

List of Publications & Presentations

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Summary

Publications: more than 60 (including one in *Science*, two in *Phys. Rev. Lett.*)

Lectures: around 80

Posters: around 70

I. Book Chapters

- I-24.** “Catalysis by Size-Selected Clusters“
R. Meyer, Yu Lei, S. Lee and S. Vajda
In *Model Systems in Catalysis: From Single Crystals and Size Selected Clusters to Supported Enzyme Mimics*, Springer, 2008, submitted
- I-23.** “Smallest Size Regime: Control of Ultrafast Dynamics”
S. Vajda, and L. Wöste
in *The Dekker Encyclopedia of Nanoscience and Nanotechnology Second Edition*, Editors: J. A. Schwartz, C. Cotescu, and K. Putyera, Marcel Dekker, Inc., New York, 2008
ISBN-13 for hardcover: 978-0-8493-9639-7; online ISBN-13 is 978-0-8493-9638-0; Web: www.informaworld.com.
Invited review article, in Press
- I-22.** “Supported Size-Selected Clusters as Model Nanocatalysts for Highly Selective and Efficient Oxidation Reactions“
S. Vajda, G. E. Ballentine, S. Lee, S. Mucherie , C. L. Marshall, J. W. Elam, M. J. Pellin, B. Lee, C. Lo, S. Seifert, R. E. Winans, A. Kleibert, K. Sell, V. von Oyenhausen and K.-H. Meiwes-Broer
Proceedings of the XII ISMB Conference in Freiburg, 2007, pp. 88-91
- I-21.** “Highly Selective Catalytic Oxidation Reactions: I. Oxidative Dehydrogenation of Propane (ODHP) by Size-Selected Platinum Catalysts and II. Oxidation of Alkenes on Size-Selected Silver and Gold Clusters and Nanoparticles“
S. Vajda, G. E. Ballentine, S. Mucherie, C. L. Marshall, J. W. Elam, M. J. Pellin, B. Lee, C.-T. Lo, S. Seifert, R. E. Winans, J. M. Calo
Prepr. Am. Chem. Soc., Div. Pet. Chem., 2007, 52, (1), CODEN:ACPCAT ISSN:0569-3799.
- I-20.** “*In Situ* GISAXS Studies of the Thermal Stability and Temperature Induced Growth of Supported Cluster-Based Platinum and Gold Nanoparticles“
S. Vajda, R.E. Winans, J.W. Elam, B. Lee, M.J. Pellin, S.J. Riley, S. Seifert, G.Y. Tikhonov and N. A. Tomczyk
Prepr. Symp. - Am. Chem. Soc. , Div. Fuel Chem. 2005, 50(1), pp. 190-191
- I-19.** “Anomalous Grazing Incidence Small-Angle X-Ray Scattering Studies of Platinum Nanoparticles Formed by Cluster Deposition“
B. Lee, S. Seifert, S.J. Riley, G.Y. Tikhonov, N. A. Tomczyk, S. Vajda, R.E. Winans,
Prepr. Symp. Am. Chem. Soc. , Div. Fuel Chem. 2005, 50(1), pp. 188-189
- I-18.** “Optimal Control on Multi-Photon Ionization Dynamics of Small Alkali Aggregates“
A. Lindinger, A. Bartelt, S. Vajda, and L. Wöste
in *Proc. SPIE – Int. Soc. Opt. Eng.* 2003 Vol.5258 “*Atomic and Molecular Physics*”, Editor: J. Held, SPIE, Bellingham, WA, 0277-786X/03, 2004, pp. 25-39
- I-17.** “Femtosecond Spectroscopy on Metal Clusters“
S. Vajda, A. Bartelt, C. Lupulescu and L. Wöste
in *Adv. Ser. Phys. Chem. 13: “Progress in Experimental and Theoretical studies of Clusters”*, Editors: T. Kondow and F. Mafune, World Scientific Publishing, Singapore, ISBN-981-02-3893-2, 2003, pp. 157-187

- I-16.** “Control of Photoinduced Processes by Optimally Shaped Laser Pulses in MnCp(CO)₃: Recovering the Information Content Coded in the Optimal Pulse Form“
S. Vajda, C. Lupulescu, A. Lindinger, A. Merli, and L. Wöste
in “*Ultrafast Phenomena XIII*“, Editors: R.J.D. Miller, M.M. Murnane, N.F. Scherer, and A.M. Weiner, *Springer Ser. Chem. Phys.* 71, ISBN 3-540-00089-5, 2003, pp. 79-81
- I-15.** “Feedback Control of Alkali Dimers with Sinusoidal Phase Modulated fs-Pulses“
A. Bartelt, C. Lupulescu, S. Vajda, and L. Wöste
in “*Femtochemistry and Femtobiology: Ultrafast Dynamics in Molecular Science*“,
Editors: A. Douhal and J. Santamaria, World Scientific Publishing, Singapore, ISBN: 981-02-4866-0, 2002, pp. 481-493
- I-14.** “Analysis and Feedback Control of Ultrafast Fragmentation Processes in CpMn(CO)₃“
C. Lupulescu, P. Rosendo-Francisco, S. Vajda, and L. Wöste
in “*Femtochemistry and Femtobiology: Ultrafast Dynamics in Molecular Science*“,
Editors: A. Douhal and J. Santamaria, World Scientific Publishing, Singapore, ISBN: 981-02-4866-0, 2002, pp. 390-398
- I-13.** “Controlling the Vibration and Dissociation Dynamics in Triatomic Alkaline Clusters“
S. Vajda, C. Lupulescu, A. Bartelt, F. Budzyn, P. Rosendo-Francisco, and L. Wöste
in “*Femtochemistry and Femtobiology: Ultrafast Dynamics in Molecular Science*“,
Editors: A. Douhal and J. Santamaria, World Scientific Publishing, Singapore, ISBN: 981-02-4866-0, 2002, pp. 472-480
- I-12.** “Controlling the Vibration and Dissociation Dynamics in Small Molecules and Clusters“
S. Vajda, and L. Wöste
in “*Femtochemistry*“, Eds.: F.C. De Schryver, S. De Feyter and G. Schweitzer,
John Wiley-VCH, 2001, ISBNs: 3-527-30259-X (Hardback); 3-527-60018-3 (Electronic),
Chapter 10, pp. 199-216
- I-11.** “Time-Resolved Observation of Geometrical Reorientations of Metal Clusters“
S. Vajda, S. Wolf, U. Busolt, H. Hess, T. Leisner, and L. Wöste
in: “*Ultrafast Phenomena XI*“, Eds.: T. Elsaesser, J.G. Fujimoto, D.A. Wiersma, and W. Zinth,
Springer Ser. Chem. Phys. 1998, 63, ISBN 0172-6218, pp. 482-484
- I-10.** “Size Dependent Ultrafast Relaxation Phenomena in Metal Clusters“
R.S. Berry, V. Bonacic-Koutecky, J. Gauss, T. Leisner, J. Manz, B. Reischl-Lenz,
H. Ruppe, S. Rutz, E. Schreiber, S. Vajda, R. de Vivie-Riedle, S. Wolf, and L. Wöste
in *Adv. Chem. Phys., Volume 101: “Chemical Reactions and their Control on the Femtosecond Time-Scale”*, XXth Solvay Conference on Chemistry, Edited by P. Gaspard, I. Burghardt, Series Editors: I. Prigogine and S. A. Rice, John Wiley & Sons, 1997, ISBN 0-471-18048-3, pp. 101-139
- I-9.** “Spectroscopy of Mass-Selected Neutral Clusters: Femtosecond Dynamics of Ag_n“
T. Leisner, S. Rutz, G. Sommerer, S. Vajda, S. Wolf, E. Schreiber, and L. Wöste
In *AIP Conference Proceedings* 1996, Vol. 364, ”*Fast Elementary Processes in Chemical and Biological Systems*“, Ed. A. Tramer, AIP Press, Woodbury, New York pp. 603 – 609

- I-8.** “Orosomocoid: A Global Analysis of Tryptophan Fluorescence“
M. Hof, V. Karpenko, S. Vajda, V. Fidler, J. R. Gilchrist, A. Goldin, and D. Syme,
in “XV. IUPAC Symposium on Photochemistry“, Prague, Czech Republic, 1994, pp.298
- I-7.** “Intramolecular Energy Transfer in a Novel Reactive Fluorescent Dye“
P. Kapusta, V. Fidler, S. Vajda, A. Julak, M. Nepras, S. Lunak, Jr., and M. Sepš,
in “XV. IUPAC Symposium on Photochemistry“, Prague, Czech Republic, 1994, pp.313
- I-6.** “Time-resolved Fluorescence Study of Intramolecular Energy Transfer“
P. Kapusta, V. Fidler, S. Vajda, M. Nepras, M. Sepš, and S. Lunak Jr.
in *Proc. Central European Photochemistry Conference*, Krems, Austria, 1993.
- I-5.** “Spectroscopy of New Reactive Fluorescent Dyes: A Model System for Energy Transfer Study“
P. Kapusta, V. Fidler, S. Vajda, M. Nepras, S. Lunak, M. Sepš
in *Proc. XVIth Int. Conf. on Photochemistry*, Vancouver, Canada, 1993, pp.300.
- I-4.** “Cyclodextrin/Laser Dye Complexation and Spectroscopy“
B. Nohova, S. Vajda, and V. Fidler
in “Minutes Int. Symp. Cyclodextrins“, Ed. D. Duchène, Editions de Sante Publishers, Paris, France, 1992, pp.182-185
- I-3.** “Solvation Dynamics“
V. Fidler, K. Krijtová, Š. Vajda, J. Schröder
in *Proc. XVth Conf. on Photochemistry*, Paris, Vol.II, 1991, pp.24
- I-2.** “Time-resolved Spectroscopy of Polymethine J-aggregates“
K.H. Feller, R. Gadonas, V. Krasauskas, V. Fidler, and Š. Vajda
in *Proc. VI. ICEET*, Prague, Czechoslovakia, Vol.2, 1989, pp.116
- I-1.** “Dynamics of Block Copolymers by Fluorescence Measurements“
K. Procházka, V. Fidler, S. Vajda, B. Bednář, E. Mukhtar, M. Almgren, and A. S. Holmes,
in *Proc. VI. ICEET*, Prague, Czechoslovakia, Vol.2, 1989, pp.223

II. Papers in Journals

- II-39.** “Subnanometer Platinum Clusters: Highly Active and Selective Catalysts for the Oxidative Dehydrogenation of Propane”
S. Vajda*, M. J. Pellin, J. P. Greeley, C. L. Marshall, L. A. Curtiss*, G. A. Ballentine, J. W. Elam, S. Catillon-Mucherie, P. C. Redfern and P. Zapol, *submitted*
- II-38.** “Magnetic Properties of Cobalt Nanoparticles Produced by Size-Selected Cluster Deposition”
G. E. Ballentine, G.Y. Tikhonov, and S. Vajda, *submitted*
- II-37.** “Optical Properties of Au Nanoparticles Produced by the Assembly of Size-Selected Cluster Deposition: Covering the full Visible Wavelength Range in the Smallest Particle Size Regime”
S. Vajda, G. Wiederrecht, A. Bouhelier, B. Lee, S. Seifert, G.Y. Tikhonov, N. Tomczyk, and R.E. Winans,
Collect. Czech. Chem. Commun., **72**, 121, 2007, *invited contribution*
- II-36.** “Charge Transfer Initiated Nitroxyl Chemistry on Free Silver Clusters Ag_{2-5}^- : Size Effects and Magic Complexes”
J. Hagen, L. D. Socaciu-Siebert, J. Le Roux, D. Popolan, S. Vajda, T. M. Bernhardt, and L. Wöste,
Intl. J. Mass. Spectr. **261**, *Chava Lifshitz Memorial Issue*, 152 (2007)
- II-35.** “Supported Gold Clusters and Cluster-Based Nanomaterials: Characterization, Stability and Growth Studies by In Situ GISAXS under Vacuum Conditions and in the Presence of Hydrogen”
S. Vajda, R.E. Winans, J.W. Elam, B. Lee, M.J. Pellin, S. Seifert, G.Y. Tikhonov and N. A. Tomczyk,
Top. Catal., Special Issue „Nanotechnology in Catalysis” **39**, 161 (2006)
- II-34.** “Reactivity of Supported Platinum Nanoclusters Studied by In Situ GISAXS: Clusters Stability under Hydrogen”
R.E. Winans, S. Vajda, G.E. Ballentine, J.W. Elam, B. Lee, M.J. Pellin, S. Seifert, G.Y. Tikhonov and N. A. Tomczyk,
Top. Catal., Special Issue „Nanotechnology in Catalysis” **39**, 145 (2006)
- II-33.** “Anomalous Grazing Incidence Small-Angle X-ray Scattering Studies of Platinum Nanoparticles formed by Cluster Deposition” B. Lee, S. Seifert, S. J. Riley, G.Y. Tikhonov, N. Tomczyk, S. Vajda, and R. E. Winans,
J. Chem. Phys. **123**, 074701 (2005)
- II-32.** “Ultrafast Nuclear Dynamics Induced by Photodetachment of Ag_2^- and Ag_2O_2^- : Oxygen Desorption from a Molecular Silver Surface.”
L. D. Socaciu-Siebert, J. Hagen, J. Le Roux, D. Popolan, M. Vaida, S. Vajda, T. M. Bernhardt, and L. Wöste,
Phys. Chem. Chem. Phys. **7**, 2706 (2005)
- II-31.** “Coherent Control of the Dynamics of Alkali-Aggregate Fragmentation”
A. Lindinger, C. Lupulescu, J. Le Roux, A. Bartelt, S. Vajda, and L. Wöste
J. Phys. IV, **119**, 57 (2004)

- II-30.** “Thermal Stability of Supported Platinum Clusters Studied by In Situ GISAXS”
R. E. Winans, S. Vajda, B. Lee, S. J. Riley, S. Seifert, G.Y. Tikhonov, and N. Tomczyk,
J. Phys. Chem. B, **108**, 18105 (2004)
- II-29.** “Femtosecond Investigations on the Ultrafast Photodissociation Dynamics of CpMn(CO)₃ and its Fragment Ions”
C. Lupulescu, S. Vajda, A. Lindinger, A. Merli, and L. Wöste
Phys. Chem. Chem. Phys., **6**, 3420 (2004)
- II-28.** “Optimal Control of Ionization Processes in NaK: Comparison between Theory and Experiment”
B. Schäfer-Bung, R. Mitric, and V. Bonacic-Koutecky, A. Bartelt, C. Lupulescu, A. Lindinger, S. Vajda, S. M. Weber, and L. Wöste
J. Phys. Chem. A, **108**, 4175 (2004)
- II-27.** “Optimal Control of Multi-Photon Dissociation and Ionization Processes in Small Na_mK_n Clusters”
A. Bartelt, A. Lindinger, C. Lupulescu, S. Vajda, and L. Wöste,
Phys. Chem. Chem. Phys. **6**, 1679 (2004)
- II-26.** “Strongly Cluster Size Dependent Reaction Behavior of CO with O₂ on Free Silver Cluster Anions”
L. D. Socaciu, J. Hagen, J. Le Roux, D. Popolan, T. M. Bernhardt, L. Wöste, and S. Vajda
J. Chem. Phys. **120**, 2078 (2004)
- II-25.** “Coherent Control of Alkali Cluster Fragmentation Dynamics”
A. Lindinger, C. Lupulescu, A. Bartelt, S. Vajda, and L. Wöste,
Spectrochim. Acta **58B**, 1109, (2003)
- II-24.** „One Parameter fs-Pulse Form Control on NaK and Na₂K”
A. Bartelt, A. Lindinger, C. Lupulescu, S. Vajda, and L. Wöste,
Phys. Chem. Chem. Phys. **5**, 3610 (2003)
- II-23.** “Femtosecond Pump-Probe Experiments on Non-Stoichiometric Sodium-Fluoride Clusters:
I. First Direct Experimental Observation of Periodical Structural Changes in Na₂F”
C. Lupulescu, S. Vajda, A. Lindinger, A. Merli, and L. Wöste,
Eur. Phys. J. D **24**, 173 (2003)
- II-22.** “Deciphering the Reaction Dynamics Underlying Optimal Control Laser Fields”
C. Daniel, J. Full, L. González*, C. Lupulescu, J. Manz, A. Merli, S. Vajda*, and L. Wöste,
Science **299**, 536 (2003)
- II-21.** “Comparative Investigations of the Phase Shift Distribution by Interferometric Phase Microscopy and fs-Laser-Pulse Analysis on Biological Cells”
J. Beuthan, O. Minet, S. Vajda, and G. Müller
Laser Phys. (Laser Methods in Medicine and Biology) **13**, 765 (2003)
- II-20.** “Control of Photoinduced Processes by Optimally Shaped Laser Pulses“

S. Vajda, C. Lupulescu, A. Bartelt, A. Merli, and L. Wöste
Trends. Opt. Photonics) **22**, 475 (2002)

- II-19.** “Observation and Theoretical Description of the Periodic Geometric Rearrangement in Electronically Excited Non-Stoichiometric Sodium-Fluoride Clusters”
S. Vajda, C. Lupulescu, A. Merli, F. Budzyn, and L. Wöste, M. Hartmann, J. Pittner, and V. Bonacic-Koutecký,
Phys. Rev. Lett. **89**, 213404-1 (2002)
- II-18.** “Analysis and Control of Ultrafast Photodissociation Processes in Organometallic Molecules“
S. Vajda, P. Rosendo-Francisco, C. Kaposta, M. Krenz, C. Lupulescu, and L. Wöste
Eur. Phys. J. D **16**, 161 (2001)
- II-17.** “Control of Wavepacket Dynamics in Mixed Alkali Metal Clusters by Optimally Shaped fs Pulses“
A. Bartelt, S. Minemoto, C. Lupulescu, S. Vajda, and L. Wöste
Eur. Phys. J. D **16**, 127 (2001)
- II-16.** “Analysis and Control of Laser Induced Fragmentation Processes in CpMn(CO)₃ “
C. Daniel, Jürgen Full, L. González*, C. Kaposta, M. Krenz, C. Lupulescu, J. Manz, Sh. Minemoto, M. Oppel, P. Rosendo-Francisco, S. Vajda* and L. Wöste
Chem. Phys. **267**, 247 (2001), Special Issue on “*Laser Control of Molecular Dynamics*“, Guest Editors : R. de Vivie-Riedle, H. Rabitz, and K. Kompa
- II-15.** “Feedback Optimization of Shaped Femtosecond Laser Pulses for Controlling the Wavepacket Dynamics and Reactivity of Mixed Alkaline Clusters“
S. Vajda, A. Bartelt, C. Kaposta, T. Leisner, C. Lupulescu, S. Minemoto, P. Rosendo-Francisco , and L. Wöste
Chem. Phys. **267**, 231 (2001), Special Issue on “*Laser Control of Molecular Dynamics*“, Guest Editors : R. de Vivie-Riedle, H. Rabitz, and K. Kompa
- II-14.** “Ultrafast Fragmentation and Vibrational Dynamics of Triatomic Hetero- and Homonuclear Alkali Metal Clusters“
P. Rosendo-Francisco, C. Lupulescu, B. Baptist, and S. Vajda
J. Chin. Chem. Soc. **47**, 705 (2000)
- II-13.** “Reactions of Size-Selected Metal Cluster Ions“
S. Vajda, T. Leisner, S. Wolf , L. Wöste,
Philos. Mag. B **79**, 1353 (1999)
- II-12.** “The Relaxation from Linear to Triangular Ag₃ Probed by Femtosecond Resonant Two-Photon Ionization“
T. Leisner, S. Vajda, S. Wolf , L. Wöste, and R.S. Berry
J. Chem. Phys. **111**, 1017 (1999)
- II-11.** “Observation of Predissociated Excited States in Mixed Alkali Trimer Clusters Na₂K and K₂Na: Time-Resolved Spectroscopy of Bound-Free Transitions“
S. Vajda, S. Rutz, J. Heufelder, P. Rosendo, H. Ruppe, P. Wetzel, and L. Wöste
J. Phys. Chem. A **102**, 4066 (1998), Special Issue: *Femtochemistry III*

- II-10.** “Reactions of Size-Selected Positively Charged Nickel Clusters with Carbon Monoxide in Molecular Beams“
S. Vajda, S. Wolf, T. Leisner, U. Busolt, L. Wöste, and D. J. Wales
J. Chem. Phys. **107**, 3492 (1997)
- II-9.** “Angular Dependences of Third Harmonic Generation from Microdroplets“
J. Kasparian, B. Krämer, J.P. Dewitz, S. Vajda, P. Rairoux, B. Vezin, V. Boutou, T. Leisner, W. Hübner, J.P. Wolf, L. Wöste, and K.H. Bennemann,
Phys. Rev. Lett. **78**, 2952 (1997)
- II-8.** “Picosecond Tryptophan Fluorescence of Human Blood Serum Orosomucoid“
M. Hof, S. Vajda, V. Fidler, and V. Karpenko
Collect. Czech. Chem. Commun. **61**, 808 (1996)
- II-7.** “Femtosecond through Nanosecond Time Scale Solvation Dynamics in Pure Water and Inside the γ -Cyclodextrin Cavity“
S. Vajda, R. Jimenez, E.W. Castner, Jr., S.J. Rosenthal, V. Fidler, and G.R. Fleming
J. Chem. Soc. Faraday Transactions **91**, 867 (1995)
- II-6.** “Nanosecond Fluorescence of Tryptophans in Cytochrome P450_{SCC} (CYP 11 A1): Effect of Substrate Binding“
P. Anzenbacher, J. Hudecek, S. Vajda, V. Fidler, C. Laroque, and R. Lange
Biochem. Biophys. Res. Commun. **181**, 1493 (1991)
- II-5.** “Time-Resolved Fluorescence Study of Polymethine J-Aggregates“
K.H. Feller, M. Gadonas, V. Krasauskas, V. Fidler, and S. Vajda
Laser Chem. **11**, 1 (1991)
- II-4.** “Time-Resolved Fluorescence Study of Chain Dynamics. I. Poly(Methacrylic Acid) in Dilute Water Solutions“
B. Bednar, S. Vajda, V. Fidler, J. Trnena, P. Svoboda, and K. Prochazka
Macromolecules **24**, 2054 (1991)
- II-3.** “Time-Resolved Fluorescence Study of Micellizing Block Copolymers“
K. Prochazka, S. Vajda, V. Fidler, B. Bednar, E. Mukhtar, M. Almgren, and A.S. Holmes
J. Mol. Struct. **219**, 377 (1990)
- II-2.** “Study of Polymer Chain Dynamics in Solution by Time-Resolved Spectrofluorometry“
V. Fidler, S. Vajda, Z. Limpouchova, K. Prochazka, and B. Bednar
Collect. Czech. Chem. Commun. **54**, 3011 (1989)
- II-1.** “Nanosecond Fluorometry of the Single Tryptophan in Cytochrome 450_e (P450 II B2)“
P. Anzenbacher, J. Hudecek, S. Vajda, and V. Fidler
Biochem. Biophys. Res. Commun. **162**, 921 (1989)

III. Talks at International Conferences

- III-39.** Partial Oxidation Reactions on Size-Selected Clusters: Towards the Understanding of the Size/Shape & Function Relationship in Catalysis
XIV International Symposium on Small Particles and Inorganic Clusters, September 15-19, 2008, Valladolid, Spain
Invited talk
- III-38.** “Nanocatalysis on Size-Selected Clusters under Realistic Reaction Conditions: Towards the Understanding of the Size/Shape & Function Relationship in Catalysis“
The 2008 PIRE Workshop on Grand Challenges for Catalysis, August 10-15 , 2008, Santa Barbara, California
Invited talk
- III-37.** “Nanocatalysis on Size-Selected Clusters under Realistic Reaction Conditions“
International Conference on Clusters at Surfaces 2008, May 25-29, 2008, Rostock-Warnemünde, Germany
Invited talk
- III-36.** “Supported Size-Selected Clusters in Partial Oxidation Reactions: Selective Bond Activation under Realistic Reaction Conditions“
Air Force Office of Scientific Research Contractors' Meeting 2008, May 17-19, 2008, Irvine, California, USA
Invited talk
- III-35.** “Cluster-Based Materials: Novel Nanomaterials with Distinct Size-Dependent Chemical & Physical Properties”
S. Vajda, S. Lee, Y. Lei, L.A. Curtiss, J.P. Greeley, P.C. Redfern, M.J. Pellin, J.W. Elam, B. Lee, S. Seifert, R.E. Winans, G.P. Wiederrecht, R.J. Meyer, A. Kleibert, K. Sell, V. von Oeynhausen, K.H. Meiwes-Broer, A. Fraile-Rodríguez, L. M. Molina, M. J. López and J. M. Alonso
ACS Spring Meeting, New Orleans, April 6-10, 2008
Invited talk
- III-34.** “Free and Supported Clusters and Molecules:
I. Dynamics in Small Molecules and Clusters: From Analysis to Control
II. Clusters as Atomic Precision Building Blocks of Novel Nanomaterials“
VIth Prague Workshop on Photoinduced Molecular Processes, April 2-5, Prague, Czech Republic, 2008
Invited talk
- III-33.** Had to withdraw due to a conflict with two talks to be given at the VIth Prague Workshop on Photoinduced Molecular Processes
22nd Organic Reactions Catalysis Society, March 30-April 3 , 2008, Richmond, VA
Talk
- III-32.** “Towards the Understanding of Size/Shape and Function Relationship in Catalysis of Complex Reactions”

Frührjahrstagung der Deutschen Physikalischen Gesellschaft -The 2008 Spring Meeting of the German Physical Society, Berlin, Germany, February 25-29, 2008
Invited plenary talk

- III-31.** "Clusters and Cluster-Based Nanostructures: New Materials with Distinct Physical and Chemical Properties"
Gordon Research Conference on Clusters, Nanocrystals and Nanostructures,
Mont Holyoke College, Massachusetts, July 29-August 3, 2007
Invited main talk on New Materials.
- III-30.** "Highly Selective Partial Oxidation Reactions on Size-Selected Nanocatalysts: Towards the Understanding of Size/Shape & Function Relationship in Catalysis"
US-China Workshop on Catalysis and Surface Science, Dalian, China, June 27-29 2007
Invited plenary lecture
- III-29.** "Supported Size-Selected Clusters as Model Nanocatalysts for Highly Selective and Efficient Oxidation Reactions"
XII ISMB, Freiburg, Germany, May 27-June 1, 2007
Invited hot topic talk
- III-28.** "Highly Selective Catalytic Oxidation Reactions:I. Oxidative Dehydrogenation of Propane by Size-Selected Platinum Catalysts and II. Oxidation of Alkenes on Size-Selected Silver and Gold Clusters and Nanoparticles"
233rd ACS Spring Meeting, Chicago, Illinois, USA, March 25-29, 2007
Talk
- III-27.** "Size-Selected Cluster Based Catalysts: Physical and Chemical Properties Studied by GISAXS, Mass Spectrometry and UV-VIS Spectroscopy"
APS Meeting 2007, Denver, Colorado USA, March 5-9, 2007
Talk
- III-26.** "GISAXS Studies of Gold and Platinum Nanoparticles Formed by Atomic Cluster Deposition."
The 2006 Meeting of the American Crystallographic Association, July 22-27, 2006, Honolulu, Hawaii, USA
Invited talk
- III-25.** "Highly Stable Cluster-Based Au and Pt Model Nanocatalysts on Oxide Surfaces: Synthesis, Characterization and Catalytic Properties"
International Conference on Clusters at Surfaces, May 28- June 2 , 2006, Rostock-Warnemünde, Germany
Invited talk
- III-24.** "Highly Stable Cluster-Based Au and Pt Model Nanocatalysts on Oxide Surfaces: Synthesis, Characterization and Catalytic Properties"
The 2006 Catalysis Club of Chicago Spring Meeting, May 16, 2006, Naperville, Illinois, USA
Talk
- III-23.** Had to turn the invitation down due to a conflict with a talk given at the March APS meeting

Vth Prague Workshop on Photoinduced Molecular Processes, March 12 - 14, 2006, Prague,
Czech Republic
Invited Talk

- III-22.** “Highly Stable Gold and Platinum Model Nanocatalysts Fabricated from Size-Selected Clusters”
231th American Chemical Society Meeting, Atlanta, Georgia, USA, March 26-30, 2006
Oral presentation
- III-21.** “Supported Gold and Platinum Clusters: Stability under Vacuum and Hydrogen at Elevated Temperatures; Optical Properties”
American Physical Society 2006 March Meeting, Baltimore, Maryland, USA, March 13-17, 2006
Oral presentation
- III-20.** “Supported Gold Clusters and Cluster-Based Nanomaterials: Characterization, Stability and Growth Studies by *In Situ* Grazing Incidence X-ray Small Angle Scattering”
19th North American Catalytic Society Meeting, Philadelphia, USA, May 22-27, 2005
Oral presentation
- III-19.** “Supported Gold Clusters and Cluster-Based Nanoparticles: In Situ Grazing Incidence X-ray Small Angle Scattering Studies of Stability and Growth in Vacuum and in the Presence of Reactive Gases”
2005 Catalysis Club of Chicago Spring Meeting, Naperville, USA, May 18-19, 2005
Talk
- III-18.** “*In Situ* GISAXS Studies of the Thermal Stability and Temperature Induced Growth of Supported Cluster-Based Platinum and Gold Nanoparticles “
229th American Chemical Society Meeting, San Diego, USA, March 13-18, 2005
Invited talk
- III-17.** “Gas-Phase Dynamics in Small Molecules and Clusters: From Analysis to Control “
APS Workshop on Time Domain Science Using X-ray Techniques, Fontana, Wisconsin, USA, August 29-September 1, 2004
Invited talk
- III-16.** “Control of Photoinduced Processes by Optimally Shaped Laser Pulses: From Diatomics to Organometallic Molecules. Information Content Coded in the Pulse Forms “
Ultrafast Phenomena XIII, Vancouver, Canada, 2002, Book of Abstracts, p. 475
Oral presentation
- III-15.** “A New Insight into the Control of Molecular Dynamics in Organometallic Molecules: Interpretation of the Optimized Pulse Shapes in the Light of sub-40 fs Pulses “
Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Osnabrück, 2002,
Verhandlungen der Deutschen Physikalischen Gesellschaft 1/2002, p.68, MO 14.5,
Oral presentation
- III-14.** “Control of Ultrafast Chemical Processes in Molecules and Aggregates“
SFB 450 Workshop: “Analysis and Control of Ultrafast Photoinduced Reactions”, Berlin,

Germany, November 22-24, 2001,
Invited talk

- III-13.** “Alkaline Clusters - Model systems for Laser Coherent Control“
Clustertreffen 2001, Herzogenhorn, Germany, October 2-7, 2001,
Invited talk
- III-12.** “Fragmentation Control of Small Alkaline Clusters: What Can we Learn from the Optimized Pulse Shapes?”
Gordon Conference on „Quantum Control of Atomic & Molecular Motion“, Mont Holyoke College, South Hadley, Massachusetts, U.S.A., 2001
Hot topics lecture
- III-11.** “The Use of Ultrafast Lasers in the Analysis and Control of Photoinduced Processes“
3rd Prague Workshop on Molecular Photophysics and Dynamics, Prague, Czech Republic, 2001, *Book of Abstracts*, p.32,
Invited talk (conference opening lecture)
- III-10.** “The Use of Ultrafast Lasers in the Analysis and Control of Photoinduced Processes in Small Molecules and Clusters“
Belorussian-German Seminar „Lasers and Their Applications“, Grodno/Minsk, Belarus, 2000, Technical Programm & Abstracts, p.50,
Invited talk
- III-9.** “Analysis and Control of Ultrafast Photoinduced Reactions“
Clustertreffen 2000, Rostock, Germany, May 25-26, 2000,
Talk
- III-8.** “Ultrafast Vibrational and Fragmentational Dynamics of Triatomic Homogeneous and Heterogeneous Alkali Metal Clusters“
XI International Symposium „Ultrafast Phenomena in Spectroscopy“, Taipei, Taiwan, R.O.C., 1999,
Talk
- III-7.** “Fragmentation of Small Molecules and Clusters Studied by Femtosecond Spectroscopy in Molecular Beams“
Clustertreffen 1999, Sassnitz, Rügen, Germany, 1999,
Talk
- III-6.** “Time-Resolved Spectroscopy of Bound-Free Transitions in Mixed Alkali Trimer Clusters Na₂K and K₂Na in Molecular Beams“
Informal Cluster Workshop, Berlin, Germany, 1998,
Invited talk
- III-5.** “Reactions of Size-Selected Positively Charged Nickel Clusters with Carbon Monoxide in Molecular Beams“
Informal Cluster Workshop, Berlin, Germany, 1997,
Invited talk

- III-4.** “Reactions of Size Selected Positively Charged Nickel Clusters with CO“
Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Rostock, 1996,
Verhandlungen der Deutschen Physikalischen Gesellschaft 4/1996, p.535, A7.4
Talk
- III-3.** “Spectroscopy on Size-Selected Nickel-Carbonyl Clusters: Study of the Femtosecond Time Evolution of the Neutral Clusters“
XVIIth International Conference on Photochemistry, London, England,
July 30-August 5, 1995, *Book of Abstracts*, p. O5
Oral presentation
- III-2.** “Dynamics of Solvent Relaxation in Pure Water and in the γ -Cyclodextrin Cavity“
Annual Meeting of the Working Committee for Reaction Kinetics and Photochemistry of the Hungarian Academy of Sciences, Kecskemét, Hungary, 1994,
Invited talk
- III-1.** “Dynamics of Solvent Shell and Ionic Sphere Relaxation: A Time-Resolved Fluorescence Study“
Central European Photochemistry Conference, Krems, Austria, 1993, Abstracts
p. L-7,
Invited talk

IV. Talks at Universities and Scientific Institutes

- IV-43.** Fritz-Haber-Institut der Max-Planck Gesellschaft and Berlin Universities, Berlin, Germany
2008
“Partial Oxidation Reactions on Size-Selected Clusters Studied under Realistic Reaction Conditions”
Joint Seminar of the Fritz-Haber-Institute and DFG Research Center SFB 546 “Structure, Dynamics and Reactivity of Transition Metal Oxide Aggregates”
- IV-42.** Czech Academy of Sciences, Heyrovsky Institute, Prague, Czech Republic, 2008
“Nanocatalysis on Size-Selected Clusters under Realistic Reaction Conditions”
Theoretical Department Seminar
- IV-41.** Argonne National Laboratory, Chemical Sciences and Engineering Division and Center for Nanoscale Materials Joint Technical Seminar, Argonne, Illinois, USA, 2008
“Nanocatalysis under Realistic Reaction Conditions: Does Size Matter?”
Joint Divisional Seminar
- IV-40.** University of California at Santa Barbara, Department of Chemistry and Biochemistry, USA, 2008
“The Effect of Size and Composition of Highly Monodisperse Nanocatalysts in Selective Partial Oxidation Reactions”
Catalysis & Surface Science Colloquium

- IV-39.** Technische Universität München, Fachbereich Chemie, Garching, Germany, 2008
“Size and Shape Effects in Catalysis of Partial Oxidation Reactions”
Seminar
- IV-38.** University of Southern California in Los Angeles, Department of Physics and Astronomy, USA 2008
"Clusters and Cluster-Based Nanostructures: New Materials with Distinct Physical and Chemical Properties"
Physics Colloquium
- IV-37.** University of Notre Dame, Indiana, USA, 2007
“Towards the Understanding of the Size/Shape and Function Relationship in Catalysis of Complex Reactions”
Physical Colloquium
- IV-36.** Central Michigan University, Physics Department, Pleasant, Michigan, USA, 2007
“Free and Supported Clusters and Molecules: I. Dynamics in Small Molecules and Clusters: From Analysis to Control & II. Clusters as Atomic Precision Building Blocks of Novel Nanomaterials
Institute Seminar
- IV-35.** Advanced Photon Source, Argonne National Laboratory, USA, 2007
“Highly Selective Partial Oxidation Reactions on Size-Selected Nanocatalysts: Towards the Understanding of Size/Shape & Function Relationship in Catalysis using *in situ* GISAXS and Mass Spectrometry”
Joint Small Angle X-ray Scattering Scientific Interest Group & Catalysis Scientific Interest Group Seminar
- IV-34.** Center for Nanoscience and Condensed Matter & Université Marseille, Marseille, France, 2007
“Supported Size-Selected Clusters as Model Nanocatalysts for Highly Selective and Efficient Oxidation Reactions“
Colloquium
- IV-33.** Universität Stuttgart, Institute für PhysikalischeChemie, Stuttgart, Germany, 2007
“Size & Shape Effects in Oxidation Catalysis: Size-Selected Nanocatalysts Supported on Technologically Relevant Oxides Studied under Realistic Reaction Conditions“
Institute Colloquium, joint with DFG Research Center for "Catalytic Selective Activation of C-H bond with Molecular Oxygen"
- IV-32.** Technische Universität München, Fachbereich Chemie, Garching, Germany, 2007
“Supported Size-Selected Clusters as Model Nanocatalysts for Highly Selective and Efficient Oxidation Reactions“
Institute Seminar
- IV-31.** Argonne National Laboratory, Materials Science Division, 2006
“Cluster-Based Au and Pt Model Nanocatalysts on Oxide Supports: Synthesis, Stability and Catalytic Properties “
Colloquium

- IV-30.** Czech Academy of Sciences, Jaroslav Heyrovský Institute of Physical Chemistry, Prague, Czech Republic, 2006
“Highly Stable Cluster-Based Au and Pt Model Nanocatalysts on Oxide Supports: Synthesis, Characterization & Catalytic Properties“
Institute Seminar
- IV-29.** Freie Universität Berlin, Institute für Experimentalphysik, Berlin, Germany, 2006
“Cluster-Based Au and Pt Model Nanocatalysts on Oxide Supports: Synthesis, Stability and Catalytic Properties“
Institute Seminar
- IV-28.** Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany, 2006
“Cluster-Based Au and Pt Model Nanocatalysts on Oxide Supports: Stability and Catalytic Properties“
Departmental Seminar
- IV-27.** University of Illinois at Chicago, Chicago, Illinois, Department of Chemical Engineering, 2006
“Highly Stable Cluster-Based Au and Pt Model Nanocatalysts on Oxide Supports: Synthesis, Characterization & Catalytic Properties“
Departmental Seminar
- IV-26.** JILA & Chemistry Division of the University of Colorado, Boulder, Colorado, 2006
“Grazing Incidence Small Angle X-Ray Scattering Studies of Gold and Platinum Nanoparticles Produced by Cluster Deposition“
Physical Chemistry and Chemical Physics Colloquium
- IV-25.** Colorado School of Mines, Golden, Colorado, 2006
“Synchrotron X-Ray Studies of Gold and Platinum Nanoparticles Formed by Atomic Cluster Deposition.“
Physics Colloquium
- IV-24.** Brown University, Providence, Rhode Island, 2006
“Supported Platinum and Gold Clusters: Synthesis; X-ray Studies of Thermal Stability; UV-VIS Properties“
Department Seminar
- IV-23.** Purdue University, West Lafayette, Indiana, 2006
“Supported Gold and Platinum Clusters & Cluster-Based Nanomaterials“
Center for Catalyst Design Seminar
- IV-22.** The University of Chicago Hospital, Chicago, Illinois, 2005
“Sub-nm to 10 nm Size Gold Particles: Fabrication, Characterization & Properties“
Argonne National Laboratory/University of Chicago Hospital Department of Radiation and Cellular Oncology, „Nanoparticles for Medical Applications Meeting”
- IV-21.** Michigan State University, Department of Physics and Astronomy, East Lansing, Michigan, USA, 2005
“Perspectives of Time-Resolved Cluster Studies“

Seminar

- IV-20.** Michigan State University, East Lansing, Michigan, USA, 2005
“Supported Gold and Platinum Clusters: Synthesis, X-ray Studies of Thermal Stability, UV-VIS Properties “
Condensed Matter Physics, Institute Seminar
- IV-19.** Slovak Chemical Society, Slovak Academy of Sciences, International Laser Centrum and Comenius University joint seminar, 2005
“Supported Gold and Platinum Clusters & Cluster-Based Nanomaterials“
Opening talk of the lecture Series “Chemical Horizons”, Bratislava, Slovakia
- IV-18.** Universität Konstanz, Department of Physics, Konstanz, Germany, 2004
“GISAXS Studies of the Temperature Induced Growth of Supported Platinum and Gold Nanoparticles “
Seminar
- IV-17.** Freie Universität Berlin, Institute of Experimental Physics, Berlin, Germany, 2004
“GISAXS Studies of the Temperature Induced Growth of Supported Platinum and Gold Nanoparticles “
Seminar
- IV-16.** Universität Ulm, Department of Surface Chemistry and Catalysis, Ulm, Germany, 2004
“Temperature Induced Growth of Supported Platinum and Gold Nanoparticles “
Institute Seminar
- IV-15.** Ecole Polytechnique Fédérale de Lausanne, Institute of Experimental Physics, Lausanne, Switzerland, 2004
“Temperature Induced Growth of Supported Clusters “
Institute Seminar
- IV-14.** University of Notre Dame, Chemistry Division, Notre Dame, Indiana, USA, 2004
“Temperature Induced Growth of Supported Clusters“
Seminar
- IV-13.** Argonne National Laboratory, Chemistry Division, Argonne, Illinois, USA, 2004
“Ultrafast Dynamics in Small Clusters and Molecules: From Analysis to Control“
Division Seminar
- IV-12.** Argonne National Laboratory, Argonne Partnership Committee Meeting, Argonne, Illinois, USA, 2003
“Cluster-Based Catalysis“
Talk
- IV-11.** Freie Universität Berlin, Berlin, Germany, 2003
“Nanocatalysts: The Smaller the Better?”
Habilitation Talk
- IV-10.** Czech Technical University, Department of Physical Engineering, Prague, Czech Republic,

2002

“Ultrafast Lasers as a Tool in the Analysis and Control of Photoinduced Processes in Small Molecules and Clusters“
Institute Seminar

- IV-9.** Czech Academy of Sciences, J. Heyrovsky Institute for Physical Chemistry, Prague, Czech Republic, 2002
“Photophysics on the Femtosecond Time-Scale: Active Control of Photodissociation Processes“
Institute Seminar
- IV-8.** Argonne National Laboratory, Chemistry Division, Argonne, IL, U.S.A., 2001
“Analysis and Control of Photoinduced Processes in Small Molecules and Clusters“
Division Seminar
- IV-7.** Technical University of Brandenburg in Cottbus, Cottbus, Germany, 2000
„The Use of Ultrafast Lasers in the Analysis and Control of Photoinduced Processes in Small Molecules and Clusters“
Institute Colloquium
- IV-6.** Freie Universität Berlin, Institute for Laser- and Medicine Technology Berlin, Germany, 2000
“Generation and Characterization of Modulated Ultrashort Laser Pulses“
Institute Colloquium
- IV-5.** Freie Universität Berlin, Institute of Physics, Berlin, Germany, 1999
“Laser Control of Photodissociation in CpMn(CO)₃“
SFB 450 Research Project Colloquium
- IV-4.** University Rostock, Rostock, Germany, 1998
“Observation of Predissociated Excited States in Mixed Alkali Trimer Clusters Na₂K and K₂Na: Time-Resolved Spectroscopy of Bound-Free Transitions“
Seminar
- IV-3.** Freie Universität Berlin, Institute of Physics, Berlin, Germany, 1994
“Femtosecond and Picosecond Solvation Dynamics in Pure Water and in the γ-Cyclodextrin Cavity“
Group Seminar
- IV-2.** Brookhaven National Laboratory, Upton, New York, U.S.A., 1992
“Polymer Chain Dynamics and Solvent Relaxation Studied by Time-Resolved Fluorescence Spectroscopy“
Talk
- IV-1.** The University of Chicago, Department of Chemistry, Chicago, U.S.A., 1991,
“A Time-Resolved Fluorescence Study of : 1. Polymer Chain Conformational Changes and 2. Micellization of Block-Copolymers“
Talk

V. Posters

- V-66.** “Towards the Understanding of the Size and Shape Effects in Catalysis: Combined In situ GISAXS and TPR Studies on Uniform Catalysts”
S. Lee, Y. Lei, B. Lee, S. Seifert, R. Winans, A. Kleibert, V. Von Oyenhausen, K.-H. Meiwes-Broer, K. Sell, I. Barke and S. Vajda
Grand Challenges of Electron Chemistry and Catalysis at Interfaces, Workshop co-hosted by the PIRE-ECCI and ICMR, Santa Barbara, California: August 10-15, 2008,
Poster
- V-65.** “Epoxidation of Propylene on Al₂O₃ Supported Ag Trimers”
Y. Lei, S. Lee, B. Lee, S. Seifert, J. Elam, R. Meyer, M. Pellin, R. Winans and S. Vajda
Grand Challenges of Electron Chemistry and Catalysis at Interfaces, Workshop co-hosted by the PIRE-ECCI and ICMR, Santa Barbara, California: August 10-15, 2008,
Poster
- V-64.** “Theoretical and Experimental Studies of Propane Dehydrogenation on Sub-nanometer Pt Clusters: Unique Activity and Selectivity to Propylene”
J. Greeley, P. Redfern, L. Curtiss, S. Vajda, M. Pellin, S. Mucherie, C. Marshall, J. Elam
14th International Congress on Catalysis,
Seoul, Korea, July 13-18, 2008
Poster
- V-63.** “*In-situ* GISAXS and TPR Characterization of Uniform Nanocatalysts under Realistic Reaction conditions: A Novel Combination of Synthesis and Characterization Approaches for the Understanding of the Size/Shape and Function Relationship in Catalysis”
S. Lee, Y. Lei, B. Lee, S. Seifert, R. E. Winans, J. W. Elam, M. J. Pellin, K. Sell, A. Kleibert, V. von Oeynhausen, K.-H. Meiwes-Broer, A. Fraile-Rodríguez, S. Vajda
14th International Congress on Catalysis,
Seoul, Korea, July 13-18, 2008
Poster
- V-62.** “Size and Composition Optimized Nanocatalysts for Propulsion Applications”
L. Pfefferle, M. Flytzani-Stephanopoulos, R. Gorte, G. Haller, C. McEnally, M. Neurock,, Vajda, L. Curtiss, P. Fornasiero, J. Greeley
AFOSR Nanocatalysis MURI Kick-Off Meeting
Washington, D.C., USA, June 20, 2008
Poster
- V-61.** “Epoxidation of Propylene on Alumina Supported Ag₃ Clusters”
Y. Lei, S. Lee, B. Lee, S. Seifert, J. Elam, R. Meyer, M. Pellin, R. Winans and S. Vajda
Catalysis Club of Chicago Meeting,
Lisle, Illinois, USA, May 15, 2008
Poster
- V-60.** “Highly Selective Oxidation Reactions on Size-Selected Cluster Based Catalysts”
S. Vajda, G. E. Ballentine, J. W. Elam, C. L. Marshall, S. Mucherie, M. J. Pellin, B. Lee, S. Lee , Y. Lei, C. Lo, R. Meyer, S. Seifert, R. E. Winans, A. Kleibert, K. Sell, V. von Oyenhausen, K.-H. Meiwes-Broer and A. Fraile-Rodríguez

AFOSR Molecular Dynamics Contractors' Meeting 2007
Irvine, California, USA, May 20-22, 2007
Poster

- V-59.** "Size-Selected Cluster Based Catalysts: Physical and Chemical Properties Studied by GISAXS, Mass Spectrometry and UV-VIS Spectroscopy"
S. Vajda, G. E. Ballentine, A. Bouhelier, J. M. Calo, J. W. Elam, C. L. Marshall, S. Mucherie, B. Lee, C.-T. Lo, M. J. Pellin, S. Seifert, G. P. Wiederrecht, R. E. Winans⁶
The 2007 Center for Nanoscale Materials and Advanced Photon Source Users Meeting
May 7-12, 2007, Argonne, Illinois, USA
Poster
- V-58.** "Towards the Understanding of Size/Shape & Function Relationship in Catalysis: Uniform Silver Catalysts Supported on Technologically Relevant Oxides Studied under Realistic Reaction Conditions"
Y. Lei, S. Lee, B. Le, C. Lo, J.W. Elam, R. J. Meyer, M. J. Pellin, S. Seifert, R. E. Winans, K. Sell, A. Kleibert, V. von Oyenhausen, K.-H. Meiwes-Broer, A. Fraile-Rodríguez and S. Vajda
Catalysis Club of Chicago Meeting,
Chicago, Illinois, USA, May 16, 2007
Poster
- V-57.** "GISAXS Studies of Model Nanocatalysts Synthesized by Cluster Deposition"
S. Vajda, R.E. Winans, G.E. Ballentine, J.W. Elam, B. Lee, M.J. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk
Fifth International Conference on Synchrotron Radiation in Materials Science, July 30-August 2 , 2006, Chicago, Illinois, USA
Poster
- V-56.** "X-Ray Scattering Studies of Gold and Platinum Nanoparticles Formed by Atomic Cluster Deposition."
S. Vajda, R. E. Winans, G. E. Ballentine, J. W. Elam, B. Lee, M. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk
The 2006 Center for Nanoscale Materials and Advanced Photon Source Users Meeting
May 1-5, 2006, Argonne, Illinois, USA
Poster
- V-55.** "Highly Stable Supported Gold and Platinum Model Nanocatalysts: *In Situ* GISAXS Studies under Vacuum Conditions and in the Presence of Hydrogen"
S. Vajda, R. E. Winans, G. E. Ballentine, J. W. Elam, B. Lee, M. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk
2005 Advanced Photon Source Catalysis Workshop, Argonne, USA, September 12-13, 2005
Poster
- V-54.** "Supported Gold Clusters and Cluster-Based Nanomaterials: Stability in Vacuo and in the Presence of Reactive Gases. *In Situ* GISAXS Study."
S. Vajda, R. E. Winans, J. W. Elam, B. Lee, M. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk
2005 Advanced Photon Source Surface Science Workshop, Argonne, USA, September 8-9, 2005

Poster

- V-53.** “Reactivity of Supported Platinum Nanoclusters Studied by In Situ GISAXS “
S. Vajda, R. E. Winans, B. Lee, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk
19th North American Catalytic Society Meeting, Philadelphia, USA, May 22-27, 2005
Poster
- V-52.** “In situ X-ray Scattering: An Ideal Tool to Observe the Fundamental Chemistry and Physics of the Nucleation and Growth of Carbonaceous Particles“
J.P. Hessler, R.S. Tranter, S. Vajda, N.V. Wermeskerken
2005 Annual Meeting of the American Crystallographic Association, Lake Buena Vista, FL, USA, May 28 – June 2, 2005
Poster
- V-51.** “In Situ GISAXS Study of the Reactivity of Supported Metal Nanoclusters“
R.E. Winans, S. Vajda, B. Lee, S. Seifert, G.Y. Tikhonov, N.A. Tomczyk
2005 Annual Meeting of the American Crystallographic Association, Lake Buena Vista, FL, USA, May 28 – June 2, 2005
Poster
- V-50.** “Gold Clusters and Cluster-Based Nanomaterials Supported on Oxide Surfaces and Self-Assembled Monolayers: Stability, Growth & Optical Properties “
S. Vajda, J. W. Elam, B. Lee, M. Lieberman, M. J. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk, G. Wiederrecht, R. E. Winans,
2005 User Meeting for the Advance Photon Source and Center of Nanoscale Materials, Argonne, Illinois, USA, May 2-6, 2005
Poster
- V-49.** “Gold Clusters and Cluster-Based Nanomaterials on Oxide Surfaces and Self-Assembled Monolayers: Stability, Aggregation & Optical Properties “
S. Vajda, J. W. Elam, B. Lee, M. Lieberman, M. J. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk, G. Wiederrecht, R. E. Winans,
ANL 2005 PBCS Retreat, Argonne, Illinois, March 8, 2005
Poster
- V-48.** “Supported Gold Clusters and Cluster-Based Nanoparticles: Characterization, Stability and Growth Studies by In Situ Grazing Incidence Small Angle X-ray Scattering Technique“
S. Vajda, J. W. Elam, B. Lee, M. Lieberman, M. J. Pellin, S. Seifert, G. Y. Tikhonov and N. A. Tomczyk, G. Wiederrecht, R. E. Winans,
Symposium on Size Selected Clusters 2005 (S³C), Brand, Austria, February 28 - March 3, 2005,
Poster
- V-47.** “Stability and Temperature Induced Aggregation of Supported Platinum and Gold Clusters Studied by Grazing Incidence small angle X-ray Scattering “
S.Vajda, J. W. Elam, B. Lee, M. J. Pellin, S. J.Riley, S. Seifert, G. Y. Tikhonov, N. VanWermeskerken (Tomczyk) and R. E. Winans,
LAP 2004 – International Conference on Laser Probing, Argonne, Illinois, USA, October 19-23, 2004
Poster

- V-46.** “Stability and Temperature Induced Aggregation of Supported Platinum and Gold Clusters Studied by Grazing Incidence small angle X-ray Scattering“
 S.Vajda, S. J. Riley, George Y. Tikhonov, B. Lee, S. Seifert, Nancy A. Tomczyk, and R. E. Winans,
ANL-IIT Nanoscience Workshop, Chicago, Illinois, USA, August 25, 2004
Poster
- V-45.** “Temperature Induced Growth of Supported Metal Nanoparticles Studied by Grazing Incidence X-ray Scattering“
 S. Vajda, R. E. Winans, S. J. Riley, G. Y. Tikhonov, S. Seifert, B. Lee, N. Van Wermeskerken
8th European Conference on Atomic and Molecular Physics (ECAMP VIII), Rennes, France,
 June 6-10, 2004
Poster
- V-44.** “Temperature Induced Growth of Supported Metal Nanoparticles Studied by Grazing Incidence X-ray Scattering“
 S. Vajda, R. E. Winans, S. J.Riley, G. Y. Tikhonov, S. Seifert, B. Lee, N. Van Wermeskerken
2004 Spring Symposium of the Catalysis Club of Chicago, Naperville, Illinois, USA,
 May 18, 2004
Poster
- V-43.** “*In Situ* X-ray Scattering: An Ideal Tool to Observe the Fundamental Chemistry and Physics of Particle Nucleation and Growth“
 J.P. Hessler, N. Van Wermeskerken, S. Vajda, and R. E. Winans
2004 Users Meeting of the Advanced Photon Source, Argonne National Laboratory, Argonne,
 Illinois, USA, 2004
Poster
- V-42.** “GISAXS Studies of Temperature Induced Growth of Supported Metal Nanoparticles“
 S. Vajda, R. E. Winans, S. J.Riley, G. Y. Tikhonov, S. Seifert, B. Lee, N. Van Wermeskerken
2004 Users Meeting of the Advanced Photon Source, Argonne National Laboratory, Argonne,
 Illinois, USA, 2004
Poster
- V-41.** “Pump&Probe Spectroscopy Explaining The Optimal Laser Pulse for Maximizing The CpMn(CO)₃ Ion Yield“
 C. Lupulescu, S. Vajda, A. Lindinger, A. Merli, and L. Wöste
Femtochemistry VI, Paris, France, 2003
Poster
- V-40.** “First Pump-Probe Spectroscopy on Non-Stoichiometric Sodium-Fluoride Clusters“
 C. Lupulescu, A. Merli, A. Lindinger, S. Weber, S. Vajda, and L. Wöste
XIth International Symposium on Small Particles and Inorganic Clusters, Strasbourg, France,
 2002, Book of Abstracts, page A-V-15
Poster
- V-39.** “Optimization of the 3-Photon Ionization Process in NaK and Na₂K: Revealing Process-Specific Information from the Optimal Pulse Shapes“

A. Lindinger, A. Bartelt, C. Lupulescu, S. Vajda, and L. Wöste
XIth International Symposium on Small Particles and Inorganic Clusters, Strassbourg, France, 2002, Book of Abstracts, page A-V-14
Poster

- V-38.** “New Insight into the Analysis and Control of Molecular Dynamics in Organometallic Molecules and Sodium-Fluoride Clusters by Using sub-40 fs Laserpulses“
S. Vajda, C. Lupulescu, A. Merli, and L. Wöste
International Workshop on „Quantum Dynamical Concepts: From Diatomics to Biomolecules”, Max-Planck-Institut für Physik Komplexer Systeme, Dresden, 2002
Poster
- V-37.** “Feedback Control Studies of Molecular Systems with Increasing Complexity: Fragmentation and Ionization of Alkaline Clusters with Optimally Shaped fs-Pulses“
A. Bartelt, C. Lupulescu, S. Vajda, and L. Wöste
6th Femtochemistry Conference, Toledo, Spain, 2001, *Book of Abstracts*, p. PII 13,
Poster
- V-36.** “Controlling the Vibration and Dissociation Dynamics in Triatomic Alkali-Metal Clusters“
S. Vajda, C. Lupulescu, A. Bartelt, P. Rosendo-Francisco, and L. Wöste
6th Femtochemistry Conference, Toledo, Spain, 2001, *Book of Abstracts*, p. PI 26,
Poster
- V-35.** “Analysis and Feedback-Control of Ultrafast Fragmentation Processes in Organometallic Molecules“
C. Lupulescu, P. Rosendo-Francisco, M. Krenz, C. Kaposta, F. Budzyn, S. Vajda, and L. Wöste
6th Femtochemistry Conference, Toledo, Spain, 2001, *Book of Abstracts*, p. PII 08,
Poster
- V-34.** “Time-resolved Spectroscopy of Alkali Halide Clusters“
F. Budzyn, C. Lupulescu, M. Krenz, S. Vajda and L. Wöste
ECAMP 7 & Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Berlin, 2001,
Verhandlungen der Deutschen Physikalischen Gesellschaft 5/2001, p.42, *MO A 1.5*, *Poster*
- V-33.** “Characterization of Ultrafast Fragmentation Processes and Feedback Control in Organometallic Molecules“
C. Lupulescu, M. Krenz, C. Kaposta, F. Budzyn, P. Rosendo-Francisco, S. Vajda and L. Wöste
ECAMP 7 & Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Berlin, 2001,
Verhandlungen der Deutschen Physikalischen Gesellschaft 5/2001, p.132, *MO 8.5*, *Poster*
- V-32.** “Feedback Optimal Control of Wavepacket Dynamics in Small Mixed Alkali Metal Clusters“
A. Bartelt, S. Minemoto, C. Lupulescu, S. Vajda and L. Wöste
ECAMP 7 & Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Berlin, 2001,
Verhandlungen der Deutschen Physikalischen Gesellschaft 5/2001, p.118, *MO 1.18*, *Poster*
- V-31.** “Control of Wavepacket Dynamics in Mixed Alkali-Trimmers by Optimally Shaped Femtosecond Puses“
A. Bartelt, Sh. Minemoto, T. Leisner, S. Vajda, and L. Wöste

Xth International Symposium on Small Particles and Inorganic Clusters, Atlanta, U.S.A., 2000,
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