Coray M. Colina
Professor
Department of Chemistry
Affiliate Professor
Department of Materials Science and Engineering
Department of Nuclear Engineering
University of Florida
312 Leigh Hall
Gainesville, FL 32611
Emails: colina@chem.ufl.edu , coraycolina@gmail.com
office: +1 (352) 294 3488; Fax: +1 (352) 392 9741

https:// colina.chem.ufl.edu

EDUCATION

Ph. D. Chemical Engineering, 2004, North Carolina State University. Dissertation Title: "Thermodynamics and Phase Equilibria of Carbon Dioxide/Polymer Systems," Advisor: Keith E. Gubbins, 2004.

M. Sc. Chemical Engineering, 1994, Simón Bolívar University, Thesis Title: "Development of a Cubic Equation of State Equivalent to the Lee-Kesler Equation" (in Spanish) passed with Honors.

B. S. Chemical Engineering, 1993, Simón Bolívar University.

PROFESSIONAL EXPERIENCE

2015-	Professor, Chemistry Department, Materials Science and Engineering (affiliate) and Nuclear Engineering Department (affiliate), University of Florida
2010 – 2013	Corning Faculty Fellow, Materials Science and Engineering Department, The Pennsylvania State University.
2007 – 2015	Associate Professor, Materials Science and Engineering Department, The Pennsylvania State University.
2004 – 2006	Postdoctoral Research Associate, Chemistry Department, The University of North Carolina at Chapel Hill.
2001 – 2004	Research Assistant. Chemical Engineering Department. North Carolina State University.
2001 – 2002	Teaching Assistant. Chemical Engineering Department. North Carolina State University.
2000 – 2001	Visiting Scientist, Profs. Keith Gubbins' and Carol Hall's Research

	Groups. Phase Behavior of CO_2-Based Systems. Chemical Engineering Department. North Carolina State University.
2004	Associate Professor. Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
2000 – 2003	Senior Assistant Professor. Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
1998 – 1999	Leader, Thermodynamics Section. Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
1997 – 1998	Director, Laboratory of Transport Phenomena. Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
1995 – 1999	Assistant Professor, (tenured in 1997). Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
1993 – 1994	Research Assistant. Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
1991 – 1992	Teaching Assistant. Thermodynamics and Transport Phenomena Department. Simón Bolívar University, Caracas, Venezuela.
July - Dec 1992	Co-op student. Research & Development. Electricidad de Caracas.
Sep 1990 - July 1992	High School Teacher. (Chemistry, Physics, Mathematics). El Placer High School. Caracas, Venezuela.

PUBLICATIONS

Refereed Articles

1. Goethe, E. V. and C. M. Colina, "Taking Advantage of Diversity within the Classroom," *Journal of Chemical Education*, submitted.
2. Munasinghe, A., Lin, P. and C. M. Colina, "Unraveling Binding Interactions between Human RANKL and its Decoy Receptor Osteoprotegerin," *JPCB*, submitted.
3. Rukmani, S. J., Liyana-Arachchi, T. P., Hart, K. E. and C. M. Colina, "Ionic-Functionalized Polymers of Intrinsic Microporosity for Gas-Separation Applications," *Langmuir*, submitted.
4. Kupgan, G., Liyana-Arachchi, T. P. and C. M. Colina, "NLDFT Pore Size Distribution in Amorphous Microporous Materials," *Langmuir*, submitted.
5. Rose, I., Bezzu, C., Carta, M., Comesaña-Gándara, B., Lasseuguette, E., Ferrari, M.-C., Bernardo, P., Clarizia, G., Fuoco, A., Jansen, J., Hart, K. Liyana-Arachchi, T., Colina, C. M., McKeown, N.,"Polymer Ultrapermeability from the Inefficient Packing of 2D Chains," *Nature Materials,* **2017,** (accepted)

6. Hart, K. E. and C. M. Colina, "Correction to: Ionomers of Intrinsic Microporosity: In Silico Development of Ionic Functionalized Gas Separation Membranes," *Langmuir*, asap 2017.[doi]
7. Fortunato, M. E. and C. M. Colina, "pysimm: A Python Package for Simulation of Molecular Systems," *SoftwareX*, **2017**, *6*, 7-12. [doi]
8. Posel, Z., Svoboda, M., Colina, C. M. and M. Lisal, "Flow and Aggregation of Rod-Like Proteins in Slit and Cylindrical Pores Coated with Polymer Brushes: Insight from Dissipative Particle Dynamics," *Soft Matter,* **2017***, 13,* 1634-1645.[doi]
9. Kupgan, G., Liyana-Arachchi, T. P. and C. M. Colina, "Pore Size Tuning of Poly(Styrene-co-Vinylbenzyl Chloride-co-Divinylbenzene) hypercrosslinked Polymers: Insights from Molecular Simulations," *Polymer*, **2016**, 99, 173-184. [doi]
10. Liyana-Arachchi, T. P., Sturnfield, J. F. and C. M. Colina, "Ultra–thin Molecular–Layer–by–layer Polyamide Membranes: Insights from Atomistic Molecular Simulations," *J. Phys. Chem. B*, **2016,***120* (35), 9484–9494. [doi]
11. Moreno, N., Perilla, J. E., Colina, C. M. and M Lisal, "Mucin Aggregation from a Rod-like Meso-scale Model," *Mol Phys*, 113(9–10), 898–909 (2015).
12. Frentrup, H., Hart, K. E., Colina, C. M. and E. A. Muller, "In Silico Determination of Gas Permeabilities by Non-Equilibrium Molecular Dynamics: CO2 and He through PIM-1," *Membranes* 5(1), 99-119 (2015).
13. Zhou, X., Huang, J., Barr, K. W., Lin, Z., Maya, F., Abbott, L.J., Colina C. M., Svec, F. and S. R. Turner, "Nanoporous Hypercrosslinked Polymers Containing Tg Enhancing Comonomer," *Polymer*, 59, 42-48 (2015).
14. Moustafa, I. M., Korboukh, V. K., Arnold, J. J., Smidansky, E. D., Marcotte, L. L., Gohara, D. W., Yang, X., Sanchez-Farran, M. A., Filman, D., Maranas, J. K., Boehr, D. D., Hogle, J. M., Colina, C. M. and C. E. Cameron, "Structural Dynamics as a Contributor to Error-prone Replication by a RNA-dependent RNA Polymerase," *JBC,* 289, 36229-36248 (2014).
15. Hart, K. E., Abbott, L. J., Lisal, M. and C. M. Colina, "Morphology and Molecular Bridging in Comb- and Star-Shaped Diblock Copolymers," *J. Chem. Phys*, 141, 204902 (2014).
16. Hart, K. E. and C. M. Colina, "Ionomers of Intrinsic Microporosity: In Silico Development of Ionic Functionalized Gas Separation Membranes," *Langmuir*, 30 (40), 12039-12048 (2014).
17. Perkins, S. L., Painter, P., and C. M. Colina, "Experimental and Computational Studies of Choline Chloride-Based Deep Eutectic Solvents," *J. Chem. Eng. Data, 59* (11), 3652-3662 (2014). *Cover article*.
18. Fortunato, M. E. and C. M. Colina, "Effects of Galactosylation in Immunoglobulin G from All-Atom Molecular Dynamics Simulations," *J. Phys. Chem. B,* 118 (33), 9844-9851 (2014).
19. Abbott, L. J. and C. M. Colina, "Formation of Microporosity in Hypercrosslinked Polymers," Macromolecules, 47 (15), 5409-5415 (2014).
20. Abbott, L. J. and C. M. Colina, "Porosity and Ring Formation in Conjugated Microporous Polymers," *J. Chem. Eng. Data,* 59 (10), 3177-3182 (2014).
21. Hart, K. E. and C. M. Colina, "Estimating Gas Permeability and Permselectivity of Microporous Polymers," *J. Membr. Sci.,* 468, 259-268 (2014).
22. McDermott, A. G., Budd, P. M., McKeown, N. B., Colina, C. M. and J. Runt, "Physical Aging of Polymers of Intrinsic Microporosity: a SAXS/WAXS Study", *J. Mater. Chem. A*, **2** (30), 11742-11752 (2014)**.**

23. Abbott, L. J., Hughes, J., and C. M. Colina, "Virtual Synthesis of Thermally Crosslinked Copolymers from a Novel Implementation Polymatic," *J. Phys. Chem. B,* **118** (7), 1916-1924 (2014).
24. Larsen, G. S., Hart, K. E., and C. M. Colina, "Predictive Simulations of the Structural and Adsorptive Properties for PIM-1 Variations," *Mol. Simul.*, 40 (7-9), 599-609 (2014). *Special Issue:* Recent Advances in the Molecular Simulation of Adsorption.
25. Hart, K. E., Springmeier, J., McKeown, N. B. and C. M. Colina, "Simulated Swelling during Low-Temperature N_2 Adsorption in Polymers of Intrinsic Microporosity," *Phys. Chem. Chem. Phys.*, **15** (46), 20161-20169 (2013).
26. Zhou, X.; Li, Y.; Hart, K. E.; Abbott, L. J.; Lin, Zhixing, L; Svec, F.; Colina, C. M.; Turner, S. R.. "Nanoporous Properties of Semi-Rigid Alternating Copolymers via Nitrogen Sorption and Molecular Simulation." *Macromolecules*, **46** (15), 5968-5973 (2013).
27. Abbott, L. J., McKeown, N. B., and C. M. Colina, "Design Principles for Microporous Organic Solids from Predictive Computational Screening," Journal of Materials Chemistry A, **1**, 11950-11960 (2013).
28. Perkins, S. L., Painter, P., and C. M. Colina, "Molecular Dynamic Simulations and Vibrational Analysis of an Ionic Liquid Analogue," *J. Phys. Chem. B,* **117** (35), 10250–10260 (2013).
29. Castellanos, M. M. and C. M. Colina, "Molecular Dynamics Simulations of Human Serum Albumin and Role of Disulfide Bonds," *J. Phys. Chem. B*, **117** (40), 11895-11905 (2013).
30. Hart, K. E., Abbott, L. J., McKeown, N. B., and C. M. Colina, "Toward Effective CO_2/CH_4 Separations by Sulfur-Containing PIMs via Predictive Molecular Simulations," *Macromolecules*, **46** (13), 5371-5380. (2013).
31. Abbott, L. J., Hart, K. E. and C. M. Colina, "Polymatic: A Generalized Simulated Polymerization Algorithm for Amorphous Polymers," *Theor Chem Acc*, **132** 1334 (2013).
32. Hart, K. E., Abbott, L. J. and C. M. Colina, "Analysis of Force Field and BET Theory for Polymers of Intrinsic Microporosity," *Molecular Simulation*, **39** (5), 397-404. (2013).
33. Abbott, L. J., McDermott, A. G., Del Regno, A., Taylor, R. G. D., Bezzu,C. G., Msayib, K. J., McKeown, N. B., Siperstein, F. R., Runt, J. and C. M. Colina, "Characterizing the Structure of Organic Molecules of Intrinsic Microporosity by Molecular Simulations and X-ray Scattering," *J. Phys. Chem. B,* **117**, 355-364 (2013).
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35. Shen, H., Hricko, P. J., Colina, C. M. and S. T. Milner, "Chiral Elasticity of DNA," *Soft Matter*, **8** 10090-10094 (2012).
36. Kim, S., Palomino, A. M. and C. M. Colina "Micro-Scale Responsive Polymer Conformation and Resulting Meso-Scale Permeability of Clay-Polymer Nanocomposites," *Molecular Simulation,* **38** (8-9) 723-734 (2012).
37. Cataño-Barrera, A. M., Figueira, F., Olivera-Fuentes, C. and C. M. Colina, "Correlation and Prediction of Fluid-Fluid Equilibria of Carbon Dioxide-Aromatics and Carbon Dioxide-Dichlorobenzoates Binary Mixtures," *Fluid Phase Equil.*, **311** 45-53 (2011).
38. Larsen, G. S., Lin, P., Hart, K. and C. M. Colina, "Molecular Simulations of PIM-1 like Polymers of Intrinsic Microporosity," *Macromolecules*, **44** (17) 6944–6951 (2011).

39. Abbott, L. J. and C. M. Colina, "Atomistic Structure Generation and Gas Adsorption Simulations of Microporous Polymer Networks," *Macromolecules*, **44** (11) 4511–4519 (2011).
40. Van Niekerk, D. Castro-Marcano, F. Colina, C. M., and J. P. Mathews, "Solvent Swelling Extent of Permian-aged Vitrinite- and Inertinite-rich Coals: Experiments and Modeling Using Perturbed-chain Statistical Associating Fluid Theory (PC-SAFT)," *Energy and Fuels*, **25** (6) 2559–2564 (2011).
41. Moustafa, I. M., Shen, H., Morton, B., Colina, C. M. and C. E. Cameron, "Molecular Dynamics Simulations of the Viral RNA-dependent RNA Polymerase: Conserved and Correlate Motions of Functional Elements," *J. Mol. Bio.,* **410** 159-181 (2011).
42. McDermott, A., Larsen, G., Budd, P., Colina, C. M., and J. Runt, "Structural Characterization of a Polymer of Intrinsic Microporosity: X-Ray Scattering with Interpretation Enhanced by Molecular Dynamics Simulations," *Macromolecules*, **44** (1) 14-16 (2011).
43. Larsen, G. S., Lin, P., Siperstein, F. R. and C. M. Colina, "Methane Adsorption in PIM-1," *Adsorption*, **17** (1) 21-26 (2011).
44. Patterson, K. Lisal, M. and C. M. Colina, "Adsorption Behavior of Model Proteins on Surfaces," *Fluid Phase Equil.* **302** 48-54 (2011).
45. Castro-Marcano, F., Cataño-Barrera A. and C. M. Colina **"**Phase Behavior of Polymer Solutions from Macroscopic Properties: Application to the PC-SAFT Equation of State," *Ind. Eng. Chem. Res.* **50** (2) 1046–1055 (2011).
46. Colina, C. M. and C. Olivera-Fuentes, "Reply to Comments on 'Joule-Thomson Inversion Curves and Third Virial Coefficients for Pure Fluids from Molecular-Based Models' and 'Predicted Inversion Curve and Third Virial Coefficient of Carbon Dioxide at High temperature'," *Ind. Eng. Chem. Res.,* **48** (14)*, 6904-6905 (2009).*
47. Shankar, R., Klossner, R. R., Weaver, J. T., Koga, T., van Zanten, J. H., Krause, W. E., Colina, C. M., Tanaka, F. and R. J. Spontak, "Competitive Hydrogen-Bonding in Polymer Solutions with Mixed Solvents," *Soft Matter* **5**, 304-307 (2009).
48. Castro-Marcano, F., Olivera-Fuentes, C. and C. M. Colina, "Joule-Thomson Inversion Curves and Third Virial Coefficients for Pure Fluids from Molecular-Based Models," *Ind. Eng. Chem. Res.,* **47** (22)*, 8894-8905* (2008).
49. Muller, E. A. and C. M. Colina, "Biography of Keith E. Gubbins," *J. Phys. Chem. C.* **111**, 15479-15486 (2007).
50. Hoffman, M., Colina, C. M., Harger, A. G., Arepally, G., Pedersen, L. and D. M. Monroe, "Tissue Factor Around Dermal Vessels has Bound Factor VII(a) in the Absence of Injury," ***feature article***, *Journal of Thrombosis and Haemostasis*, **5** (7),1403-1408 (2007).
51. Colina, C. M., Venkateswarlu, D., Duke, R., Perera, L. and L. G. Pedersen, "What Causes the Enhancement of Activity of FVIIa by Tissue factor?," *Journal of Thrombosis and Haemostasis*, **4** (12), 2726-2729 (2006).
52. Castro-Marcano, F., Colina, C. M. and C. Olivera-Fuentes, "Parametrization of Molecular-Based Equations of State: the PC-SAFT, SOFT-SAFT, PHSC and PSCT Models," *Polish Journal of Chemistry*, **80**, 37-49 (2006).
53. Colina, C. M. and K. E. Gubbins, "Vapor-Liquid-Liquid Equilibria of *n*-Perfluoroalkanes/Carbon Dioxide/*n*-Alkanes Ternary Mixtures," *J. Phys. Chem. B.* **109**, 2899-2910 (2005).

54. Bouza, A., Colina, C. M. and C. G. Olivera-Fuentes, "Parameterization of Molecular-based Equations of State," *Fluid Phase Equilib*. **228-229C**, 561-575 (2005).
55. Colina, C. M., Olivera-Fuentes, C. G. and K. E. Gubbins, "Molecular-Based Equations of State at the Graduate Level," *Chemical Engineering Education,* **39**,*250-257* (2005).
56. Walker, T. A., Colina, C. M., Gubbins, K. E. and R. J. Spontak, "Thermodynamics of Poly(dimethylsiloxane)/Poly(ethylmethylsiloxane) (PDMS/PEMS) Blends in the Presence of High-Pressure CO_2," *Macromolecules*, **37**, 2588-2595 (2004).
57. Colina, C. M., Galindo, A., Blas, F. J. and K. E. Gubbins, "Phase Behavior of Carbon Dioxide Mixtures with *n*-Alkanes and *n*-Perfluoroalkanes," *Fluid Phase Equilib.,* **222-223**, 77-85 (2004).
58. Striolo, A., Colina, C. M., Gubbins, K. E., Elvassore, N. and L. Lue, "The Depletion Attraction between Pairs of Colloid Particles in Polymer Solution," *Molecular Simulation*, **30**, 437-449 (2004).
59. Colina, C. M., Olivera-Fuentes, C. G., Siperstein, F. R., Lísal, M. and K. E. Gubbins, "Thermal Properties of Supercritical Carbon Dioxide by Monte Carlo Simulations," *Molecular Simulation*, **29**, 405-412 (2003).
60. Colina C. M. and K. E. Gubbins, "Choosing and Evaluating Equations of State," *Chemical Engineering Education*, **37**, 236-240 (2003).
61. Colina, C. M., Lísal, M., Siperstein, F. R. and K. E. Gubbins, "Accurate CO_2 Joule-Thomson Inversion Curve by Molecular Simulations," *Fluid Phase Equilib*. **202**, 253-262 (2002).
62. Colina, C. M., Hall, C. K. and K. E. Gubbins, "Phase Behavior of PVAC-PTAN Block Copolymer in Supercritical Carbon Dioxide using SAFT," *Fluid Phase Equilib.* **194-197**, 553-565 (2002).
63. Colina, C. M., Turrens, L. F., Gubbins, K. E., Olivera-Fuentes, C. and L. F. Vega, "Predictions of the Joule-Thomson Inversion Curve for the n-Alkane Series and Carbon Dioxide from the Soft-SAFT Equation of State," *Ind. Eng. Chem. Res.* **41**, 1069-1075 (2002).
64. Colina, C. M. and C. Olivera-Fuentes, "Predicted Inversion Curve and Third Virial Coefficients of Carbon Dioxide at High Temperatures," *Ind. Eng. Chem. Res.* **41**, 1064-1068 (2002).
65. Castillo, M. G., Dubuc, J., Colina, C. and C. Olivera-Fuentes, "Three-Parameter Corresponding-States Correlations for Joule-Thomson Inversion Curves," *International Journal of Thermophysics,* **20**, 6, 1737-1751 (1999).
66. Colina, C. M. and E. A. Müller, "Molecular Simulation of Joule-Thomson Inversion Curves," *International Journal of Thermophysics,* **20**, 1, 229-235 (1999).
67. Colina, C. M. and C. Olivera-Fuentes, "Prediction of the Joule-Thomson Inversion Curves of Air from Cubic Equations of State," *Cryogenics,* **38**, 721-728 (1998).
68. Ledanois, J. M., Müller, E. A., Colina, C. M., González-Mendizabal, D., Santos, J. W. and C.Olivera-Fuentes, "Correlations for Direct Calculation of Vapor Pressures from Cubic Equations of State," *Ind. Eng. Chem. Res*. **37**, 1673-1978 (1998).
69. Colina, C. M., Santos, J. W. and C. Olivera-Fuentes, "Efecto de la Traslación Volumétrica en Ecuaciones de Estado Cúbicas para la Predicción de Curvas de Inversión Joule-Thomson," *Información Tecnológica*, **9**, 1, 97-105 (1998).
70. Colina, C. M., Santos, J. W. and C. Olivera-Fuentes, "High-Temperature Behaviour of the Cohesion Parameter of Cubic Equations of State," *High Temperatures-High Pressures*, **29**, 5, 525-532 (1997).

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Books

73. Willmore, F., Jankowski, E. and C. M. Colina, "Introduction to Scientific and Technical Computing," CRC Press/Taylor & Francis Group (2016).
74. Colina, C. M and S. Siquier, "Learning Thermodynamics," (in Spanish) Simón Bolívar University, *in press*, Editorial Equinoccio, 157 pages.

Software and Databases

75. Lauren Abbott; Coray Colina (2013), "Polymatic: A Simulated Polymerization Algorithm," https://nanohub.org/resources/17278.
76. Michael Fortunato; Lauren Abbott; Kyle E Hart; Coray Colina (2016), "nuSIMM: nanoHUB user Simulation Interface for Molecular Modeling," https://nanohub.org/resources/nusimm. (DOI: 10.4231/D3ZP3W18X).
77. Michael Fortunato; Coray Colina (2016) "pysimm", a python package designed to facilitate structure generation, simulation, and modification of molecular systems by providing a collection of simulation tools and smooth integration with highly optimized third party software. Pysimm.org
78. http://forcefield-database.org, a collection of molecular models.

Referred Conference Proceedings

79. Figueira, F. L., Higueras, D., Márquez, J., Parada, A., Colina, C. M., and C. Olivera-Fuentes, "Correlation and Prediction of Fluid-Fluid Phase Equilibria in Binary {Alkyl-Dichlorobenzoate + CO_2} and {Fluoro-Alkyl-Dichlorobenzonate + CO_2} Systems, EQUIFASE (2012). http://www.equifase2012.com/wp-content/uploads/BOA.pdf.
80. Olivera-Fuentes, C. G. and C. M. Colina, "Stability, Displacement and Moderation of Chemical Equilibrium: Rediscovering Le Chatelier's Principle," International Conference on Engineering Education, Coimbra, Portugal (2007).
81. Colina, C. M., Ledanois, J.-M. and C. Olivera-Fuentes, "Nonlinear Dependence of Normal Fluid Properties on Acentric Factor," *Proceedings,* EQUIFASE 02, Foz de Iguazú, Brazil, (2002).
82. Rodríguez, A. J., Cuzzi, Ma. J., Colina, C. M. and C. Olivera-Fuentes, "A Generalized Soave-Redich-Kwong Equation of State for Polar and Nonpolar Fluids Based on a Four-Parameter Corresponding State Principle," *Proceedings*, EQUIFASE 02, Foz de Iguazú, Brazil, (2002).
83. Ginnari, M. A., Gómez, L. M., Herdes, C. E. and C. M. Colina, "USBPvTest for Windows®: Software for the Calculation of Thermodynamic Properties of Fluids in Oil Reservoirs," (in Spanish) *Proceedings*, XIX Interamerican Congress of Chemical Engineering, paper # 506, Brazil, (2000).

84. Colina, C. M. and C. Olivera-Fuentes, "Generalized Fluid Properties from the BACK Equation of State. (II) Virial Coefficients and Joule-Thomson Inversion Curves," *Proceedings*, XIX Interamerican Congress of Chemical Engineering, paper # 500, Brazil, (2000).
85. Colina, C. M. and C. Olivera-Fuentes, "An Improved Three-Parameter Corresponding States Correlation of Inversion Curves for Non-Simple Fluids," *Proceedings*, EQUIFASE 99, vol I, 308-314, Vigo, Spain, (1999).
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87. Castillo, M. G., Colina, C. and C. Olivera-Fuentes, "Prediction of Supercritical Fluid Properties from Cubic Equations of State with new Inversion-Based Cohesion Functions," 7th Brazilian Congress of Engineering and Thermal Sciences, ENCIT 98, Vol 2, 1427-1430, Rio de Janeiro, Brazil, (1998).
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89. Colina, C., Da Silva, F., Santos, J. W. and C. Olivera-Fuentes, "The Effect of Volume Translation on the Joule-Thomson Inversion Curves Predicted from Cubic Equations of State," EQUIFASE 95, *Proceedings*, EQ24.1-EQ24.9, Caracas, Venezuela, (1995).

Other Conference Proceedings

90. Colina, C. M., Walker, T. A., Spontak, R. J. and K. E. Gubbins, "The Influence of High-Pressure Carbon Dioxide on the Phase Behavior of PDMS/PEMS Blends: An Experimental and Theoretical Investigation," 6th International Symposium on Supercritical Fluids, CD-ROM, Document MP2.pdf, Versailles, France, (2003).
91. Turrens, L. F., Colina, C. M., Olivera-Fuentes, C., Gubbins, K. E. and L. F. Vega, "Joule-Thomson Inversion Curves for de n-Alkanes Series from a Molecular-Based Equation of State," Rovira i Virgili University, ISBN 84-8424-054-1, II Jornadas de Ingeniería Termodinámica, 417-424, Spain, (2001).
92. Turrens, L. F., Vega, L. F., Olivera-Fuentes, C., Colina, C. M. and K. E. Gubbins, "Joule-Thomson Inversion Curves for de n-Alkanes Series from the Soft-SAFT Equation of State," AIChE, presentation record 115d, Reno, (2001).
93. Colina, C. M. and C. Olivera-Fuentes, "Prediction of the Inversion Curve of Air from Cubic Equations of State," XVI Congreso Panamericano de Ingeniería Mecánica, Eléctrica y Ramas Afines, *Proceedings*, Santiago de Chile, Chile, (1997).

CONFERENCE PRESENTATIONS

Over 200 presentations at national and international conferences (detailed list enclosed).

SERVICE

- *Editorial Advisory Board member:* ACS Macromolecules, ACS Macro Letters.

- *Reviewer for:* Nature, Chemical Physics Letters, Nano Letters, Macromolecules, Journal of Physical Chemistry, Soft Matter, ACS Nano, ACS Applied Materials & Interfaces, Industrial Engineering Chemistry Research, Langmuir, Journal of Chemical Engineering Data, Journal of Membrane Science, Chemical Physics Letters, Journal of Molecular Liquids, Polymer, Biochemistry, Molecular Physics, Journal of Theoretical and Computational Chemistry, Fluid Phase Equilibria, Chemical Engineering Science, Journal of Applied Polymer Science, Journal of Colloid and Interface Science, Computers & Geosciences, International Journal of Thermophysics, Journal of Chemical & Engineering Data, Energy & Fuels, Chemical Engineering Science, Molecular Simulation, Journal of Computational Methods in Science and Engineering, and Calphad. *Guest Editor*, Journal of Physical Chemistry, Special issue, 2007.
- *Reviewer for the following Agencies: National Science Foundation* (Panels: CBET, Materials Research Centers and Teams, REU, EAPSI; ad-hoc: DMR, CHE), *Office of Basic Energy Sciences* (BES) within the Department of Energy Office of Science (ad-hoc), *Army Research Laboratory* (ad-hoc), PRF (ad-hoc), *U.S. Civilian Research & Development Foundation* (ad-hoc.) *Department of Energy*.
- *Panelist, participant:* Sustainable Alternative Separations (AltSep) First Workshop: RoadMap. Sustainable Alternative Separations (AltSep); Second Workshop 2; Molecular Properties. NSF 2016 decadal workshop: Frontiers in Polymer Science and Engineering, Self-Assembly and Soft Matter Panel at the DOE Workshop on Computational Material Science and Chemistry for Innovation. *The Leverhulme Trust* (ad-hoc).
- 2018 Co- Chair, XXVII International Materials Research Congress.
- Programing Committee, FOMMS 2018: Innovations for Complex Systems.
- Director, Research Experience for Undergraduates: Soft Materials, The Pennsylvania State University, 2009-2015.
- Past-Chair, Computational Molecular Science and Engineering Forum, CoMSEF, AIChE 2016-2018. Chair: 2014-2016, Vi-Chair 2012-1014.
- Organizing Committee, FOMMS 2015: Molecular Modeling and the Materials Genome.
- Elected Liaison, Computational Molecular Science and Engineering Forum, CoMSEF, AIChE 2009-2011.
- Faculty advisor, Graduate Women in Science – Nu Chapter, 2009-2014.
- Earth and Mineral Science College Faculty Advisory Committee, 2014-2015.
- Co-Director, Center for the Study of Polymeric Systems, The Pennsylvania State University, 2007-2008.
- Many PSU internal committees (university wide (24 campuses), central campus (University Park), College, and Departmental level.)
- International Scientific Committee Member. III Iberoamerican Conference on Supercritical Fluids, Cartagena de Indias, Colombia (2012-2013).
- International Scientific Committee Member. Sixth International Materials Congress, Bogota, Colombia (2011-2012).
- Co-chair, "Theory of Thermophysical properties (Including Statistical Mechanics)," Seventeenth and Eighteenth Symposiums on Thermophysical Properties, Boulder, (2009, 2012).
- Chair/co-chair of multiple sessions at AIChE National Meetings, 2005-.

- Chair of the poster session entitled, "Biomolecules, Polymers, Materials (non-polymeric), Nanoscience and Nanotechnology and Pharmaceutical," PPEPPD 2007, Hersonissos, Crete, Greece, 2007.
- Member of the International Committee of the VII Inter-American Congress in Applied Computation to the Process Industry, CAIP'2005, Vila Real, Portugal 2005.
- Judge of the North Carolina Junior Science and Humanities Symposium (NCJSHS), Chapel Hill, (2005).
- Colina, C. M. "State of the Art in Equations of State," Invited Lecture, CHE 713, North Carolina State University, (2001, 2002, 2003).
- Member of the Applied Thermodynamics for Process Design (TADiP) Group (1996-2004).
- Member of the Organizing Committee of the IV Latin American Symposia on Fluid Properties and Phase Equilibria for Chemical Process Design, "EQUIFASE 95," Caracas, Venezuela 1995.

OTHER ACADEMIC ACTIVITIES

- Advisor of 4 PhD dissertations, 6 MSc thesis, 9 BS thesis, 25 research projects and 22 industrial projects for undergraduate students in the 4^{th} or 5^{th} year of their career. *Currently* advising 7 graduate students, 1 post-doctoral researcher, 1 Scientist.
- Course taught at the graduate level: University of Florida (2015-): Computational Chemistry, Special Topics in Physical Chemistry: Force Field Development and Applications. Pennsylvania State University, (2010-2015): Computational Materials Science of Soft Materials. (2008-2009): Introduction to Computational Materials Science of Soft Materials. Simón Bolívar University (1999): P*v*T Properties of Petroleum Fluids.
- Courses taught at the undergraduate level: Pennsylvania State University, (2012-2015): Computational Materials Science and Engineering. (2007-2012): Introduction to the Materials Science of Polymers. (1995-1999): Courses taught at the undergraduate level, Simón Bolívar University.
    - Thermodynamics I: Chemical Engineering, Materials Engineering, Mechanical Engineering, Production Engineering.
    - Thermodynamics II: Chemical Engineering.
    - Thermodynamics III: Chemical Engineering.
    - Separation Operation in Chemical Engineering.
    - Transport Phenomena I and II (Laboratory): Chemical Engineering.
    - Heat Transport I (Laboratory): Mechanical Engineering.
- Chemical Process Principles. Responsible for designing and teaching problem sections once per week. NCSU (2001).

AWARDS AND HONORS

- Women in Physics, Virtual Special Issue on Women in Physics 2017, Elsevier.
- Corning Faculty Fellow, 2010-2013, The Pennsylvania State University.
- Research Accreditation N^{o} 2764, 1996-2001, Researcher Level I, in the SPI System of CONICIT (Venezuela's National Science and Technology Research Council).

- 2001 Award from the Venezuelan's National Committee for the Development of Higher Education.
- 1999 Annual Award for Outstanding Teaching Achievement (Assistant Professor), Simón Bolívar University, Caracas, Venezuela.
- 1998 Award from the Venezuelan's National Committee for the Development of Higher Education.
- 1998 Award from the Venezuelan's National Committee for the Academic Advancement.
- Honorable Mention, M. Sc. Thesis, 1994, Simón Bolívar University, Caracas, Venezuela.
- Honorable Mention, B. S. Thesis, 1993, Simón Bolívar University, Caracas, Venezuela.
- Award for Excellence in Teaching from Class of '92, El Placer High School, 1992.

INVITED TALKS

1. "In Silico Synthesis of Polymer-Protein Conjugates," 3rd Annual Symposium, Center for Polymer-Based Protein Engineering, Carnegie Mellow University, June 2017.
2. "In Silico Synthesis and Characterization of Amorphous Materials," Max Planck Institute for Polymer Research, Mainz, Germany, May 2017.
3. "Molecular Modeling of Polymeric Systems," Symposium on Molecular Theory and Modeling, Raleigh, NC, May 2017.
4. "In Silico Synthesis and Characterization of Amorphous Materials," IRTG 1524 Spring School 2017, Beverly, MA, March 2017.
5. *"pySIMM, nuSIMM* and *polymatic*: In Silico Tools for the Synthesis and Characterization of Amorphous Materials," IRTG 1524 Spring School 2017, Beverly, MA, March 2017.
6. "I*n Silico* Design to Catalyze Materials Breakthroughs," AIChE Annual Meeting, San Francisco, November, 2016.
7. "In silico determination of gas permeabilities in porous polymeric materials," 2016 Southeast Regional Meeting (SERMACS) Columbia, SC, October, 2016.
8. "In silico design: Tailoring functional materials," COPE Scholar Symposium, 2016 Southeast Regional Meeting (SERMACS) Columbia, SC, October, 2016.
9. "in silico Design to Catalyze Materials Breakthroughs," ACS, Philadelphia, August 2016.
10. "in silico Design to Catalyze Materials Breakthroughs," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida, May 2016.
11. "in silico Design to Catalyze Materials Breakthroughs," Florida State University, Chemical and Biomedical Engineering Departmental Seminar, April 2016.
12. "Novel nanoporous materials: *In silico* design," University of Minnesota, Chemistry Departmental Seminar, March 2016.
13. "Novel nanoporous materials: *In silico* design," ACS, San Diego March 2016.
14. "Polymer Synthesis and Characterization in the Cloud: a nanoHub Classroom Experience," Nanohub User Conference, West Lafayette, Aug 2015.
15. "in silico Design: Synthesis and Charaterization of Functional Polymeric Materials," ACS, Boston, August 2015.
16. "in silico Design: Synthesis and Charaterization of Functional Polymeric Materials," FOMMS 2015, Mt. Hood, Oregon, July 2015.
17. "in silico Design: Synthesis and Charaterization of Functional Polymeric Materials," NIST, Gaithersburg, Maryland, June 2015.

18. "in silico Design: Synthesis and Charaterization of Functional Polymeric Materials," Dow, Collegeville, May 2015.
19. "Novel Nanoporous Materials: in silico Design," Purdue University, October, 2014.
20. "Porous Polymers and PIMS: Virtual Design and Characterization," 3M, Minneapolis, April 2014.
21. "Amorphous Polymeric Materials: Virtual Design and Characterization," Columbia University, New York, April, 2014.
22. "Amorphous Polymeric Materials: Virtual Design and Characterization," University of Manchester, U. K., April, 2014.
23. "Amorphous Microporous Materials: Virtual Design and Characterization," AIChE Annual Meeting, San Francisco, November, 2013.
24. "Predictive Design and Characterization of Microporous Materials," University of Oklahoma, Norman, April 04, 2013.
25. "Predictive Design and Characterization of Microporous Materials," ACS Symposium on "Porous Polymers", New Orleans, April, 2013.
26. "Novel Nanoporous Materials: In Silico Design," AIChE National Meeting, Pittsburgh, October 29, 2012.
27. "Predictive Virtual Synthesis and Characterization of Glassy Materials," AIChE National Meeting, Pittsburgh, October 29, 2012.
28. "In Silico: Expressway to Materials Design," *Plenary lecture*, XIII Polymer Latin-American Symposium and XI Ibero-American Polymer Congress (SLAP 2012), Bogota, Colombia, September 25, 2012.
29. "Computational Materials Design," Saint Gobain, Northborough, MA, September 11, 2013.
30. "In Silico: Expressway to Materials Design", *keynote lecture* at the DoubleNanoMem Workshop on "Nanocomposite and Nanostructured Polymeric Membranes for Gas and Vapour Separations," Cetraro, Italy, May 16, 2012.
31. "In Silico: Expressway to Materials Design," CCP5 Workshop, *keynote lecture*, University of Manchester, U.K. May 14, 2012.
32. "Characterizing Amorphous Porous Materials by Simulations and X-ray Scattering," University of Liverpool, U. K., May 11, 2012.
33. "Structural Characterization of Amorphous Materials in silico," University of Edinburgh, U.K. May 10, 2012.
34. "Aggregation of Globular Proteins by Molecular Simulations," MedImmune LLC, Gaithersburg, MD, April 13, 2012.
35. "In Silico: Expressway to Materials Design," Macromolecules and Interfaces Institute, Virginia Tech, Blacksburg, VA, February 15, 2012.
36. "In Silico: Expressway to Materials Design," Department of Chemical Engineering, The Pennsylvania State University, University Park, PA, February 9, 2012.
37. "In Silico: Expressway to Materials Design," Department of Chemical and Biomolecular Engineering, Vanderbilt University, Nashville, TN, January 23, 2012.
38. "Plastics to Bionanomedicine: Endless Opportunities," *International Year of Chemistry. This was a national event, broadcasted live to 10 different cities, and sponsored by* the Colombian National University, Professional Chemistry Council, Department of Chemical and Environmental Engineering, Banco de la Republica and Sociedad Colombiana de Ciencias Químicas, Bogota, Colombia July 15, 2011.

39. "Proteins Dynamics in Silico," Physics Department, The Pennsylvania State University, April 05, 2011.
40. "Novel Nanoporous Polymers: Molecular Modeling," XIX International Materials Research Congress, Chemical and Biomolecular Engineering Department, Texas A&M, March 07, 2011.
41. "Novel Nanoporous Polymers: Molecular Modeling," XIX International Materials Research Congress, Cancún, México, August 15-20, 2010.
42. "Proteins Dynamics in Silico," School of Chemical Engineering, Imperial College, England, U.K., July 19th, 2010.
43. "Towards the Understanding of Soft Materials in Silico," 2nd Convention of Chemical Engineering Students of Puerto Rico, Ponce, Feb 20, 2010.
44. "Proteins Dynamics in Silico," NOBCChE Indianapolis, October 16-18, 2009.
45. "Towards the Understanding of Soft Materials in Silico," Gordon A. and Mary Cain Department of Chemical Engineering, Louisiana State University, February 13, 2009.
46. "Protein Dynamics: Does Size Matter?" Chemistry Department, The Pennsylvania State University, December 04, 2008.
47. "From Polymer to Proteins: Endless Opportunities," School of Chemical Engineering and Analytical Science, The University of Manchester, U.K., June 18, 2008.
48. "Alliances Opportunities with the Center for the Study of Polymeric Systems," Pennsylvania Plastics SourceNet Symposium, Penn Stater, March 12-14, 2008.
49. "Understanding the Dynamics of Proteins Domains," School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, U. K., June 01, 2007.
50. "Molecular Dynamics of Blood-Clotting Proteins," Biochemistry and Molecular Biology Department, The Pennsylvania State University, February 19, 2007.
51. "From Polymer to Bionanomedicine: Endless Opportunities," Department of Engineering Science and Mechanics, The Pennsylvania State University, January, 31 2007.
52. "From Polymer to Bionanomedicine: Endless Opportunities," Department of Materials Science and Engineering, The Pennsylvania State University, September, 28 2006.
53. "The Statistical Associating Fluid Theory (SAFT)," Center for the Study of Polymer-Solvent Systems, Sep 26, 2006.
54. "Molecular Modeling of Polymeric Systems," Polymer Group Seminar, Department of Materials Science and Engineering, The Pennsylvania State University, October 31, 2006
55. "Molecular Modeling of CO_2/Polymer Systems," Department of Materials Science and Engineering, Pennsylvania State University, February 18 2005.
56. "State of the Art in Equations of State," Chemical Engineering Department (Graduate Seminar), North Carolina State University, (2002).
57. "Thermodynamics of Fluids: Classical Models and Molecular Simulation," Universidad Central de Venezuela, (1999).

FURTHER EDUCATION

- "Advances in Polymer Science and Engineering: Biomaterials, Engineering, Simulation and Polymerization", *invited instructor*, Colombian National University, Department of Chemical and Environmental Engineering, July 18 -20, 2011, Bogota, Colombia.

- Modeling of Protein Interactions, Sep 30-Oct 02, 2007. The University of Kansas, Lawrence, KS.
- Teaching American Students, Aug-Dec 2005, The University of North Carolina at Chapel Hill, NC.
- Computational Biophysics, TCGB, Workshop, June, 2005, San Francisco, CA
- Modeling Proteins and Nucleic Acids with AMBER, VMD and the MMTSB toolkit, PSC workshop, June 9-12, 2005, Pittsburgh, PA.
- Writing from the Readers' Perspective, The University of North Carolina, March 2005.
- Mentoring for Success: A Workshop for Future Faculty, North Carolina State University, April 2004, Raleigh, NC.
- Methods in Molecular Simulation, Summer School, UMIST, June18-27, 2000, Manchester, U. K.
- Teaching Methodology, Directorate of Professorial Development, (60 hours) Simón Bolívar University, 1999, Caracas, Venezuela.
- Thermodynamics of VLE, in IV Latin American Symposium on Fluid Properties and Phase Equilibria for Chemical Process Design, (EQUIFASE 95), 1995, Caracas, Venezuela.

CONFERENCE PRESENTATIONS

1. Anstine, D., Fortunato, M. E. and C. M. Colina, "Application of Uniaxial Tensile Strain on PMMA and PIM-1," 2017 FAME ACS, Tampa, Florida (2017).
2. Munasignghe, A., Lin, P. and C. M. Colina, "CHARMM Force Field Parameters for Oxime Bonds: Linkers for Bio-conjugates," 2017 FAME ACS, Tampa, Florida (2017).
3. Kupgan, G., Liyana-Arachchi, T. and C. M. Colina, "The Accuracy of Pore Size Distribution Obtained from Non-Local Density Functional Theory in Amorphous Microporous Materials - Polymers and Large Organic Molecules," 2017 FAME ACS, Tampa, Florida (2017).
4. Rukmani, S. J., Liyana-Arachchi, T., Hart, K. E., and C. M. Colina, "Ionic-Functionalized Polymeric Microporous Materials," APS March Meeting, New Orleans (2017).
5. Fortunato, M. E. and C. M. Colina, "*Pysimm*: A Python Package for Simulation of Amorphous Polymeric System,"APS March Meeting, New Orleans (2017).
6. Liyana-Arachchi, T. and C. M. Colina, "Water Desalination through Molecular Layer-By-Layer Membranes: Insights from Molecular Dynamics Simulations," AIChE Annual Meeting, San Francisco (2016).
7. Liyana-Arachchi, T. and C. M. Colina, "Virtual Synthesis of Ultra Permeable and Selective Microporous Polymer Materials for Gas Separation: A Molecular Simulation Study," AIChE Annual Meeting, San Francisco (2016).
8. Kupgan, G., Liyana-Arachchi, T. and C. M. Colina, "Pore Size Tuning of Poly(styrene-co-vinylbenzyl chloride-co-divinylbenzene) Hypercrosslinked Polymers: Insights from Molecular Simulations," AIChE Annual Meeting, San Francisco (2016).

9. Fortunato, M. E. and C. M. Colina, "*Pysimm*: A Python Package for Simulation of Amorphous Polymeric System," AIChE Annual Meeting, San Francisco (2016).
10. Fortunato, M. E. and C. M. Colina, "*Nusimm*: A User-Friendly Cloud Based Web Interface for Performing Molecular Simulations," AIChE Annual Meeting, San Francisco (2016).
11. Lin, P., Tucker, B. S., Sumerlin, B. S., and C. M. Colina, "Influence of Polymer Composition and Architecture on the Structure and Function of Protein-Polymer Conjugates," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida (2016).
12. Kupgan, G. and C. M. Colina, "Pore Size Tuning on Hyper-Cross-Linked Polymers using Divinylbenzene," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida (2016).
13. Fortunato, M. E. and C. M. Colina, "PYSIMM: a Python Package for Simulation of Amorphous Polymeric Systems," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida (2016).
14. Munasignghe, A., Lin, P. and C. M. Colina, "Human RANKL Complexed with its Decoy Receptor Osteoprotegerin: An Atomistic Molecular Dynamic Study," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida (2016).
15. Ramezanghorbani, F., Lin, P, and C. M. Colina, "Gel Formation of Mucus Glycoproteins: Insight from Ultra-Coarse-Grained Molecualr Dynamics," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida (2016).
16. Jayaraman Rukmani, S. Liyana Arachchi., T., and C. M. Colina, "Ionic-functionalized Polymeric Microporous Materials," 92th Florida Annual Meeting and Exposition, 2016 FAME ACS, Tampa, Florida (2016).
17. Mendenhall, J., Sturnfield, J., Liyana Arachchi., T. and C. Colina, "Benefits of Molecular Modeling for Understanding Water Filtration Membranes," Oil, Gas and Chemicals Filtration & Separations Conference – Expo, Houston, Texas, (2016).
18. Liyana Arachchi., T., Sturnfield, J. and C. Colina, "Ultra Thin Layer-By-Layer Membranes: Insights from Atomistic Molecular Simulations," AIChE Annual Meeting, Salt Lake City (2015).
19. Colina, C. M. "Amorphous Polymeric Materials: Virtual Design and Characterization," CPM-7:Characterization of Porous Materials: from Angstroms to Millimeters," DelRay Beach, Florida, (2015).
20. Fortunato, M. E. Colina, C. M. "Polymer Simulation Tools - A Python Package for Amorphous Polymer Simulation," FOMMS 2015, Mount Hood, Oregon, (2015)
21. Hart, K. E., Colina, C. M. "Ionomers of Intrinsic Microporosity (IonomIMs): In silico Development of Ionic-Functionalized Gas Separation Membranes" AIChE Annual Meeting, Atlanta, (2014).
22. Abbott, L. J., Colina, C. M. "Polymatic: A General Simulated Polymerization Algorithm," AIChE Annual Meeting, Atlanta, (2014).
23. Colina, C. M. "Small Molecules Confined in Porous Polymeric Materials," 9th Liblice Conference, Sec, Czech Republic, (2014).
24. Hart, K. E., Colina, C. M. "Estimating CO_2 Permeability From Atomistic Models of PIMs for Screening of Gas Separation Performance," AIChE Annual Meeting, San Francisco, (2013).
25. Frentrup, H, Hart, K. E., Colina, C. M., Muller, E. A. "Direct Simulations of Molecular Transport and Permeation of Gases in Polymeric Membrane Materials for Separation Processes," AIChE Annual Meeting, San Francisco, (2013).

26. Abbott, L. J., Colina, C. M. "Screening of Microporous Organic Solids: Development of Design Principles and Analysis of BET Theory," AIChE Annual Meeting, San Francisco, (2013).
27. Perkins, S. L., Painter, P., Colina, C. M. "Choline Chloride-Based Eutectic Mixtures: An Experimental and Molecular Simulation Study," AIChE Annual Meeting, San Francisco, (2013).
28. Hart, K. E. and C. M. Colina, "Toward Effective CO_2/CH_4 Separations by Sulfur-Containing PIMs: Insight from Molecular Simulations," ACS Spring Meeting, New Orleans, (2013).
29. Colina, C. M. "Predictive Design and Characterization of Microporous Materials," ACS Symposium on "Porous Polymers", ACS Spring meeting, New Orleans, (2013).
30. McDermott, A., Budd, P., McKeown, N., Colina, C. and J. Runt, "Scattering and physical aging in high-free-volume polymeric glasses," ACS Spring Meeting, New Orleans, (2013).
31. Moustafa, I. M., Korneeva, V. S., Arnold, J. J. Smidansky, E. D., Marcotte, L. L., Yang, X., Farran, M. A. S., Maranas, J. K., Boehr, D. D., Hogle, J. M., Colina, C. M., Cameron, C. E., "Nanosecond-Timescale Dynamics of the Viral RNA-Dependent RNA Polymerase as a Determinant of Incorporation Fidelity," 57th Annual Meeting of the Biophysical-Society, Philadelphia, (2013).
32. Figueira, F. L., Higueras, D., Márquez, J., Parada, A., Colina, C. M., and C. Olivera-Fuentes, "Correlation and Prediction of Fluid-Fluid Phase Equilibria in Binary {Alkyl-Dichlorobenzoate + CO_2} and {Fluoro-Alkyl-Dichlorobenzonate + CO_2} Systems," EQUIFASE 2012.
33. Colina, C. M., "Novel Nanoporous Materials: In Silico Design," AIChE National Meeting, Pittsburgh, (2012).
34. Perkins, S. L., Painter, P., and C. M. Colina, "Deep Eutectic Solvents: An Experimental and Molecular Simulation Study," AIChE National Meeting, Pittsburgh, (2012).
35. Abbott, L. J., Hart, K. E., and C. M. Colina, "Predictive Virtual Synthesis and Characterization of Glassy Materials," AIChE National Meeting, Pittsburgh, (2012).
36. Hart, K. E. and C. M. Colina, "Predicting CO_2 Adsorption in Polymers of Intrinsic Microporosity," AIChE National Meeting, Pittsburgh, (2012).
37. Abbott, L. J., Hart, K. E., and C. M. Colina, "A Predictive Structure Generation Methodology for Molecular Simulations of Glassy Polymers," FOMMS 2012 Portland, Oregon (2012).
38. McDermott, A. G., Budd, P. M., McKeown, N. B. and C. M. Colina, J. Runt. "A Scattering Model for Amorphous, Intrinsically Microporous Polymers," IUPAC MACRO2012 World Polymer Congress, Virginia (2012).
39. Hart, K. E., Abbott, L. J., Taylor, R., McKeown, N. B. and C. M. Colina, "Modeling Gas Adsorption of Sulphur-Containing Polymers of Intrinsic Microporosity," IUPAC MACRO2012 World Polymer Congress, Virginia (2012).
40. Stanik, J. and C. M. Colina, "Efficient Simulation of Protein Surface Adsorption using Dissipative Particle Dynamics with Specular Chain Reflection," IUPAC MACRO2012 World Polymer Congress, Virginia (2012).
41. Abbott, L. J., Hart, K. E., and C. M. Colina, "Virtual Synthesis and Characterization of Intrinsically Microporous Materials," IUPAC MACRO2012 World Polymer Congress, Virginia (2012).
42. Charry, E. M., López, C., Orozco, J., Colina, C.M., Moreno, N., Perilla. J.E., "Simulación molecular de la agregación de mucinas, usando el modelo de dinámica de partícula

disipativa." XIII Simposio Latinoamericano de Polímeros y XI Congreso Iberoamericano de Polímeros (SLAP 2012), Bogotá, Colombia, (2012).

43. Colby, R. H., Castellanos M. M., Colina C. M. and J. A. Pathak, "Shear Yielding of Aggregated Globular Protein Dispersions" XVIth International Congress on Rheology, Lisbon, Portugal, August 6, 2012.
44. Colby, R. H., Castellanos M. M., Colina C. M. and J. A. Pathak, "Shear Yielding of Aggregated Globular Protein Dispersions" 5th Annual Proteins Congress, London, United Kingdom, April 2, 2012.
45. Cataño-Barrera, A. M., Figueira, F., Olivera-Fuentes, C. and C. M. Colina, "Fluid-Fluid Equilibria of Carbon Dioxide - Aromatic and Carbon Dioxide - Dichlorobenzoate Binary Mixtures," Eighteen Symposium on Thermophysical Properties," Boulder, CO, (2012).
46. McDermott, A. G., Budd, P. M., McKeown, N. B., Colina, C. M. and J. Runt, "A Scattering Model for Polymers of Intrinsic Microporosity," EUPOC 2012 – Porous Polymer-Based Systems: From Design to Application, Italy (2012).
47. Abbott, L. J.**,** Hart, K. E. and C.M. Colina**, "**Insight into the Porosity of Organic Molecules of Intrinsic Microporosity Via Molecular Simulations,*"* EUPOC 2012 – Porous Polymer-Based Systems: From Design to Application, Italy (2012).
48. Hart, K. E., Abbott L. J.,Taylor, R. McKeown, N. B. and C. M. Colina, "Predicting Modeling of Sulphur-Containing Polymers of Intrinsic Microporosity," EUPOC 2012 – Porous Polymer-Based Systems: From Design to Application, Italy (2012).
49. Castellanos MM, Colina CM. "Molecular dynamics simulations of Human Serum Albumin and role of disulfide bonds." Biophysical Society Regional Meeting, The Huck Institute of Life Sciences, Hershey, PA, November 11, 2011.
50. Abbott L. J., Hart, K. E., Lin, P. and C. M. Colina "A General Polymerization Algorithm for Amorphous Microporous Polymeric Materials," AIChE National Meeting, Minneapolis, (2011).
51. Abbott L. J., Hart, K. E., Lin, P. and C. M. Colina "Molecular Simulations of Network Polymers of Intrinsic Microporosity: Structure Generation by a Simulated Polymerization Algorithm and Gas Adsorption Studies," AIChE National Meeting, Minneapolis, (2011).
52. Abbott L. J., Hart, K. E., Larsen, G. S., Lin, P. and C. M. Colina "Novel Nanoporous Polymers: in silico Desing," ACS Fall Meeting, Denver (2011).
53. Hart, K. E., Abbott, L. J., Larsen, G. S., Lin, P. and C. M. Colina "Improved Simulated Structure Generation of Linear Polymers of Intrinsic Microporosity (PIMs)," ACS Fall Meeting, Denver (2011).
54. Taylor, R. G. D., Bezzu, G., Walker, J., Msayib, K. J., McDermott,A. G., Runt, J. Abbott L. J., Colina, C. M., Maynard-Atem, L., Budd, P. M. and N. B. McKeown, "Synthesis of Organic Molecules and Dendrimers of Intrinsic Microporosity (OMIMs and DIMs)," ACS Fall Meeting, Denver (2011).
55. McDermott, A. G., Larsen, G. S., Budd, P. M., McKeown, N. B., Colina, C. M. and J. Runt, "Development of a Scattering Model for Polymers of Intrinsic Microporosity with Insight from Molecular Dynamics Simulations," ACS Fall Meeting, Denver (2011).
56. Hart, K. E.; Abbott, L. J.; Lin, P.; Colina, C. M. "Designing Linear Polymers of Intrinsic Microporosity (PIMs) for Gas Storage Applications," 10th International Conference on Materials Chemistry, University of Manchester, United Kingdom, (2011).
57. Abbott, L. J., McDermott, A. G., del Regno, A., Msayib, K. J., Carta, M., Taylor, R., McKeown, N. B., Siperstein, F. R., Runt, J. and C. M. Colina, "Characterizing the Structure

and Porosity of Organic Molecules of Intrinsic Microporosity by Molecular Simulations and Experiment," APS Annual Meeting, Dallas (2011).

58. McDermott, A. G., Larsen, G. S., Budd, P. M., Colina, C. M. and J. Runt, "Structural Characterization of a Polymer of Intrinsic Microporosity: X-ray Scattering With Insight From Molecular Dynamics Simulations," APS Annual Meeting, Dallas (2011).
59. McDermott, A. G., Abbott, L. J., del Regno, A., Msayib, K. J., Ghanem, B. S., Taylor, R., Carta, M., McKeown, N. B., Budd, P. M., Siperstein, F. R., Colina, C. M. and J. Runt, "Organic Molecules and Network Polymers of Intrinsic Microporosity: Structural Characterization via X-ray Scattering and Simulations," APS Annual Meeting, Dallas (2011).
60. Moustafa, I. M., Colina, C. M. and C. E. Cameron, "Role of Dynamics in Tuning Fidelity of RNA-dependent RNA Polymerase Elucidated by Molecular Dynamics Simulation," Enzyme Mechanisms Conference, St. Pete Beach, (2011).
61. Abbott, L. J. and C. M. Colina, "Structure Generation and Gas Adsorption Simulations of Microporous Poly(dichloroxylene) Networks," AIChE National Meeting, Salt Lake City, (2010).
62. Patterson, K., Lisal, M. and C. M. Colina, "Adsorption Behavior of Homogeneous and Heterogeneous Model Proteins On Hydrophobic Surfaces From Dissipative Particle Dynamics Simulations," AIChE National Meeting, Salt Lake City, (2010).
63. Larsen, G. S., Lin, P, and C. M. Colina, "Simulated Adsorption and Characterization of Novel Nanoporous Polymers," AIChE National Meeting, Salt Lake City, (2010).
64. Colina, C. M. "Novel Nanoporous Polymers: Molecular Modeling," XIX International Materials Research Congress, ***invited***, Cancún, Mexico, (2010).
65. Cataño-Barrera, A. M., Siquier-Soler, S., and C. M. Colina, "Separation of Polymers by Supercritical Carbon Dioxide," XIX International Materials Research Congress, Cancún, Mexico (2010)
66. Larsen, G. S. , Lin, P, and C. M. Colina, "Grand Canonical Monte Carlo Simulations of Adsorption of Carbon Dioxide and Methane in Regular and Carbonyl Substituted PIM-1," Macro 2010, Glasgow, U.K., (2010).
67. Cataño-Barrera, A. M., Siquier-Soler, S., and C. M. Colina, "Separation of Polymers by Supercritical Carbon Dioxide," Graduate Women in Science National Meeting, State College, (2010).
68. Larsen, G. and C. M. Colina, "Exploring New Materials for Gas Storage and Separations: Molecular Simulations of Polymers of Intrinsic Microporosity" Polymer Physics Gordon Research Conference, Mount Hyoloke (2010).
69. Larsen, G. S., Siperstein, F. R. and C. M. Colina. "Exploring New Materials for Gas Storage and Separations: Molecular Simulations of Polymers of Intrinsic Microporosity" Fundamental of Adsorption, Awaji, Japan, (2010).
70. Patterson, K., Lisal, M. and C. M. Colina "Adsorption Behavior of Model Proteins on Surfaces from Mesoscale Simulations,"PPEPPD2010, China (2010)
71. Shen, H. and C. M. Colina, "Poliovirus RNA-dependent RNA polymerases' dynamics on the microsecond timescale: A coarse-grained molecular dynamics study" 239thACS Spring meeting, San Francisco (2010)
72. Patterson, K., Lisal, M. and C. M. Colina "Adsorption behavior of Model Proteins on Surfaces from Mesoscale Simulations," AIChE National Meeting, Nashville, (2009).

73. Castro-Marcano, F. and C. M. Colina, "SAFT Parameters for Polymers from a New Strategy," Seventeenth Symposium on Thermophysical Properties, Boulder, (2009).
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