Ana C. Alba-Rubio

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(a) Professional preparation

University of Málaga	Málaga, Spain	B.S.	Chemical Engineering	2007
Autonomous University of Madrid	Madrid, Spain	Ph.D.	Applied Physical Chemistry	2011
University of Wisconsin-Madison	Madison, WI	Postdoc	Chemical Engineering/ Heterogeneous Catalysis	2015

(b) Appointments

2015-present	Assistant Professor (tenure track) Department of Chemical Engineering. University of Toledo. Toledo, OH.
2012-2015	Postdoctoral Research Associate Department of Chemical and Biological Engineering. University of Wisconsin-Madison. Madison, WI. *Advisors:* Dr. James A. Dumesic and Dr. Manos Mavrikakis
2007-2011	Graduate Research Assistant Institute of Catalysis and Petrochemistry (ICP-CSIC). Madrid, Spain. *Advisor:* Dr. Manuel López Granados

(c) Selected publications (full list in Google Scholar)

- S.T. Hunt, M. Milina, A.C. Alba-Rubio, C.H. Hendon, J.A. Dumesic, Y. Román-Leshkov; Self-assembly of noble metal monolayers on transition metal carbide nanoparticle catalysts, *Science* 352 (6288), 974-978 (2016). DOI: 10.1126/science.aad8471.
- B.J. O'Neill, D.H.K. Jackson, A.J. Crisci, C.A. Farberow, F. Shi, A.C. Alba-Rubio, J. Lu, P.J. Dietrich, X. Gu, C.L. Marshall, P.C. Stair, J.W. Elam, J.T. Miller, F.H. Ribeiro, P.M. Voyles, J. Greeley, M. Mavrikakis, S.L. Scott, T.F. Kuech, J.A. Dumesic; Stabilization of copper catalysts for liquid-phase reactions by atomic layer deposition. *Angew. Chem. Int. Ed.* 52, 13808-13812 (2013). DOI: 10.1002/ange.201308245.
- R. Carrasquillo-Flores, I. Ro, M. Kumbhalkar, S. Burt, C.A. Carrero, A.C. Alba-Rubio, J.T. Miller, I. Hermans, G.W. Huber, J.A. Dumesic; Reverse water-gas shift on interfacial sites formed by deposition of oxidized molybdenum moieties onto gold nanoparticles, *J. Am. Chem. Soc.* 137 (2015) 10317-10325. DOI: 10.1021/jacs.5b05945.
- M. López Granados, A.C. Alba-Rubio, F. Vila, D. Martín Alonso, R. Mariscal; Surface chemical production of Ca oxide catalysts in biodiesel production reaction by the addition of monoglycerides, diglycerides and glycerol. *J. Catal.* 276, 229-236 (2010). DOI: 10.1016/j.jcat.2010.09.016.

- A.C. Alba-Rubio, F. Vila, D. Martín Alonso, M. Ojeda, R. Mariscal, M. López Granados; Deactivation of organosulphonic acid functionalized silica catalysts during biodiesel synthesis. *Appl. Catal., B* 95 (2010) 279-287. DOI: 10.1016/j.apcatb.2010.01.005.
- A.C. Alba-Rubio, C. Sener, S.H. Hakim, T.M. Gostanian, J.A. Dumesic; Synthesis of supported RhMo and PtMo bimetallic catalysts by controlled surface reactions. *ChemCatChem* 7 (2015) 3881-3886. DOI: 10.1002/cctc.201500767.
- S.H. Hakim, C. Sener, A.C. Alba-Rubio, T.M. Gostanian, B.J. O'Neill, F.H. Ribeiro, J.T. Miller, J.A. Dumesic; Synthesis of supported bimetallic nanoparticles with controlled size and composition distributions for active site elucidation. *J. Catal.* 328, 75-90 (2015). DOI: 10.1016/j.jcat.2014.12.015.
- C. Sener, T.S. Wesley, A.C. Alba-Rubio, M.D. Kumbhalkar, S.H. Hakim, F.H. Ribeiro, J.T. Miller, J.A. Dumesic; PtMo bimetallic catalysts synthesized by controlled surface reactions for water gas shift. *ACS Catal.* 6 (2016) 1334-1344. DOI: 10.1021/acscatal.5b02028.
- A.C. Alba-Rubio, B.J. O'Neill, F. Shi, C. Akatay, C. Canlas, T. Li, R. Winans, J.W. Elam, E.A. Stach, P.M. Voyles, J.A. Dumesic; Pore structure and bifunctional catalyst activity of overlayers applied by atomic layer deposition on copper nanoparticles. *ACS Catal.* 4, 1554-1557 (2014). DOI: 10.1021/cs500330p.
- J. Lee, S.P. Burt, C.A. Carrero, A.C. Alba-Rubio, I. Ro, B.J. O'Neill, H.J. Kim, D.H.K. Jackson, T.F. Kuech, I. Hermans, J.A. Dumesic, G.W. Huber; Stabilizing cobalt catalysts for aqueous-phase reactions by strong metal-support interaction. *J. Catal.* 330 (2015) 19-27. DOI: 10.1016/j.jcat.2015.07.003.

(d) Synergistic activities

Principal investigator on projects totaling over $900,000 in funding from NSF and others. Recently received the NSF CAREER award to work on dual function materials for capture and conversion of CO_2 to value-added products.

Received the 2018 UToledo President's Award for Outstanding Contributions in Scholarship and Creative Activity.

Currently advising three undergraduate researchers at UT, one of them being female. Previously advised nineteen undergraduates at UT (six of them being female), and a REU and a high-school student at the University of Wisconsin-Madison. Currently advising 2 M.S. and 3 Ph.D. students. Previously advised 3 M.S. students (two of them at UT).

Received the 2019 UToledo College of Engineering Excellence in Supervision of Undergraduate Research Award.

Outreach activities in catalysis and chemical reactions to broaden the participation of underrepresented groups in science: WISDOM (Women in STEMM Day or Meetings) program, Latino Youth Summit, UT's EXCEL summer program, and with migrant students in Ohio's rural communities.

Attended several teaching workshops: "How to engineer engineering education" at Bucknell University (2016), ASEE Summer School (2017), Course Design Institute at UT (2018), and the New Faculty Workshop sponsored by the ACS, the Cottrell Scholars Collaborative, and the Research Corporation for Science Advancement (2018). Currently using some of the teaching techniques learned.