

Invited Lectures

1. Quantum Information in chemistry, CUNY Graduate Center, Initiative for the Theoretical Sciences, “Quantum machine learning for electronic structure calculations”, Dec. 3, 2021.
2. MIT, Physical Chemistry Seminar, Quantum information and quantum computing for complex systems”, November 2, 2021.
3. UIPD (Innovative Approaches to University-Industry Collaboration) Webinar, Purdue Center for Quantum technology”, Nov. 8, 2021.
4. Center for Quantum Technology (CQT) at Purdue, Planning Meeting, CQT Vision, Capabilities, Value Proposition and Workforce Development”, September 30, 2021.
5. Virtual Learning University, Morocco, Quantum information and quantum computing for complex systems”, October 16, 2021.
6. The Solemn plenary session on “Quantum Commuting”, February 22-24, 2022, of The Hassan II Academy of Science and Technology, Morocco.
7. Boeing, “Quantum Machine Learning for Complex Systems”, Wednesday, September 22, 2021
8. IBM Qiskit Series, Quantum Machine Learning for Complex Chemical Systems”, Friday August 27, 2021.
9. ACS Meeting, “Quantum machine learning for electronic structure calculations of 2D materials on quantum computing devices” Synergy Between Quantum Computing and High-Performance Computing in Quantum Chemistry and Materials Science”, April 12, 2021.
10. ONLINE Lorentz-CECAM workshop 'Useful Quantum Computing for Quantum Chemistry' (22-26 February 2021), Quantum Algorithms for Evolving Open Quantum Dynamics, Feb. 25th , 2021.
11. Purdue University, MacCoy Award Distinguished Lecture, Quantum Information and Quantum Computing for Complex Chemical Systems, October 28, 2019.
12. Harvard University, Department of Physics (Harvard Quantum Initiative) , “Quantum Machine Learning for Complex Systems”, November 6, 2019.
13. Colloquium at the Department of Chemistry and Computer Science, “Quantum Information and Quantum Computing for Complex Chemical Systems”, Marquette University, Milwaukee, WI, September 27, 2019.
14. DOE PIs meeting, “Quantum Computing Algorithms and Applications for Complex Chemical Systems”, Gaithersburg Maryland, May 21-24, 2019.
15. Argonne National Lab, Quantum Information and Computation for Chemistry, Chicago, May 7, 2019.
16. Yale University , Quantum Information and Computation for Chemistry, ,

May 3, 2019.

17. International Symposium of Quantum Science and technology at Purdue, "Quantum Computing for Chemistry", April 21-23, 2019.
18. Purdue-IU Quantum workshop, "Quantum Algorithms for Chemistry, Feb. 26, 2019.
19. The 59th Sanibel Symposium "Quantum Computing for Complex Chemical Systems" Quantum Theory Project, University of Florida, February 17 - 22, 2019.
20. NSF workshop "Quantum algorithms for quantum chemistry and materials " Quantum Information and Computing for Chemistry "The Blessings and Curses of Dimensionality" Jan 22-24, 2019.
21. NSF "Quantum Computing Workshop", Nov. 7, 2018. Quantum Computing for chemistry.
22. NIST workshop on Complex Systems Chemistry, Gaithersburg, Maryland, "Quantum Information and Computing for Chemistry", October 22-24, 2018.
23. National Academies of Sciences, Engineering & Medicine, Chemical Sciences Roundtable, "Quantum Computing", Friday, July 27, 2018.
24. Israeli Academy of sciences, Quantum Machine Learning for Electronic Structure, June 18, 2018, Jerusalem.
25. Air Force Institute of Technology 2950 Hobson Way WPAFB OH, "Near term applications of small scale quantum computing for quantum chemistry", May 3, 2018.
26. IBM-Zurich, "Near term applications of small scale quantum computing for quantum chemistry", June 6, 2018.
27. "Cold molecules for chemistry" symposium at ACS Spring meeting, "Quantum computing with polar molecules", March 18-20 2018.
28. NASA, Lockheed-Martin center for Innovation, Suffolk, VA, Near term applications of small scale quantum computing for quantum chemistry, November 7, 2017.
29. Department of Chemistry, University of Chicago, Near term applications of small scale quantum computer", October 24, 2017.
30. 254th ACS Meeting, Mapping electronic structure Hamiltonian to an Ising type Hamiltonian , August 20-21, 2017.
31. Department of Physics, Purdue University, "Near term applications of small scale quantum computer", April 27, 2017.
32. APS, March Meeting 2017, Charing the Session "Near term applications of small scale quantum Computing", New Orleans, March 13-17, 2017.
33. Department of Computer Science, Purdue University, "Near term applications of small scale quantum computer", February 27, 2017.
34. Department of Mathematics, Purdue University, "Near term applications of small scale quantum computer", February 10, 2017.

35. Wabash College, Department of Physics, Crawfordsville, IN 47933, "Near term applications of quantum computing", February 6, 2017.
36. Oak Ridge National Laboratory, Quantum Information and Computation: Second Quantum Technology Revolution, January 11, 2017.
37. Zurich IBM Research Laboratory, Adiabatic Quantum Computing, January 25, 2017.
38. Competence Center for Computational Chemistry of the University of Zurich, ETH Zurich, and the Zurich IBM Research Laboratory, Challenges of Electronic Structure calculations on Quantum Computers, January 26, 2017.
39. Challenges of Electronic Structure Calculations on Quantum Computers, Department of Chemistry, Purdue University, November 16, 2016.
40. Freie Universität Berlin, Challenges of Electronic Structure calculations on Quantum Computers, October 4, 2016.
41. Department of Chemistry, University of Virginia, Quantum Information and Quantum Computation for Chemistry, September 30, 2016.
42. Department of Computer Engineering, Istanbul Medeniyet University, Kadikoy, Istanbul, Turkey, Light Matter Interaction: The role of quantum coherence, April 5, 2016.
43. Swiss Chemical Society, Fall Meeting 2015, Lausanne, Challenges of Electronic Structure Calculations, Sept. 4, 2015.
44. Midwest Theoretical Chemistry Conference at the University of Michigan, Challenges of Electronic Structure Calculations on a Quantum Computer, June 26-28, 2015 in Ann Arbor, Michigan
45. KAUST, Saudi Arabia, "Light matter interactions", April 29, 2015.
46. Qatar Foundation, "New Challenges for Electronic Structure calculations", April 13, 2015.
47. Swiss Chemical Society, Fall Meeting 2014, Zurich, Light Matter Interaction, Sept. 11, 2014.
48. IBM Zurich, Switzerland, Challenges of Electronic Structure Calculations for Atoms and Molecules, Zurich, Switzerland, Feb. 26, 2014.
49. Laboratory of Physical Chemistry, ETH, Quantum Coherence and Light matter Interaction, ETH, Zurich, Switzerland, Feb. 27, 2014.
50. Physics and Engineering ICube Laboratory/CNRS, University of Strasbourg, Light Matter Interaction : The role of quantum coherence, Strasbourg, France, Feb. 24, 2014
51. State Key Laboratory of Precision Spectroscopy East China Normal University, Challenges of Electronic Structure Calculations for Atoms and Molecules", Shanghai, China Dec. 1, 2013.
52. China Academy of Engineering Physics, Light Matter Interaction, Mianyang, China Dec. 3, 2013
53. China Academy of Engineering Physics, The Role of Quantum Coherence in Different Systems , Mianyang, Dec. 4, 2013
54. Sigma Xi Award Lecture, Quantum Information for Quantum Chemistry, Purdue, March 25, 2013.
55. Winter School on Quantum Information Science, Feb 28-March 2, 2013, National Cheng Kung University Talks: (1) Quantum Algorithms for Electronic Structure

- (2) Calculations Quantum Entanglement for Complex Systems (3) Quantum Computing with Polar Molecules
56. APS March Meeting 2013, March 18 - March 22, Baltimore, Maryland Tutorial 4 Quantum Information and Computation for Quantum Chemistry.
 57. Santa Fe Institute, Quantum Coherence and Entanglement in Complex Systems, April 6, 2012.
 58. Los Alamos National Lab, Quantum Entanglement, April 5, 2012.
 59. Quantum Computation for Quantum Chemistry: Status, Challenges, and Prospects, Microsoft Research Redmond, Nov, 12, 2012, Redmond, WA
 60. Winter School 2012, Quantum Information and Computation for Quantum Chemistry, January 5-7, 2012 at Indian Wells, CA

 61. Banff Meeting, BIRS workshop on Quantum Information for Quantum Chemistry, June 6-11, 2011, Banff, Canada.
 62. 241st ACS meeting, Division of Physical Chemistry, Anaheim, CA, Tuning and Quenching Entanglement of Dipole Arrays, March 30, 2011
 63. Computer Science Department, Purdue University, Quantum Information and Quantum Computation, March 9, 2011.
 64. Department of Physics, King Saud University, Riyadh, Saudi Arabia, Finite Size Scaling and Stability of Atomic and Molecular Systems in Super intense Laser Fields. December, 19, 2010.
 65. King Abdullah Institute for Nanotechnology, Riyadh, Saudi Arabia, Research Projects in Birck Nanotechnology Center at Purdue, December 20, 2010.
 66. Department of Physics (Malaz), King Saud University, Riyadh, Saudi Arabia, Quantum Information and Quantum Computation: Toward Realizing a Quantum Computer, December, 21 2010.
 67. Department of Physics, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, Finite Size Scaling, December 25, 2010.
 68. Department of Physics, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, Quantum Information and Computation, December 26, 2010.
 69. Department of Physics, East China Normal University, China, Finite Size Scaling and Quantum Criticality, November 25, 2010.
 70. Chinese Academy of Engineering Physics, Mianyang, China, Stability of Atomic and Molecular Systems in Superintense Laser Fields, November 26, 2010.
 71. Purdue University, Computer Science, "Quantum Information and Quantum Computation", October 6, 2010.
 72. TMAU-Princeton Summer Workshop on Quantum Optics and Molecular Physics, Quantum Information for Quantum Chemistry\ Casper, Wyoming, July 25-31, 2010.
 73. TMAU-Princeton Summer Workshop on Quantum Optics and Molecular Physics, Finite Size Scaling and Quantum Criticality at the Large-D Limit and $D=3$ " Casper, Wyoming, July 25-31, 2010.
 74. TMAU-Princeton Summer Workshop on Quantum Optics and Molecular Physics, Open Problems and Prospects for Linking D-Scaling with other Methods Casper, Wyoming, July 25-31, 2010.

75. Chair: 42nd Midwest Theoretical Chemistry Conference, Department of Chemistry, Purdue, May 20-22, 2010.
76. Department of Physics, Purdue, Quantum Information for Quantum Chemistry", February 11, 2010.
77. The 41st Midwest Theoretical Chemistry Conference, "Finite Size Scaling and Quantum Criticality", Southern Illinois University, Carbondale Illinois, May 28-30, 2009.
78. Rutgers University, THE 101ST STATISTICAL MECHANICS CONFERENCE, "Finite Size Scaling in Quantum Mechanics", SUNDAY - TUESDAY, MAY 10-12, 2009.
79. University of Waterloo, Department of Chemistry and the Institute for Quantum Computing (IQC), "Suppose We Build a Quantum Computer, How Chemistry Can Benefit From Such a Computer", March 18, 2009.
80. Fritz Haber Institute of the Max Planck Society, Department of Molecular Physics, Berlin, Germany" Finite Size Scaling and Quantum Criticality", December 12, 2008.
81. Ruhr University, Institute for Theoretical Chemistry, Bochum, Germany" Finite Size Scaling and Quantum Criticality", December 3, 2008.
82. Atomic Physics Workshop 2008, Max Planck Institute for Physics of Complex Systems, Dresden, Germany" Finite Size Scaling in Atomic and Molecular Physics", November 24-28, 2008.
83. Technical University of Dresden, Department of Physics," Finite Size Scaling and Quantum Computing", November 13, 2008. Technical University of Munich, Institute for Measurement Systems and Sensor Technology, Munich, Germany," Finite Size Scaling and Quantum Computing", October 22, 2008.
84. University of Heidelberg, Institute for Theoretical Chemistry, Universitaet Heidelberg, Germany," Finite Size Scaling and Quantum Criticality", October 20, 2008.
85. Freie Universitaet Berlin, Department of Chemistry, Berlin, Germany" Finite Size Scaling in Quantum Mechanics", September 10, 2008.
86. Max Planck Institute for Physics of Complex Systems, Dresden, Germany" Quantum Criticality", August 22, 2008.
87. University of Chicago, James Franck Institute (JFI), "Suppose We Build a Quantum Computer, How Chemistry Can Benefit From Such a Computer", June 10, 2008.
88. Santa Fe Institute, "Finite Size Scaling and Quantum Criticality", February 7, 2008.
89. Harvard-MIT-BU-BC Theory Seminar, "Finite Size Scaling in Quantum Mechanics", November 26, 2007.
90. Purdue University, Electrical and Computer Engineering, Nano501"Finite Size Scaling and Quantum Criticality", November 12, 2007.
91. Illinois Institute of Technology, Physical Sciences, "Finite Size Scaling for Atomic and Molecular Systems", October 25, 2007.
92. Illinois Institute of Technology, Chemical Engineering, "Quantum Phase Transition and Stability of Atomic and Molecular Systems", September 5, 2007

93. Technion-Israel, Department of Chemistry, "Finite Size Scaling in Quantum Mechanics", June 24, 2007.
94. Lewiner Institute of Theoretical Physics, Technion-Israel, Correlated Electrons Day, "Finite Size Scaling in Quantum Mechanics", June 21, 2007.
95. Yarmouk University, Jordan, "Quantum Phase Transition and Stability of Atomic and Molecular Systems", May 29, 2007.
96. APS March Meeting 2007, Denver, Colorado, March 5-9, 2007. Session W21: General Theory: Electronic Structure and Interactions", Finite Size Scaling with Gaussian Basis Set"
97. Princeton-TAMU Foundations of Quantum Mechanics Symposium, "Dimensional Scaling for Stability of Atomic and Molecular Systems", Princeton, 16-17 February 2007.
98. Department of Chemistry, Purdue University, West Lafayette "Finite Size Scaling for Stability of Atomic and Molecular Systems", February 7, 2007.
99. 38th Midwest Chemistry Conference, "Entanglement and electron Correlation in Quantum Chemistry calculations", Ohio State University Campus, Columbus Ohio, June 15-17, 2006
100. The 36th Winter Colloquium on the Physics of Quantum Electronics, "Entanglement as a measure of electron-electron correlation", Snowbird, Utah, January 2-6, 2006.
101. 230th ACS meeting, Washington DC, Aug. 28-Sept. 1, 2005, "Finite Size Scaling for Critical Phenomena in Negative Ion Clusters"
102. Casper College-Texas A M University Quantum Optics Summer Workshop, August 14-August 20, 2005, "Finite Size Scaling in Quantum Mechanics"
103. University of Berkeley, Berkeley, CA Department of Chemistry and Pitzer Center for Theoretical Chemistry. June 24, 2005. Berkeley Quantum Information and Computation Seminar, "Tuning Entanglement for Magnetic Systems"
104. Stanford University, CA, Department of Chemistry, June, 23, 2005, "Finite Size Scaling in Quantum Mechanics"
105. Purdue University, Computer Science and Engineering Spring 2005 Seminar Series, April 27, 2005 "Quantum Computing"
106. Department of Chemistry, Purdue University, West Lafayette "Finite Size Scaling in Quantum Mechanics", March 9, 2005.
107. JSPS-PRISM-TAMU Symposium on Quantum materials Science, in the Honor of Prof. Dudley Herschbach, Princeton, 21-22 February 2005. "Critical Phenomena at the Large Dimensional Limit"
108. Department of Chemistry, Technion Haifa 32000, Israel, July 27, 2004 "Tuning the Entanglement for magnetic Systems"
109. Department of Chemistry, Technion Haifa 32000, Israel, July 25, 2004 "Finite Size Scaling and Stability of Atomic and Molecular Ions"
110. Department of Chemistry, Purdue University, West Lafayette "Finite Size Scaling in Quantum Mechanics", March 24, 2004.
111. Kansas State University, Department of Chemistry Manhattan KS 66506-3701, "Finite Size Scaling for Stability of Atomic and Molecular Systems", March 18, 2004

112. WISICT 2004, Winter International Symposium on Information and Communication Technologies, Cancun, Mexico, January 5th-8th, 2004"Scaling of Entanglement at Quantum Phase Transitions"
113. WISICT 2004, Winter International Symposium on Information and Communication Technologies, Cancun, Mexico, January 5th-8th, 2004Chair: Workshop on Quantum Information Processing
114. Department of Mathematics, Purdue University, West Lafayette "Finite Size Scaling in Quantum Mechanics", October 3, 2003.
115. NASA JET PROPULSION LABORATORY, California Institute of Technology,"Scaling of Entanglement at Quantum Phase Transitions", August 15, 2003.
116. Workshop on Quantum Computing, "Tuning the Entanglement for magnetic Systems", University of Notre Dame, Notre Dame, IN, August 7, 2003
117. Ohio Section of the APS Spring Meeting, April 11-12, 2003 Michigan State University, "Tuning the Entanglement for a 1D magnetic System with Anisotropic Coupling and Impurities"
118. International Symposium on Frontiers in Molecular Science 2002,Ocean University of Qingdao, China, July 15-18, 2002 (invited by Dr. Shu-Kun Lin, Chairman of the Executive Committee)
119. Florida State University, Department of Chemistry, "Quantum Critical Phenomena and Stability of Atomic and Molecular Ions"(invited by Prof. Sanford Safron)
120. The University of British Columbia, Department of Chemistry, Vancouver, Canada, June 10, 2002"Finite Size Scaling and Renormalization Group for Quantum Critical Phenomena"
121. The 85th Canadian Society for Chemistry (CSC) Vancouver, June 1 to 5, 2002 , computational chemistry symposium, "Quantum Critical Phenomena and Stability of Atomic and Molecular Ions"
122. 2002 DAMOP Annual Meeting, May 29-June 1 Williamsburg, VA meeting of the "Finite Size Scaling for Atomic and Molecular Systems"
123. University of Wisconsin-Madison, Department of Chemistry, Madison, WI, May 20, 2002, "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
124. ONR Program Review, Arlington, Virginia, April 30- May 3, 2002"Critical Phenomena and Renormalization Group Approach for Electronic Structure calculations"
125. Yale University, Department of Physics, New Haven, CT, April 22, 2002 "Finite Size Scaling for Quantum Critical Phenomena"
126. Carnegie Mellon University, Department of Chemistry, Pittsburgh, Pennsylvania, April 11, 2002."Quantum phase transitions and Stability of atomic and molecular systems"
127. APS March Meeting 2002, Indianapolis, IN, March 18, 2002Session A31 (Chemical Physics of Complex Systems)"Finite Size Scaling in Quantum Mechanics"

128. APS March Meeting 2002, Indianapolis, IN, March 20, 2002 Session M20 (One Dimensional Theory) "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
129. Sanibel Symposium 2002 in Quantum Chemistry, Florida, February 23, 2002, Chair of plenary session on Multi-Scale Simulation.
130. Illinois Institute of Technology, Department of Biological, Chemical and Physical Sciences, Chicago, IL, February 20, 2002 "Finite Size Scaling for Quantum Critical Phenomena"
131. Purdue University, CS&E Spring 2002 Seminar Series, February 13, 2002 "Finite Size Scaling for Quantum Critical Phenomena"
132. Department of Chemistry, University of Michigan, Ann Arbor, MI, November 8, 2001 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
133. Department of Chemistry, Wayne State University, Detroit, MI, November 7, 2001 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
134. Department of Chemistry, Rutgers University, Piscataway, NJ, June 19, 2001 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
135. Sanibel Symposium 2001 in Quantum Chemistry Florida, February 28, 2001 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
136. Purdue University, Department of Chemistry West Lafayette, IN, January 17, 2000 "Quantum Phase Transitions and Stability of Atomic and Molecular Ions".
137. Department of Chemistry, Hebrew University, Jerusalem Israel, November 28, 2000 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
138. Department of Chemistry, Ben Gurion University, Israel November 15, 2000 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems"
139. Advances in Finite Time Thermodynamics, Jerusalem, Israel November 12-14, 2000 "Quantum Phase Transitions at $T=0$ ".
140. 2000 Midwest Thermodynamics and Statistical Mechanics Conference, Minneapolis, Minnesota, May 14-16, 2000. "Finite Size Scaling for Critical Parameter of Simple Diatomic Molecules"
141. Department of Chemistry, Wabash College, Crawfordsville, IN 47933, Tuesday Feb. 29, 2000 "Recent Advances in Electronic Structure Theory".
142. Department of Chemistry, Indiana University Bloomington, Indiana 47405, Thursday, September 23, 1999 "Phase Transitions and Stability of Atomic and Molecular Ions."
143. Department of Chemistry and Physics, Indiana University, Bloomington, Indiana 47405, Friday, September 24, 1999 "Finite Size Scaling in Quantum Mechanics".
144. Technion, Department of Chemistry Haifa 32000, Israel, Sunday June 13, 1999 "Recent Advances in Density Functional Theory".

145. The Ohio State University Department of Chemistry Columbus, OH 43210, Monday, April 26, 1999 "Phase Transitions and Stability of Atomic and Molecular Ions".
146. Purdue University, Department of Physics, West Lafayette, IN, January 29, 1999 "Phase Transitions and Stability of Atomic and Molecular Ions".
147. University of Illinois at Urbana-Champaign, Department of Chemistry Urbana, IL, December 2, 1998 "Phase Transitions and the Stability of Atomic and Molecular Ions".
148. Purdue University, Department of Chemistry West Lafayette, IN, September 7, 1998 "Phase Transitions and Stability of Atoms and Molecules".
149. 31st Midwest Theoretical Chemistry Conference Department of Chemistry, Purdue University Chair of the Conference.
150. University of California UCLA, Department of Chemistry Los Angeles, CA, March 11, 1998 "Phase Transitions and Stability of Atoms and Molecules".
151. The American Physical Society - 1998 March Meeting, Los Angeles, CA 16-20 March, 1998 "Phase Transitions and Stability of Atomic and Molecular Negative Ions".
152. Southern Methodist University Department of Chemistry Dallas, Texas, April 23, 1998 "Phase Transitions and Stability of Atoms and Molecules".
153. Hebrew University, Department of Chemistry Jerusalem, Israel, December 22, 1997 "Phase Transitions and Stability of Atoms and Molecules".
154. Technion, Department of Chemistry Haifa, Israel, December 23, 1997 "Phase Transitions and Stability of Atoms and Molecules".
155. Ninth Annual Conference on Recent Developments in Electronic Structure Methods Cornell University, Ithaca, NY, May 31-June 2, 1997 "Finite Size Basis Set Scaling Ansatz for Atoms".
156. 30th Midwest Theoretical Chemistry Conference University of Illinois, Urbana-Champaign, May 22-24, 1997 "Comparison of Pivot Methods for Global Optimization".
157. The American Physical Society - 1997 March Meeting Kansas City, MO 17-21 March, 1997 "A New Approach for Global Optimization".
158. 29th Midwest Theoretical Chemistry Conference Indiana University-Purdue University Indianapolis, May 30- June 1, 1996 "A New Approach to Global Minimization".
159. The American Physical Society: Atomic, Molecular and Optical Physics Indianapolis, Indiana, April 2, 1996 "Critical Phenomena for Electronic Structure at the Large-D limit".
160. The University of Illinois at Chicago Department of Chemistry Chicago, Illinois, March 7, 1996 "Dimensional Renormalization for the Treatment of Electron Correlation".
161. Purdue University: The Dean's Freshman Honors Seminar (SCI 110), Nov. 20, 1995 "New Challenges in Quantum Chemistry".
162. Molecular Quantum Mechanics: Methods and Applications University of Cambridge, England, 3-7 September 1995 "Charge Renormalization at the Large-D Limit for Electronic Structure Calculations".

163. Technion, Physics Department Haifa, Israel, June 13, 1995 "Dimensional Renormalization for Electronic Structure of Atoms and Molecules".
164. Regensburg University, Institute for Theoretical Chemistry Regensburg, Germany, May 22, 1995 "Dimensional Renormalization for Electronic Structure of Atoms and Molecules".
165. NATO Advanced Research Workshop on New Methods in Quantum Theory Halkidiki, Greece, May 14-19, 1995 "Dimensional Renormalization for Electronic Structure Calculations".
166. Northwestern University, XXVIII Midwest Theoretical Chemistry Conference Evanston, Illinois, May 11-13, 1995 "Charge Renormalization at the Large-D Limit for Electronic Structure Calculations".
167. Purdue University, Department of Physics West Lafayette, IN March 20, 1995 "Molecules and Clusters".
168. Oregon State University, Department of Chemistry Corvallis, Oregon, April 14, 1993 "Electronic Structure Calculations by Density Functional Theory and Dimensional Scaling Methods".
169. Harvard University, Dudley Herschbach's 60th Birthday Cambridge, MA, July 1992 "Dimensional Scaling the Quasi stationary States".
170. Cambridge University, Department of Chemistry Cambridge, England, June 1992 "Electronic Structure Calculations by Density Functional and Dimensional Scaling".
171. Cornell University, Department of Physics Ithaca, NY, March 3, 1992 "Electronic Structure Calculations by Density Functional and Dimensional Scaling".
172. M.I.T., Department of Chemistry Cambridge, MA, October 30, 1991 "Tunneling in Multi-Dimensional Systems".
173. New York University, Department of Physics New York, New York, October 21, 1991 "Dimensional Scaling Method in Atomic and Molecular Physics".
174. Orsted Institute, Department of Chemistry Copenhagen, Denmark, June 1991 "Conference in Dimensional Scaling in Chemical Physics "Symmetry Breaking and Electronic Exchange Energy".

Other Presented Papers

- Kais group members gave 7 talks at the APS March Meeting 2021.
- Solving Set Cover with Pairs with quantum annealing, Poster. Workshop on quantum control of light and matter. Purdue University, West Lafayette, IN. October, 2015 (with Yudong Cao)
- Efficient optimization of perturbative gadgets using cellular automata. Poster. NIST-UMD Workshop on Quantum Information and Computer Science (QuICS). University of Maryland, College Park, MD. October, 2015. (With Yudong Cao)
- Perturbative reductions for quantum many-body Hamiltonians. Invited talk. Workshop on Novel Computing Approaches to Quantum Chemistry. Telluride, CO. July, 2015 (Yudong Cao)
- 1st International Solar Fuels Conference, April 26-May 1, 2015. Uppsala, Sweden "Quantum Dynamics of Biologically Inspired Photocells"

- QEERI International Computational Workshop on Solar Energy", April 11-14, 2015, Doha, Qatar "Revealing the role of organic cations in hybrid halide perovskite CH₃NH₃PbI₃"
- QEERI International Computational Workshop on Solar Energy, April 11-14, 2015, Doha, Qatar, "Domain Walls Conductivity in Hybrid Organometallic Perovskites and Their Essential Role in CH₃NH₃PbI₃ Solar Cell High Performance"
- 39th Midwest Theoretical Chemistry Conference Indiana University, Bloomington, June 28-30, 2007. "Quantum Algorithm for Obtaining the Energy Spectrum of Molecular System" (with Hefeng Wang)
- 39th Midwest Theoretical Chemistry Conference Indiana University, Bloomington, June 28-30, 2007. "Finite Size Scaling and Gaussian Basis Sets" (with Winton Moy)
- 39th Midwest Theoretical Chemistry Conference Indiana University, Bloomington, June 28-30, 2007. "Dimensional Scaling Treatment of Stability of Atomic and Anions Induced by Superintense Laser Fields" (with Qi Wei)
- 39th Midwest Theoretical Chemistry Conference Indiana University, Bloomington, June 28-30, 2007. "Entanglement Amplification by external Interactions" (with Zhen Huang)
- 39th Midwest Theoretical Chemistry Conference Indiana University, Bloomington, June 28-30, 2007. "Entanglement and Quantum Phase Transitions" (with. Wang)
- Chair a session on Conductance in Molecules, The Fritz Haber Center, Hebrew University, June 11, 2007, and
- Chair of a session on Electron Dynamics, The Quantum World in Real Time: Is it Accessible?, Safed-Israel, June 25, 2007.
- APS March Meeting 2007, Denver, Colorado, March 5-9, 2007. Session W18: Theoretical Methods and Algorithms, with Hefeng Wang, "Quantum Entanglement and Electron Correlation in Molecular Systems"
- APS March Meeting 2007, Denver, Colorado, March 5-9, 2007. Session K1: Poster Session II, with Hefeng Wang, "Quantum Teleportation in One-Dimensional Quantum Dots System"
- Princeton-TAMU Foundations of Quantum Mechanics Symposium, Poster "Finite Size Scaling in Quantum Mechanics", Princeton, 16-17 February 2007.
- 3rd International Congress of Nanotechnology, San Francisco, "Quantum Teleportation using Quantum Dots", with Hefeng Wang, November 2, 2006.
- 38th Midwest Chemistry Conference, "Finite Size Scaling in Quantum Chemistry", Ohio State University Campus, Columbus Ohio, June 15-17, 2006.
- Nanostructured materials and nanotechnology Symposium, IMRC2006. with Zhen Huang "Entanglement Evolution under Fluctuation of external magnetic Field", August 22, 2006.
- International Congress of Nanobiotechnology and nanomedicine, Poster with Hefeng Wang, "Quantum Teleportation in One-Dimensional Quantum Dots", San Francisco, June 19-21, 2006.
- NASA INAC Molecular Conductivity and Sensor Workshop, Purdue University, July 27-29, 2005.

- 37th Midwest Theoretical Chemistry Conference, June 16-18, 2005, University of Missouri-Columbia, MI, "Dephasing of Entanglement Under Fluctuation of External Magnetic Field", Zhen Huang and Sabre Kais.
- 37th Midwest Theoretical Chemistry Conference, June 16-18, 2005, University of Missouri-Columbia, MI
- "Finite Size Scaling with Gaussian Basis Set" Winton Moy and Sabre Kais. 37th Midwest Theoretical Chemistry Conference, June 16-18, 2005, University of Missouri-Columbia, MI "Entanglement and Quantum Phase Transition in 1D Hubbard Model with Impurity" Hefeng Wang and Sabre Kais.
- 37th Midwest Theoretical Chemistry Conference, June 16-18, 2005, University of Missouri-Columbia, MI "Tuning the Entanglement for 2D Array of Quantum Dots" David Lyvers and Sabre Kais. 37th Midwest Theoretical Chemistry Conference, June 16-18, 2005, University of Missouri-Columbia, MI "Finite Size Scaling for Quantum Critical Phenomena in a Laser Field" Qi Wei and Sabre Kais.
- Sanibel Symposium 2005 in Quantum Chemistry, Florida, March 5, 2005. "Tuning Entanglement for Magnetic Systems"
- 36th Midwest Theoretical Chemistry Conference, June 17-19, 2004 "Dynamics of Entanglement for One-Dimensional Spin Systems in an External Time-Dependent Magnetic Field" with Zhen Huang
- 36th Midwest Theoretical Chemistry Conference, June 17-19, 2004 "Finite Size Scaling for the Atomic Shannon Entropy", with Qicun Shi
- 36th Midwest Theoretical Chemistry Conference, June 17-19, 2004 "Metal-Insulator Transition and Entanglement for a 2D array of Quantum Dots", with David Lyvers
- Sanibel Symposium 2004 in Quantum Chemistry, Florida, February 28, 2004. "Finite Size Scaling for the Entanglement in an Itinerant Two-Dimensional Fermionic Systems"
- Fourth International Conference on Dynamic Systems and Applications May 21-24, 2003 Department of Mathematics, Morehouse College Atlanta, Georgia, USA, "Finite Size Scaling for Quantum Critical Phenomena and Stability of Atomic and Molecular Systems".
- Sanibel Symposium 2003 in Quantum Chemistry, Florida, February 23, 2003. "Finite Size Scaling in Quantum Mechanics"
- APS March Meeting 2003, March 3-7, Austin, Texas "Proposal for an entanglement switch using impurities in a 1D magnetic system," Session S19, (Focus Session: Quantum Information Science II)
- Quantum Information Science March 23-28, 2003, Ventura, CA, "Proposal for an entanglement switch using impurities in a 1D magnetic system,"
- 35th Midwest Theoretical Chemistry Conference, June 12-14th 2003, Iowa State University, Ames, IA "Quantum Phase Transitions and Stability of Atomic and Molecular Systems". "Tuning the Entanglement for a 1D Magnetic System with Anisotropic Coupling and Impurities"
- Ohio-Michigan Physics Conference on Quantum Computing, Michigan State University, April 11-12, 2003 "Tuning the Entanglement for a 1D Magnetic System with Anisotropic Coupling and Impurities"

- The 15th annual workshop on recent developments in electronic structure algorithms, May 17-19, 2003, University of Minnesota, Minneapolis, Minnesota, "Quantum Phase Transitions and Stability of Atomic and Molecular Systems".
- Harvard University, Department of Chemistry, Cambridge, MA Sept. 20-22, 2002, Attending "New Frontiers of Chemical Physics Symposium"
- 2002 American Conference on Theoretical Chemistry, Champion, PA, July 13th-18, 2002 "Finite Size Scaling for Extended Systems"
- 2002 International Conference on Computational Nanoscience and Nanotechnology, ICCN 2002, April 22-25, 2002 San Juan, Puerto Rico "Finite Size Scaling in Quantum Mechanics"
- APS March Meeting 2002, Indianapolis, IN, March 22, 2002 Session X26 (Ice: Surface Structure and Dynamics II) "Parallel Tempering Microcanonical Monte Carlo Study of Water Cluster"
- APS March Meeting 2002, Indianapolis, IN, March 19, 2002 Session G21 (Structural Phase Transition) "Phase Transitions and Stability of Three-Body Coulomb Systems"
- APS March Meeting 2002, Indianapolis, IN, March 18, 2002 Session B21 (Metal-Insulator Phase Transition II) "Study of MIT in pure and disordered Hubbard Model on triangular lattice with real-space renormalization-group method"
- Sanibel Symposium 2002 in Quantum Chemistry, Florida, February 23, 2002. "Poster: Finite Size Scaling for Quantum Dots"
- 34th Midwest Theoretical Chemistry Conference, October 5-6, 2001, Minneapolis, Minnesota. "Quantum Phase Transitions and Stability of Atomic and Molecular Systems".
- Molecular Quantum Mechanics, An International Conference in Honor of Prof. E.R. Davidson Seattle, WA, July 21-26, 2001. "Quantum Phase Transitions and Stability of Atomic and Molecular Systems".
- Quantum Applications Symposium, University of Michigan, Ann Arbor, MI, July 1-3, 2001.
- The 13th annual workshop on recent developments in electronic structure algorithms, Princeton University, Princeton NJ, June 15-18, 2001 "Quantum Phase Transitions and Stability of Atomic and Molecular Systems".
- Condensed Matter Brazilian Meeting (XXIV ENFMC) May 15-18, 2001, Brazil "Critical Phenomena in Atomic and Molecular Systems: Mapping to Classical Lattices", Talk (with R.A. Sauerwein)
- MOLEC 2000 Symposium, Hebrew University, Israel "Resonance States of Atomic Anions", Poster with A.V. Sergeev
- The 33rd Midwest Theoretical Chemistry Conference, May 25-27, 2000, University of Iowa, Talk (with R.A. Sauerwein) "Path Integral Approach to Critical Phenomena in Atomic and Molecular Systems" Talk (with P. Nigra) "A Study of the Correlation Between Intensive Properties and Finite Size Effects in Water Clusters", Poster (with Q. Shi) "Finite Size Scaling Method for Diatomic Molecules".
- VI Latin American Workshop on Nonlinear Phenomena, Huerta Grande, Córdoba, Argentina, October 12-16, 1999, "Finite Size Scaling In Quantum Mechanics", (with Pablo Serra).

- 32st Midwest Theoretical Chemistry Conference Department of Chemistry, University of Notre Dame, Indiana, May 20-22, 1999
- Chair of one session at the Conference. "Stability of Simple Molecular Systems in a Strong Magnetic Field, with Dr. Qicun Shi", and "Finite Size Scaling Method and Gaussian Basis Sets for Molecular Critical Parameters, (Poster), "Pivot Method for Global Optimization: A Study of Water Clusters (H₂O)_N with 2 < N < 33", with Pablo Nigra, (Poster).
- The American Physical Society - 1999 March Meeting Atlanta, Ga 20-27 March, 1999 Poster: Finite Size Scaling method for the Stability of Atomic and Molecular Ion. and Stability of one-electron bond in a strong magnetic field
- Sanibel Symposium in Quantum Chemistry Florida, February 27, 1999 Poster: Critical Charges for N-Electron Atoms: Stability of Atomic Negative Ions.
- The American Physical Society - 1998 March Meeting Los Angeles, CA 16-20 March, 1998Talk: Phase Transitions and Stability of Atomic and Molecular Negative Ions Poster: Critical Parameters for Few Electron Systems.
- Sanibel Symposium in Quantum Chemistry Florida, February 21-27, 1998Poster: Finite Size Scaling for Electronic Structure of Atoms and Molecules.
- Coupled Cluster Theory and Electron Correlation Workshop Cedar Key, Florida, June 15-19, 1997 Abstract: Finite Size Basis Set Scaling Anstaz for Atoms.
- Ninth Annual Conference on Recent Developments in Electronic Structure Methods Cornell University, Ithaca, NY, May 31-June 2, 1997Poster: Finite Size Basis Set Scaling Anstaz for Atoms.
- 30th Midwest Theoretical Chemistry Conference University of Illinois, Urbana-Champaign, May 22-24, 1997Poster: Symmetry Breaking and Stability of Binary Clusters (with Pablo Serra) Poster: Finite Size Basis Set Scaling for Helium Like Atoms (with Juan Pablo Neirotti and Pablo Serra).
- Sanibel Symposium in Quantum Chemistry Florida, March 1-7, 1997 Poster: Renormalization Group Approach for Electronic Excitations in Atoms.
- Eighth Annual Conference on New Methods in Electronic Structure Calculations University of Minnesota, Minneapolis, June 14-17, 1996Poster: Symmetry Breaking and Critical Phenomena for Electronic Structure at the Large-Dimension Limit.
- Sanibel Symposium in Quantum Chemistry Florida, February 24-March 2, 1996 Abstracts: Critical Phenomena for Electronic Structure of Atoms and Molecules.
- Molecular Quantum Mechanics: Methods and Applications University of Cambridge, England, 3-7 September 1995Poster: Charge Renormalization at the Large-D Limit for Electronic Structure Calculations.
- Northwestern University, XXVIII Midwest Theoretical Chemistry Conference Evanston, Illinois, May 11-13, 1995Poster: Charge Renormalization at the Large-D Limit for Electronic Structure Calculations.
- Sanibel Symposium in Quantum Chemistry Florida, February 25 - March 4, 1995Poster: Dimensional Renormalization for Electronic Structure Calculations.
- Seventh Conference on Superconductivity and Application, SUNY at Buffalo Buffalo, NY, September 7-9, 1994 Superconductivity and Applications.

- Gordon Research Conference, New Hampshire Brewster Academy, NH, July 17-
July 22, 1994 Solid State Chemistry.
- Institute for Theoretical Atomic and Molecular Physics Cambridge, MA, May 17-
19, 1991 Hidden Crossings in Ion-Atom Collisions and in Other Nonadiabatic
Transitions.