in dense CO<sub>2</sub>: Insight by phase behavior modelling”, (2012) *Journal of Supercritical Fluids*, 63, pp. 199-207. [\[Abstract and full text\]](#)
32. Diaz, I., Tsvintzelis, I., Panayiotou, C., “Predictions of high pressure phase equilibria of CO<sub>2</sub>-containing mixtures with the NRCOSMO model”, (2012) *Fluid Phase Equilibria*, 313, pp. 203-210. [\[Abstract and full text\]](#)
31. Tsvintzelis, I., Kontogeorgis, G.M., Michelsen, M.L., Stenby, E.H., “Modeling phase equilibria for acid gas mixtures using the CPA equation of state. Part II: Binary mixtures with CO<sub>2</sub>”, (2011) *Fluid Phase Equilibria*, 306 (1), pp. 38-56. [\[Abstract and full text\]](#)

30. Tsimpliaraki, A., Tsivintzelis, I., Marras, S.I., Zuburtikudis, I., Panayiotou, C., “The effect of surface chemistry and nanoclay loading on the microcellular structure of porous poly(D,L lactic acid) nanocomposites”, (2011) *Journal of Supercritical Fluids*, 57 (3), pp. 278-287. [\[Abstract and full text\]](#)
29. Kontogiannopoulos, K.N., Assimopoulou, A.N., Tsivintzelis, I., Panayiotou, C., Papageorgiou, V.P., “Electrospun fiber mats containing shikonin and derivatives with potential biomedical applications”, (2011) *International Journal of Pharmaceutics*, 409 (1-2), pp. 216-228. [\[Abstract and full text\]](#)
28. Tsivintzelis, I., Beier, M.J., Grunwaldt, J.-D., Baiker, A., Kontogeorgis, G.M., “Experimental determination and modeling of the phase behavior for the selective oxidation of benzyl alcohol in supercritical CO<sub>2</sub>”, (2011) *Fluid Phase Equilibria*, 302 (1-2), pp. 83-92. [\[Abstract and full text\]](#)
27. Kontogeorgis, G.M., Tsivintzelis, I., Michelsen, M.L., Stenby, E.H., “Towards predictive association theories”, (2011) *Fluid Phase Equilibria*, 301 (2), pp. 244-256. [\[Abstract and full text\]](#)
26. Breil, M.P., Tsivintzelis, I., Kontogeorgis, G.M., “Modeling of phase equilibria with CPA using the homomorph approach”, (2011) *Fluid Phase Equilibria*, 301 (1), pp. 1-12. [\[Abstract and full text\]](#)
25. Awan, J.A., Tsivintzelis, I., Breil, M.P., Coquelet, C., Richon, D., Kontogeorgis, G.M., “Phase equilibria of mixtures containing organic sulfur species (OSS) and water/hydrocarbons: VLE measurements and modeling using the cubic-plus- association equation of state”, (2010) *Industrial and Engineering Chemistry Research*, 49 (24), pp. 12718-12725. [\[Abstract and full text\]](#)
24. Tsivintzelis, I., Kontogeorgis, G.M., Michelsen, M.L., Stenby, E.H., “Modeling phase equilibria for acid gas mixtures using the CPA equation of state. I. Mixtures with H<sub>2</sub>S”, (2010) *AIChE Journal*, 56 (11), pp. 2965-2982. [\[Abstract and full text\]](#)
23. Kontogeorgis, G.M., Tsivintzelis, I., von Solms, N., Grenner, A., Bøgh, D., Frost, M., Knage-Rasmussen, A., Economou, I.G., “Use of monomer fraction data in the parametrization of association theories”, (2010) *Fluid Phase Equilibria*, 296 (2), pp. 219-229. [\[Abstract and full text\]](#)
22. Tsiptsias, C., Sakellariou, K.G., Tsivintzelis, I., Papadopoulou, L., Panayiotou, C., “Preparation and characterization of cellulose acetate-Fe<sub>2</sub>O<sub>3</sub> composite nanofibrous materials”, (2010) *Carbohydrate Polymers*, 81 (4), pp. 925-930. [\[Abstract and full text\]](#)
21. Tsiptsias, C., Tsivintzelis, I., Panayiotou, C., “Equation-of-state modeling of mixtures with ionic liquids”, (2010) *Physical Chemistry Chemical Physics*, 12 (18), pp. 4843-4851. [\[Abstract and full text\]](#)
20. Tsivintzelis, I., Kontogeorgis, G.M., “Modeling the vapor-liquid equilibria of polymer-solvent mixtures: Systems with complex hydrogen bonding behaviour”, (2009) *Fluid Phase Equilibria*, 280 (1-2), pp. 100-109. [\[Abstract and full text\]](#)
19. Tsivintzelis, I., Economou, I.G., Kontogeorgis, G.M., “Modeling the phase behavior in mixtures of pharmaceuticals with liquid or supercritical solvents”, (2009) *Journal of Physical Chemistry B*, 113 (18), pp. 6446-6458. [\[Abstract and full text\]](#)
18. Tsivintzelis, I., Economou, I.G., Kontogeorgis, G.M., “Modeling the solid-liquid equilibrium in pharmaceutical-solvent mixtures: Systems with complex hydrogen bonding behaviour”, (2009) *AIChE Journal*, 55 (3), pp. 756-770. [\[Abstract and full text\]](#)
17. Tsiptsias, C., Tsivintzelis, I., Papadopoulou, L., Panayiotou, C., “A novel method for producing tissue engineering scaffolds from chitin, chitin-hydroxyapatite, and cellulose”, (2009) *Materials Science and Engineering C*, 29 (1), pp. 159-164. [\[Abstract and full text\]](#)
16. Tsivintzelis, I., Grenner, A., Economou, I.G., Kontogeorgis, G.M., “Evaluation of the nonrandom hydrogen bonding (NRHB) theory and the simplified perturbed-chain-statistical associating fluid theory (sPC-SAFT). 2. Liquid-liquid equilibria and prediction of monomer fraction in hydrogen bonding systems”, (2008) *Industrial and Engineering Chemistry Research*, 47 (15), pp. 5651-5659. ; Erratum: *Industrial and Engineering Chemistry Research*, 48 (16), p. 7860. [\[Abstract and full text\]](#), [\[Erratum\]](#)
15. Grenner, A., Tsivintzelis, I., Economou, I.G., Panayiotou, C., Kontogeorgis, G.M., “Evaluation of the nonrandom hydrogen bonding (NRHB) theory and the simplified perturbed-chain-statistical associating fluid theory (sPC-SAFT). 1. Vapor-liquid equilibria”, (2008) *Industrial and Engineering Chemistry Research*, 47 (15), pp. 5636-5650. [\[Abstract and full text\]](#)
14. Marras, S.I., Kladi, K.P., Tsivintzelis, I., Zuburtikudis, I., Panayiotou, C., “Biodegradable polymer nanocomposites: The role of nanoclays on the thermomechanical characteristics and the electrospun



- fibrous structure”, (2008) *Acta Biomaterialia*, 4 (3), pp. 756-765. [[Abstract and full text](#)]
13. Tsivintzelis, I., Marras, S.I., Zuburtikudis, I., Panayiotou, C., “Porous poly(l-lactic acid) nanocomposite scaffolds prepared by phase inversion using supercritical CO<sub>2</sub> as antisolvent”, (2007) *Polymer*, 48 (21), pp. 6311-6318. [[Abstract and full text](#)]
  12. Tsivintzelis, I., Angelopoulou, A.G., Panayiotou, C., “Foaming of polymers with supercritical CO<sub>2</sub>: An experimental and theoretical study”, (2007) *Polymer*, 48 (20), pp. 5928-5939. [[Abstract and full text](#)]
  11. Tsivintzelis, I., Pavlidou, E., Panayiotou, C., “Biodegradable polymer foams prepared with supercritical CO<sub>2</sub>-ethanol mixtures as blowing agents”, (2007) *Journal of Supercritical Fluids*, 42 (2), pp. 265-272. [[Abstract and full text](#)]
  10. Panayiotou, C., Tsivintzelis, I., Economou, I.G., “Nonrandom hydrogen-bonding model of fluids and their mixtures. 2. Multicomponent mixtures”, (2007) *Industrial and Engineering Chemistry Research*, 46 (8), pp. 2628-2636. [[Abstract and full text](#)]
  9. Tsivintzelis, I., Spyriouni, T., Economou, I.G., “Modeling of fluid phase equilibria with two thermodynamic theories: Non-random hydrogen bonding (NRHB) and statistical associating fluid theory (SAFT)”, (2007) *Fluid Phase Equilibria*, 253 (1), pp. 19-28. [[Abstract and full text](#)]
  8. Tsivintzelis, I., Pavlidou, E., Panayiotou, C., “Porous scaffolds prepared by phase inversion using supercritical CO<sub>2</sub> as antisolvent. I. Poly(l-lactic acid)”, (2007) *Journal of Supercritical Fluids*, 40 (2), pp. 317-322. [[Abstract and full text](#)]
  7. Tsivintzelis, I., Dritsas, G.S., Panayiotou, C., “An alternative approach to nonrandomness in solution thermodynamics”, (2006) *Industrial and Engineering Chemistry Research*, 45 (21), pp. 7264-7274. [[Abstract and full text](#)]
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