

*Aldo D. Migone*  
*Curriculum Vitae*

I. CONTACT INFORMATION

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II. EDUCATION

- Ph.D. in Physics, May 1984; The Pennsylvania State University, University Park, Pennsylvania
- M.S. in Physics, November 1982; The Pennsylvania State University, University Park, Pennsylvania
- B.S. in Physics, June 1977; Universidad Peruana Cayetano Heredia, Lima, Peru

III. PROFESSIONAL EXPERIENCE

- August 1999 to August 2009, Chair, Department of Physics, Southern Illinois University at Carbondale
- Summer 1997 to Spring 1998, Acting Chair, Department of Physics, Southern Illinois University at Carbondale
- Fall 1993 to present, Professor of Physics, Southern Illinois University at Carbondale

- Spring 1990 to Fall 1993, Associate Professor of Physics; Southern Illinois University at Carbondale
- Fall 1986 to Spring 1990, Assistant Professor of Physics; Southern Illinois University at Carbondale
- March 1984 to July 1986, Post-doctoral Research Associate, Department of Physics, University of Washington, Seattle, WA
- November 1978 to February 1984, Teaching and Research Assistant, Department of Physics, The Pennsylvania State University, University Park, PA
- April 1977 to June 1977, Physics Instructor, Universidad Peruana Cayetano Heredia, Lima, Peru

#### IV. ADMINISTRATIVE ACCOMPLISHMENTS

##### *a) Junior faculty mentoring*

- Effectively mentored junior faculty members through the tenure-probationary period (advised them where to submit external proposals, critically read their research proposals, gave them suggestions for how to approach specific topics in courses they were teaching, gave advice regarding how to deal with graduate students, etc.). As a result, the first five cases for promotion that came from during my tenure as Chair were successful, the next two are positively going through the process at this time, and the remaining two are making steady positive progress.

- During my tenure as Chair, junior faculty in the Department have received: four NSF CAREER awards, four other standard NSF awards, an award from the NIH, three Summer Fellowship awards from the Air Force, three awards from the Petroleum Research Fund, one from the Department of Energy, two from the Research Corporation, one from the Department of Defense and two from private companies.

One of the junior faculty hired during my chairmanship received a *PECASE* (Presidential Early Career Award in the Sciences and Engineering).

##### *b) Recruitment*

- Successfully worked to promote diversity among the faculty of the Department. As a result, the Department increased its number of Hispanic faculty, has hired its first woman faculty member in the last three decades, and has hired its first black faculty member ever.

- Developed new strategies for obtaining graduate student applicants from a variety of source countries. As a result, in the past four years the Department received its first students from

countries which were part of the former Soviet Union, and we are currently engaged in recruiting students from Latin America.

*c) Strategic Planning*

- Developed the first departmental strategic plan. The plan was approved by the faculty in the department.
- Conducted review and updating of the plan after major goals (e.g. the approval of the doctoral program in Applied Physics) were accomplished.

*d) Promoting Research*

- Developed and successfully implemented policies to increase research activity in the Department. These policies include:
    - establishing workload assignment policies that favor the submittal of external proposals;
    - establishing a policy that returns 50 % of the departmental overhead recovery funds to the faculty members that generated them.
- As a result, ten out of twelve faculty members are externally funded.

*e) Program Development*

- Wrote a successful proposal for a Doctoral Program in Applied Physics. The doctoral program was approved by the Illinois Board of Higher Education on February 1, 2005. It is now in operation, and has graduated its first two students. Graduate enrollment in Physics is at an all time high as a result of the implementation of this program.

*f) Department Organizational Structure*

- Wrote the Operating Paper for the Department of Physics. This document was approved by the majority of the faculty in the Department, and was then approved by the Dean of the College, the Provost, and the Chancellor. This Operating Paper is currently in effect.

*g) Assessment*

- Developed assessment plans for the Department's Master's, Bachelor's and doctoral degree programs.
- Completed a comprehensive departmental productivity self-study and lead the Department through internal and external program evaluations. The previous departmental evaluation had been conducted in 1986.

*h) Course Development*

- Participated in the development of a course in Integrated Science, a joint effort by faculty from the Colleges of Education and Science, designed to allow Education majors to fulfill the State of

Illinois' teaching certification requirements in science. Have taught that course three consecutive years, and wrote the Physics portion of the laboratory manual for it.

- Lead departmental efforts to modernize one of the two Core Curriculum course offerings in the Department of Physics, including a complete updating of its laboratory.

## V. PROFESSIONAL MEMBERSHIPS

- Member of American Physical Society
- Member of the National Society of Hispanic Physicists
- Member of the International Adsorption Society
- Member of the Southern Illinois University Faculty Association (SIUCFA), IEA/NEA

## VI. HONORS AND AWARDS

- Fellow of the American Physical Society, elected in November of 2005
- Winner of the North Eastern Association of Graduate Schools Annual Book Award in the Natural Sciences and Engineering, 1985
- Winner of a Davey Fellowship, Pennsylvania State University, 1981
- Elected Technical Officer for the National Society of Hispanic Physicists 2003-2006

## VII. GRANTS

- Principal Investigator, "Heat Capacity Study of Alkane Films Adsorbed on Graphite", type G grant from the Petroleum Research Fund of the American Chemical Society, \$18,000; from 1/88 to 8/90
- Principal Investigator, "Heat capacity study of hydrocarbons adsorbed on graphite", National Science Foundation, \$157,000; from 1/91 to 8/94
- Principal Investigator, "Adsorption studies of simple molecules on Boron Nitride", type B grant of the Petroleum Research Fund of the American Chemical Society, \$20,000; from 5/92 to 8/96

- co-Principal Investigator, “Application of APS for Characterization of Residual Stress in Silicon Nitride Composites”, with Dale Wittmer and Rasit Koc (of the Department of Mechanical Engineering and Energy Processes), CARS-Univ. of Chicago, \$100,000; from 9/97 to 9/98
  
- Principal Investigator, “Thermodynamic Studies of Films Adsorbed on BN Substrates”, type B grant of the Petroleum Research Fund of the American Chemical Society, \$25,000; from 5/96 to 8/98
  
- co-Principal Investigator, “Application of APS for Characterization of Residual Stress in Silicon Nitride Composites”, with Dale Wittmer (of the Department of Mechanical Engineering and Energy Processes), CARS-Univ. Of Chicago, \$100,000; from 9/98 to 9/99
  
- Principal Investigator, “Adsorption Studies of Simple Molecules on Carbon Nanotubes,” Research Corporation, \$37,843; from 5/98 to 8/03
  
- co-Principal Investigator, “Application of APS for Characterization of Residual Stress in Silicon Nitride Composites”, with Dale Wittmer (of the Department of Mechanical Engineering and Energy Processes), CARS-Univ. Of Chicago, \$100,000; from 9/99 to 9/00
- Principal Investigator, “Adsorption Studies on Carbon Nanotubes”, Petroleum Research Fund, \$30,000; from 5/00 to 6/03
  
- co-Principal Investigator, “Application of APS for Characterization of Residual Stress in Silicon Nitride Composites”, with Dale Wittmer (of the Department of Mechanical Engineering and Energy Processes), CARS-Univ. Of Chicago, \$100,000; from 9/00 to 9/01
  
- Principal Investigator, “Adsorption Studies on Carbon Nanotubes”, National Science Foundation, \$300,000; from 1/01 to 1/07
  
- Principal Investigator, with co-PI M. M. Calbi, “Polyatomic adsorbates on carbon nanotube bundles” (DMR-0705077), National Science Foundation, \$330,000; from 07/01/07 to 06/30/10
  
- Principal Investigator, with S. Talapatra, B. Dave, and K. Mondal, Equipment grant, “ASAP 2050 Xtended Pressure Sorption Analyzer”, Micromeritics Instrument Corporation, February 2009

## VIII. PUBLICATIONS

### ARTICLES IN PEER REVIEWED JOURNALS

1. A.D. Migone, M.H.W. Chan and J.R. Boyer, “The Rotational Transition in adsorbed Methane Films”, *Physica B* **108**, 787 (1981).

2. A.D. Migone, H.K. Kim, M.H.W. Chan, J. Talbot, D.J. Tildesley and W.A. Steele, "Studies of the Orientational Ordering Transition in Nitrogen Adsorbed on Graphite", *Phys. Rev. Lett.* **51**, 192 (1983).
3. A.D. Migone, M.H.W. Chan, K. Niskanen and R.B. Griffiths, "Incipient Triple Point for Adsorbed on Graphite", *J. Phys. C* **6**, L115 (1983).
4. K.D. Miner, M.H.W. Chan and A.D. Migone, "Vapor Pressure Isotherm Study of Nitrogen on Graphite Near the Tricritical Point", *Phys. Rev. Lett.* **51**, 1465 (1983).
5. A.D. Migone, Z.R. Li, M.H.W. Chan and M.R. Giri, "Orientational Ordering in Argon-diluted Nitrogen films Adsorbed on Graphite", *Phys. Rev. B* **28**, 6525 (1983).
6. A.D. Migone, Z.R. Li and M.H.W. Chan, "Melting Transition of Submonolayer Argon Adsorbed on Graphite", *Phys. Rev. Lett.* **53**, 810 (1984).
7. M.H.W. Chan, A.D. Migone, K.D. Miner and Z.R. Li, "Thermodynamic Study of Phase Transitions of Monolayer N<sub>2</sub> on Graphite", *Phys. Rev. B* **30**, 2681 (1984).
8. A.D. Migone, J. Krim, J.G. Dash and J. Suzanne, "Incomplete Wetting of the <sup>4</sup>He Films on Ag and Au(111) Surfaces", *Phys. Rev. B* **31**, 7643 (1985).
9. T.S. Sullivan, A.D. Migone and O.E. Vilches, "Adsorption Isotherms and Heat Capacity of <sup>4</sup>He Adsorbed on MgO Smoke", *Surf. Sci.* **162**, 461 (1985).
10. R.E. Ecke, J. Ma, A.D. Migone and T.S. Sullivan, "The Effects of Substrate Heterogeneity and Adsorption Isotherms near a 2-D Gas-Liquid Critical Point", *Phys. Rev. B* **33**, 1746 (1986).
11. A.D. Migone, J.G. Dash, M. Schick and O.E. Vilches, "Triple Point Wetting of Neon Films", *Phys. Rev. B* **34**, 6322 (1986).
12. A.D. Migone, A. Hofmann, J.G. Dash and O.E. Vilches, "Triple Point Wetting of H<sub>2</sub> Films Adsorbed on Silver", *Phys. Rev. B* **37**, 5440 (1988).
13. S. Zhang and A.D. Migone, "The Melting Transition of the S<sub>1</sub> Phase of Ethane Adsorbed on Graphite", *Phys. Rev. B* **38**, 12039 (1988).
14. T. Ahmed, K.W. Johnson, A.D. Migone, J.W. Monzyk and G. Yang, "QNDE of a 3-D Carbon-Carbon Composite using Photoacoustic Microscopy", *Review of Progress in Quantitative Non-Destructive Evaluation*, Vol 7B, 979 (1988).
15. S. Zhang and A. D. Migone, "Melting Transition from the S<sub>1</sub> and S<sub>2</sub> Phases of Ethane Adsorbed on Graphite", *Surf. Sci.* **222**, 31 (1989).

16. G. Yang and A.D. Migone, "Low Temperature Specific Heat Measurement of a Carbon-Carbon Composite", *Cryogenics* **29**, 1154 (1989).
17. S. Zhang and A. D. Migone, "Heat-capacity study of bilayer ethane films adsorbed on graphite", *Phys. Rev. B* **42**, 8674 (1990).
18. M.T. Alkhafaji and A.D. Migone, "Vapor-Pressure study of the melting of two dimensional Argon adsorbed on BN", *Phys. Rev. B* **43**, 8741 (1991).
19. G. Yang, A.D. Migone and K.W. Johnson, "Automated apparatus for the Determination of the Specific Heat and the Thermal Diffusivity of Nonconducting Solids using ac Techniques", *Rev. Sci. Instrum.* **62**, 1836 (1991).
20. G. Yang, A.D. Migone and K.W. Johnson, "Heat capacity and thermal diffusivity of a glass sample", *Phys. Rev. B* **45**, 157 (1992).
21. M. T. Alkhafaji and A. D. Migone, "Heat capacity study of acetylene on graphite", *Phys. Rev. B* **45**, 5729 (1992).
22. M. T. Alkhafaji and A. D. Migone, "Multilayer adsorption isotherm study of Ar films on Boron Nitride", *Phys. Rev. B* **45**, 8767 (1992).
23. A. D. Migone, M. T. Alkhafaji, G. Vidali and M. Karimi, "Thermodynamic study of Argon films adsorbed on Boron Nitride", *Phys. Rev. B* **47**, 6685 (1993).
24. M. T. Alkhafaji and A. D. Migone, "Heat Capacity Study of the melting of submonolayer butane films adsorbed on graphite", *Phys. Rev. B* **48**, 1761 (1993).
25. G. Yang, A. D. Migone and K. W. Johnson, "Relationship between Thermal Diffusivity and Mean Free Path", *Am. J. of Phys.* **62**, 370 (1994).
26. P. Shrestha, M. T. Alkhafaji, M. M. Lukowitz, G. Yang and A. D. Migone, "Adsorption Studies on Boron Nitride Substrates", *Langmuir* **10**, 3244 (1994).
27. M. T. Alkhafaji, P. Shrestha and A.D. Migone, "Adsorption-isotherm Study of Monolayer Films of N<sub>2</sub> on BN", *Phys. Rev. B* **50**, 15 (1994).
28. John M. Meldrim and Aldo D. Migone, "Vapor-pressure-isotherm Study of Monolayer CO films adsorbed on BN", *Phys. Rev. B* **51**, 4435 (1995).
29. Praful Shrestha and Aldo D. Migone, "Adsorption isotherm study of multilayer N<sub>2</sub> films on BN", *Phys. Rev. B* **54**, 17102 (1996).

30. W. Li, P. Shrestha, A.D. Migone, A. Marmier and C. Girardet, "Monolayer Kr films adsorbed on BN", *Phys. Rev. B* **54**, 8833 (1996).
31. M.T. Alkhafaji and A.D. Migone, "Heat-capacity study of butane on graphite", *Phys. Rev. B* **53**, 11152 (1996).
32. Ruth Ann Wolfson, Liv M. Arnold, Praful Shrestha, and Aldo D. Migone, "Comparative Study of the Substrate Quality of BN Powders", *Langmuir* **12**, 2868 (1996).
33. M.-a. Lee, M.T. Alkhafaji and A.D. Migone, "Heat-Capacity Study of Monolayer Propane on Graphite", *Langmuir* **13**, 2791 (1997).
34. E. B. Mackie, R. A. Wolfson, L.M. Arnold, K. Lafdi and A. D. Migone, "Adsorption Studies of Methane Films on Catalytic Carbon Nanotubes and on Carbon Filaments", *Langmuir* **13**, 7197 (1997).
35. K. Tejasen, A. Diama, D. Wittmer and A. D. Migone, "Development of Boron Carbide as a Suitable Substrate for Physisorption Studies", *Langmuir* **14**, 1769 (1998).
36. A. Diama and A. D. Migone, "Multilayer Krypton Films adsorbed on BN", *Phys. Rev. B* **60**, 16103 (1999).
37. E. B. Mackie, D. H. Galvan, E. Adem, S. Talapatra, G. Yang and A. D. Migone, "Production of WS<sub>2</sub> Nanotubes by an Activation Method", *Adv. Mater.* **12**, 495 (2000).
38. S. E. Weber, S. Talapatra, C. Journet, A. Zambano and A. D. Migone, "Determination of the Binding Energy of methane on single-walled carbon nanotube bundles", *Phys. Rev. B* **61**, 13150 (2000)
39. S. Talapatra, A. J. Zambano, S. E. Weber, and A. D. Migone, "Gases do not adsorb on the interstitial channels of closed-ended single-walled carbon nanotube bundles", *Phys. Rev. Lett.* **85**, 138 (2000).
40. E. B. Mackie, D. H. Galvan, and A. D. Migone, "Methane Adsorption on Planar WS<sub>2</sub> and on WS<sub>2</sub>-Fullerene and -Nanotube Containing Samples", *Adsorption* **6**, 169 (2000).
41. M-A. Lee, S. E. Weber, D. Wittmer, R. Koc, N. Dolan and A. D. Migone, "Adsorption Isotherm Studies on Titanium Carbide Powders", *Adsorption* **6**, 213 (2000).
42. Da-Ming Zhu, Antonio Zambano, Aldo Migone, and Steven Harrington, "Thermal conductance and wettability of xenon on resorcinol-formaldehyde aerogels", *Phys. Rev. E* **63**, 011404 (2001)



43. A. J. Zambano, S. Talapatra, and A. D. Migone, "Binding Energy and Monolayer Capacity of Xe adsorbed on single-wall carbon nanotubes", *Phys. Rev. B* **64**, 075415 (2001).
44. S. Talapatra and A. D. Migone, "Existence of novel quasi-one-dimensional phases of atoms adsorbed on the exterior surface of close-ended single wall nanotube bundles", *Phys. Rev. Lett.* **87**, 206106 (2001).
45. S. Talapatra and A. D. Migone, "Adsorption of methane on bundles of closed-ended single-wall carbon nanotubes", *Phys. Rev. B* **65**, 045416 (2002).
46. A. J. Zambano, S. Talapatra, K. Lafdi, M. T. Aziz, W. Mc Millin, G. Shaughnessy, A. D. Migone, M. Yudasaka, S. Iijima, F. Kokai and K. Takahashi, "Adsorbate binding energy and adsorption capacity of xenon on carbon nanohorns", *Nanotechnology* **13**, 201 (2002).
47. S. Talapatra, D. S. Rawat and A. D. Migone, "Possible existence of a higher coverage quasi-one-dimensional phase of argon adsorbed on bundles of single-walled carbon nanotubes", *J. Nanosci. Nanotech.* **2**, 467 (2002).
48. S. Talapatra, V. Krungleviciute and A. D. Migone. "Higher Coverage Gas Adsorption on the Surface of Carbon nanotubes: Evidence for a possible New Phase in the Second Layer", *Phys. Rev. Lett.* **89**, 246106 (2002).
49. D. Rawat, S. Talapatra, K. Lafdi, and A. D. Migone, "Use of novel carbon-nanofiber-doped carbon liquid crystals as suitable adsorbents for hydrogen", *Appl. Physics A* **78**, 969 (2004).
50. V. Krungleviciute, L. Heroux, S. Talapatra, and A. D. Migone, "Gas Adsorption on HiPco Nanotubes: Surface Area Determinations, and Neon Second Layer Data", *Nano Lett.* **4**, 1133-1137 (2004).
51. V. Krungleviciute, L. Heroux, A. D. Migone, C. T. Kingston, B. Simard "Isosteric Heat of Argon Adsorbed on Single-Walled Carbon Nanotubes Prepared by Laser Ablation", *J. Phys. Chem. B* **109**, 9317-9320 (2005).
52. D. S. Rawat, L. Heroux, V. Krungleviciute, and A. D. Migone "Adsorption of Xenon on Purified HiPco Single Walled Carbon Nanotubes", *Langmuir* **22**, 234-238 (2006).
53. L. Heroux, V. Krungleviciute, M. M. Calbi, and A. D. Migone "CF<sub>4</sub> on Carbon Nanotubes: physisorption on grooves and external surfaces", *J. Phys. Chem. B* **110** 12597-12602 (2006).
54. D. S. Rawat, N. Taylor, S. Talapatra, S. K. Dhali, P. M. Ajayan and A. D. Migone "Effect of Surface Cleaning and Functionalization of Nanotubes on Gas Adsorption", *Phys. Rev. B* **74**, 113403 (2006).

55. V. Krungleviciute, K. Lask, L. Heroux, A. D. Migone, J.-Y. Lee, J. Li, A. Skoulidas, "Argon adsorption on  $\text{Cu}_3(\text{BTC})_2(\text{H}_2\text{O})_3$  (BTC=Benzene-1,3,5-tricarboxylate) metal-organic framework", *Langmuir*, **23**; 3106-3109 (2007).
56. D. Rawat and A. D. Migone, "Phases of Ethane adsorbed on purified HiPco single-walled carbon nanotubes" *Phys. Rev. B* **75**, 195440-1-5 (2007).
57. Dinesh S. Rawat, M. Mercedes Calbi, Aldo D. Migone, "Equilibration Time: Kinetics of Gas adsorption on closed and open-ended Single Walled Carbon Nanotubes", *J. Phys. Chem. C.*, **11** 12980-12986 (2007).
58. Krungleviciute, Vaiva; Calbi, Maria; Wagner, Jeff; Migone, Aldo; Yudasaka, Masako; Iijima, Sumio, "Probing the structure of carbon nanohorn aggregates by adsorbing gases of different size " *J. Phys. Chem. C* **112** 5742 -5746 (2008).
59. V. Krungleviciute, K. Lask, A. D. Migone, J.-Y. Lee, J. Li, "Kinetics and equilibrium of gas adsorption on RPM1-Co and Cu-BTC metal-organic frameworks: potential for gas separation applications", *AIChE J.* **54** 918-923 (2008).
60. D. S Rawat; V. Krungleviciute; L. Heroux; M. Bulut; M. M. Calbi and A. D. Migone, "Dependence of single-walled carbon nanotubes' adsorption kinetics on temperature and binding energy", *Langmuir* **24** 13465-13469 (2008).
61. V. Krungleviciute, A. D. Migone, M. Pepka, "Characterization of single-walled carbon nanohorns using neon adsorption isotherms", *Carbon* **47**, 769-774 (2009)
62. D. S. Rawat, T. Furuhashi and A. D. Migone, "Study of butane monolayer adsorbed on Single-walled carbon nanotubes", *Langmuir* **25**, 973-976 (2009)
63. D. S. Rawat, A. D. Migone, J. L. Riccardo, A. J. Ramirez-Pastor, F. J. Roma, "Surface Area Measurements with Linear Adsorbates: An Experimental Comparison of Different Theoretical Approaches", *Langmuir* **25**, 9227-9231 (2009)

#### NON-REFEREED CONFERENCE PROCEEDINGS

1. S. Zhang and A. D. Migone, "Heat capacity studies of ethane adsorbed on graphite at high coverages", Symposia Structure of Jet Fuels III, Division of Petroleum Chemistry, American Chemical Society **37**, 560 (1992).
2. S. E. Weber, S. Talapatra, C. Journet and A. D. Migone, "Direct Measurement of binding energy via adsorption of methane on SWNT", *Science and Applications of Nanotubes*, ed. by D. Tomanek and R. J. Enbody, pg 215, Kluwer Academic, New York (2000).

## BOOK CHAPTERS

1. A. D. Migone and S. Talapatra, "Gas Adsorption on Carbon Nanotubes", Encyclopedia of Nanoscience and Nanotechnology, H. S. Nalwa, Ed., American Scientific Publishers, Los Angeles (2004) vol. 4, pg. 749.
2. A. D. Migone, "Adsorption on carbon nanotubes: experimental results", in "Adsorption by Carbons", ed. by J. M. D. Tascon, Elsevier, August 2008.

## IX. SELECTED INVITED TALKS

- "Adsorption Studies on Carbon nanotubes" at the University of Washington, Seattle, 2001
- "Adsorption Studies on Carbon Nanotubes" at the University of Missouri-Columbia, 2001
- "Estudios de Adsorción en Nanotubos de Carbono", at the Universidad Peruana Cayetano Heredia, Lima, Peru, 2001
- "Adsorption Studies on Carbon Nanotubes", at the Pennsylvania State University, 2001
- "Two-dimensional phases and phase transitions: the case of Kr on BN", at the University of Texas at El Paso, 2001
- "Gas Adsorption Studies on As-Produced Carbon Nanotubes", Invited paper presented at the March 2002 Meeting of the American Physical Society, Indianapolis, March 18-22 2002, *Bull. Am. Phys. Soc.* **47**, 1157 (2002)
- "Gas Adsorption on Carbon Nanotubes", at the National Research Council of Canada, Ottawa, Canada, 2002
- "Gas Adsorption Studies on HiPco and Laser Ablation Nanotube Bundles", Invited paper presented at the March 2004 Meeting of the American Physical Society, Montreal, Quebec, Canada, March 22-26, *Bull. Am. Phys. Soc.* **49**, 1285-1286, (2004)
- "Gas Adsorption on carbon nanostructures", invited talk at the 52<sup>nd</sup> Midwest Solid State Conference, Columbia Missouri, October 2005
- "Gas adsorption on carbon nanotubes" at the University of Virginia, Charlottesville, VA, March, 2006
- "Gas adsorption on carbon nanotubes: the effect of adsorbate size", at the University of Missouri at Kansas City, April 2006

- “Gas adsorption on carbon nanotubes: the role of adsorbate size”, at the University of Texas at El Paso, May 2006
- “Nanotubos de Carbono”, part of the series “Ciencia de Frontera” organized jointly by the Universidad Autonoma de Ciudad Juarez and the University of Texas at El Paso, Ciudad Juarez, Mexico, May 2006
- “Adsorción en Materiales Nanoestructurados” a series of five talks (three by A. D. Migone, two by his student, Ms. V. Krungleviciute) that was converted into a short graduate level course at the Universidad Nacional San Luis, Argentina; July 26- August 3 2007
- “Gas adsorption on carbon nanotubes: the role of adsorbate size”, at the Department of Physics of the Universidad Nacional de Buenos Aires, August 7, 2007
- “Adsorption Kinetics on Bundles of Carbon Nanotubes: results on closed- and open-ended tubes”, at the Department of Physics TANDAR, Centro Atómico Constituyentes (CAC), Comisión Nacional de Energía Atómica (CNEA), Argentina, August 10, 2007.
- “Adsorption Kinetics: Alkanes Adsorbed on Bundles of SWNTs” at the Universidad Nacional San Luis, Argentina; May 2008
- “Adsorption on Nanoporous substrates: Potential for Gas Separation Applications”, at the Instituto de Investigaciones de Fisico-Química Teórica y Aplicada, CONYCECET, La Plata, Argentina, June 2008

## X. ABSTRACTS AND PAPER PRESENTATIONS

A.D. Migone and M.H.W. Chan, "Heat Capacity Study of Adsorbed  $\text{CH}_4$  Methane Films on Exfoliated Graphite", International Conference on Phase Transitions on Surfaces, Orono, Maine 3-7 August 1981; Abstracts and Programs of the Intl. Conference, pg 70

A.D. Migone, H.K. Kim and M.H.W. Chan, "Heat Capacity Study of the Orientational Ordering Transition of Monolayer  $\text{N}_2$  Adsorbed on Graphite" Spring 1982 Meeting of the American Physical Society, 26-29 April, Washington, D.C. ; A.P.S. Bulletin **27**, 500 (1982)

A.D. Migone, Z.R. Li and M.H.W. Chan, "Heat Capacity Study of the Orientational Transition of Nitrogen-Argon Mixtures Adsorbed on Graphite" Spring 1983 Meeting of the American Physical Society, 18-21 April, Baltimore, Maryland; A. P. S. Bulletin **28**, 694 (1983)

A.D. Migone, Z.R. Li and M.H.W. Chan, "Heat Capacity Study of Argon Adsorbed on Graphite" March Meeting of the American Physical Society, 26-30 March, Detroit, Michigan; A. P. S. Bulletin **29**, 267 (1984)

K.D. Miner, A.D. Migone and M.H.W. Chan, "Experimental Determination of a Two-Dimensional Tricritical point" March Meeting of the American Physical Society, 26-30 March, Detroit, Michigan; A. P. S. Bulletin **29**, 267 (1984)

J. Krim, A.D. Migone, J.G. Dash and J. Suzanne, "Incomplete Wetting of  $^4\text{He}$  on Au (111)" March Meeting of the American Physical Society, 25-29 March, Baltimore, Maryland; A.P.S. Bulletin **30**, 218 (1985)

A.D. Migone, J.G. Dash and O.E. Vilches, "Wetting Behavior of Neon Films" March Meeting of the American Physical Society, 31 March - 4 April, Las Vegas, Nevada; A. P. S. Bulletin **31**, 279 (1986)

A.D. Migone, A. Hofmann, D. Dany, J.G. Dash and O.E. Vilches. "The Wetting Behavior of  $\text{H}_2$  Films Adsorbed on a Silver-Electrode Quartz Microbalance", March 1987 Meeting of the American Physical Society, 16-20 March, New York, New York; A. P. S. Bulletin **32**, 433 (1987)

S. Zhang and A.D. Migone, "The Melting Transition of the  $\text{S}_1$  Phase of Ethane Adsorbed on Graphite", March 1988 Meeting of the American Physical Society, 21-25 March, New Orleans, Louisiana; A. P. S. Bulletin **33**, 283 (1988)

S. Zhang and A.D. Migone, "Melting Transitions from the  $\text{S}_1$ - $\text{S}_2$  Coexistence Region of Ethane Adsorbed on Graphite", March Meeting of the American Physical Society, 20-24 March, St. Louis, Missouri; A. P. S. Bulletin **34**, 798 (1989)

G. Yang and A.D. Migone, "Low Temperature Measurements of the Specific Heat and Thermal Conductivity of a Carbon-Carbon Composite" March Meeting of the American Physical Society, 20-24 March, St. Louis, Missouri; A. P. S. Bulletin **34**, 458 (1989)

Mazin T. Alkhafaji and A. D. Migone, "Adsorption isotherm of  $\text{N}_2$  on Boron Nitride", March Meeting of the American Physical Society, 16-21 March, Anaheim, California; A. P. S. Bull. **35**, 592 (1990)

S. Zhang and A. D. Migone "Bilayer Melting of Ethane Adsorbed on Graphite", March Meeting of the American Physical Society, 16-21 March, Anaheim, California; A. P. S. Bull. **35**, 592 (1990)

S. Zhang and A. D. Migone "Heat Capacity Studies of Ethane adsorbed on Graphite at high coverages", poster presented at the NATO Advanced Study Institute on Phase Transitions in Surface Films, Erice, Italy (June 1990).

M.T. Alkhafaji and A. D. Migone "Vapor Pressure Study of Argon Adsorbed on BN", March Meeting of the American Physical Society, 18-22 March, Cincinnati, Ohio; A. P. S. Bull. **36**, 714 (1991)

G. Yang, A. D. Migone and K. W. Johnson "Apparatus for the Determination of the Specific Heat and Thermal Diffusivity of Solids", March Meeting of the American Physical Society, 18-22 March, Cincinnati, Ohio; A. P. S. Bull. **36**, 1021 (1991)

G. Yang, A. D. Migone and K. W. Johnson "Heat capacity and thermal diffusivity of a glass sample", March Meeting of the American Physical Society, 16-20 March, Indianapolis, IN; A.P.S. Bull. **37**, 534 (1992)

M. T. Alkhafaji and A. D. Migone "Multilayer adsorption isotherm study of Ar films on Boron Nitride", March Meeting of the American Physical Society, 16-20 March, Indianapolis, IN; A.P.S. Bull. **37**, 544 (1992)

M. T. Alkhafaji and A. D. Migone "Heat capacity study of acetylene on graphite", March Meeting of the American Physical Society, 16-20 March, Indianapolis, IN; A.P.S. Bull. **37**, 545 (1992)

A. D. Migone and M. T. Alkhafaji "Heat capacity study of the Melting of submonolayer butane on graphite", March meeting of the American Physical Society, March 22-26 1993, Seattle, WA; A. P. S. Bull. **38**, 748 (1993)

M. T. Alkhafaji and A. D. Migone "Adsorption studies of monolayer N<sub>2</sub> adsorbed on BN", March meeting of American Physical Society, March 22-26 1993, Seattle, WA; A. P. S. Bull. **38**, 748 (1993)

M. Lukowitz, P. Shrestha and A. D. Migone, "Adsorption studies on boron nitride substrates" Fourth Annual Argonne Symposium for undergraduates in Science, Engineering and Mathematics

J. M. Meldrim and A. D. Migone, "Adsorption studies of monolayer CO on BN", March meeting of the American Physical Society, March 21-25, Pittsburgh, Pa.; A. P. S. Bull. **39**, 795 (1994)

P. Shrestha, M. T. Alkhafaji and A. D. Migone, "Adsorption studies of N<sub>2</sub> films on BN", March meeting of the American Physical Society, March 21-25, Pittsburgh, Pa.; A. P. S. Bull. **39**, 795 (1994).

M. T. Alkhafaji and A. D. Migone, "Heat capacity studies of butane on graphite", March meeting of the American Physical Society, March 21-25, Pittsburgh, Pa.; A. P. S. Bull. **39**, 796 (1994)

P. Shrestha and A. D. Migone, "Adsorption isotherm studies of multilayer N<sub>2</sub> adsorbed on BN" March meeting of the American Physical Society, March 21-25, San Jose, California; A. P. S. Bull. **40**, 767 (1995).

P. Shrestha and A. D. Migone, "Multilayer N<sub>2</sub> adsorbed on BN", March meeting of the American Physical Society, March 18-22, Saint Louis, Missouri; A. P. S. Bull. **41**, 193 (1996).

M.-ae Lee and A. D. Migone, "Heat-capacity study of propane adsorbed on graphite", March meeting of the American Physical Society, March 18-22, Saint Louis, Missouri; A. P. S. Bull. **41**, 193 (1996).

W. Li and A. D. Migone, "Monolayer Kr films adsorbed on BN", March meeting of the American Physical Society, March 18-22, Saint Louis, Missouri; A. P. S. Bull. **41**, 193 (1996).

R. A. Wolfson, L. Arnold, P. Shrestha and A. D. Migone, "Quality of four grades of BN as substrates for physisorption studies", March meeting of the American Physical Society, March 18-22, Saint Louis, Missouri; A. P. S. Bull. **41**, 193 (1996).

K. Tejasen, E. B. Mackie, R. A. Wolfson, P. Shrestha, D. Wittmer and A. D. Migone, "Evaluation of Boron Carbide as substrate for physisorption" Seventh Annual Argonne Symposium for undergraduates in Science, Engineering and Mathematics, 119 (1996).

L. M. Arnold, P. Shrestha, M. Desai and A. D. Migone, "Multilayer adsorption isotherm study of methane films on BN" Seventh Annual Argonne Symposium for undergraduates in Science, Engineering and Mathematics. 120 (1996).

E. B. Mackie, L. M. Arnold, K. Lafdi and A. D. Migone, "Vapor pressure isotherm studies of simple molecules adsorbed on catalytic carbon nanotubes", Seventh Annual Argonne Symposium for undergraduates in Science, Engineering and Mathematics. 121 (1996).

E. B. Mackie, K. Lafdi and A. D. Migone, "Adsorption isotherm studies on catalytic carbon nanotubes", March meeting of the American Physical Society, March 17-21, Kansas City, Missouri; A. P. S. Bull. **42**, 271 (1997).

M. -Ae Lee and A. D. Migone, "Heat-capacity study of propane on graphite", March meeting of the American Physical Society, March 17-21, Kansas City, Missouri; A. P. S. Bull. **42**, 493 (1997).

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- R. Mackie, D. Galvan and A. Migone, "HRTEM and Adsorption Studies on WS<sub>2</sub> Nanotubes," Bull. Am. Phys. Soc., **44**, 1889 (1999).
- S. Weber, E. Mackie, and A. Migone, "Adsorption Studies on Single-Walled and Multiwalled Carbon Nanotubes," Bull. Am. Phys. Soc., **44**, 1890 (1999).
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- S. E. Weber, S. Talapatra, A. J. Zambano, and A. D. Migone, "Determination of the binding energy of methane on SWNT's", Bull. Am. Phys. Soc., **45**, 827 (2000)
- S. Talapatra, A. J. Zambano, and A. D. Migone, "Low-coverage Adsorption Studies of Neon on SWNT's", Bull. Am. Phys. Soc., **45**, 827 (2000)
- A. J. Zambano, S. Talapatra and A. D. Migone, "Binding energy determination of Xe on the IC spaces of SWNT's by adsorption", Bull. Am. Phys. Soc., **45**, 827 (2000)
- A. D. Migone, S. Talapatra and A.J. Zambano, "Gas Adsorption of Close-ended Single Walled Carbon Nanotubes", MTC-IAB Meeting, Urbana, Illinois, April 26<sup>th</sup>, 2000.
- A. D. Migone, S. Talapatra, "Adsorption Studies on Carbon Nanotubes", MTC-IAB Meeting, Carbondale, Illinois, December 2000.
- D.-M. Zhu, A. J. Zambano, A. D. Migone, S. Harrington and N. Rao, "Thermal conductance and wettability of Xe on resorcinol-formaldehyde aerogels", Bull. Am. Phys. Soc, **46**, 781 (2001)
- S. Talapatra, A. J. Zambano, N. Dolan and A. D. Migone, "Stage-wise filling of various gases on SWNT Bundles", Bull. Am. Phys. Soc, **46**, 1167 (2001)
- A. J. Zambano, W. McMillin, K. Takahashi, F. Kokai, M. Yudasaka, S. Iijima, S. Talapatra and A. D. Migone, "Adsorption studies of Xenon on carbon nanohorns", Bull. Am. Phys. Soc, **46**, 1168 (2001)



S. Talapatra, N. Dolan and A.D. Migone “Xenon adsorption on the outer surface of SWNT Bundles” paper presented at NT01 (Nanotube 2001), International Workshop on the Science and Application of Nanotubes, Postdam, Germany (July 22-26, 2001)

S. Talapatra, A. J. Zambano, K. Lafdi, T. Aziz, G. Shaughnessey, et al. “Adsorption studies of xenon on carbon nanohorns” paper presented at NT01 (Nanotube 2001), International Workshop on the Science and Application of Nanotubes, Postdam, Germany (July 22-26, 2001)

S. Talapatra and A. D. Migone “Adsorption studies of gases on bundled of close-ended single-wall carbon nanotubes”, presented at CNT10. “Tsukuba Carbon nanotube Symposium: 10<sup>th</sup> anniversary of the Discovery of the Nanotube, Tsukuba, Japan (October 3-5, 2001)

Invited Paper: Aldo Migone “Gas Adsorption Studies on As-Produced Carbon Nanotubes” presented at the March 2002 Meeting of the American Physical Society, Indianapolis, *Bull. Am. Phys. Soc.* **47**, 1157 (2002)

D. S. Rawat, S. Talapatra, and A. D. Migone, “Adsorbed phases of argon on close ended single walled carbon nanotube bundles”, *Bull. Am. Phys. Soc.* **47**, 1088 (2002)

S. Talapatra and A. D. Migone, “Hydrogen adsorption on as-produced close ended single walled nanotube bundles”, *Bull. Am. Phys. Soc.* **47**, 1158 (2002)

V. Krungleviciute, S. Talapatra, and A. D. Migone “Higher Coverage Gas Adsorption on the Surface of Carbon Nanotubes”, NT02 (Nanotube 2002), Boston, July 5-July 11, 2002

V. Krungleviciute, S. Talapatra and A. D. Migone, “Adsorption isotherm studies of Neon on the outer surface of carbon nanotube bundles”, *Bull. Am. Phys. Soc.* **48**, 589 (2003)

D. Rawat, S. Talapatra, A. D. Migone and K. Lafdi, “H<sub>2</sub> and N<sub>2</sub> adsorption on Activated-Nanofiber-Doped Carbon Liquid Crystals”, *Bull. Am. Phys. Soc.* **48**, 589 (2003)

V. Krungleviciute, A. D. Migone, S. Denommee, B. Simard “Argon adsorption on Close-ended Single-Wall Carbon Nanotube Bundles” American Institute of Chemical Engineers Annual Meeting, November 16-21, San Francisco, CA (2003)

Invited paper: A. D. Migone “Gas Adsorption Studies on HiPco and Laser Ablation Nanotube Bundles”, presented at the March 2004 Meeting of the American Physical Society, Montreal, Quebec, Canada, March 22-26, *Bull. Am. Phys. Soc.* **49**, 1285-1286, (2004)

V. Krungleviciute, L. Heroux, A. D. Migone “Neon adsorption isotherms on carbon nanohorns” American Physical Society Meeting, 21-25 March, Los Angeles, CA (2005).

D. Rawat, L. Heroux, V. Krungleviciute, A. D. Migone “Adsorption of Xenon on Hipco Single Walled Carbon Nanotubes” American Physical Society Meeting, 21-25 March, Los Angeles, CA (2005).

L. Heroux, V. Krungleviciute, D. Rawat, A.D. Migone “Adsorption of Tetrafluoromethane on HiPco Purified SWNTs” American Physical Society Meeting, 21-25 March, Los Angeles, CA (2005).

L. Heroux, V. Krungleviciute, and A. D. Migone “Tetrafluoromethane Adsorbed on Hipco Nanotubes” American Institute of Chemical Engineers Annual Meeting, October 30 – November 4, Cincinnati, OH (2005).

V. Krungleviciute, K. Lask, A. D. Migone, B. Buller, T. Beattie, U. Venkateswaran “Neon adsorption on single walled carbon nanohorns” American Physical Society Meeting, 13-17 March, Baltimore, MD (2006).

K. Lask, V. Krungleviciute, L. Heroux, A. D. Migone, J.-Y. Lee, J. Li “Argon adsorption on a microporous metal organic framework,  $\text{Cu}_3(\text{BTC})_2(\text{H}_2\text{O})_3$  (Benzene-1,3,5-tricarboxylate)” American Physical Society Meeting, 13-17 March, Baltimore, MD (2006).

D. S. Rawat and A. D. Migone, “Phases of Ethane adsorbed on purified HiPco single walled carbon nanotubes” American Physical Society, 13-17 March, Baltimore, MD (2006).

V. Krungleviciute, A. D. Migone, Ben Buller, Alexandra Ciungu, U. D. Venkateswaran, M. Yudasaka, S. Iijima, M. J. Pepka “Neon adsorption isotherm studies on single walled carbon nanohorns” American Institute of Chemical Engineers Annual Meeting, November 12-17, San Francisco, CA (2006).

V. Krungleviciute, K. Lask, L. Heroux, A. D. Migone, J.-Y. Lee, J. Li, A. Skoulidas “Argon adsorption on  $\text{Cu}_3(\text{BTC})_2(\text{H}_2\text{O})_3$  metal-organic frameworks” American Institute of Chemical Engineers Annual Meeting, November 12-17, San Francisco, CA (2006).

K. Lask, V. Krungleviciute, A. D. Migone, J.-Y. Lee, J. Li, “Gas separation using novel materials: kinetics of gas adsorption on RPM-1 and Cu-BTC metal-organic frameworks”, Meeting of the American Physical Society, Denver, March 5-9 2007

M. Bulut, D. Rawat, A. D. Migone, “Evidence of a possible phase transition in ethane adsorbed on purified HiPco nanotubes”, Meeting of the American Physical Society, Denver, March 5-9 2007

V. Krungleviciute, D. Rawat, M. Bulut, L. Heroux, A. D. Migone, “Dependence of single walled carbon nanotubes’ adsorption kinetics on temperature and binding energy”, Meeting of the American Physical Society, Denver, March 5-9 2007

K. Lask, V. Krungleviciute, M. Bulut, A. D. Migone, J.-Y. Lee, J. Li “Kinetic and steric differences in adsorption in two porous metal-organic frameworks”, Meeting of the American Physical Society, New Orleans, March 10-14, (2008)

V. Krungleviciute, M. Yudasaka, S. Iijima, A. D. Migone, “Adsorption of neon and tetrafluoromethane on carbon nanohorn aggregates: differences in specific surface area values” Meeting of the American Physical Society , New Orleans, March 10-14, (2008)

T. Furuhashi, D. S. Rawat and A. D. Migone, “Study of Butane adsorption on Purified HiPco Carbon Nanotubes”, Meeting of the American Physical Society , New Orleans, March 10-14, (2008)

M. Bulut, D. S. Rawat, A. D. Migone “Adsorption Kinetics of CH<sub>4</sub> on Purified HiPco Single-Walled Carbon Nanotubes”, Meeting of the American Physical Society, New Orleans, March 10-14, (2008)

D. S. Rawat, M. Bulut, A. D. Migone, “Adsorption Kinetics of Alkanes on Purified HiPco Nanotubes” Meeting of the American Physical Society, New Orleans, March 10-14, (2008)

D. S. Rawat, T. Furuhashi, A. D. Migone, J. A. Ramirez-Pastor, F. Roma, J. L. Riccardo, “Alkanes adsorbed on carbon nanotubes: specific surface area and adsorption kinetics”, Meeting of the American Physical Society, Pittsburgh, PA , March 16-20, (2009)

T. Furuhashi, D. S. Rawat and A. D. Migone, “”Study of Propane films adsorbed on Purified HiPco Nanotubes”, Meeting of the American Physical Society, Pittsburgh, PA , March 16-20, (2009)

X. Zhang, D. S. Rawat, T. Furuhashi, R. Shah, A. D. Migone, S. Talapatra, “Hydrogen Adsorption on metal-coated multilayer carbon nanotubes”, Meeting of the American Physical Society, Pittsburgh, PA , March 16-20, (2009)

V. Krungleviciute, A. D. Migone, M. Yudasaka, S. Iijima, “Oxidized dahlia-like carbon nanohorns: adsorption of argon, methane and nitrogen”, Meeting of the American Physical Society, Portland, OR , March 15-19, (2010)

V. Krungleviciute, A. D. Migone, K. Li, J. Li, “Argon adsorption on Co-FA porous metal-organic framework”, Meeting of the American Physical Society, Portland, OR, March 15-19, (2010)

J. Bohorquez , V. Krungleviciute , A. D. Migone , M. Yudasaka , S. Iijima, “CO<sub>2</sub> adsorption on single-walled dahlia-like carbon nanohorns”, Meeting of the American Physical Society, Portland, OR, March 15-19, (2010)

D. S. Rawat, T. Furuhashi, A. D. Migone, “Dependence of adsorption kinetics on the length of the alkane adsorbate”, Meeting of the American Physical Society, Portland, OR, March 15-19, (2010)

T. Furuhashi , D. S. Rawat , A. D. Migone, “Study of Ethylene film adsorbed on purified HiPco Single-walled carbon nanotubes”, Meeting of the American Physical Society, Portland, OR, March 15-19, (2010)

## XI. TEACHING

Courses Taught:

Freshman/Sophomore Level:

Integrated Science part I  
University Physics, part A  
University Physics part B  
Modern Physics

Junior/Senior Level:

Thermodynamics  
Electromagnetism I  
Electromagnetism II  
Classical Mechanics II  
Optics

Senior/Graduate Level:

Statistical Mechanics I  
Statistical Mechanics II  
Special Topics: Phase Transitions  
Special Topics: Adsorption

## XII. STUDENT SUPERVISION:

Undergraduate students advised:

- Mr. Kevin Bliss  
- Mr. Yuzo Toya

- Mr. Koon Kim Ong  
- Ms. Liv Arnold

- Ms. Michelle Lukowitz  
- Ms. Erica Mackie

- Ms. Kanvasi Tejasen
- Mr. Weylin McMillin
- Mr. Dutch Minnot
- Mr. Brad Musick
- Mr. Toyohisa Furuhashi
- Ms. Sarah Weber
- Ms. Beth Barker
- Ms. Naomi Taylor
- Ms. Kathleen Lask
- Mr. Brice Russell
- Mr. Nathan Dolan
- Mr. Gabriel Shaughnessy
- Mr. Luke Heroux
- Ms. Margaret Bialecki

Master's Students advised:

- Mr. Shu Zhang
- Mr. Praful Shrestha
- Ms. Wenkum Li
- Mr. Saikat Talapatra
- Mr. Tareque Aziz
- Mr. Murat Bulut
- Mr. Mazin Alkhafaji
- Ms. Myung-ae Lee
- Ms. Shyamali Saha
- Mr. Antonio Zambano
- Ms. Vaiva Krungleviciute
- Mr. Toyohisa Furuhashi
- Mr. Mark Meldrim
- Ms. Ruth Anne Wolfson
- Mr. Armand Diama
- Mr. Dinesh Rawat
- Mr. Luke Heroux

Doctoral Students advised:

- Dr. Guoliang Yang, dissertation supervisor jointly with Prof. K. W. Johnson, degree in Molecular Science received in 1992
- Dr. Shu Zhang, dissertation supervisor, Ph.D. in Molecular Science, degree received in 1994
- Dr. Mazin Alkhafaji, dissertation supervisor, Ph. D. in Molecular Science, degree received in 1996
- Dr. Richard Holland, co-Chair dissertation committee with Prof. K. Johnson, Ph. D. in Molecular Science, degree received in 1999.
- Dr. Myung-ae Lee, dissertation supervisor jointly with Prof. D. Wittmer, Ph. D. in Engineering Science, degree received in 2000
- Dr. Saikat Talapatra, dissertation supervisor, Ph. D. in Engineering Science, degree received in 2002
- Dr. Vaiva Krungleviciute, dissertation supervisor, Ph.D. in Applied Physics, degree received in August 2009
- Mr. Dinesh Rawat, currently enrolled in the Ph.D. in Applied Physics, dissertation supervisor
- co-advisor for Mr. Alerto Albesa, from the Universidad Nacional de La Plata

### XIII. UNIVERSITY SERVICE

- Member of the Graduate Committee of the Department of Physics since 1986
- Member of the Executive Committee of the Molecular Science Program, 1991-1994
- Graduate Advisor in the Department of Physics from 1994 to 1999.
- Member of the College Operating Paper Committee, November 1998 to May 1999
- Member of the University Calendar Committee, October 1998 to August 1999
- Member of ad-hoc committee developing procedures for the evaluation of Deans, 1999
- Member of the College Personnel Committee in 2002
- Member of the selection committee for the Outstanding Teacher in the College of Science 2001 and 2002
- Member of the Development Officer Selection Committee for the College of Science 2004 and 2005
- Elected to the SIU Faculty Senate, representing the College of Science, 2005-2008
- Member of the Budget Committee of the Faculty Senate, 2005-2008
- Member of the Outstanding Researcher of the College of Science Selection Committee, 2006
- Member of the Development Officer Selection Committee for the College of Science 2006-2007
- Member of the university-wide Committee in charge of the selection of the Outstanding Scholar, 2006
- Member of the Presidential Committee Examining Diversity in Graduate Programs at SIU, 2006- 2007
- Member of the Honorary Degree and Distinguished Service Award Committee 2006 and current.
- Member of the Special Committee on Enrollment Management, 2007-2008.
- Member of the Policy Committee for the College of Science 2008 and current.

#### XIV. PROFESSIONAL SERVICE

- Elected Departmental Representative for the Southern Illinois University-Carbondale Faculty Association, 1996-1999
- Elected College Representative for the College of Science for the Southern Illinois University-Carbondale Faculty Association, 1996-1999
- Member of the Executive Board of the Southern Illinois University-Carbondale Faculty Association, 1996-1999

#### XV. OTHER PROFESSIONAL SERVICE

##### *Journal Refereeing*

Refereed articles for: Physical Review Letters, Physical Review B, *Langmuir*, *Advanced Materials*, Review of Scientific Instruments, Applied Physics, *Nano Letters*, Journal of Chemical Physics B, Journal of Physical Chemistry C, Chemical Physics Letters, Surface Science, Industrial & Engineering Chemistry Research, and Journal of Low Temperature Physics

##### *Proposal Refereeing*

- Participated in an NSF interdisciplinary panel on Integrative Graduate Education and Research Traineeship (IGERT) Preliminary Proposals in the area of renewable/alternative energy, from the NSF Directorate for Engineering, Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET)
- Refereed proposals for:
  - the National Science Foundation
  - the Army Research Office
  - the Petroleum Research Fund of the American Chemical Society
  - the Research Corporation
  - the state of Louisiana
  - the Chilean Science Foundation (FONDECYT).

*Evaluated faculty Tenure and Promotion dossiers for:*

- Pennsylvania State University,
- University of Missouri at Kansas City,
- Utah State University,
- Universidad Catolica de Chile,
- Wayne State University,
- University of Texas at El Paso
- University of Memphis
- Duke University