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PUBLICATIONS

1. Summary

Edited works: 7 volumes of book series, 2 journal issues
Peer-reviewed articles: 101 published
Book contributions: 6 published
Other publications: 1 book review, 10 proceedings articles (unreviewed), 3 monographs (theses)
Hirsch index: **36** (Web of Science Core Collection) as of October 2021, search for authors
“jentoft f* or jentoft pc or (lange f and (knozinger or gates))”
40 (Google Scholar)

2. Edited books

1. "Advances in Catalysis", Volume 58, F.C. Jentoft, Editor; Academic Press (Elsevier), Amsterdam, 2015.
2. "Advances in Catalysis", Volume 57, F.C. Jentoft, Editor; Academic Press (Elsevier), Amsterdam, 2014.
3. "Advances in Catalysis", Volume 56, B.C. Gates and F.C. Jentoft, editors; Academic Press (Elsevier), Amsterdam, 2013.
4. "Advances in Catalysis", Volume 55, B.C. Gates and F.C. Jentoft, editors; Academic Press (Elsevier), Amsterdam, 2012.
5. "Advances in Catalysis", Volume 54, B.C. Gates and H. Knözinger, editors; F.C. Jentoft, Associate Editor, Academic Press (Elsevier), Amsterdam, 2011.
6. "Advances in Catalysis", Volume 53, B.C. Gates and H. Knözinger, editors; F.C. Jentoft, Associate Editor, Academic Press (Elsevier), Amsterdam, 2010.
7. "Advances in Catalysis", Volume 52, B.C. Gates and H. Knözinger, editors; F.C. Jentoft, Associate Editor, Academic Press (Elsevier), Amsterdam, 2009.

3. Edited journal issues

1. Topics in Catalysis, 60, 19–20 (2017) 1483–1753. Special Issue “Catalyst Characterization by Vibrational Spectroscopy” in memoriam of Helmut Knözinger
Guest Editors: *F.C. Jentoft and G. Mestl*
Editors-in-Chief: H.-J. Freund and G.A. Somorjai.
2. Topics in Catalysis 54, 5–7 (2011) 287–457. Festschrift entitled “Concepts in Catalysis Research”, on the occasion of the 70th birthday of Bruce C. Gates
Guest Editors: *F.C. Jentoft and H. Knözinger*
Editors-in-Chief: N. Kruse and G.A. Somorjai.

4. Book chapters and contributions (upon invitation)

1. Solid Acids and Bases, *F.C. Jentoft*, in Comprehensive Inorganic Chemistry II Vol. 7, Eds. Jan Reedijk and Kenneth R. Poeppelmeier, Oxford: Elsevier, Amsterdam, 2013, pp. 205–230.
2. Electronic Spectroscopy: Ultraviolet-Visible and Near-IR Spectroscopy, *F.C. Jentoft*, Characterization of Solid Materials and Heterogeneous Catalysts: From Structure to Surface Reactivity, Eds. M. Che, J.C. Védrine, Wiley-VCH, Weinheim, Germany, 2012, pp. 89–147.
3. UV–vis–NIR Spectroscopy in Catalysis: Theory, Experiment, Analysis and Application under Reactive Conditions, *F.C. Jentoft*, *Advances in Catalysis* 52 (2009) 129–211.
4. Oxo-Anion Modified Oxides, *F.C. Jentoft*, Handbook of Heterogeneous Catalysis, Vol. I, Eds. G. Ertl, H. Knözinger, F. Schüth, J. Weitkamp, 2nd edition, Wiley-VCH, Weinheim, Germany, 2008, pp. 262–278.

5. 13 Keywords: Carbocation, DeNO_x-Reaction, Dowex, Isoelectric Point, Isomerization Catalysts, Micropores, Microporous Solids, Photoinduced Oxidation/Reduction of Water, Probe Molecules, Silica, Solid Acid Catalysis, Solid Base Catalysis, Sulfuric Acid Synthesis, *F.C. Jentoft*, “Catalysis from A to Z - A Concise Encyclopedia”, Eds. B. Cornils, W.A. Herrmann, R. Schlögl, C.-H. Wong, Wiley-VCH, Weinheim, Germany, 2000.
6. Photoelectron Spectroscopy as a Tool for Studying Ceramic Interfaces: A Tutorial, *F.C. Jentoft*, *G. Weinberg*, *U. Wild*, *R. Schlögl*, Proceedings of the Workshop on ‘Grain Boundary Dynamics of Precursor-Derived Ceramics’, in “Precursor-Derived Ceramics”, Eds. J. Bill, F. Wakai, F. Aldinger, Wiley-VCH, Weinheim, Germany, 1999, pp. 175–187.

5. Articles in journals (with peer review)

1. Shape-selective synthesis of alkylcyclopentenyl cations in zeolites and spectroscopic distinction of constitutional isomers, *E.D. Hernandez*, *B. Manookian*, *S.M. Auerbach*, *F.C. Jentoft*, *ACS Catalysis* **11** (2021) 12893–12914.
2. Experimental and DFT calculated IR spectra of guests in zeolites: acyclic olefins and host-guest interactions, *B. Manookian*, *E.D. Hernandez*, *M.D. Baer*, *C.J. Mundy*, *F.C. Jentoft*, *S.M. Auerbach*, *Journal of Physical Chemistry C* **124** (2020) 10561–10572.
3. Spectroscopic signatures reveal cyclopentenyl cation contributions in methanol-to-olefins catalysis, *E.D. Hernandez*, *F.C. Jentoft*, *ACS Catalysis* **10** (2020) 5764–5782.
4. Fundamental insights into deactivation by leaching during rhenium-catalyzed deoxydehydration, *B.E. Sharkey*, *F.C. Jentoft*, *ACS Catalysis* **9** (2019) 11317–11328.
5. Poisoning and competitive adsorption effects during phenol hydrogenation on platinum in water-alcohol mixtures, *Z. Liu*, *I.A. Hamad*, *Y. Li*, *Y. Chen*, *S. Wang*, *R.E. Jentoft*, *F.C. Jentoft*, *Applied Catalysis A: General* **585** (2019) 117199.
6. Products of the initial reduction of the Phillips catalyst by olefins, *J. Joseph*, *K.C. Potter*, *M.J. Wulfers*, *Eric Schwerdtfeger*, *M.P. McDaniel*, *F.C. Jentoft*, *Journal of Catalysis* **377** (2019) 550–564.
7. Hydrogenation of *o*-cresol at the water/Pt(111) interface, *Y. Li*, *Z. Liu*, *Y. Liu*, *S.P. Crossley*, *F.C. Jentoft*, *S. Wang*, *Journal of Physical Chemistry C* **123** (2019) 5378–5384.
8. Highly selective molybdenum-based catalysts for ring hydrogenation and contraction, *A. Mehdad*, *R.E. Jentoft*, *F.C. Jentoft*, *Applied Catalysis A: General* **569** (2019) 45–56.
9. Single-phase mixed molybdenum-tungsten carbides: synthesis, characterization and catalytic activity for toluene conversion, *A. Mehdad*, *R.E. Jentoft*, *F.C. Jentoft*, *Catalysis Today* **323** (2019) 112–122.
10. Effect of hydrogen coverage on hydrogenation of *o*-cresol on Pt(111), *Y. Li*, *Z. Liu*, *S.P. Crossley*, *F.C. Jentoft*, *S. Wang*, *Applied Surface Science* **443** (2018) 575–580.
11. Intraparticle diffusional effects vs. site effects on reaction pathways in liquid-phase cross aldol reactions, *K. Ponnuru*, *J.C. Manayil*, *H.J. Cho*, *W. Fan*, *K. Wilson*, *F.C. Jentoft*, *ChemPhysChem* **19** (2018) 386–401.
12. New solid oxo-rhenium and oxo-molybdenum catalysts for the deoxydehydration of glycols to olefins, *B.E. Sharkey*, *A.L. Denning*, *F.C. Jentoft*, *R. Gangadhar*, *T.V. Gopaladasu*, *K.M. Nicholas*, *Catalysis Today* **310** (2018) 86–93.
13. Tuning solid catalysts to control regioselectivity in cross aldol condensations with unsymmetrical ketones for biomass conversion, *K. Ponnuru*, *J.C. Manayil*, *H.J. Cho*, *A. Osatiashiani*, *W. Fan*, *K. Wilson*, *F.C. Jentoft*, *Molecular Catalysis* **458** (2018) 247–260.
14. Single-phase mixed molybdenum-niobium carbides: Synthesis, characterization and multifunctional catalytic behavior in toluene conversion, *A. Mehdad*, *R.E. Jentoft*, *F.C. Jentoft*, *Journal of Catalysis* **351** (2017) 161–173.
15. Octyl co-grafted PrSO₃H/SBA-15: Tunable hydrophobic solid acid catalysts for acetic acid esterification, *J.C. Manayil*, *V.C. dos Santos*, *F.C. Jentoft*, *M. Granollers Mesa*, *A.F. Lee*, *K. Wilson*, *ChemCatChem* **9** (2017) 2231–2238.
16. Passivation agents and conditions for Mo₂C and W₂C: Effect on catalytic activity for toluene hydrogenation, *A. Mehdad*, *R.E. Jentoft*, *F.C. Jentoft*, *Journal of Catalysis* **347** (2017) 89–101.
17. Hydrogenation of *o*-cresol on platinum catalysts: Catalytic experiments and first-principles calculations, *Y. Li*, *Z. Liu*, *W. Xue*, *S.P. Crossley*, *F.C. Jentoft*, *S. Wang*, *Applied Surface Science* **393** (2017) 212–220.

18. Reduction of the Phillips catalyst by various olefins: Stoichiometry, thermochemistry, reaction products and polymerization activity, *K.C. Potter, C.W. Beckerle, F.C. Jentoft, E. Schwerdtfeger, M.P. McDaniel*, *Journal of Catalysis* **344** (2016) 657–668.
19. Mechanism of *n*-butane skeletal isomerization on H-mordenite and Pt/H-mordenite, *M.J. Wulfers, F.C. Jentoft*, *Journal of Catalysis* **330** (2015) 507–519.
20. The role of cyclopentadienium ions in methanol-to-hydrocarbons chemistry, *M.J. Wulfers, F.C. Jentoft*, *ACS Catalysis* **4** (2014) 3521–3532.
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23. Quantitative analysis of IR intensities of alkanes adsorbed on solid acid catalysts, *F.C. Jentoft, J. Kröhnert, I.R. Subbotina, V.B. Kazansky*, *Journal of Physical Chemistry C* **117** (2013) 5873–5881.
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27. Adsorption–desorption equilibrium investigations of *n*-butane on nanocrystalline sulfated zirconia thin films, *R. Lloyd, T.W. Hansen, W. Ranke, F.C. Jentoft, R. Schlögl*, *Applied Catalysis A: General* **391** (2011) 215–224.
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41. Activation and isomerization of *n*-butane on sulfated zirconia model systems - An integrated study across the materials and pressure gaps, *C. Breitkopf, H. Papp, X. Li, R. Olindo, J.-A. Lercher, R. Lloyd, S. Wrabetz, F.C. Jentoft, K. Meinel, S. Förster, K.-M. Schindler, H. Neddermeyer, W. Widdra, A. Hofmann, J. Sauer*, *Physical Chemistry Chemical Physics* **9** (2007) 3600–3618.
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85. An HREM study of the WO₃/TiO₂ monolayer catalyst system - proposals for the overlayer structure, *A. Burrows, C.J. Kiehl, R.W. Joyner, H. Knözinger, F. Lange*, Catalysis Letters **39** (1996) 219–231.
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7. Proceedings articles and technical reports (unreviewed)

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103. Adsorption and subsequent surface reactions of bifunctional compounds from bio-oil vapors on oxide supports, *C. Vaddipalli, F.C. Jentoft*, Proceedings of the 2011 AIChE Annual Meeting, Minneapolis, Oct. 16–21, 2011.
104. Sulfated zirconia catalysts: structure and performance relationship, a TEM study, *C. Meyer, D. Su, N. Hensel, F. C. Jentoft, R. Schlögl*, in: Richter S., Schwedt A. (eds) EMC 2008 14th European Microscopy Congress 1–5 September 2008, Aachen, Germany, Springer, Berlin, Heidelberg (2008) 237-238.
105. Electronmicroscopical characterization of zeolite structures, *B. Tesche, F.C. Jentoft, R. Schlögl, S.R. Bare, L.T. Nemeth, S. Valencia, A. Corma*, Extended abstract of a paper presented at MC 2007, 33rd DGE Conference in Saarbrücken, Germany, September 2 – September 7, 2007, Microscopy and Microanalysis **13**, S03 (2007) 264–265.
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108. Preferential CO oxidation in H₂ (PROX) on Pt/CeO₂ catalyst, high-pressure xps and in-situ DRIFTS study *D. Teschner, E. Vass, S. Zafeirotas, P. Schnörch, M. Hävecker, A. Knop-Gericke, H. Sauer, J. Kröhnert, F.C. Jentoft, R. Schlögl, O. Pozdnyakova, A. Wootsch*, BESSY Annual Report 2005 (2006) 254–256.

109. Deactivation and regeneration of mn-promoted sulfated zirconia alkane isomerization catalysts: An In-situ spectroscopic study, *B.S. Klose, R.E. Jentoft, T. Ressler, P. Joshi, A. Trunschke, R. Schlögl, F.C. Jentoft*, Proceedings of DGMK International Conference: C₄/C₅-Hydrocarbons: Routes to higher value-added products, Munich, Germany, Oct. 13–15, 2004, ISBN 3-936418-23-3, pp. 23–30.
110. In situ spectroscopic study of isomerization of light alkanes over sulfated zirconia catalysts, *X. Yang, R. Ahmad, J. Melsheimer, B. Klose, F.C. Jentoft*, Proceedings of the DGMK-Conference "Chances for Innovative Processes at the Interface between Refining and Petrochemistry", Berlin, Germany, Oct. 9–11, 2002, ISBN 3-931850-98-6, pp. 217–224.
111. Structural and active site characterization of sulfated zirconia catalysts for light alkane isomerization, *M. Standke, C. Breitkopf, H. Papp, S. Wrabetz, B.S. Klose, X. Yang, R.E. Jentoft, F.C. Jentoft, X. Li, L.J. Simon, J.A. Lercher*, Proceedings of the DGMK-Conference "Chances for Innovative Processes at the Interface between Refining and Petrochemistry", Berlin, Germany, Oct. 9–11, 2002, ISBN 3-931850-98-6, pp. 23–30.

8. Other publications

Book reviews

112. In-Situ Spectroscopy in Heterogeneous Catalysis, edited by James F. Haw, *F.C. Jentoft*, *Angewandte Chemie* **115** (2003) 266–267 and *Angewandte Chemie International Edition* **42,3** (2003) 256–257.

Articles aimed at a general audience

113. Gedanken über das Chemikerdasein (Reflections on being a chemist), *F.C. Jentoft*, in "Schulwege", Jubiläumsbuch des Uhland-Gymnasiums (Collection of articles published as a book on the occasion of the 150th anniversary of the school), Ed. Uhland-Gymnasium Tübingen, 2001, p. 269–276.

Monographs

- ◆ Sulfated Zirconia Alkane Isomerization Catalysts: A Treatise, *F.C. Jentoft*, Habilitationsschrift (Habilitation thesis), Humboldt-Universität zu Berlin, Germany, 2005, pages: 245.
- ◆ Arsenvergiftung von DeNO_x-Katalysatoren (Arsenic poisoning of NO_x catalysts), *F. Lange*, Doctoral Thesis, Ludwig-Maximilians-Universität München, Germany, 1994, pages: 193.
- ◆ Charakterisierung von Modellsystemen zur Arsenvergiftung an DeNO_x-Katalysatoren (Characterization of model systems for the understanding of arsenic poisoning of NO_x catalysts), *F. Lange*, Diplomarbeit (Thesis for degree "Diplom-Chemikerin"), Ludwig-Maximilians-Universität München, Germany, 1990, pages: 114.

PRESENTATIONS

1. Summary

Invited seminars:	51
Invited oral conference presentations:	28
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2. Invited seminars

1. Spectroscopic identification of surface intermediates in acid catalysis, Virtual Meeting of the Michigan Chapter of the North American Catalysis Society, Nov. 11, 2020.
2. Spectroscopic observation of surface species and reactions pathways on solid acid catalysts, Chemical Engineering Colloquium, Worcester Polytechnic Institute, Worcester, MA, USA, Sept. 30, 2020.
3. Spectroscopic observation of surface species and their reactions on solid acid catalysts, Department of Chemical and Biomolecular Engineering, University of Houston, Houston, TX, USA, Nov. 1, 2019.
4. Spectroscopic analysis of acid-catalyzed surface reactions, SABIC Global Corporate Research, Sugar Land, TX, USA, Oct. 31, 2019.
5. Controlling selectivity in aldol reactions via heterogeneous catalysis, Department of Chemical Engineering, University of New Hampshire, Durham, NH, USA, Oct. 18, 2019.

6. Observation of surface species and reactions pathways on solid acids, Seminar of the Department of Inorganic Chemistry, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin-Dahlem, Germany, Sept. 30, 2019.
7. Controlling selectivity in aldol reactions by tuning catalyst acid-base properties and porosity, Monthly Meeting of the Catalysis Club of Chicago, Chicago, IL, USA, Nov. 12, 2018.
8. Controlling reaction pathways in heterogeneously catalyzed aldol condensations, International Flavors and Fragrances, Hazlet, NJ, USA, May 17, 2018.
9. *Excellence in Catalysis Award Lecture*: Tracing reaction steps on solid acid catalysts by spectroscopy, Monthly Meeting of The Catalysis Society of Metropolitan New York, Somerset, NJ, USA, May 16, 2018.
10. Tuning sites, porosity and solvent to steer selectivity in heterogeneously catalyzed aldol reactions, Department of Chemical and Biochemical Engineering, Rutgers University, Piscataway, NJ, USA, Nov. 9, 2017.
11. Spectroscopic analysis of hydrocarbon moieties on solid acid surfaces, ExxonMobil, Annandale, NJ, USA, July 11, 2017.
12. Watching catalysts at work: Hydrocarbon species and reaction pathways on solid acid surfaces, Catalysis Research Center Colloquium, Technical University of Munich, Germany, March 13, 2017.
13. Single phase mixed metal carbides: Synthesis and catalytic properties, Catalysis Seminar, Department of Chemical & Biomolecular Engineering, UC Berkeley, USA, Nov. 18, 2016.
14. Single phase mixed metal carbides and their catalytic properties, School of Engineering & Applied Science, Aston University, Birmingham, UK, March 16, 2016.
15. Tracking hydrocarbon chemistry on surfaces with spectroscopy, UOP LLC – a Honeywell Company, Des Plaines, IL, USA, May 29, 2015.
16. Spectroscopic analysis of hydrocarbon chemistry on surfaces, Department of Chemical and Biomolecular Engineering, Lehigh University, Bethlehem, PA, April 22, 2015.
17. Reactivity of hydrocarbon species on solid acid catalysts, Clariant Produkte (Deutschland) GmbH, Bruckmühl, Germany, Sept. 22, 2014.
18. Hydrodeoxygenation of phenolic compounds in the liquid phase on platinum and palladium catalysts, Catalysis Center for Energy Innovation (An Energy Frontier Research Center funded by the Department of Energy), Webinar Host: University of Delaware, Newark, DE, USA; Speaker Location: Norman, OK, USA, March 25, 2014.
19. Reaction pathways on solid acid surfaces: From understanding to control, Department of Chemical Engineering, University of Massachusetts, Amherst, MA, USA, March 11, 2014.
20. Reactive remnants on catalyst surfaces, Chevron-Phillips Chemical Company, Bartlesville, OK, USA, Feb. 24, 2014.
21. Insight into catalytic hydrocarbon transformations from kinetics and in situ spectroscopy, Center for Catalytic Science and Technology, University of Delaware, Newark, DE, USA, Sept. 20, 2013.
22. Reactions of alkanes and alkenes on solid acid surfaces, Chevron-Phillips Chemical Company, Bartlesville, OK, USA, June 14, 2011.
23. In situ spectroscopic investigations of dispersed metal and bifunctional Catalysts, Umicore AG & Co. KG, Hanau-Wolfgang, Germany, April 14, 2011.
24. Spektroskopische Untersuchungen der Reaktionen von Alkanen und Alkenen an Zeolithen (Spectroscopic investigations of the reactions of alkanes and alkenes on zeolites), Colloquium of the Eduard-Zintl Institute for Inorganic and Physical Chemistry, Technische Universität Darmstadt, Germany, April 13, 2011.
25. Activation and conversion of alkanes and alkenes on acid catalysts, ExxonMobil Research and Engineering Company, Annandale, NJ, USA, June 10, 2010.
26. Hydrocarbon conversion on solid acid catalysts, Oklahoma State University, Stillwater, OK, USA, Feb. 26, 2009.
27. Saure Festkörperkatalysatoren: Neue Materialien und zukünftige Herausforderungen (Solid acid catalysts: New materials and future challenges), TU Bergakademie Freiberg, Germany, Institutskolloquium, Institut für Energieverfahrenstechnik und Chemieingenieurwesen, May 21, 2008.

28. Alkane activation and conversion on solid oxide catalysts, University of Oklahoma, Norman, OK, USA, March 11, 2008.
29. The chemistry of low temperature alkane isomerization catalysts, University of Oklahoma, Norman, OK, USA, June 15, 2007.
30. A fundamental approach to the development of novel alkane isomerization catalysts, Department of Chemistry, University of Reading, UK, June 4, 2007.
31. Sulfated zirconia as a starting point in the quest for new alkane isomerization catalysts, Süd-Chemie AG, Bruckmühl, Germany, Feb. 23, 2007.
32. Modern alkane isomerization catalysts: complex materials for a simple reaction, Laboratory of Industrial Chemistry, Åbo Akademi University Turku, Finland, Nov. 23, 2006.
33. Analyse eines variablen Katalysators: Reaktivität von promotiertem Zirconiumoxid (Analysis of a variable catalyst: reactivity of promoted zirconia), Fakultät für Chemie und Mineralogie der Universität Leipzig, Germany, Jan. 10, 2006.
34. Reactivity of promoted sulfated zirconia isomerization catalysts, Catalysis Seminar, University of California, Berkeley, CA, USA, Oct. 7, 2005.
35. Isomerisierungskatalysatoren aus sulfatiertem Zirconiumdioxid: Präparation, Charakterisierung und in situ Untersuchungen (Sulfated zirconia isomerization catalysts: Preparation, characterization and in situ investigations), Institutskolloquium Technische Chemie, Technische Universität Darmstadt, Germany, May 3, 2005.
36. Role of cationic promoters in sulfated zirconia catalysts for *n*-butane isomerization, Seminar of the Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA, USA, April 25, 2005.
37. Manganese and iron as promoters of sulfated zirconia isomerization catalysts, Seminar at UOP LLC, Des Plaines, IL, USA, April 22, 2005.
38. Aufklärung der Wirkungsweise von Festkörperkatalysatoren durch Infrarotspektroskopie (Elucidation of solid state catalyst operation using infrared spectroscopy), Technische Universität Berlin, Germany, April 8, 2005.
39. Modifizierte Zirconiumdioxide – interessante Katalysatoren für die Alkanisomerisierung (Modified zirconias – interesting catalysts for alkane isomerization), Kolloquium des Instituts für Chemie, Humboldt-Universität zu Berlin, Germany, Oct. 20, 2004.
40. Reaktivität von Festkörperkatalysatoren - Beteiligung der "inaktiven" Komponenten ZrO₂ und SiO₂ (Reactivity of solid state catalysts – participation of the "inactive" components ZrO₂ and SiO₂), Fakultät für Mathematik und Naturwissenschaften II, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany, June 23, 2004.
41. Characterization of surface sites using ir-spectroscopy and microcalorimetry, Laboratoire des Matériaux, Surfaces et Procédés pour la Catalyse, Unité Mixte du CNRS, Ecole Européenne de Chimie, Polymères et Matériaux, Université Louis Pasteur Strasbourg, France, Feb. 18, 2004.
42. Sulfatiertes Zirconiumdioxid als Katalysator für die Skelettisomerisierung von Alkanen (Sulfated zirconia as a catalyst for the skeletal isomerization of alkanes), Kolloquium des Instituts für Technische Chemie, Universität Leipzig, Germany, April 15, 2003.
43. Zirconiumdioxidkatalysatoren für die Alkanisomerisierung (Zirconia catalysts for alkane isomerization), Physikalische Chemie, Universität Bremen, Germany, April 18, 2002.
44. Preparation, activity, and structural stability of promoted sulfated Zirconia, Seminar of Prof. Dr. Roel Prins' group (ETH Zürich), San Bernardino, Switzerland, Feb. 11–14, 2001.
45. Neue Erkenntnisse über Katalysatoren aus sulfatiertem Zirkonoxid (New findings on sulfated zirconia catalysts), Physikalisch-Chemisches Kolloquium, Ludwig-Maximilians-Universität München, Germany, Jan. 12, 2001.
46. Neue Erkenntnisse über Katalysatoren aus sulfatiertem Zirkonoxid (New findings on sulfated zirconia catalysts), Fachinstitut für Physikalische und Theoretische Chemie, Humboldt-Universität zu Berlin, Germany, Oct. 26, 2000.

47. Charakterisierung von Zirkonoxidkatalysatoren (Characterization of zirconia catalysts), Seminar für fortgeschrittene Studenten, Diplomanden und Doktoranden am Anorganisch-Chemischen Institut der Technische Universität München, Germany, May 26, 2000.
48. Präparation dünner Zirkonoxidschichten aus wässrigem Medium (Preparation of thin zirconia films from aqueous medium), Physikalisch-Chemisches Kolloquium der Universität Stuttgart, Germany, Dec. 15, 1998.
49. Sulfatierte Zirkonoxide: Saure Katalysatoren? (Sulfated zirconias – acid catalysts?), Seminar über Experimentelle und Theoretische Aspekte der Oberflächenchemie, AK Prof. Dr. Klaus Christmann, Freie Universität Berlin, Germany, Dec. 2, 1998.
50. Sulfatiertes Zirkonoxid - ein Einblick in Katalyse und Charakterisierung (Sulfated zirconia – insight into catalysis and characterization), Hoechst AG, Frankfurt, Germany, April 1, 1997.
51. Arsenic as a poison for SCR catalysts, Seminar at the Department of Chemical Engineering & Materials Science, University of California at Davis, Davis, CA, USA, May 5, 1995.

3. Invited lectures at conferences and symposia

52. The potential of aldol chemistry to deliver various classes of Products, #ChemistsLive ACS Cross-Division Virtual Live Content Event, Sept. 25, 2020.
53. *Keynote Lecture*: Reaction sequences on solid acid surfaces elucidated by in situ spectroscopy, 26th North American Catalysis Society Meeting, Chicago, IL, June 23-28, 2019.
54. Carbocation chemistry on solid acid catalysts observed by in situ spectroscopy, Operando Spectroscopy for Catalysis Symposium, 256th American Chemical Society National Meeting, Boston, MA, USA, August 19-23, 2018.
55. Spectroscopic observation of reaction sequences on solid acid catalysts, Catalysis Workshop East, Hancock, MA, USA, Aug. 13-17, 2018.
56. Regioselectivity and chemoselectivity in heterogeneously catalyzed cross-aldol condensations with unsymmetrical ketones, *K. Ponnuru, J.C. Manayil, H.J. Cho, A. Osatiashtiani, W. Fan, K. Wilson, F.C. Jentoft*, Catalytic Conversion of Biomass Derived Molecules to Chemicals & Fuels Symposium, 255th American Chemical Society National Meeting and Exposition, New Orleans, LA, USA, March 18-22, 2018.
57. *Keynote Lecture*: Tuning solid catalysts for aldol reactions, 4th International Congress on Catalysis for Biorefineries (*CatBIOR*), Lyon, France, Dec. 11–15, 2017.
58. Single phase mixed metal carbides: synthesis and catalytic properties, Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Umit S. Ozkan, 254th ACS National Meeting, Washington, DC, USA Aug. 20–24, 2017.
59. *Keynote Lecture*: Spectroscopic observation of hydrocarbon reactions on acid sites, 8th International Symposium on Acid-Base Catalysis, Rio De Janeiro, Brazil, May 7–10, 2017.
60. *Plenary Lecture*: Developing catalytic processes for deoxygenation of biomass-derived feedstocks: vicinal diols to olefins, The 8th Eastern Mediterranean Chemical Engineering Conference, Haifa, Israel, Feb. 26–March 1, 2017.
61. Heterogeneously catalyzed single-step conversion of glycols to olefins, Symposium on Novel Catalysts for Energy and Environmental Issues, Sapporo, Japan, June 30–July 1, 2016.
62. *Keynote Lecture*: Synthesis and catalytic properties of single phase mixed metal carbides, 2016 Annual Symposium of The Catalysis Society of Metropolitan New York, Rutgers University, New Brunswick, NJ, USA, March 23, 2016.
63. Insights into the catalytic chemistry of carbides and zeolites, International Symposium on Inorganic Insights into Catalysis on the Occasion of the 60th Birthday of Robert Schlögl, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany, July 3–4, 2014.
64. Hydrocarbon species on solid acid catalysts: the good, the bad and the innocent, 2014 Gordon Conference in Catalysis, Colby-Sawyer College, New London, NH, USA, June 22–27, 2014.
65. Short course: IR and UV–vis spectroscopy of solid catalysts in contact with liquids, The 25th Biennial Organic Reactions Catalysis Society Meeting, Tucson, AZ, USA, March 2–6, 2014.

66. Do olefins run the show in paraffin isomerization? Northeast Corridor Zeolite Association Meeting, Philadelphia, PA, USA, Dec. 14, 2012.
67. Catching the fish in the hydrocarbon pool, 2011 DOE/BES Catalysis Science Program Meeting "Frontiers in Catalysis at Interfaces and Condensed Media", Annapolis, MD, USA, Oct. 2–5, 2011.
68. Adsorption and conversion of pyrolysis oil compounds, Summer School "Energy and Materials from the Sun", Rolduc Abbey, Kerkrade, The Netherlands, June 20–23, 2011.
69. Kinetic and in situ UV–vis–NIR spectroscopic investigation of *n*-butane isomerization on H-mordenite and Pt/H-mordenite, 17th Rideal Conference, Cardiff, UK, April 19–21, 2011.
70. Acid and bifunctional catalysts for hydrocarbon activation and conversion, International Symposium "Frontiers in Heterogeneous Catalysis", Catalysis Research Center Munich, Germany, Oct. 22–23, 2010.
71. Stabilization of catalytic alkane isomerization, Annual Spring Meeting of the Southwest Catalysis Society, Houston, TX, USA, March 12, 2010.
72. *Plenary lecture*: Alkane conversion on sulfated zirconia and zeolite catalysts, Second IDECAT Conference on Catalysis: "Concepts, Complexity and Diversity in Catalysis", Porquerolles, France, May 31–June 5, 2008.
73. Zirconium oxide – a variable catalyst component, Microelectronics meets Catalysis: Innovative Oxide Materials, Hanse Wissenschaftskolleg HWK at Delmenhorst, Germany, July 20–21, 2006.
74. Effect of cationic promoters on sulfated zirconia catalysts, Science and Art in Europe: Symposium "Catalysis: Nanotechnology with a Past", Berlin, Germany, May 22–24, 2005.
75. In situ vibrational spectroscopy of reactants and probe molecules on oxide catalysts, CECAM Workshop "In situ atomic scale characterization of surfaces under high pressures: recent advances in experiment and theory", CECAM Lyon, France, Nov. 4–6, 2004.
76. Sulfated zirconia catalysts for alkane isomerization: Recent progress, ExxonMobil European Science & Engineering Program (ESEP), European Award Symposium, Machelen, Belgium, Dec. 4, 2003.
77. Charakterisierung von Festkörperoberflächen mit Hilfe von Sondenmolekülen (Characterization of surfaces of solids with the help of probe molecules), 10. Tagung Festkörperanalytik, Vienna, Austria, July 5–7, 1999.
78. Carl Zerbe Award presentation: Reaktionen kurzketziger Alkane, initiiert durch promotierte sulfatierte Zirkonoxide (Reactions of short-chain alkanes, initiated through promoted sulfated zirconias), Vortragsveranstaltung der DGMK-Bezirksgruppen Mitteldeutschland und Berlin-Brandenburg zur Auswertung des 15. Welterdölkongresses in Peking, Berlin-Adlershof, Germany, Jan. 15, 1998.
79. Solid acid catalyzed alkane cracking mechanisms, 3. G.M. Schwab-Symposium, Catalysis for Organic Synthesis, Berlin, Germany, July 6–10, 1997.

4. Contributed oral presentations at national and international conferences (speaker underlined)

1. Mechanisms and selectivity of solid acid catalyzed aldol condensation and fission reactions: A DFT study, *S. Mahviya, K. Ponnuru, F.C. Jentoft, P. Bai*, Virtual, April 5–16, 2021.
2. Computational analysis of aldol condensation and fission reactions on solid acid catalysts, *S. Mahviya, K. Ponnuru, F.C. Jentoft, P. Bai*, 2020 AIChE Annual Meeting, Virtual, Nov. 16–20, 2020.
3. Controlling chemoselectivity in aldol reactions with solid catalysts, *K. Ponnuru, A. Carvalho, F.C. Jentoft*, 2019 AIChE Annual Meeting, Orlando, FL USA, Nov. 10–15, 2019.
4. Leaching of rhenium species from oxide-supported deoxydehydration catalysts for biomass upgrading: Support, solvent and reactant effects, *B.S. Sharkey, F.C. Jentoft*, 2019 AIChE Annual Meeting, Orlando, FL USA, Nov. 10–15, 2019.
5. In situ spectroscopic analysis of reactive hydrocarbon surface species and their transformations, *E.D. Hernandez, B. Manookian, S.M. Auerbach, F.C. Jentoft*, 2019 AIChE Annual Meeting, Orlando, FL USA, Nov. 10–15, 2019.
6. Formation and reactivity of unsaturated carbocation intermediates on H-ZSM-5 observed by in situ UV–vis and IR spectroscopies, *E.D. Hernandez, F.C. Jentoft*, 26th North American Catalysis Society Meeting, Chicago, IL, June 23–28, 2019.

7. Controlling leaching effects of oxide-supported rhenium catalysts in conversion of polyols to olefins by deoxydehydration, *B.E. Sharkey, F.C. Jentoft*, New England Catalysis Society Spring Meeting 2019, Brown University, Providence, RI, USA, May 17, 2019.
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