

# MIGUEL J. BAGAJEWICZ

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## EDUCATION

- \* **Ph.D. (CHEMICAL ENGINEERING):** California Institute of Technology (Caltech), 1987.
- \* **CHEMICAL ENGINEER:** Universidad Nacional del Litoral, Argentina, 1977.

## POSITIONS

- **Adjunct Professor.** Mewbourne Petroleum and Geological Engineering Department. University of Oklahoma. (2020-), **Visiting Professor.** Federal University of Rio de Janeiro. (2020-), **Sam Wilson Chair Professor.** Department of Sustainable Chemical, Biological & Materials Engineering. University of Oklahoma. (1995-2016)

## AWARDS

- 2014, 2019, & 2021-Distinguished Fulbright Chair in Brazil. \*2011-AIChE Process Development Division Research Award. \*Regents Award Superior Research Activities (2003)-Presidential Professorship. Univ. of Oklahoma (2001-), \*Research Fellow. Argentine Atomic Energy Commission. (1978).

## AREAS OF EXPERTISE

- **Process Engineering:** Process Design and Simulation. Heat Integration. Petroleum Fractionation. Decision Making-Financial Risk. Product Design. Data Reconciliation and Fault Analysis.

**BOOKS:** 1) Smart Plants (2010). 2) Design and Upgrade of Process Plant Instrumentation. CRC Press (2000)

**HANDBOOK CHAPTERS:** Four chapters in the Instrumentation Handbook CRC Press.

## SELECTED PUBLICATIONS (Out of a total of 275)

1. Oliva D.G., A. M. Nahes, A.L.H. Costa, M.J. Bagajewicz. (2024). *Globally Optimal Simultaneous Heat Exchanger Network Synthesis and Basic Heat Exchanger Design*. AIChE journal. (To appear).
2. Peccini A., L. S. Jesus, A. Secchi, M. Bagajewicz, A. L. H. Costa. *Globally optimal distillation column design using set trimming and enumeration techniques*. Comp.Chem.Eng., V. 174 (2023).
3. Peccini A., L. F. S. Jesus, A. R. Secchi, M. J. Bagajewicz, A. L. H. Costa. *Globally optimal distillation column design using set trimming and enumeration techniques*. Comp. and Chem. Eng. Vol. 174, 108254. (2023).
4. Nahes A. L. M., A. L.H. Costa, M. J. Bagajewicz. *A novel method for the globally optimal design of fixed bed catalytic reactors*. Chemical Engineering Science, Vol., 271, 5, 118524 (2023).
5. Kim S. Y., A. L. H. Costa, M. J. Bagajewicz. *New Robust Approach for the Globally Optimal Design of Fired Heaters*. Chemical Engineering Research and Design, Vol. 197, 434-448 (2023).
6. Chang C., A. Peccini, Y. Wang, A. Costa, M. Bagajewicz. *Globally Optimal Heat Exchanger Networks Design using Synheat and Linear Models. Part I: Networks featuring Minimum Number of Units*. AIChE J.,66, 7 (2020)
7. Lemos, J. C., André L. H. Costa, M. J. Bagajewicz. *Globally Optimal Design of Shell and Tube Heat Exchangers using Set Trimming*. Ind. Eng. Chem. Res. 59, 31, 14048-14054 (2020).
8. Costa A. L. H., M. J. Bagajewicz. 110<sup>th</sup> Anniversary: *On the Departure from Heuristics and Simplified Models towards Globally Optimal Design of Process Equipment*. Ind. & Eng. Chem. Res. 58, 18684–18702 (2019).
9. Bagajewicz M. and G. Valtinson. *Leak Detection in Gas Pipelines using Accurate Hydraulic Models*. Industrial and Engineering Chemistry Research. Vol. 53, No 44, pp. 16964-16972. (2014).
10. Nguyen D.Q. and M. Bagajewicz. *Optimization of Preventive Maintenance in Chemical Process Plants*. Industrial and Engineering Chemistry Research. Vol 49, No 9, pp. 4329–4339 (2010).
11. Guyonnet, P., H. Grant and M. Bagajewicz. *Integrated Model for Refinery Planning Oil Procuring and Product Distribution*. Industrial and Engineering Chemistry Research. Vol 48, No 1, 463–482 (2009).
12. Lakkhanawat H. and M. Bagajewicz. *Financial Risk Management with Product Pricing in the Planning of Refinery Operations*. Ind. and Eng. Chem. Res. Vol 47, No 17, 6622-6639 (2008).

## PRIOR RESEARCH AND WORK EXPERIENCE

#(2016-) Federal University of Rio de Janeiro (Visiting Professor), OK-Solutions (Various industrial projects)  
#(1995-2016) University of Oklahoma (Professor) – OK-Solutions (Various industrial projects) #(1992-1995) Simulation Sciences (CA), Now AVEVA Software developer (Pro II Simulator and DATACON Reconciler)  
#(1989-1992) UCLA (Mass-Exchange Networks and Cost Effective/ Energy Efficient Systems.) # (1987-1989) Steam and Power Systems Basic Engineering of a H2O2 New Plant in Argentina, # (1976-1987) Design of a Heavy Water plant in Argentina. PhD Studies (1982-1987).

**CONFERENCES:** More than 250 papers in Congresses (AIChE, PSE, IFAC, ESCAPE, PRESS).

- Member of the Scientific Committee of various conferences (ESCAPE, PRES, FOCAPO, etc.)

**COMPLETE CV:** Available at <http://www.ou.edu/class/che-design/index.htm>