BIOGRAPHICAL SKETCH FOR ISABEL C. ESCOBAR

Chemical and Materials Engineering
University of Kentucky

a. Professional Preparation

University of Central Florida, Orlando, FL, Environmental Engineering, B.S., 1995
University of Central Florida, Orlando, FL, Environmental Engineering, M.S., 1996
University of Central Florida, Orlando, FL, Environmental Engineering, Ph.D., 2000

b. Appointments

Co-Director, Center of Membrane Sciences, University of Kentucky, Lexington, Kentucky, 2016
Professor, University of Kentucky, Lexington, Kentucky, 2015
Associate Dean of Research Development & Outreach (Engineering), 2014
Interim Assistant Dean of Research Development & Outreach (Engineering), 2010-2014
Acting Director of Catharine S. Eberly Center for Women, 2010-2011
Professor, The University of Toledo, Toledo, Ohio, 2010-2015
Visiting Professor to the National University of Singapore (Host: Professor T.S. Chung), Singapore (March 2009, June 2010, and June-July 2013).
Associate Professor, The University of Toledo, Toledo, Ohio, 2006-2010
Assistant Professor, The University of Toledo, Toledo, Ohio, 2000-2006

c. Products

(i) Five publications most closely related to the proposed project

1. Eke J., K. Elder and **I.C. Escobar** (2018). "Self-Cleaning Nanocomposite Membranes with Phosphorene-Based Pore Fillers for Water Treatment," *Membranes*, **8**, 79; doi:10.3390/membranes8030079.
2. Dong X. A. Al-Jumaily, and **I.C. Escobar** (2018). Thermodynamic study of PolarClean as a bio-derived solvent for the non-solvent induced phase separation fabrication of polysulfone membranes, *Membranes*, **8**: 23, doi:10.3390/membranes8020023.
3. Sprick C., S. Chede, V. Oyanedel-Craver, and **I.C. Escobar** (2018). Bio-Inspired Immobilization of Casein-Coated Silver Nanoparticles on Cellulose Acetate Membranes for Biofouling Control, *Journal of Environmental Chemical Engineering*, doi.org/10.1016/j.jece.2018.03.044.
4. Eke J., P. Wagh and **I.C. Escobar** (2018). Ozonation, biofiltration and the role of membrane surface charge and hydrophobicity in removal and destruction of algal toxins at basic pH values, *Separation and Purification Technology*, **194**: 56-63. doi.org/10.1016/j.seppur.2017.11.034.
5. Chede S., N. Anaya, V. Oyanedel-Craver, S. Gorgannejad, T. Harris, J. Al-Mallahi, M. Abu-Dalo, H. Abu Qdais and **I.C. Escobar** (2017). Desalination Using Low Biofouling Nanocomposite Membranes: From Synthesis to Scale Up, *Desalination*, doi.org/10.1016/j.desal.2017.05.007.

(ii). Five other significant publications

1. S. Chede, P. Griffiths, **I.C. Escobar** and **T. Harris** (2017). Comparison of Cellulose Acetate Membrane Filtration Performance between Laboratory Scale and Industrial Scale Methods, *Journal of Applied Polymer Science*, **134**: 45563, doi.org/10.1002/app.45563.
2. Chede S., and **I.C. Escobar** (2016). Responsive Membranes Composed of N-isopropylacrylamide (NIPAAm) and Cellulose Acetate, *Environmental Progress & Sustainable Energy,* **35**(2): 317-612.
3. Wagh, P., G. Parungao, R.E. Viola and **I.C. Escobar** (2015). A new technique to fabricate high-performance biologically inspired membranes for water treatment, *Separation and Purification Technology*, **156**(2): 754-765.

4. Asapu S., S. Pant, P. Majid, **I.C. Escobar**, and C. Gruden (2015). Study of Copper-Charged Membranes for Control of Biofouling due to Bacteria and Algae Organic Matter, *Journal of Water Reuse and Desalination*, **5**(4): 516-527.

5. Castilho P.H., T.R. Correia, M.T.P. de Amorim, I.C. Escobar, J.A. Queiroz, I.J. Correia and **A.M. Morão** (2015). Modification of microfiltration membranes by hydrogel impregnation for pDNA purification, *Journal of Applied Polymer Science*, **132** (21): article 41610.

d. Synergistic Activities

1. In 2015, Professor Escobar gave a TEDx Lecture on worldwide water problems along with biologically-inspired water treatment using membranes. The talk is located at https://www.youtube.com/watch?v=-wbHD77kMWE.

2. Professor Escobar has been featured on the *Wall Street Journal* during the Toledo Algal Bloom of August 2014: http://live.wsj.com/video/toledo-water-ban-lifted-what-algal-bloom/550BEDC4-4654-4D51-B9A1-8D77F6E28139.html#!550BEDC4-4654-4D51-B9A1-8D77F6E28139, http://online.wsj.com/articles/algae-blooms-making-toledo-water-undrinkable-are-thriving-1407107871 and http://online.wsj.com/articles/algaes-return-deals-setback-to-lake-eries-revival-1407183729, along with NPR, Al-Jazeera America and others.

3. Professor Isabel Escobar and her colleague Professor Andrea Schäfer (University of Edinburgh) co-edited a book entitled "Sustainable Water for the Future: Water Recycling versus Desalination" that was published December 2009. The book deals with the issue of sustainable water use and covers the fundamental and practical concepts and issues regarding the application of membrane technologies for sustainable water treatment. Professor Isabel Escobar and her colleague Professor Bart Van der Bruggen (KU Leuven, Belgium) have recently co-edited a book entitled “Modern Applications in Membrane Science and Technology,” published in October 2011. This book looks at the future applications of membrane science and technology.

4. She chaired the 2006 American Water Works Association (AWWA) Desalination Symposium Chair, Honolulu, Hawaii, 21-22 May 2006; the NAMS 2007 Annual Meeting Chair, Orlando, FL, 11-16 May 2007; and the NAMS 2012 Annual Meeting Chair, New Orleans, LA, 9-13 June 2012. She will chair the NAMS 2018 Annual Meeting in Lexington, KY, and the 2018 Gordon Research Conference on Membranes.

5. Escobar has liaisoned internships for her doctoral students with numerous industrial partners throughout the years.