

Miao Yu

Professor
Department of Chemical and Biological Engineering
Empire Innovation Professor in RENEW
University at Buffalo

EDUCATION

University of Colorado at Boulder - Ph.D. Chemical Engineering	8/2004 - 4/2007
University of Minnesota, Twin Cities - Ph. D. Candidate, Chemical Engineering	1/2004 - 5/2004
Tianjin University, China - M.S. Chemical Engineering	9/1999 - 6/2002
Tianjin University, China - B.S. Chemical Engineering	9/1994 - 7/1998

PROFESSIONAL APPOINTMENTS

Professor, University at Buffalo	1/2021 –
Associate Professor, Rensselaer Polytechnic Institute	8/2017 – 1/2021
Assistant Professor, University of South Carolina, Columbia	8/2012 – 8/2017
Assistant Research Professor, University of Colorado at Boulder	6/2010- 6/2012
Research Associate, Chemical Engineering, University of Colorado at Boulder	5/2007- 5/2010
Lecturer, Chemical Engineering, University of Colorado at Boulder	8/2007- 12/2007
Research Assistant, Chemical Engineering, University of Colorado at Boulder	8/2004- 5/2007
Teaching Assistant, Chemical Engineering, University of Colorado at Boulder	8/2006- 12/2006
Research Assistant, Chemical Engineering, Tianjin University, China	8/1999- 5/2002
Research Assistant, Chemical Engineering, Tianjin University, China	6/2002- 7/2003

HONORS AND AWARDS

Empire Innovation Professor	2021
Priti and Mukesh Chatter Career Development Chair	2018-2020
USC Breakthrough Star Award	2016
NSF Career Award	2015
Invited speaker, Tianjin University, China	2014
Keynote speaker on International Congress on Membranes and Membrane Processes	2014
Invited speaker on American Business Conference: Graphene Commercialization & Applications Summit	2013
Inventevent at USC, 3 rd award (\$10,000 cash)	2013
Colorado Center of Biorefining and Biofuels (C2B2) Postdoctoral Fellowship	2009
American Institute of Chemists Postdoctoral Award, University of Colorado	2008
American Institute of Chemists Graduate Award, University of Colorado	2007
North American Membrane Society (NAMS) Annual Meeting Student Travel Award	2007
Graduate Assistantship in Areas of National Need (GAANN) Fellowship, U.S. Department of Education	2004~2007
3 rd place award for Student Annual Research Symposium (StARS) at UCB	2006
University fellowship, Graduate school, University of Minnesota, Twin Cities	2004
Outstanding Graduate Student Scholarship, Tianjin University	1999~2001
Outstanding Undergraduate Student Scholarship, Tianjin University (1 st in class)	1997~1998

PROFESSIONAL ACTIVITIES

- Session chair for session on “Catalytic and Responsive Membrane Materials” at NAMS Meeting (2019)
- Session chair at the Gordon Research Conference on Membranes: From Molecules to Modules (2018)
- Session chair for session on “Specialized Membranes-Carbon/Metal Membranes (II)” at International Congress on Membranes and Membrane Processes (2014)
- Session chair for poster session on “Membrane-Based Separations” at AIChE (2012, 2013)
- Reviewer for Science, Nature, Nature Energy, Nature Nanotechnology, Nature Communications, Advanced Materials, Advanced Functional Materials, Applied Catalysis B: Environmental, Journal of Membrane Science, Langmuir, Chemical Engineering & Technology, Industrial & Engineering Chemistry Research, Separation and Purification Technology, and Journal of Materials Chemistry A

PUBLICATIONS (*Corresponding author)

Total citations: 3335; h-index: 30 (Source: Google Scholar, May 2020)

1. Qiaobei Dong, Fanglei Zhou, Ji Jiang, Weiwei Xu, Dinesh Behera, Bratin Sengupta, and Miao Yu*, “Advanced Functional Hierarchical Nanoporous Structures with Tunable Microporous Coatings Formed via an Interfacial Reaction Processing”, *ACS Applied Materials & Interfaces* (impact factor: 8.456), accepted, 2020
2. Ji Jiang, Qiaobei Dong, Fanglei Zhou, Weiwei Xu, Shiguang Li, Miao Yu*, “Synthesis Gel-Modulated Growth of High-quality Zeolite Membranes”, *ACS Applied Materials & Interfaces* (impact factor: 8.456), accepted, 2020
3. Shenxiang Zhang, Huazheng Li, Huanghe Li, Bratin Sengupta, Shangwen Zha, Shiguang Li, Miao Yu*, “Negative Charge-confined Amine-carriers within the Nanowire Network for Stable and Efficient Membrane Carbon Capture”, *Advanced Functional Materials* (impact factor: 15.621), accepted, 2020
4. Seohui Jung, Yufei Cui, Morgan Barnes, Chinmay Satam, Shenxiang Zhang, Reaz A Chowdhury, Aparna Adumbumkulath, Onur Sahin, Corwin Miller, Seyed M Sajadi, Lucas M Sassi, Yue Ji, Matthew R Bennett, Miao Yu, Jefferson Friguglietti, Fatima A Merchant, Rafael Verduzco, Soumyabrata Roy, Robert Vajtai, J Carson Meredith, Jeffrey P Youngblood, Nikhil Koratkar, Muhammad M Rahman, Pulickel M Ajayan, “Multifunctional Bio - Nanocomposite Coatings for Perishable Fruits”, *Advanced Materials* (impact factor: 25.809), accepted, 2020
5. Huazheng Li, Chenglong Qiu, Shoujie Ren, Qiaobei Dong, Shenxiang Zhang, Fanglei Zhou, Xinhua Liang, Jianguo Wang, Shiguang Li, Miao Yu*, “Na⁺-gated water-conducting nanochannels for boosting CO₂ conversion to liquid fuels”, *Science* (impact factor: 41.063), 367, 667 (2020)
6. Fanglei Zhou, Huynh Ngoc Tien, Qiaobei Dong, Weiwei L. Xu, Bratin Sengupta, Shangwen Zha, Ji Jiang, Dinesh Behera, Shiguang Li, and Miao Yu*, “Novel carbon-based separation membranes composed of integrated zero- and one-dimensional nanomaterials”, *Journal of Materials Chemistry A* (impact factor: 10.733), 8, 1084 (2020)
7. Sewoon Kim, Juan C Muñoz-Senmache, Byung-Moon Jun, Chang Min Park, Am Jang, Miao Yu, Arturo J Hernández-Maldonado, Yeomin Yoon, “A Metal Organic Framework-Ultrafiltration Hybrid System for Removing Selected Pharmaceuticals and Natural Organic Matter”, *Chemical Engineering Journal* (impact factor: 8.355), 382, 122920 (2019)
8. Shoujie Ren, Xiao Fan, Zeyu Shang, Weston R Shoemaker, Lu Ma, Tianpin Wu, Shiguang Li, Naomi

- B Klinghoffer, Miao Yu, Xinhua Liang, “Enhanced Catalytic Performance of Zr Modified CuO/ZnO/Al₂O₃ Catalyst for Methanol and DME Synthesis via CO₂ Hydrogenation”, *Journal of CO₂ Utilization* (impact factor: 5.189), 36, 82 (2019)
9. Yuting Li, Konstantin Khivantsev, Yu Tang, Luan Nguyen, Mahdi Fathizadeh, Jingyue Liu, Miao Yu*, Franklin Tao, “Synthesis of NaA nanoFAU Zeolite Catalyst and Catalysis for Production of Formic Acid with NaA nanoFAU”, *Catalysis Letters* (impact factor: 2.799), 149, 1965 (2019)
 10. Qiaobei Dong, Zhuonan Song, Fanglei Zhou, Huazheng Li, Miao Yu*, “Ultrathin, Fine-Tuned Microporous Coating Modified 5A Zeolite for Propane/Propylene Adsorptive Separation”, *Microporous and Mesoporous Materials* (impact factor: 4.182), 281, 9 (2019)
 11. Shoujie Ren, Shiguang Li, Naomi Klinghoffer, Miao Yu, Xinhua Liang, “Effects of Mixing Methods of Bifunctional Catalysts on Catalyst Stability of DME Synthesis via CO₂ Hydrogenation”, *Carbon Resources Conversion* (impact factor: N/A), 2, 85 (2019)
 12. Lesley Joseph, Byung-Moon Jun, Min Jang, Chang Min Park, Juan C Muñoz-Senmache, Arturo J Hernández-Maldonado, Andreas Heyden, Miao Yu, Yeomin Yoon, “Removal of Contaminants of Emerging Concern by Metal-Organic Framework Nano-adsorbents: A Review”, *Chemical Engineering Journal* (impact factor: 8.355), 369, 928 (2019)
 13. Fanglei Zhou, Huynh Ngoc Tien, Qiaobei Dong, Weiwei L Xu, Huazheng Li, Shiguang Li, Miao Yu*, “Ultrathin, Ethylenediamine-Functionalized Graphene Oxide Membranes on Hollow Fibers for CO₂ Capture”, *Journal of Membrane Science* (impact factor: 7.015), 573, 184 (2019)
 14. Shoujie Ren, Weston R Shoemaker, Xiaofeng Wang, Zeyu Shang, Naomi Klinghoffer, Shiguang Li, Miao Yu, Xiaoqing He, Tommi A White, Xinhua Liang. “Highly Active and Selective Cu-Zn Based Catalyst for Methanol and Dimethyl Ether Synthesis via CO₂ Hydrogenation”, *Fuel* (impact factor: 5.128), 239, 1125 (2019)
 15. Sewoon Kim, Chang Min Park, Am Jang, Min Jang, Arturo J Hernández-Maldonado, Miao Yu, Jiyong Heo, Yeomin Yoon, “Removal of Selected Pharmaceuticals in An Ultrafiltration-Activated Biochar Hybrid System”, *Journal of Membrane Science* (impact factor: 7.015), 570, 77 (2019)
 16. Mahdi Fathizadeh, Weiwei L Xu, Margaret Shen, Emily Jeng, Fanglei Zhou, Qiaobei Dong, Dinesh Behera, Zhuonan Song, Lei Wang, Abolfazl Shakouri, Konstantin Khivantsev, Miao Yu*, “Antifouling UV-treated GO/PES Hollow Fiber Membranes in A Membrane Bioreactor (MBR)”, *Environmental Science: Water Research & Technology* (impact factor: 4.195), 5, 1244 (2019)
 17. Mahdi Fathizadeh, Huynh Ngoc Tien, Konstantin Khivantsev, Zhuonan Song, Fanglei Zhou, and Miao Yu*, “Polyamide/Nitrogen-Doped Graphene Oxide Quantum Dots (N-GOQD) Thin Film Nanocomposite Reverse Osmosis Membranes for High Flux Desalination”, *Desalination* (impact factor: 1.234), 451, 125 (2019)
 18. Sewoon Kim, Chang Min Park, Min Jang, Ahjeong Son, Nauguk Her, Miao Yu, Shane Snyder, Do-Hyung Kim, Yeomin Yoon, “Aqueous Removal of Inorganic and Organic Contaminants by Graphene-Based Nano-adsorbents: A Review”, *Chemosphere* (impact factor: 5.108), 212, 1104 (2018)
 19. Weiwei L Xu, Fanglei Zhou, Miao Yu*, “Tuning Water Nanofiltration Performance of Few-Layered, Reduced Graphene Oxide Membranes by Oxygen Plasma”, *Industrial & Engineering Chemistry Research* (impact factor: 3.37), 57, 16103 (2018)

20. Fanglei Zhou, Mahdi Fathizadeh, Miao Yu*, “Single- to Few-Layered, Graphene-Based Separation Membranes”, *Annual Review of Chemical and Biomolecular Engineering* (impact factor: 8.676), 9, 17 (2018)
21. Konstantin Khivantsev, Alessandro Biancardi, Mahdi Fathizadeh, Fahad Almalki, Job L Grant, Huynh Ngoc Tien, Abolfazl Shakouri, Douglas A Blom, Thomas M Makris, John R Regalbuto, Marco Caricato, Miao Yu*, “Catalytic N–H Bond Activation and Breaking by a Well-Defined $\text{Co}^{\text{II}}\text{O}_4$ Site of a Heterogeneous Catalyst”, *ChemCatChem* (impact factor: 4.495), 10, 736 (2018)
22. Mahdi Fathizadeh, Konstantin Khivantsev, Travis J Pyrzynski, Naomi B Klinghoffer, Abolfazl Nabi Shakouri, Miao Yu*, Shiguang Li, “Bio-mimetic Oxygen Separation via A Hollow Fiber Membrane Contactor with O_2 Carrier Solutions”, *Chemical Communications* (impact factor: 6.164), 54, 9454 (2018)
23. Sewoon Kim, Kyoung Hoon Chu, Yasir AJ Al-Hamadani, Chang Min Park, Min Jang, Do-Hyung Kim, Miao Yu, Jiyong Heo, Yeomin Yoon, “Removal of contaminants of emerging concern by membranes in water and wastewater: A review”, *Chemical Engineering Journal* (impact factor: 8.355) 335, 896 (2018)
24. Zhuonan Song, Qiaobei Dong, Weiwei L. Xu, Xinhua Liang and Miao Yu*, “Molecular Layer Deposition (MLD) Modified Zeolites for Highly Efficient CO_2 Capture”, *ACS Applied Materials & Interfaces* (impact factor: 8.456), 10, 769 (2018)
25. Fanglei Zhou, Huynh Ngoc Tiena, Jung-Tsai Chen, Weiwei L. Xu, Qiuli Liu, Ethan Hicks, Mahdi Fathizadeh, Shiguang Li, and Miao Yu*, “Ultrathin Graphene Oxide-Based Hollow Fiber Membranes with Brush-Like CO_2 -Philic Agent for Highly Efficient CO_2 Capture”, *Nature Communications* (impact factor: 11.880), 8, Article No. 2107 (2017)
26. Mahdi Fathizadeh, Huynh Ngoc Tien, Konstantin Khivantsev, Jung-Tai Chen, and Miao Yu*, “Printing Ultrathin Graphene Oxide Nanofiltration Membranes for Water Purification”, *Journal of Materials Chemistry A* (impact factor: 10.733), 5, 20860 (2017)
27. Weiwei L. Xu, Chao Fang, Fanglei Zhou, Zhuonan Song, Qiuli Liu, Rui Qiao, and Miao Yu*, “Self-Assembly: A Facile Way of Forming Ultrathin, High Performance Graphene Oxide Membranes for Water Purification”, *Nano Letters* (impact factor: 12.344), 17, 2928 (2017)
28. Kyoung Hoon Chu, Mahdi Fathizadeh, Miao Yu, Joseph RV Flora, Am Jang, Min Jang, Chang Min Park, Sung Soo Yoo, Namguk Her, Yeomin Yoon, “Evaluation of Removal Mechanisms in a Graphene Oxide-Coated Ceramic Ultrafiltration Membrane for Retention of Natural Organic Matter, Pharmaceuticals, and Inorganic Salts”, *ACS Applied Materials & Interfaces* (impact factor: 8.456), 9, 40369 (2017)
29. Yanzhe Qin, Yongyou Hu, Stephan Koehler, Liheng Cai, Junjie Wen, Xiaojun Tan, Weiwei L. Xu, Qian Sheng, Xu Hou, Jianming Xue, Miao Yu*, David Weitz, “Ultrafast Nanofiltration through Scalable Single-layered Graphene Membranes”, *ACS Applied Materials & Interfaces* (impact factor: 8.456), 9, 9239 (2017)
30. X. Wang, M. R. Bayan, M. Yu, D. K. Ludlow, X. Liang, “Atomic layer deposition surface functionalized biochar for adsorption of organic pollutants: improved hydrophilia and adsorption capacity”, *International Journal of Environmental Science and Technology* (impact factor: 2.037), 4, 1825 (2017)
31. Kyoung Hoon Chu, Yi Huang, Miao Yu, Jiyong Heo, Joseph R.V. Flora, Am Jang, Min Jang, Chanil Jung, Chang Min Park, Do-Hyung Kim, Yeomin Yoon, “Evaluation of graphene oxide-coated ultrafiltration membranes for humic acid removal at different pH and conductivity conditions”,

Separation and Purification Technology (impact factor: 5.107), 181, 139 (2017)

32. Xiaojie Zhang, Guoqing Zuo, Xin Lu, Changqing Tang, Shuo Cao, and Miao Yu*, “Anatase TiO₂ Sheet-assisted Synthesis of Ti³⁺ Self-doped Mixed Phase TiO₂ Sheet with Superior Visible-light Photocatalytic Performance: Roles of Anatase TiO₂ Sheet”, ***Journal of Colloid and Interface Science*** (impact factor: 6.361), 490, 774-782 (2017)
33. Mahdi Fathizadeh, Weiwei L. Xu, Fanglei Zhou, Yeomin Yoon, and Miao Yu*, “Graphene Oxide: A Novel 2-Dimensional Material in Membrane Separation for Water Purification”, ***Advanced Materials Interfaces*** (impact factor: 4.713), Article No. 1600918 (2017) (invited review)
34. Zhong, S.L., Bu, N., Zhou, R.F., Jin, W.Q., Yu, M.*, and Li, S.G., “Aluminophosphate-17 and silicoaluminophosphate-17 membranes for CO₂ separations”, ***Journal of Membrane Science*** (impact factor: 7.015), 520, 507-514 (2016)
35. Song, Z.N., Nambo, A., Tate, K.L., Bao, A.N., Zhu, M.Q., Jasinski, J.B., Zhou, S.J., Meyer, H.S., Carreon, M.A., Li, S.G., and Yu, M.*, “Nano-Valved Adsorbents for CH₄ Storage”, ***Nano Letters*** (impact factor: 12.344), 16, 3309-3313 (2016)
36. Song, Z.N., Fathizadeh, M., Huang, Y., Chu, K.H., Yoon, Y.B., Wang, L., Xu, W.W.L., and Yu, M. *, “TiO₂ Nanofiltration Membranes Prepared by Molecular Layer Deposition for Water Purification”, ***Journal of Membrane Science*** (impact factor: 7.015), 510, 72-78 (2016)
37. Zong, Z.W., Huang, Y., Song, Z.N., Feng, X.H., Zhou, R.F., Meyer, H.S., Zhou, S.J., Carreon, M.A., Yu, M.*, and Li, S.G., “Highly Permeable N₂-Selective SAPO-34 Membranes for N₂/CH₄ Separation”, ***Microporous & Mesoporous Materials*** (impact factor: 4.182), 224, 36-42 (2016)
38. Zhang, X.J., Wang, L., Du, Q.C., Wang, Z.Y., Ma, S.G., and Yu, M.*, “Photocatalytic CO₂ Reduction over B₄C/C₃N₄ with Internal Electric Field under Visible Light Irradiation”, ***Journal of Colloid and Interface Science*** (impact factor: 6.361), 464, 89-96 (2016)
39. Song, Z.N., Huang, Y., Xu, W.W., Li, S.G., and Yu, M. *, “Continuously Adjustable, Molecular-Sieving ‘Gate’ on 5A Zeolite for Distinguishing Small Organic Molecules by Size”, ***Scientific Reports*** (impact factor: 4.525), 5, Article number: 139821 (2015) doi:10.1038/srep13981
40. Zhang, X.J., Wang, L., Chen, S.Q., Huang, Y., Song, Z.N., and Yu, M. *, "Photocatalytic CO₂ Reduction under Visible Light Using Ti³⁺-Doped TiO₂ with Anatase-Rutile Phase Junction", ***Frontiers of Chemical Science & Engineering*** (impact factor: 2.239), 9, 349-358 (2015) DOI 10.1007/s11705-015-1523-5 (invited paper)
41. Huang, Y., Wang, L., Song, Z.N., Li, S.G., and Yu, M. *, “Growth of High Quality, Thickness-Reduced Zeolite Membranes towards N₂/CH₄ Separation Using High-Aspect-Ratio Seeds”, ***Angewandte Chemie International Edition*** (impact factor: 12.257), 127, 10993-10997 (2015) doi:10.1002/ange.201503782 (Featured as Back Cover)
42. Zhou, R.F., Wang, H.M., Wang, B., Chen, X.S., Li, S.G., and Yu, M. *, “Defect-Patching of Zeolite Membranes by Surface Modification Using Siloxane Polymers for CO₂ Separation”, ***Industrial & Engineering Chemistry Research*** (impact factor: 3.37), 54, 7516-7523 (2015)
43. Nam, S.W., Jung, C., Li, H., Yu, M., Flora, J.R., Boateng, L.K., Her, N., Zoh, K.D., Yoon, Y., “Adsorption Characteristics of Diclofenac and Sulfamethoxazole to Graphene Oxide in Aqueous Solution”, ***Chemosphere*** (impact factor: 5.108), 136, 20-26 (2015)
44. Li, S.G., Zong, Z.W., Zhou, S.J., Huang, Y., Song, Z.N., Feng, X.H., Zhou, R.F., Meyer, H.S., Yu, M., and Carreon, M.A., “SAPO-34 Membranes for N₂/CH₄ Separation: Preparation,

- Characterization, Separation Performance and Economic Evaluation”, *Journal of Membrane Science* (impact factor: 7.015), 487, 141-151 (2015)
45. Song, J., Huang, Y., Nam, S.W., Yu, M., Heo, J.Y., Her, N., Flora, J., and Yoon, Y., “Ultrathin Graphene Oxide Membranes for the Removal of Natural Organic Matter”, *Separation and Purification Technology* (impact factor: 5.107), 144, 162-167 (2015)
 46. Huang, Y., Li, H., Wang, L., Qiao, Y.L., Tang, C.B., Jung, C., Yoon, Y., Li, S.G., and Yu, M.*, “Ultrafiltration Membranes with Structure-Optimized Graphene Oxide Coatings for Anti-Fouling Oil/Water Separation”, *Advanced Materials Interfaces* (impact factor: 4.713), 2, Article No. 1400433, DOI: 10.1002/admi.201400433 (2015)
 47. Song, Z.N., Huang, Y., Li, S.G., and Yu, M.*, “Composite 5A Zeolite with Ultrathin Porous TiO₂ Coating for Selective Gas Adsorption”, *Chemical Communications* (impact factor: 6.164), 51, 373-375 (2015)
 48. Li, H., Huang, Y., Mao, Y.T., Xu, W.W., Ploehn, H.J., and Yu, M.*, “Tuning Underwater Oleophobicity of Graphene Oxide Coatings via UV Irradiation”, *Chemical Communications* (impact factor: 6.164), 50, 9849-9851 (2014)
 49. Li, H., Song, Z.N., Zhang, X.J., Huang, Y., Li, S.G., Mao, Y.T., Ploehn, H.J., Bao, Y., and Yu, M.*, “Ultrathin, Molecular-Sieving Graphene Oxide Membranes for Selective Hydrogen Separation”, *Science* (impact factor: 41.063), 342, 95-98 (2013)
 50. Yu, M., Noble, R.D., Falconer, J.L. “Zeolite Membranes: Microstructure Characterization and Permeation Mechanisms”, *Accounts of Chemical Research* (impact factor: 21.661), 44, 1196-1206 (2011)
 51. Liang, X.H., Li, J.H., Yu, M., McMurray, C.N., Falconer, J.L., Weimer, A.W., “Stabilization of Supported Metal Nanoparticles using an Ultrathin Porous Shell”, *ACS Catalysis* (impact factor: 12.221), 1, 1162-1165 (2011)
 52. Yu, M., Funke, H.H., Noble, R.D., Falconer, J.L., “H₂ Separation Using Defect-free, Inorganic Composite Membranes”, *Journal of the American Chemical Society* (impact factor: 14.695), 133, 1748-1750 (2011)
 53. Yu, M., Funke, H.H., Falconer, J.L., Noble, R.D., “Gated Ion Transport through Dense Carbon Nanotube Membranes”, *Journal of the American Chemical Society* (impact factor: 14.695), 132, 8285-8290 (2010)
 54. Liang, X.H., Lu, X.Y., Yu, M., Cavanagh, A.S., Gin, D.L., Weimer, A.W. , “Modification of Nanoporous Supported Lyotropic Liquid Crystal Polymer Membranes by Atomic Layer Deposition”, *Journal of Membrane Science* (impact factor: 7.015), 349, 1-5 (2010)
 55. Liang, X.H., Yu, M., Li, J.H., Jiang, Y.B., Weimer, A.W., “Ultra-Thin Microporous/Mesoporous Metal Oxide Films Prepared by Molecular Layer Deposition (MLD)”, *Chemical Communications* (impact factor: 6.164), 7140-7142 (2009)
 56. Yu, M., Funke, H.H., Falconer, J.L., Nobler, R.D., “High-Density, Vertically-Aligned Carbon Nanotube Membranes”, *Nano Letters* (impact factor: 12.344), 9, 225-229 (2009)
 57. Yu, M., Falconer, J.L., Noble, R.D., “Characterizing Non-Zeolitic Pores in MFI Membranes”, *Industrial & Engineering Chemistry Research* (impact factor: 3.37), 47, 3943-3948 (2008)
 58. Yu, M., Falconer, J.L., Noble, R.D., “Characterizing Non-Zeolitic Pore Volume in Zeolite Membranes by Temperature-Programmed Desorption”, *Microporous & Mesoporous Materials* (impact factor: 4.182), 113, 224-230 (2008)

59. Yu, M., Wyss, J.C., Noble, R.D., Falconer, J.L., “2,2-Dimethylbutane Adsorption and Diffusion in MFI Zeolite”, *Microporous & Mesoporous Materials* (impact factor: 4.182), 111, 24-31 (2008)
60. Yu, M., Li, S.G., Falconer, J.L., Noble, R.D., “Reversible Hydrogen Storage Using A SAPO-34 Zeolite Layer”, *Microporous & Mesoporous Materials* (impact factor: 4.182), 110, 579-582 (2008)
61. Yu, M., Amundsen, T.J., Hong, M., Falconer, J.L., Noble, R.D., “A Controllable Nanometer-sized Valve”, *Advanced Materials* (impact factor: 25.809), 19, 3032-3036 (2007)
62. Yu, M., Falconer, J.L., Amundsen, T.J., Hong, M., Noble, R.D., “Flexible Nanostructure of MFI Zeolite Membranes”, *Journal of Membrane Science* (impact factor: 7.015), 298, 182-189 (2007)
63. Yu, M., Falconer, J.L., Noble, R.D., Krishna, R., “Modeling Transient Permeation of Polar Organic Mixtures through a MFI Zeolite Membrane using the Maxwell-Stefan Equations”, *Journal of Membrane Science* (impact factor: 7.015), 293, 167-173 (2007)
64. Yu, M., Hunter, J.T., Falconer, J.L., Noble, R.D., “Adsorption of Benzene Mixtures on Silicalite-1 and NaX Zeolites”, *Microporous & Mesoporous Materials* (impact factor: 4.182), 96, 376-385 (2006)
65. Yu, M., Falconer, J.L., Noble, R.D., “Adsorption of Liquid Mixtures on Silicalite-1 Zeolite: a Density-Bottle Method”, *Langmuir* (impact factor: 3.683), 21, 7390-7397 (2005)
66. Zhou, L., Yu, M., Zhong, L.M., Zhou, Y. P., “Feasibility Study on Pressure Swing Sorption for Removing H₂S from Natural Gas”, *Chemical Engineering Science* (impact factor: 3.372), 59, 2401-2406 (2004)
67. Zhou, L., Zhong, L.M., Yu, M., Zhou, Y. P., “Sorption and Desorption of a Minor Amount of H₂S on Silica Gel Covered with a Film of Triethanolamine”, *Industrial & Engineering Chemistry Research* (impact factor: 3.37), 43, 1765-1767 (2004)

PATENTS

Yu, Miao; Fathizadeh, Mahdi	Printable Graphene Oxide Coatings And Membranes	2018	International Application No.: PCT/US2018/014937
Yu, Miao; Zhou, Fanglei; Huynh, Ngoc Tien; Li, Shiguang	Graphene Oxide Coated Porous Hollow Fibrous Substrates For Carbon Dioxide Capture	2018	International Application No.: PCT/US2018/025039
Yu, Miao; Fathizadeh, Mahdi	Thin Film Composites Having Graphene Oxide Quantum Dots	2018	US Patent App. 15/878,477
Yu, Miao	Ultrathin, graphene-based membranes for water treatment and methods of their formation and use	2018	US Patent App. 10/092,882
Yu, Miao; Song, Zhuonan	TiO ₂ Nanofiltration Membranes Prepared by Molecular Layer Deposition for Water Purification	2017	US Patent App. 15/243,148
Yu, Miao; Li, Hang	Ultrathin, molecular-sieving graphene oxide membranes for separations along with their methods of formation and use	2017	US Patent 9,795,931
Li, Shiguang; Zhou, Shaojun; Yu, Miao	Process for purification of methyl methacrylate using molecular sieve membranes	2016	US Patent 9,487,469

Li, Shiguang; Zhou, Shaojun; Meyer, Howard S; Yu, Miao; Carreon, Moises A Yu, Miao	Method for loading and storing gas in nano- valved sorbents	2016	US Patent 9,249,934
	Ion removal from water by ultra-thin graphene- based membranes	2016	US Patent App. 14/843,145
Li, Shiguang; Zhou, Shaojun; Meyer, Howard S; Yu, Miao	Method of producing high purity oxygen	2016	US Patent App. 14/870,906
Weimer, Alan W; Liang, Xinhua; Li, Jianhua; Falconer, John L; Yu, Miao	Ultra-thin metal oxide and carbon-metal oxide films prepared by atomic layer deposition (ALD)	2015	US Patent 9,090,971
Li, Shiguang; Zhou, Shaojun; Yu, Miao; Carreon, Moises A	Nano-channel enhanced composite membranes	2015	US Patent 9,005,345