

**Verzeichnis wissenschaftlicher Veröffentlichungen**

1. Jin-Hao Jhang, S. Keil, A. Schaefer, V. Zielasek, M. Bäumer  
*CO and D<sub>2</sub>O chemistry on continuous and discontinuous samaria thin films on Pt(111)*  
Surface Science **650** (2016) 221-229.
2. Th. Weiss, J. Warneke, V. Zielasek, P. Swiderek, M. Bäumer  
*XPS study of thermal and electron-induced decomposition of Ni and Co acetylacetone thin films for metal deposition*  
Journal of Vacuum Science & Technology A **34** (2016) 041515 (8 Seiten).
3. M. Schubert, S. Pokhrel, A. Thome, V. Zielasek, Th.M. Gesing, F. Rößner, L. Mädler, M. Bäumer,  
*Highly active Co-Al<sub>2</sub>O<sub>3</sub>-based catalysts for CO<sub>2</sub> methanation with very low platinum promotion prepared by double flame spray pyrolysis*  
Catalysis Science & Technology **6** (2016) 7449-7460.
4. Junjie Shi, Ch. Mahr, M.M. Murshed, V. Zielasek, A. Rosenauer, Th.M. Gesing, M. Bäumer, A. Wittstock  
*A versatile sol-gel coating for mixed oxides on nanoporous gold and their application in the water gas shift reaction*  
Catalysis Science & Technology **6** (2016) 5311-5319.
5. Th. Weiss, V. Zielasek, M. Bäumer  
*Influence of water on chemical vapor deposition of Ni and Co thin films from ethanol solutions of acetylacetone precursors*  
Scientific Reports **5** (2015) 18194 (13 Seiten).
6. Jin-Hao Jhang, A. Schaefer, V. Zielasek, J.F. Weaver, M. Bäumer  
*Methanol adsorption and reaction on samaria thin films on Pt(111)*  
Materials **8** (2015) 6228-6256.
7. Gang Niu, M.H. Zoellner, Th. Schroeder, A. Schaefer, Jin-Hao Jhang, V. Zielasek, M. Bäumer, H. Wilkens, J. Wollschläger, R. Olbrich, Ch. Lammers, M. Reichling  
*Controlling the physics and chemistry of binary and ternary praseodymium and cerium oxide systems*  
Physical Chemistry Chemical Physics **17** (2015) 24513-24540.
8. P.H. Tchoua Ngamou, A. El Kasmi, Th. Weiss, H. Vieker, A. Beyer, V. Zielasek, K. Kohse-Höinghaus, M. Bäumer  
*Investigation of the growth behaviour of cobalt thin films from chemical vapour deposition, using directly coupled x-ray photoelectron spectroscopy*  
Zeitschrift für Physikalische Chemie **229** (2015) 1887-1905.

9. L. Altmann, Xiaodong Wang, H. Borchert, J. Kolny-Olesiak, V. Zielasek, J. Parisi, S. Kunz, M. Bäumer  
*Influence of Sn content on the hydrogenation of crotonaldehyde catalysed by colloidally prepared PtSn nanoparticles*  
Physical Chemistry Chemical Physics **17** (2015) 28186-28192.
10. Th. Weiss, M. Nowak, U. Mundloch, V. Zielasek, K. Kohse-Höinghaus, M. Bäumer  
*Design of a compact ultrahigh vacuum-compatible setup for the analysis of chemical vapor deposition processes*  
Review of Scientific Instruments **85** (2014) 104104 (10 Seiten).
11. D. Arndt, V. Zielasek, W. Dreher, M. Bäumer  
*Ethylene diamine-assisted synthesis of iron oxide nanoparticles in high-boiling polyols*  
Journal of Colloid and Interface Science **417** (2014) 188-198.
12. L. Altmann, Xiaodong Wang, J. Stöver, M. Klink, V. Zielasek, K. Thiel, J. Kolny-Olesiak, K. Al-Shamery, H. Borchert, J. Parisi, M. Bäumer  
*Impact of organic ligands on the structure and hydrogenation performance of colloidally prepared bimetallic PtSn nanoparticles*  
ChemCatChem **5** (2013) 1803-1810.
13. W.G. Menezes, B. Neumann, V. Zielasek, K. Thiel, M. Bäumer  
*Bimetallic AuAg Nanoparticles: Enhancing the Catalytic Activity of Au for Reduction Reactions in the Liquid Phase by Addition of Ag*  
ChemPhysChem **14** (2013) 1577-1581.
14. Xiaodong Wang, L. Altmann, J. Stöver, V. Zielasek, M. Bäumer, K. Al-Shamery, H. Borchert, J. Parisi, J. Kolny-Olesiak  
*Pt/Sn intermetallic, core/shell and alloy nanoparticles: Colloidal synthesis and structural control*  
Chemistry of Materials **25** (2013) 1400-1407.
15. W.G. Menezes, L. Altmann, V. Zielasek, K. Thiel, M. Bäumer  
*Bimetallic Co-Pd catalysts: Study of preparation methods and their influence on the selective hydrogenation of acetylene*  
Journal of Catalysis **300** (2013) 125-135.
16. W.G. Menezes, V. Zielasek, K. Thiel, A. Hartwig, M. Bäumer  
*Effects of particle size, composition, and support on catalytic activity of AuAg nanoparticles prepared in reverse block copolymer micelles as nanoreactors*  
Journal of Catalysis **299** (2013) 222-231.
17. S. Röhe, K. Frank, A. Schaefer, A. Wittstock, V. Zielasek, A. Rosenauer, M. Bäumer  
*CO oxidation on nanoporous gold: A combined TPD and XPS study of active catalysts*  
Surface Science **609** (2013) 106-112.
18. M. Minnemann, B. Neumann, V. Zielasek, M. Bäumer  
*Alumina-promoted cobalt and iron xerogels as catalyst for the Fischer-Tropsch synthesis*  
Catalysis Science & Technology **3** (2013) 3256-3267.

19. L.V. Moskaleva, V. Zielasek, T. Klüner, K.M. Neyman, M. Bäumer  
*CO oxidation by co-adsorbed atomic O on the Au(321) surface with Ag impurities: A mechanistic study from first-principles calculations*  
Chemical Physics Letters **525-526** (2012) 87-91.
20. W.G. Menezes, V. Zielasek, G.I. Dzhardimalieva, S.I. Pomogailo, K. Thiel, D. Wöhrle, A. Hartwig, M. Bäumer  
*Synthesis of stable AuAg bimetallic nanoparticles encapsulated by diblock copolymer micelles*  
Nanoscale **4** (2012) 1658-1664.
21. Xiaodong Wang, J. Stöver, V. Zielasek, L. Altmann, K. Thiel, K. Al-Shamery, M. Bäumer, H. Borchert, J. Parisi, J. Kolny-Olesiak  
*Colloidal synthesis and structural control of PtSn bimetallic nanoparticles*  
Langmuir **27** (2011) 11052-11061.
22. S. Gevers, T. Weisemoeller, A. Schaefer, V. Zielasek, M. Bäumer, J. Wollschläger  
*Structure of oxygen-plasma-treated ultrathin praseodymia films on Si(111)*  
Physical Review B **83** (2011) 193408.
23. Xiaodong Wang, P. Sonström, D. Arndt, J. Stöver, V. Zielasek, H. Borchert, K. Thiel, K. Al-Shamery, M. Bäumer  
*Heterogeneous catalysis with supported platinum colloids: A systematic study of the interplay between support and functional ligands*  
Journal of Catalysis **278** (2011) 143-152.
24. A. Schaefer, S. Gevers, V. Zielasek, T. Schroeder, J. Falta, J. Wollschläger, M. Bäumer  
*Photoemission study of praseodymia in its highest oxidation state: The necessity of in situ plasma treatment*  
Journal of Chemical Physics **134** (2011) 054701.
25. M. Minnermann, S. Pokhrel, K. Thiel, R. Henkel, J. Birkenstock, T. Laurus, A. Zargham, J. I. Flege, V. Zielasek, E. Piskorska-Hommel, J. Falta, L. Mädler, M. Bäumer  
*Role of palladium in iron based Fischer-Tropsch catalysts prepared by flame spray pyrolysis*  
Journal of Physical Chemistry C **115** (2011) 1302-1310.
26. P. Sonström, D. Arndt, Xiaodong Wang, V. Zielasek, M. Bäumer  
*Ligand capping of colloidally synthesized nanoparticles - A way to tune metal-support interactions in heterogeneous gas-phase catalysis*  
Angewandte Chemie - International Edition **50** (2011) 3888-3891.
27. L.V. Moskaleva, S. Röhe, A. Wittstock, V. Zielasek, T. Klüner, K.M. Neyman, M. Bäumer  
*Silver residues as a possible key to a remarkable oxidative catalytic activity of nanoporous gold*  
Physical Chemistry Chemical Physics **13** (2011) 4529-4539.
28. A. Schaefer, A. Sandell, L. E. Walle, V. Zielasek, M. Schowalter, A. Rosenauer, M. Bäumer  
*Chemistry of thin film formation and stability during praseodymium oxide deposition on Si(111) under oxygen-deficient conditions*  
Surface Science **604** (2010) 1287-1293.

29. A. Wittstock, V. Zielasek, J. Biener, C.M. Friend, M. Bäumer  
*Nanoporous Gold Catalysts for Selective Gas-Phase Oxidative Coupling of Methanol at Low Temperature*  
Science **327** (2010) 319-322.
30. A. Schaefer, V. Zielasek, Th. Schmidt, A. Sandell, M. Schowalter, O. Seifarth, L. E. Walle, Ch. Schulz, J. Wollschläger, T. Schroeder, A. Rosenauer, J. Falta, M. Bäumer  
*Growth of praseodymium oxide on Si(111) under oxygen-deficient conditions*  
Physical Review B **80** (2009) 045414 (13 Seiten).
31. V. Zielasek, Bingjun Xu, Xiaoying Liu, M. Bäumer, C.M. Friend  
*Absence of subsurface oxygen effects in the oxidation of olefins on Au: Styrene oxidation over sputtered Au(111)*  
Journal of Physical Chemistry C **113** (2009) 8924-8929.
32. A. Wittstock, B. Neumann, A. Schaefer, K. Dumbuya, Ch. Kübel, M.M. Biener, V. Zielasek, H.P. Steinrück, J.M. Gottfried, J. Biener, A.V. Hamza, M. Bäumer  
*Nanoporous Au: An unsupported pure gold catalyst?*  
Journal of Physical Chemistry C **113** (2009) 5593-5600.
33. T. Nowitzki, V. Zielasek, M. Bäumer  
*UHV Studies on CO and Methanol Adsorption and Decomposition on Pristine and Oxidized Alumina-Supported Co Nanoparticles*  
Physics and Engineering of New Materials, Springer Proceedings in Physics **127** (2009) 103-112.
34. J. Biener, A. Wittstock, L.A. Zepeda-Ruiz, M.M. Biener, V. Zielasek, D. Kramer, R.N. Viswanath, J. Weißmüller, M. Bäumer  
*Surface-chemistry-driven actuation in nanoporous gold*  
Nature Materials **8** (2009) 47-51.
35. B. Jürgens, H. Borchert, K. Ahrenstorff, P. Sonström, A. Pretorius, M. Schowalter, K. Gries, V. Zielasek, A. Rosenauer, H. Weller, M. Bäumer  
*Colloidally prepared nanoparticles for the synthesis of structurally well-defined and highly active heterogeneous catalysts*  
Angewandte Chemie - International Edition **47** (2008) 8946-8949;  
*Kolloidchemisch präparierte Nanopartikel zur Herstellung wohldefinierter und hochaktiver Heterogenkatalysatoren*  
Angewandte Chemie **120** (2008) 9078-9082.
36. H. Borchert, B. Jürgens, T. Nowitzki, P. Behrend, Y. Borchert, V. Zielasek, S. Giorgio, C.R. Henry, M. Bäumer  
*Decomposition of methanol by Pd, Co, and bimetallic Co-Pd catalysts: A combined study of well-defined systems under ambient and UHV conditions*  
Journal of Catalysis **256** (2008) 24-36.
37. T. Nowitzki, H. Borchert, B. Jürgens, T. Risse, V. Zielasek, M. Bäumer  
*UHV studies of methanol decomposition on mono- and bimetallic CoPd nanoparticles supported on thin alumina films*  
ChemPhysChem **9** (2008) 729-739.

38. B. Jürgens, Ch. Kübel, Ch. Schulz, T. Nowitzki, V. Zielasek, J. Biener, M.M. Biener, A.V. Hamza, M. Bäumer  
*New gold and silver-gold catalysts in the shape of sponges and sieves*  
Gold Bulletin **40** (2007) 142-149.
39. T. Nowitzki, A.F. Carlsson, O. Martyanov, M. Naschitzki, V. Zielasek, T. Risse, M. Schmal, H.-J. Freund, M. Bäumer  
*Oxidation of alumina-supported Co and Co-Pd model catalysts for the Fischer-Tropsch reaction*  
Journal of Physical Chemistry C **111** (2007) 8566-8572.
40. H. Borchert, B. Jürgens, V. Zielasek, G. Rupprechter, S. Giorgio, C.R. Henry, M. Bäumer  
*Pd nanoparticles with highly defined structure on MgO as model catalysts: An FTIR study of the interaction with CO, O<sub>2</sub> and H<sub>2</sub> under ambient conditions*  
Journal of Catalysis **247** (2007) 145-154.
41. W.-L. Yim, T. Nowitzki, M. Necke, H. Schnars, P. Nickut, J. Biener, M.M. Biener, V. Zielasek, K. Al-Shamery, Th. Klüner, M. Bäumer  
*Universal phenomena of CO adsorption on gold surfaces with low-coordinated sites*  
Journal of Physical Chemistry C **111** (2007) 445-451.
42. V. Zielasek, B. Jürgens, Ch. Schulz, J. Biener, M.M. Biener, A.V. Hamza, M. Bäumer  
*Gold catalysts: nanoporous gold foams*  
Angewandte Chemie, International Edition **45** (2006) 8241-8144;  
*Goldkatalysatoren: Nanoporöse Goldschwämme*  
Angewandte Chemie **118** (2006) 8421-8425.
43. B. Gehl, U. Leist, V. Aleksandrovic, P. Nickut, V. Zielasek, H. Weller, K. Al-Shamery, M. Bäumer  
*Design of a UHV-compatible RF plasma source and its application to self-assembled layers of CoPt<sub>3</sub>-nanoparticles*  
Review of Scientific Instruments **77** (2006) 083902 (7 Seiten).
44. J. Biener, M.M. Biener, T. Nowitzki, A.V. Hamza, C.M. Friend, V. Zielasek, M. Bäumer  
*On the role of oxygen in stabilizing low-coordinated Au atoms*  
ChemPhysChem **7** (2006) 1906-1908.
45. V. Zielasek, N. Rönitz, M. Henzler, H. Pfünér  
*Crossover between monopole and multipole plasmon of Cs monolayers on Si(111) individually resolved in energy and momentum*  
Physical Review Letters **96** (2006) 196801.
46. H. Pfünér, V. Zielasek, Ch. Tegenkamp, T. Block, Z. Kallassy  
*Geometrical and electronic properties of ultrathin epitaxial metal nanowires on flat and vicinal Si surfaces*  
Materials Science-Poland **23** (2005) 861-876.
47. Ch. Tegenkamp, Z. Kallassy, H. Pfünér, H.-L. Günter, V. Zielasek, M. Henzler  
*Switching between one and two dimensions: Conductivity of Pb-induced chain structures on Si(557)*  
Physical Review Letters **95** (2005) 176804.

48. V. Zielasek, Hong Liu, A.A. Shklyaev, E.P. Rugeramigabo, H. Pfnür  
*Electrical transport in ultrathin Cs layers on Si(001)*  
Physical Review B **72** (2005) 115422 (8 Seiten).
49. Ch. Tegenkamp, Z. Kallassy, H.-L. Günter, V. Zielasek, H. Pfnür  
*Anisotropic conductance of Pb-induced chain structures on Si(557) in the monolayer regime*  
European Physical Journal B **43** (2005) 557-564.
50. V. Zielasek, T. Block, H. Pfnür  
*Epitaxial Ag nanowires on Si(111) generated via electron beam lithography in ultrahigh vacuum*  
Reviews on Advanced Materials Science **8** (2004) 1-9.
51. V. Zielasek, T. Hildebrandt, M. Henzler  
*Measurement of NaCl/Ge(001) interface states by inelastic low-energy electron scattering with high momentum resolution*  
Physical Review B **69** (2004) 205313 (7 Seiten).
52. A.A. Shklyaev, V. Zielasek  
*Surface morphology of three-dimensional Si islands on Si(001) surfaces*  
Surface Science **541** (2003) 234-241.
53. V. Zielasek, Feng Liu, Yuegang Zhao, J.B. Maxson, M.G. Lagally  
*Surface stress-induced island shape transition in Si(001) homoepitaxy*  
Physical Review B **64** (2001) 201320(R) (4 Seiten).
54. V. Zielasek, T. Hildebrandt, M. Henzler  
*Surface color centers on epitaxial NaCl films*  
Physical Review B **62** (2000) 2912-2919.
55. Ch. Tegenkamp, H. Pfnür, W. Ernst, U. Malaske, J. Wollschläger, D. Peterka, K.M. Schröder, V. Zielasek, M. Henzler  
*Defects in epitaxial insulating thin films*  
Journal of Physics: Condensed Matter **11** (1999) 9943-9954.
56. V. Zielasek, Feng Liu, M.G. Lagally  
*Reconstruction of Si (001), (111) and (110) surfaces;*  
*Structure of clean silicon surfaces: vicinal Si (001) and Si (111) surfaces*  
Properties of Crystalline Silicon, Hrsg. R. Hull, INSPEC, London (1999), emis Datareviews Series No. 20, Seiten 175-188.
57. F. Moresco, M. Rocca, T. Hildebrandt, V. Zielasek, M. Henzler  
*K adsorption on Ag(110), effect on surface structure and surface electronic excitations*  
Surface Science **424** (1999) 62-73.
58. S.G. Jaloviar, Jia-Ling Lin, Feng Liu, V. Zielasek, L. McCaughan, M.G. Lagally  
*Step-induced optical anisotropy of vicinal Si(001)*  
Physical Review Letters **82** (1999) 791-794.
59. D.E. Savage, Feng Liu, V. Zielasek, M.G. Lagally  
*Fundamental mechanisms of film growth*

Germanium Silicon: Physics and Materials, Hrsg. R. Willradson, E. Weber, R. Hull, J.C. Bean, Academic Press (1998), Semiconductors and Semimetals Vol. 56, Seiten 49-100.

60. B.G. Frederick, T. Hildebrand, C.C. Perry, Q. Chen, A.W. Munz, T. Bertrams, V. Zielasek, N.V. Richardson, M. Henzler  
*Inelastic diffraction in coadsorbed periodic structures*  
Surface Science **418** (1998) 407-419.
61. M. Henzler, D. Thielking, M. Horn-von Hoegen, V. Zielasek  
*Surface morphology changes due to adsorbates and due to electron bombardment*  
Physica A **261** (1998) 1-12.
62. F. Moresco, M. Rocca, T. Hildebrandt, V. Zielasek, M. Henzler  
*Influence of surface interband transitions on surface plasmon dispersion: K/Ag(110)*  
Europhysics Letters **43** (1998) 433-438.
63. M. Henzler, V. Zielasek, D. Erdös, J. Wollschläger  
*Epitaxial insulating films*  
Surface Review and Letters **5** (1998) 675-684.
64. B. Müller, V. Zielasek  
*Inelastic scattering in reflection high-energy electron diffraction from Si(111)*  
Physical Review Letters **79** (1997) 4393-4396.
65. F. Moresco, M. Rocca, V. Zielasek, T. Hildebrandt, M. Henzler  
*ELS-LEED study of electronic excitations on Ag(110) and Ag(111)*  
Surface Science **388** (1997) 24-32.
66. F. Moresco, M. Rocca, V. Zielasek, T. Hildebrandt, M. Henzler  
*ELS-LEED study of the surface plasmon dispersion on Ag surfaces*  
Surface Science **388** (1997) 1-4.
67. V. Zielasek, A. Büssenschütt, M. Henzler  
*Low-energy electron thermal diffuse scattering from Al(111) individually resolved in energy and momentum*  
Physical Review B **55** (1997) 5398-5403.
68. F. Moresco, M. Rocca, V. Zielasek, T. Hildebrandt, M. Henzler  
*Evidence for the presence of the multipole plasmon mode on Ag surfaces*  
Physical Review B **54** (1996) 14333-14336.
69. V. Zielasek, A. Büssenschütt, M. Henzler  
*Multiple losses in off-specular electron energy loss spectra of thin NaCl films individually resolved in energy and momentum*  
Applied Surface Science **90** (1995) 117-121.