

## CURRICULUM VITAE

### G. P. "BUD" PETERSON

Birth date: September 1, 1952

Birthplace: San Francisco, CA

Marital Status: Married, four children

2601 Canterbury Trail, NE

Atlanta, GA 30324

Citizenship: USA

### PROFESSIONAL INTERESTS:

General: US Policy as it relates to Higher Education, National Education Agenda and Student Success

Technical/Scientific: Phase Change Heat Transfer, Thermal Control of Electronic Components and  
Spacecraft Thermal Control Systems, Conduction and Thermal Contact Resistance

### EDUCATION:

Ph.D. Mechanical Engineering, Texas A&M University, College Station, TX, 1985.

M.S. Engineering, Kansas State University, Manhattan, KS, 1980.

B.S. Mathematics, Kansas State University, Manhattan, KS, 1977.

B.S. Mechanical Engineering, Kansas State University, Manhattan, KS, 1975.

### EXPERIENCE:

*Georgia Institute of Technology, Atlanta, Georgia*

President Emeritus and Regents Professor of Mechanical Engineering, September 1, 2019 – present.

President and Professor of Mechanical Engineering, April 1, 2009 – August 31, 2019.

*University of Colorado, Boulder, Colorado*

Chancellor, July 15, 2006 – March 31, 2009.

Professor of Mechanical Engineering, July 15, 2006 – March 31, 2009.

*Rensselaer Polytechnic Institute, Troy, New York*

Provost and Officer of the Institute, July 1, 2000 – June 30, 2006.

Professor of Mechanical Engineering, July 1, 2000 – June 30, 2006.

*National Science Foundation (NSF), Washington, D.C.*

Program Director, Thermal Transport and Thermal Processing Program, August 1, 1993 - September 31, 1994.

*Texas A&M University, College Station, Texas*

Associate Vice-Chancellor, Texas A&M University System, July 1996 – June 2000.

Executive Associate Dean of Engineering, July 1996 - June 2000.

Head, Department of Mechanical Engineering, Texas A&M University, July 1993 - June 1996.

Tenneco Professor of Mechanical Engineering, September 1991 - June 2000.

Halliburton Professor of Engineering, September 1990 - August 1991.

Division Head, Thermal and Fluid Sciences Division, September 1989 - August 1991.

Professor of Mechanical Engineering, September 1990 - June 2000.

Associate Professor of Mechanical Engineering, September 1988 - August 1990.

Assistant Professor of Mechanical Engineering, June 1985 - August 1988.

Coordinator, Mechanical Engineering Technology, August 1983 - May 1985.

Assistant Professor of Engineering Technology, August 1981 - May 1985.

*NASA-Johnson Space Center, Houston, Texas*

Research Scientist, May 1981 - August 1981; Research Scientist, May 1982 - August 1982.

*Kansas Technical Institute, Salina, Kansas*

Associate Professor and Department Head, General Engineering Technology Department, June 1979 - May 1981.

*Shawnee Mission South High School, Overland Park, Kansas*

Mathematics Teacher, August 1978 - May 1979.

*Wabaunsee County High School, Alma, Kansas*

Mathematics, Physics, and Chemistry Teacher, August 1977 - May 1978.

*Black & Veatch Consulting Engineers, Kansas City, Missouri*  
Associate Engineer, May 1975 - August 1975.

**PROFESSIONAL REGISTRATION:**

Registered Engineer in Training (EIT) – State of Kansas, 4241, 1975.  
Registered Professional Engineer – State of Texas, 64403, 1988-2007.

**NATIONAL RESEARCH COMMITTEES, BOARDS AND COUNCILS – (Last 15 years)**

- Chair, Board of Trustees, Hartford Graduate Center, Inc., July 1, 2000 – 2006.
- Member, Board of Directors, American Institute of Aeronautics and Astronautics (AIAA), AIAA Headquarters, Reston, VA, June 2001 - 2006.
- Member, American Association of Colleges & Universities Greater Expectations Consortium, June 2001 - 2008.
- Member, The National Academies – Space Studies Board, Committee on Microgravity Research, Washington, D.C., October 2001 – 2008.
- Member, Kansas State University Advisory Council, Manhattan, Kansas, September 2002 – present.
- Middle States Commission on Higher Education, Periodic Review Report, External Reviewer and Evaluation Team, 2003 - 2006.
- Accreditation Team Chair, New England Association of Schools and Colleges (NESSC), 2005 - 2006.
- Member, Executive Advisory Council of the National Center for Women in Information Technology (NCWIT), October 2006 – present.
- Executive Committee, American Colleges and Universities President's Climate Commitment, January 1, 2006 - 2010
- Vice Chair, National Security Higher Education Advisory Board, Federal Bureau of Investigation, January 1, 2012 – present; Member - January 1, 2007- January 1, 2012.
- Member, National Renewable Energy Advisory Board (NREL) National Advisory Council, January 2007- present.
- Member, Wells Fargo Community Advisory Board, October 2007 – 2009.
- Co-Chair, Council on Government Affairs - National Association of State Universities and Land-Grant Colleges (NASULGC), Washington DC, October 1, 2007 – September 30, 2012.
- Member, Board of Directors, Association of Public and Land-Grant Universities (APLU), Washington DC, October 1, 2007 – September 30, 2011.
- Member, National Science Board (NSB), Washington DC, appointed by President Bush, May 1, 2008 – June 1, 2014, reappointed by President Obama, August 1, 2014 – May 10, 2020.
- Member, Board of Directors, Atlanta Committee for Progress (ACP) June 1, 2009- September 1, 2019.
- Member, US Council on Competitiveness; United States Manufacturing Competitiveness Initiative (USMIC), appointed by President Obama, January 1, 2009 – December 31, 2014.
- Steering Committee; Learn to Compete, University Chair, January 1, 2009 – December 31, 2014.
- Member, National Advisory Council on Innovation and Entrepreneurship (NACIE), U.S. Department of Commerce, appointed by President Obama, June 16, 2010 – May 1, 2013.
- Member, Carter Center Board of Counselors, July 1, 2009 - present.
- Member, International Advisory Board, the Hong Kong Polytechnic University, January 1, 2009 – 2013.
- Member, Board of Trustees, Woodruff Arts Center, September 1, 2010 – December 31, 2013.
- Member, International Advisory Committee, Macau University, January 1, 2010 – December 31, 2017.
- Member, Atlanta Clinical & Translational Science Institute Executive Oversight Council, January 1, 2010 - September 1, 2019.
- Member, Executive Committee, Metro Atlanta Chamber (MAC), January 1, 2011 – September 1, 2019.
- Member, U.S. Advanced Manufacturing Partnership Steering Committee Executive Committee, appointed by President Obama, June 24, 2011 – 2013; reappointed 2013 - 2015.
- The Atlantic Station Advisory Board, Atlanta, GA, January 1, 2012 – December 31, 2015.
- Member, King Fahd University of Petroleum and Minerals (KFUPM) Advisory Board, January 1, 2012 – May 1, 2018.
- Member, ACC Representative to the NCAA Division I Board of Directors, National Collegiate Athletics Association, January 1, 2015 - May, 2016.
- Member, Knight Commission on Intercollegiate Athletics, January 1, 2015 - present.
- Chair, NCAA Board of Governors, August 25, 2016- August 31, 2019, Past Chair August 31, 2019 –

August 31, 2020.

- Member, Association of American Universities, (AAU) Board of Directors, October 1, 2014 – September 31, 2018; Executive Committee - October 2015 – September 31, 2018.
- Member Board of Directors, Executive Committee, American Council on Education, January 2018 – September 2020.
- Member, National Space Council Users Advisory Group, February 2018 – present.
- American Institute of Aeronautics and Astronautics (AIAA), Board of Trustees, June 1, 2019 – present.
- Trustee, American University of Sharjah, Board of Trustees, June 2019 – June 2022.

#### BOOKS:

1. Peterson, G. P., *An Introduction to Heat Pipes: Modeling, Testing and Applications*, John Wiley & Sons, New York, NY, September 1994, 356 pp.
2. Sobhan, C. B. and Peterson, G. P., *Microscale and Nanoscale Heat Transfer*, CRC Press Inc., New York, NY, 2007, 410 pp.
3. Peterson, G. P. and Li, C. H., "Fundamentals of Thermal Transfer Phenomena in Nanoparticle Suspensions," in progress.
4. Peterson, G. P. and Ma, H. B., "An Introduction to Heat Pipes," Second Edition, John Wiley & Sons, New York, NY, in progress.

#### BOOK CHAPTERS:

1. Marto, P. J. and Peterson, G. P., Chapter 4, "Application of Heat Pipes to Electronics Cooling," in *Advances in Thermal Modeling of Electronic Components and Systems*, A. Bar-Cohen and A. D. Kraus (eds.), Hemisphere Publishing Corporation, New York, NY, pp. 283-336, 1988.
2. Peterson, G. P. and Ortega, A., "Thermal Control of Electronic Equipment and Devices," *Advances in Heat Transfer*, vol. 20, J. P. Hartnett and T. F. Irvine (eds.), Pergamon Press, New York, NY, pp. 181-314, 1990.
3. Peterson, G. P., "Operation and Applications of Microscopic Scale Heat Pipes," *Encyclopedia of Science and Technology*, Invited Chapter, vol. 20, McGraw-Hill, New York, NY, pp. 197-200, 1993.
4. Peterson, G. P., Swanson, L. W. and Gerner, F. M., "Micro Heat Pipes," in *Microscale Energy Transport*, C. L. Tien, A. Majumdar and F. M. Gerner (eds.) Taylor-Francis Publishing Co., Washington D.C., 1997, pp. 295-338.
5. Peterson, G. P., "Heat Transfer Fundamentals," *Mechanical Engineers' Handbook*, 2nd Edition, Meyer Kutz (ed.) John-Wiley & Sons, Inc., New York, NY, 1998, pp. 1367-1430.
6. Peterson, G. P., "Chapter 12 - Heat Pipes" *McGraw-Hill Handbook of Heat Transfer 3rd edition*, W. M. Rohsenow, J. P. Hartnett and Y. I. Cho, (eds.), McGraw-Hill Publishing Co., Washington D.C., 1998, pp. 12.1-12.20.
7. Ochterbeck, J. M. and Peterson, G. P., "Chapter 7 - Modeling of Heat Transfer in Heat Pipes," *Modeling of Engineering Heat Transfer Phenomena*, Computational Mechanics Publications, B. Sunden and M. Faghri, (eds.), United Kingdom Press, pp. 175-212, 1999.
8. Peterson, G. P. and C. B. Sobhan, "Chapter 11, Applications of Microscale Phase Change Heat Transfer: Micro Heat Pipes and Micro Heat Spreaders," *Handbook of MEMS*, Mohamed Gad-el-Hak (ed.), Taylor and Francis Publ. Co., Boca Raton, FL, 2005, pp. 11:1–11:37.
9. Peterson, G. P., "Chapter 5: Heat Transfer Fundamentals," *Mechanical Engineers' Handbook*, 3rd Edition, Meyer Kutz (ed.) John-Wiley & Sons, Inc., New York, NY, 2005, pp. 144-211.
10. Peterson, G. P. and Li, C. H., "An Overview of Heat and Mass Transfer in Fluids with Nanoparticle Suspensions," *Advances in Heat Transfer*, vol. 39, J. P. Hartnett and T. F. Irvine (eds.), Pergamon Press, New York, NY, 2006, pp. 257-376.
11. Li, C. H. and Peterson, G. P., "Chapter 8 - Recent Developments in the Effective Thermal Conductivity of Nanoparticle Suspensions (nanofluids) Research," *Nanoparticles: New Research*, S. L. Lombardi (ed.), Nova Science Publishers, Inc. 2008, pp. 243-275.
12. Hong, H., Horton, M and Peterson, G. P., "Chapter 18 - Aligned Ni Coated Single-Walled Nanotubes under Magnetic Fields for Coolant Applications," in *Three-Dimensional Nanoarchitectures: Designing Next Generation Devices*, W. Zhou and Z. L. Wang (eds.), Springer Science, P. Zhou. (ed.), 2011, pp. 523-534.
13. Thomas, S., Sobhan, C. B. and Peterson, G. P., "Synthesis of Stable Nanoparticle Suspensions for Thermal Engineering Applications: Advances and Challenges," in *Applications of Nanomaterials*, published by Stadium Press LLC, USA, vol. 2, Chapter 4, July, 2012, pp. 87-118.
14. Peterson, G. P. and Ma, H. B., "Advances in Vapor Chambers and Phase Change Heat Spreaders," *Advances in Heat Transfer*, vol. 53, J. P. Abraham, (ed.), Elsevier Publishing, Amsterdam, 2021, pp. 1-77, in press.

**REFEREED JOURNAL PUBLICATIONS:**

1. Konz, S. A., Peterson, G. P. and Joshi, A., "Reducing Inspection Errors," *Quality Progress*, vol. 14, no. 7, 1981, pp. 24-27.
2. Peterson, G. P., "Priming Considerations of Heat Pipes in Zero-g," *Heat Transfer and Fluid Mechanics Institute*, vol. 28, 1982, pp. 201-211.
3. Peterson, G. P., "Capillary Priming Characteristics of a High Capacity Dual Passage Heat Pipe," *Chemical Engineering Communications*, vol. 27, no. 1, 1984, pp. 119-126, (also as ASME Paper no. ASME 82-HT-14, June 1982).
4. Peterson, G. P., "Pre-machining of Bearing Carriers," *Robotics and Factories of the Future*, S. N. Dwivedi (ed.), Springer-Verlag, 1984, pp. 163-174.
5. Peterson, G. P., Marshal, P. F., "Analytical and Experimental Determination of Heat Pipe Priming in Micro-g," *Research and Developments in Heat Pipe Technology*, vol. 5, K. Oshima (ed.), JaTech Publishing Co., 1984, pp. 434-439.
6. Peterson, G. P., "Applied Research: A Cooperative Venture," *Computer Aided Processes in Instruction and Research*, edited by G. C. Beakley, Academic Press, 1985, pp. 353-366.
7. Peterson, G. P., "Two-Phase Fluid Flow in Reduced Gravity Environments," *Heat Transfer and Fluid Mechanics Institute*, vol. 29, 1985, pp. 45-59.
8. Kundu, N. and Peterson, G. P., "Transmission of Solid Particulates Using a Two-Phase Medium," *ASME Journal of Energy Resources Technology*, vol. 109, no. 1, 1986, pp. 35-39, (also in *Proc. 7th ASME/ETCE Pipeline Engineering Symposium*, pp. 131-137, February 1986).
9. Peterson, G. P., "Thermal Control Systems for Spacecraft Instrumentation," *AIAA J. Spacecraft and Rockets*, vol. 24, no. 1, 1986, pp. 7-14.
10. Peterson, G. P. and Compagna, G. L., "A Review of Cryogenic Heat Pipes in Spacecraft Applications," *AIAA J. Spacecraft and Rockets*, vol. 24, no. 2, 1986, pp. 99-101, (also as AIAA Paper no. 86-1254, June 1986).
11. Grubbs, A. B. and Peterson, G. P., "Establishing an Applied Research Program," *Journal of Engineering Technology*, vol. 3, no. 2, 1986, pp. 28-33, (also as ASME Paper no. 85-WAM-56, November 1985).
12. Peterson, G. P., "Determination of the Cross-Sectional Temperature Distribution and Boiling Limitation of a Heat Pipe," *AIAA J. Thermophysics and Heat Transfer*, vol. 1, no. 2, 1987, pp. 189-192, (also as AIAA Paper no. 86-0066, January 1986).
13. Peterson, G. P. and Annamalai, K., "A Differential Approach to Heat Pipe Priming in Microgravity," *Chemical Engineering Communications*, vol. 52, no. 1-3, 1987, pp. 151-161, (also in ASME FED-vol. 42, ASME New York N.Y., pp. 25-31, December 1986).
14. Peterson, G. P., Fletcher, L. S., and Peddicord, K. L., "Thermal Conductivity in Sphere-Pac Reactor Fuels," *Journal of Nuclear Science and Technology*, vol. 24, no. 9, 1987, pp. 1-7, (also in *Proc. 2nd ASME/JSME Thermal Engineering Joint Conf.*, pp. 439-444, March 1987).
15. Peterson, G. P. and Fletcher, L. S., "Effective Thermal Conductivity of Sintered Heat Pipe Wicks," *AIAA J. Thermophysics and Heat Transfer*, vol. 1, no. 4, 1987, pp. 343-347, (also as AIAA Paper no. 86-1362, June 1986).
16. Peterson, G. P., "Analysis of a Heat Pipe Thermal Switch," *Research and Developments in Heat Pipe Technology*, vol. 6, Hemisphere Publishing, New York, N.Y., 1987, pp. 177-183.
17. Peterson, G. P. and Fletcher, L. S., "Thermal Contact Conductance of Packed Beds in Contact with Flat Surfaces," *ASME J. Heat Transfer*, vol. 110, no. 1, February 1988, pp. 38-41.
18. Peterson, G. P., Niznik B. and Chan, L. M., "Development of an Automatic Screwdriver for Use with Industrial Robots," *IEEE J. Robotics and Automation*, vol. 4, no. 4, August 1988, pp. 411-413.
19. Peterson, G. P. and Fletcher, L. S., "Evaluation of the Thermal Contact Conductance Between Mold Compound and Heat Spreader Materials," *ASME J. Heat Transfer*, vol. 110, no. 4, November 1988, pp. 996-999, (also in ASME HTD-vol. 69, ASME New York N.Y., pp. 99-106, August 1987).
20. Peterson, G. P. and Fletcher, L. S., "Thermal Contact Resistance of Silicon Chip Bonding Materials," in *Cooling Technology for Electronic Equipment*, W. Aung (ed.), Hemisphere Publishing Corporation, New York, N.Y., pp. 523-534, 1988.
21. Peterson, G. P., "Analytical Development and Computer Modeling of a Bellows Type Heat Pipe for Cooling of Electronic Components," *Heat Transfer Engineering*, vol. 9, no. 3, 1988, pp. 101-109.
22. Havis, C. R., Peterson, G. P. and Fletcher, L. S., "Thermal Conductivity of Aligned Fiber Composite Materials," *AIAA J. Thermophysics and Heat Transfer*, vol. 3, no. 4, 1989, pp. 416-422, (also as AIAA Paper no. 88-2658, June 1988).
23. Peterson, G. P. and Fletcher, L. S., "On the Thermal Conductivity of Dispersed Ceramics," *ASME J.*

- Heat Transfer*, vol. 111, no. 4, 1989, pp. 824-829, (also in ASME WAM-vol. 2, ASME New York N.Y., pp. 77-84, December 1988).
24. Duncan, A. B., Peterson, G. P. and Fletcher, L. S., "Effective Thermal Conductivity within Packed Beds of Spherical Particles," *ASME J. Heat Transfer*, vol. 111, no. 4, 1989, pp. 830-836.
  25. Childres, W. and Peterson, G. P., "Quantification of Thermal Contact Conductance in Electronic Packages," *IEEE J. Components, Hybrids and Manufacturing Technologies*, vol. 12, no. 4, 1989, pp. 717-723, (also in *Proc. 5th IEEE Thermal and Temperature Measurement Symposium*, pp. 30-36, February 1989).
  26. Madhusudana, C. V., Fletcher, L. S. and Peterson, G. P., "Thermal Contact Conductance of Cylindrical Joints - A Critical Review," *AIAA J. Thermophysics and Heat Transfer*, vol. 4, no. 2, April 1990, pp. 204-211, (also as AIAA Paper no. 89-0432, January 1989).
  27. Fletcher, L. S., Peterson, G. P., Cunningham, G. and Pandey, R. K., "Spectral Properties of Selected Superconducting Materials," *AIAA J. Thermophysics and Heat Transfer*, vol. 4, no. 3, July 1990, pp. 412-414, (also as AIAA Paper no. 89-1674, June 1989).
  28. Babin, B. R. and Peterson, G. P., "Experimental Investigation of a Flexible Bellows Heat Pipe for Cooling Discrete Heat Sources," *ASME J. Heat Transfer*, vol. 112, no. 3, August 1990, pp. 602-607, (also as ASME Paper no. 89-HT-18, August 1989).
  29. Peterson, G. P. and Fletcher, L. S., "Measurement of the Thermal Contact Conductance and Thermal Conductivity of Anodized Aluminum Coatings," *ASME J. Heat Transfer*, vol. 112, no. 3, August 1990, pp. 579-586, (also in ASME HTD-vol. 123, ASME New York N.Y., pp. 117-124, December 1989).
  30. Babin, B. R., Peterson, G. P. and Wu, D., "Steady-state Modeling and Testing of a Micro Heat Pipe," *ASME J. Heat Transfer*, vol. 112, no. 3, August 1990, pp. 595-601, (also as ASME Paper no. 89-HT-17, August 1989).
  31. Madhusudana, C. V., Peterson, G. P. and Fletcher, L. S., "The Effect of Non-uniform Pressure on the Heat Transfer in Bolted and Riveted Joints," *ASME J. Energy Resources Technology*, vol. 112, no. 3, September 1990, pp. 174-182, (also in ASME HTD-vol. 1, ASME New York N.Y., pp. 57-67, Dec. 1988).
  32. Fletcher, L. S., Peterson, G. P., Madhusudana, C. V., and Groll, E., "Constriction Resistance Through Bolted and Riveted Joints," *ASME J. Heat Transfer*, vol. 112, no. 4, November 1990, pp. 857-863, (also in ASME HTD-vol. 123, ASME New York N.Y., pp. 107-117, December 1989).
  33. Kang, T. K., Peterson, G. P. and Fletcher, L. S., "Effect of Metallic Coatings on the Thermal Contact Conductance of Turned Surfaces," *ASME J. Heat Transfer*, vol. 112, no. 4, November 1990, pp. 864-871, (also as ASME Paper no. 89-HT-23, August 1989).
  34. Stevenson, P. F., Peterson, G. P. and Fletcher, L. S., "Thermal Rectification in Similar and Dissimilar Materials," *ASME J. Heat Transfer*, vol. 113, no. 1, February 1991, pp. 30-36, (also in ASME HTD-vol. 123, ASME New York N.Y., pp. 125-132, December 1989).
  35. Fletcher, L. S., Peterson, G. P. and Shaup, R., "Thermal Conductivity of Selected Superconducting Materials," *ASME J. Heat Transfer*, vol. 113, no. 1, February 1991, pp. 274-276, (also in ASME HTD-vol. 123, ASME New York N.Y., pp. 83-89, December 1989).
  36. Wu, D. and Peterson, G. P., "Investigation of the Transient Characteristics of a Micro Heat Pipe," *AIAA J. Thermophysics and Heat Transfer*, vol. 5, no. 2, April, 1991, pp. 129-134, (also as AIAA Paper no. 90-0060, January 1990).
  37. Peterson, G. P., Starks, G. and Fletcher, "Thermal Conductance of Two Space Station Cold Plate Attachment Techniques," *AIAA J. Thermophysics and Heat Transfer*, vol. 5, no. 2, April, 1991, pp. 246-247, (also as AIAA Paper no. 89-1703, June 1989).
  38. Veith, D., Peterson, G. P. and Fletcher, L. S., "Macroscopic Constriction Resistance in Microelectronic Packages," *ASME J. Heat Transfer*, vol. 113, no. 2, May 1991, pp. 494-496, (also in ASME HTD-vol. 129, ASME New York N.Y., pp. 119-125, June 1990).
  39. Saeed, B. and Peterson, G. P., "A Review of Rewetting of Hot Surfaces," *Heat Transfer and Fluid Mechanics Institute*, vol. 32, June 1991, pp. 203-237.
  40. Peterson, G. P. and Fletcher, L. S., "Heat Transfer Enhancement Techniques for Space Station Cold Plates," *AIAA J. of Thermophysics and Heat Transfer*, vol. 5, no. 3, July 1991, pp. 423-428, (also as AIAA Paper no. 90-0541, January 1990).
  41. Peterson, G. P. and Bage, B., "Entrainment Limitations in Thermosyphons and Heat Pipes," *ASME J. Energy Resources Technology*, vol. 113, no. 3, September 1991, pp. 147-154, (also in ASME HTD-vol. 117, ASME New York N.Y., pp. 1-9, December 1989).
  42. Wu, D., Peterson, G. P. and Chang, W. S., "Transient Experimental Investigation of Micro Heat Pipes," *AIAA J. of Thermophysics and Heat Transfer*, vol. 5, no. 4, October 1991, pp. 539-545, (also as AIAA Paper no. 90-1791, June 1990, Received 1990 AIAA "Best Paper in Thermophysics Award").
  43. Peterson, G. P., Fletcher, L. S. and Blackler, D., "Thermal Performance of Thermal Pad Contact Heat Exchangers," *AIAA J. of Thermophysics and Heat Transfer*, vol. 6, no. 1, February 1992, pp. 69-76,

- (also as AIAA Paper no. 91-0364, January 1991).
44. Peng, X. F., Peterson, G. P. and Wang, B. X., "Capillary Induced Rewetting in a Flat Porous Cover Layer," *Int. J. of Heat and Mass Transfer*, vol. 35, no. 2, February 1992, pp. 319-328.
  45. Ochterbeck, J. M., Peterson, G. P. and Fletcher, L. S., "Thermal Contact Conductance of Metallic Coated BiCaSrCuO Superconductor/Copper Interfaces at Cryogenic Temperatures," *ASME J. Heat Transfer*, vol. 114, no. 1, February 1992, pp. 21-29, (also in ASME Paper HTD-vol.1, ASME New York N.Y., pp. 275-284, March 1991).
  46. Peng, X. F. and Peterson, G. P., "Acceleration Induced Depriming of External Artery Heat Pipes," *AIAA J. of Thermophysics and Heat Transfer*, vol. 6, no. 3, July, 1992, pp. 546-549.
  47. Peterson, G. P., "An Overview of Micro Heat Pipe Research," Invited Review Article, *Applied Mechanics Review*, vol. 45, no. 5, May 1992, pp. 175-189.
  48. Peterson G. P. and Pavelka, J., "Common Condenser, Multi-Bellows Heat Pipe," *IBM J. of Research and Development*, Disclosure FI8-89-0447, vol. 34, no. 10, March 1992, pp. 343-344.
  49. Peng, X. F. and Peterson, G. P., "Analytical Investigation of the Rewetting of Grooved Surfaces," *AIAA J. of Thermophysics and Heat Transfer*, vol. 6., no. 3, July 1992, pp. 563-565, (also as AIAA Paper no. 91-4004, July 1991).
  50. Peng, X. F. Peterson, G. P. and Wang, B. X., "On the Wetting Mechanism of Liquid Flow on Hot Surfaces," *Int. J. Heat & Mass Transfer*, vol. 35, no. 6, June 1992, pp. 1615-1624.
  51. Peterson, G. P., Peng, X. F. and B. X. Wang, "The Effect of Plate Temperature on the Onset of Rewetting," *Int. J. Heat & Mass Transfer*, vol. 35, no. 6, June 1992, pp. 1605-1614.
  52. Peng, X. F. and Peterson, G. P., "Analysis of Rewetting for Surface Tension Induced Flow," *ASME J. of Heat Transfer*, vol. 114, no. 3, August 1992, pp. 703-708.
  53. Peng, X. F., Wang, B. X. and Peterson, G. P., "Transition and Film Boiling Heat Transfer Characteristics for Forced Flow of Subcooled Liquid Flowing Through a Horizontal Flat Duct," *Int. J. Heat and Mass Transfer*, vol. 35, no. 11, November 1992, pp. 3077-3084.
  54. Peterson, G. P. and Lu, X. J., X. F. Peng and Wang, B. X., "Analytical and Experimental Investigation of the Rewetting of Circular Channels with Internal V-Grooves," *Int. J. Heat and Mass Transfer*, vol. 35, no. 11, November 1992, pp. 3085-3094.
  55. Mallik, A. K., Peterson, G. P. and Weichold, M. H., "On the Use of Micro Heat Pipes as an Integral Part of Semiconductor Devices," *ASME J. of Electronic Packaging*, vol. 114, no. 4, 1992, pp. 436-442, (also in *3rd ASME-JSME Thermal Engineering Joint Conf. Proc.*, vol. 2, pp. 394-401, March 1991).
  56. Ochterbeck, J. M. and Peterson, G. P., "Freeze/Thaw Characteristics of a Copper-Water Heat Pipe: Effects of Non-Condensable Gas Charge," *AIAA J. of Thermophysics and Heat Transfer*, vol. 7, no. 1, 1993, pp. 127-132.
  57. Peng, X. F., Peterson, G. P. and Lu, X. J., "Analysis of Capillary Induced Rewetting in Circular Channels with Internal Grooves," *AIAA J. of Thermophysics and Heat Transfer*, vol. 7, no. 2, 1993, pp. 334-339.
  58. Babin, B. R., Peterson, G. P. and Seyed-Yagoobi, J., "Experimental Investigation of an Ion-Drag Pump Assisted Capillary Loop," *AIAA J. of Thermophysics and Heat Transfer*, vol. 7, no. 2, 1993, pp. 340-345, (also as AIAA Paper no. 91-1401, June 1991).
  59. Peterson, G. P. and Chowdhury, A. H., "A Review of Advanced Radiator Technologies for Spacecraft Thermal Control," *Int. J. of Heat and Technology*, vol. 11, no. 1, 1993, pp. 73-97.
  60. Peterson, G. P. and Wu, D., "A Review of Rotating and Revolving Heat Pipes," *Int. J. of Heat and Technology*, vol. 11, no. 2, 1993, pp. 191-228.
  61. Peterson, G. P. and Peng, X. F., "Experimental Investigation of Capillary Induced Rewetting for a Flat Porous Wicking Structure," *ASME J. Energy Resources Technology*, vol. 115, no. 1, 1993, pp. 62-70, (also in ASME HTD-vol. 106, ASME New York N.Y., pp. 341-348, December 1991).
  62. Peterson, G. P., Duncan, A. B. and Weichold, M. H., "Experimental Investigation of Micro Heat Pipes Fabricated in Silicon Wafers," *ASME J. Heat Transfer*, vol. 115, no. 3, 1993, pp. 751-756.
  63. Kim, B. H., Peterson, G. P. and Kihm, K. D., "Analytical and Experimental Investigation of Entrainment in Capillary Pumped Wicking Structures," *ASME J. Energy Resources Technology*, vol. 115, no. 4, 1993, pp.278-286.
  64. Swanson, L. and Peterson, G. P., "The Evaporating Extended Meniscus in a V-Shaped Channel," *AIAA J. of Thermophysics and Heat Transfer*, vol. 8, no. 1, 1994, pp. 172-181, (also in ASME Paper HTD-vol. 200, ASME New York N.Y., pp. 9-22, August 1992).
  65. Kihm, K. D., Kim, B. H. and Peterson, G. P., "Entrained Sprays from Meshed-Interfaces Occurring in a Heat Pipe," *AIAA J. Thermophysics and Heat Transfer*, vol. 8, no. 1, 1994, pp. 184-187.
  66. Lee, Y. M., Haji-Sheik, A., Fletcher, L. S. and Peterson, G. P., "Effective Thermal Conductivity in Multi-dimensional Bodies," *ASME J. Heat Transfer*, vol. 116, no. 1, 1994, pp. 17-27, (also in ASME vol. HTD-106, ASME New York, N.Y., pp. 1-9, August 9-12, 1992).
  67. Peterson, G. P., "Design and Technology of Heat Pipes for Cooling and Heat Exchange," *Heat*

- Transfer Engineering*, vol. 15, no. 1, 1994, pp. 8.
68. Ha, J. M. and Peterson, G. P., "Analytical Prediction of the Axial Dryout of an Evaporating Liquid Film in Triangular Micro Channels," *ASME J. Heat Transfer*, vol. 116, no. 2, 1994, pp. 498-503, (also in ASME vol. HTD vol. 253, ASME New York N.Y., pp. 53-62, August 8-11, 1993).
  69. Peterson, G. P. and N. K. Muraya, "Heat Pipe Applications in the Energy Industry," in *Research Trends in Chemical Engineering*, Hemisphere Publ. Co., New York, NY, vol. 2, 1994, pp. 175-198.
  70. Dickey, T. and Peterson, G. P., "An Experimental and Analytical Investigation of the Operational Characteristics of a CPL," *AIAA J. Thermophysics and Heat Transfer*, vol. 8, no. 3, July 1994, pp. 602-607, (also as AIAA Paper no. AIAA-93-2746, Orlando, FL, July 6-9, 1993).
  71. Juhasz, A. and Peterson, G. P., "A Review of Advanced Radiator Technologies for Spacecraft Power Systems and Space Thermal Control," *A Critical Review of Space Nuclear Power and Propulsion 1984-1993*, M. El-Genk (ed.), American Institute of Physics, New York, NY, 1993, pp. 407-442.
  72. Ma, H. B., Peterson, G. P. and Lu, X. J., "The Influence of the Vapor-Liquid Interactions on the Liquid Pressure Drop in Triangular Microgrooves," *Int. J. Heat Mass Transfer*, vol. 37, no. 15, October 1994, pp. 2211-2219.
  73. Duncan, A. B. and Peterson, G. P., "A Review of Microscale Heat Transfer," Invited Review Article, *Applied Mechanics Review*, vol. 47, no. 9, September 1994, pp. 397-428.
  74. Kim, B. H. and Peterson, G. P., "Theoretical and Physical Interpretation of Entrainment Phenomenon in Capillary-driven Heat Pipes Using Hydrodynamic Instability," *Int. J. Heat Mass Transfer*, vol. 37, no. 17, November 1994, pp. 2647-2660.
  75. Mittlebach, M., Vogd, C., Fletcher, L. S. and Peterson, G. P., "The Interface Pressure Distribution and Contact Conductance of Bolted Joints," *ASME J. Heat Transfer*, vol. 116, no. 4, November 1994, pp. 823-828. (also as ASME vol. HTD 212, ASME New York N.Y., pp. 9-18, November 8-12, 1992).
  76. Peng, X. F., Wang, B. X., Peterson, G. P. and Ma, H., "Experimental Investigation of Heat Transfer in Flat Plates with Rectangular Microchannels," *Int. J. Heat Mass Transfer*, vol. 38, no. 1, January 1995, pp. 127-138.
  77. Peng, X. F. and Peterson, G. P., "The Effect of Thermofluid and Geometrical Parameters on Convection of Liquids through Rectangular Microchannels," *Int. J. Heat Mass Transfer*, vol. 38, no. 4, 1995, pp. 755-758.
  78. Swanson, L. and Peterson, G. P., "The Interfacial Thermodynamics of Capillary Structures in Micro Heat Pipes," *ASME J. Heat Transfer*, vol. 117, no. 1, 1995, pp. 195-201, (also in ASME vol. HTD vol. 253, ASME New York N.Y., pp. 45-52, August 8-11, 1993).
  79. Ochterbeck, J. M., Peterson, G. P. and Ungar, E. K., "Depriming/Rewetting of Arterial Heat Pipes: Comparison with Share-II Flight Experiment," *AIAA J. Thermophysics and Heat Transfer*, vol. 9, no. 1, 1995, pp. 101-108.
  80. Kim, B. H. and Peterson, G. P., "Analysis of the Critical Weber Number at the Onset of Liquid Entrainment in Capillary Driven Heat Pipes," *Int. J. Heat Mass and Transfer*, vol. 38, no. 8, 1995, pp. 1427-1442.
  81. Mallik, A. K. and Peterson, G. P., "Steady-State Investigation of Vapor Deposited Micro Heat Pipe Arrays," *ASME J. Electronic Packaging*, vol. 117, no. 1, 1995, pp. 75-81.
  82. Peterson, G. P. and Mallik, A. K., "Transient Response Characteristics of Vapor Deposited Micro Heat Pipe Arrays," *ASME J. Electronic Packaging*, vol. 117, no. 1, 1995, pp. 82-87.
  83. Ochterbeck, J. M. and Peterson, G. P., "Experimental Investigation of Freezing Blowby in a Copper/Water Heat Pipe," *AIAA Journal of Thermophysics and Heat Transfer*, vol. 9, no. 2, 1995, pp. 314-321.
  84. Duncan, A. B. and Peterson, G. P., "Charge Optimization of Triangular Shaped Micro Heat Pipes," *AIAA J. Thermophysics and Heat Transfer*, vol. 9, no. 2, 1995, pp. 365-367 (also in ASME vol. HTD 278, ASME New York N.Y., pp. 1-10, June 20-23, 1994).
  85. Ma, H. B. and Peterson, G. P., "Thermodynamic Analysis of the Influence of Electric Fields on Frost Formation," *AIAA J. Thermophysics and Heat Transfer*, vol. 9, no. 3, 1995, pp. 562-564.
  86. Mallik, A. K., Peterson, G. P. and Weichold, M. H., "Fabrication of Vapor Deposited Micro Heat Pipes Arrays as an Integral Part of Semiconductor Devices," *ASME J. of Micromechanical Systems*, vol. 4, no., 3, September 1995, pp. 119-131.
  87. Howard, A. and Peterson, G. P., "Investigation of a Heat Pipe Array for Convective Cooling," *ASME J. Electronic Packaging*, vol. 117, no. 4, September 1995, pp. 208-214, (also in ASME vol. HTD 278, ASME New York N.Y., pp. 11-20, June 20-23, 1994).
  88. Peterson, G. P., "Heat Pipes in the Thermal Control of Electronic Components," *J. Electrical and Mechanical Engineering*, vol. 4, 1995, pp. 23-31, (also in *Proc. 3rd Int'l Heat Pipe Symposium*, Tsukuba, Japan, pp. 2-12, September 12-14, 1988).
  89. Peng, X. F., Christopher, D. M., Wang, B. X. and Peterson, G. P., "Melting in a Heat Pipe in a Microgravity Environment," *J. Basic Science and Engineering*, vol. 3, no. 4, 1995, pp. 406-413.

90. Harris-Howard, A., Ochterbeck, J. M. and Peterson, G. P., "The Effect of Multiple Layering on the Thermal Contact Conductance of Vapor Deposited Metallic Coatings," *ASME J. Heat Transfer*, vol. 117, no. 4, 1995, pp. 828-834.
91. Peng, X. F. and Peterson, G. P., "Frictional-Flow Characteristics of Water Flowing Through Rectangular Microchannels," *J. Experimental Heat Transfer*, vol. 7, no. 4, 1995, 249-264.
92. Peng, X. F., Peterson, G. P. and Wang, X. F., "Heat Transfer Characteristics of Water Flowing Through Microchannels," *J. Experimental Heat Transfer*, vol. 7, no. 4, 1995, 265-283.
93. Peng, X. F., Peterson, G. P. and Wang, B. S., "Flow Boiling of Binary Mixtures in Microchanneled Plates," *Int. J. Heat & Mass Transfer*, vol. 39, no. 6, 1996, pp. 1257-1264.
94. Peng, X. F. and Peterson, G. P., "Forced-Convection Heat Transfer of Single-Phase Binary Mixtures," *Experimental Thermal and Fluid Science*, vol. 12, no. 1, 1996, pp. 98-104.
95. Ma, H. B., Peterson, G. P. and Peng, X. F., "Experimental Investigation of Countercurrent Liquid-Vapor Interactions and its Effect on the Friction Factor," *Experimental Thermal and Fluid Science*, vol. 12, no. 1, 1996, pp. 25-32.
96. Peterson, G. P. and Ma, H. B., "Analysis of Countercurrent Liquid-Vapor Interactions and the Effect on the Liquid Friction Factor," *Experimental Thermal and Fluid Sciences*, vol. 12, no. 1, 1996, pp. 13-24.
97. Peng, X. F. and Peterson, G. P., "Convective Heat Transfer and Flow Friction for Water Flow in Microchannel Structures," *Int. J. Heat & Mass Transfer*, vol. 39, no. 12, 1996, pp. 2599-2608.
98. Shatto, D. P. and Peterson, G. P., "A Review of Flow Boiling Heat Transfer with Twisted Tape Inserts," *J. Enhanced Heat Transfer*, vol. 3, no. 4, 1996, pp. 233-257.
99. Peterson, G. P. and Ma, H. B., "Theoretical Analysis of the Maximum Heat Transport in Triangular Grooves: A Study of Idealized Micro Heat Pipes," *ASME J. Heat Transfer*, vol. 118, no. 4, pp. 731-739, 1996 (also in HTD-vol. 317-1, ASME New York N.Y., pp. 185-192, November 12-17, 1995, San Francisco, CA).
100. Ha, J. M. and Peterson, G. P., "The Interline Heat Transfer of Evaporating Thin Films along a Micro Grooved Surface," *ASME J. Heat Transfer*, vol. 118, no. 4, pp. 747-755, 1996, (also as ASME Paper no. 95-WA/HT-20, 1995 ASME IMECE Meeting, November 12-17, 1995, San Francisco, CA).
101. Ma, H. B. and Peterson, G. P., "Experimental Investigation of the Maximum Heat Transport in Triangular Grooves," *ASME J. Heat Transfer*, vol. 118, no. 4, pp. 740-746, 1996.
102. Peterson, G. P., "Modeling, Fabrication and Testing of Micro Heat Pipes: An Update," Invited Review Article, *Applied Mechanics Review*, vol. 49, no. 10, Part 2, pp. 175-183, October 1996.
103. Ma, H. B. and Peterson, G. P., "The Capillary Limit in a Micro Heat Pipe," *Heat Transfer Science and Technology*, ed. Wang Buxuan, Higher Education Press, Beijing, China, 1996, pp. 341-347.
104. Pop, I., Angirasa, D. and Peterson, G. P., "Natural Convection in Porous Media near L-shaped Corners," *Int. J. Heat & Mass Transfer*, vol. 40, no. 2, pp. 485-490, January 1997.
105. Ma, H. B. and Peterson, G. P., "Temperature Variation and Heat Transfer in Triangular Grooves with and Evaporating Film," *AIAA J. Thermophysics and Heat Transfer*, vol. 11, no. 1, pp. 90-98, 1997, (also as AIAA 96-3973, 1996 National Heat Transfer Conf., August 3-5, 1996, Houston, TX).
106. Angirasa, D., Peterson, G. P. and Pop, I., "Combined Heat and Mass Transfer by Natural Convection in a Saturated Thermally Stratified Porous Medium," *Numerical Heat Transfer - Part A*, vol. 31, pp. 255-272, 1997.
107. Peterson, G. P. and Chang, S. C., "Heat Transfer and Evaluation for Two-Phase Flow in Porous Channel Heat Sinks," *Numerical Heat Transfer - Part A*, vol. 31, pp. 113-130, 1997, (also in ASME HTD vol. 334-3, ASME New York N.Y., pp. 261-269, November 12-17, 1996).
108. Angirasa, D., Peterson, G. P. and Pop, I., "Combined Heat and Mass Transfer by Natural Convection with Opposing Buoyancy Effects in a Fluid Saturated Porous Medium," *Int. J. Heat & Mass Transfer*, vol. 40, no.12, pp. 2755-2733, 1997.
109. Ma, H. B. And Peterson, G. P., "Laminar Friction Factor in Microscale Ducts of Irregular Cross-section," *Microscale Thermophysical Engineering*, vol. 1, no. 3, July 1997, pp. 253-265.
110. Angirasa, D. and Peterson, G. P., "Natural Convection Heat Transfer from an Isothermal Vertical Surface to a Fluid Saturated Thermally Stratified Porous Medium," *Int. J. Heat & Mass Transfer*, vol. 40, no. 18, August, 1997, pp. 4329-4338.
111. Dickey, J. T. and Peterson, G. P., "High Heat Flux Heat Absorption Utilizing Porous Materials with Two-Phase Heat Transfer," *ASME J. Energy Resources Technology*, vol. 119, no. 3, 1997, pp. 171-179, (also in *Energy Week Conf. Proc.*, vol. IV, Houston, TX, January 29-February 3, 1996, pp. 12-21).
112. Shatto, D., Besley, J., and Peterson, G. P., "Visualization Study of Flooding and Entrainment in a Closed Two-Phase Thermosyphon," *AIAA J. Thermophysics and Heat Transfer*, vol. 11, no. 4, 1997, pp. 579-582, (also as AIAA Paper no. 96-1832, 31st AIAA Thermophysics Conf., New Orleans, LA June 17-20, 1996).
113. Ma, H. B. and Peterson, G. P., "The Minimum Meniscus Radius and Capillary Heat Transport Limit in

- Micro Heat Pipes," *ASME J. Heat Transfer*, vol. 120, no. 1, 1998, pp. 227-233, (also in *Proc. ASME Heat Transfer Division*, HTD-vol. 62, Dallas, TX, November 16-21, 1997, pp. 213-220).
114. Peterson, G. P. and Chang S. C., "Two-Phase Heat Dissipation Utilizing Porous-Channels of High Conductivity Material," *ASME J. Heat Transfer*, vol. 120, no. 1, 1998, pp.243-252.
  115. Benson, D. A., Adkins, D. R., Mitchell, R. T., Tuck, M. R., Palmer, D. W. And Peterson, G. P., "Ultra High Capacity Micro Machined Heat Spreaders," *Microscale Thermophysical Engineering*, vol. 2, no. 1, January 1998, pp. 21-29.
  116. Ha, J. M. and Peterson, G. P., "Capillary Performance of Evaporating Flow in Micro Grooves: An Analytical Approach for Very Small Tilt Angles," *ASME J. Heat Transfer*, vol. 120, no. 2 1998, pp. 452-457.
  117. Angirasa, D. and Peterson, G. P., "Upper and Lower Rayleigh Number Bounds for Two-Dimensional Natural Convection Over a Finite Horizontal Surface Situated in a Fluid -Saturated Porous Medium," *Numerical Heat Transfer - Part A*, vol. 33, 1998, pp. 477-493.
  118. Peterson, G. P. and Ha, J. M., "Capillary Performance of Evaporating Flow in Micro Grooves: Approximate Analytical Approach and Experimental Investigation," *ASME J. Heat Transfer*, vol. 120, no. 3, 1998, pp. 743-751.
  119. Hu, H. Y., Peterson, G. P., Peng, X. F. And Wang, B. X., "Interphase Fluctuation Propagation and Superposition Model for Boiling Nucleation," *Int. J. Heat and Mass Transfer*, vol. 41, no. 22, 1998, pp. 3483-3490.
  120. Ma, H. B., Peterson, G. P. and Pratt, "Disjoining Pressure Effect on the Wetting Characteristics in a Capillary Tube," *Microscale Thermophysical Engineering*, vol. 2, no. 4, 1998, pp. 283-297.
  121. Ha, J. M. and Peterson, G. P., "The Maximum Heat Transport Capacity of Micro Heat Pipes," *ASME J. Heat Transfer*, vol. 120, no. 4, 1998, pp. 1064-1071.
  122. Angirasa, D. and Peterson, G. P., "Natural Convection Below a Downward Facing Heated Horizontal Surface in a Fluid Saturated Porous Medium," *Numerical Heat Transfer - Part A*, vol. 34, 1998, pp. 301-311.
  123. Angirasa, D. and Peterson, G. P., "Forced Convection Heat Transfer Augmentation in a Channel with a Localized Heat Source Using Fibrous Material," *ASME J. Electronic Packaging*, vol. 121, no.1, 1999, pp. 1-7.
  124. Peterson, G. P. and H. B. Ma. "Temperature Response and Heat Transfer in a Micro Heat Pipe," *ASME J. Heat Transfer*, vol. 121, no.2, 1999, pp. 438-445.
  125. Shatto, D. and Peterson, G. P., "Pool Boiling Critical Heat Flux in Reduced Gravity," *ASME J. Heat Transfer*, vol. 121, no.4, 1999, pp. 865-873.
  126. Peterson, G. P., "Short Comment on Heat Transfer in the New Millennium," *ASME J. Heat Transfer*, vol. 122, no.1, 2000, pp. 6.
  127. Zhang, J. T., Peng, X. F. and Peterson, G. P., "Analysis of Phase Change Mechanisms in Microchannels using Cluster Nucleation Theory," *Microscale Thermophysical Engineering*, vol. 4, no. 3, 2000, pp. 177-188.
  128. Zhang, J. T., Peng, X. F and Peterson, G. P., "Experimental Investigation of the Hydrodynamics of Falling Liquid Film Flow by Nonlinear Description," *Int'l. J. Heat and Mass Transfer*, vol. 43, no. 20, 2000, pp. 3847-3852.
  129. Wang, Y., Ma, H. B. and Peterson, G. P., "Investigation of the Temperature Distributions in Radiator Fins with Micro Heat Pipes," *AIAA J. Thermophysics and Heat Transfer*, vol. 15, no. 1, 2001, pp. 42-50.
  130. Westheimer, D. and Peterson, G. P., "Visualization of Flow Boiling in an Annular Heat Exchanger under Micro Gravity Conditions," *AIAA J. Thermophysics and Heat Transfer*, vol. 15, no. 3, 2001, pp. 333-340.
  131. Barron, R., Hu, H. and Peterson, G. P., "Experimental Evaluation of Triangular Microgrooves on a Condensing Surface," *AIAA J. Thermophysics and Heat Transfer*, vol. 15, no. 4, 2001, pp. 401-408.
  132. Wang, Y., Ma, H. B. and Peterson, G. P., "Analysis of Wire Bonded Micro Heat Pipe Arrays," *AIAA J. Thermophysics and Heat Transfer*, vol. 16, no. 3, 2002, pp. 346-355.
  133. Ma, H. B. and Peterson, G. P., "The Influence of the Thermal Conductivity on the Heat Transfer Performance in a Heat Sink," *ASME J. Electronic Packaging*, vol. 24, no. 3, 2002, pp. 164-169.
  134. Wang, Y. and Peterson, G. P., "Optimization of Micro Heat Pipe Radiators in a Radiation Environment," *AIAA J. Thermophysics and Heat Transfer*, vol. 16, no. 4, 2002, pp. 537-546.
  135. Wang, Y. and Peterson, G. P., "Analytical Model for Capillary Evaporation Limitation in Thin Porous Layers," *AIAA J. Thermophysics and Heat Transfer*, vol. 17, no. 2, 2003, pp. 145-150.
  136. Wang, Y. and Peterson, G. P., "Capillary Evaporation in Microchanneled Polymer Films," *AIAA J. Thermophysics and Heat Transfer*, vol. 17, no. 3, 2003, pp. 354-359.
  137. Li, J., Peterson, G. P. and Cheng, P. "Three-Dimensional Analysis of Heat Transfer in a Micro Heat Sink with Single Phase Flow," *Int'l. J. Heat and Mass Transfer*, vol. 47, 2004, pp. 4215-4231.

138. Wang, Y. and Peterson, G. P., "Investigation of Novel Flat Heat Pipe," *ASME J. Heat Transfer*, vol. 127, no. 1, 2005, pp. 165-170.
139. Jiao, A., Reigler, R. Ma, H. B. and Peterson, G. P., "Thin Film Evaporation Effect on Heat Transport Capability in a Grooved Heat Pipe," *J. Microfluidics and Nanofluidics*, vol. 1, 2005, pp.227-233, (also in *Proc. of the 13th International Heat Pipe Conf.*, Shanghai, China, September 21-25, 2004).
140. Li, J., Cheng, P., Peterson, G. P. and Xu, J.Z., "Rapid Transient Heat Conduction in Multi-Layer Materials with Pulsed Heating Boundary," *Numerical Heat Transfer (part A)*, vol. 47, no. 7, 2005, pp. 633-652.
141. Li, J., Cheng, P., Peterson, G. P., "Mechanical Non-equilibrium Considerations in Homogeneous Bubble Nucleation for Unsteady-state Boiling," *Int'l. J. Heat and Mass Transfer*, vol. 48, 2005, pp. 3081-3096.
142. Rothman, S. M., Smyth, M. D., Yang, X. F. and Peterson, G. P., "Focal Cooling for Epilepsy," *Epilepsy and Behavior*, vol. 7, July 2005, pp. 214-221.
143. Li, J. and Peterson, G. P., "Microscale Heterogeneous Boiling on Smooth Surfaces from Bubble Generation to Bubble Dynamics," *Int'l. Heat and Mass Transfer*, vol. 48, 2005, pp. 4316-4332.
144. Kim, B. H. and Peterson, G. P. "An Experimental Study on the Operating Characteristics and Performance Measurement of a Reversible Loop Heat Pipe," *AIAA J. Thermophysics and Heat Transfer*, vol. 19, no. 4, 2005, pp. 5119-526.
145. Li, J. and Peterson, G. P., "Geometric Optimization of a Micro Heat Sink with Liquid Flow," *IEEE Tran on Comp. and Packaging Technologies*, vol. 29, no. 1, 2006, pp. 145-154.
146. Li, J. and Peterson, G. P., "Boiling Nucleation and Two-Phase Flow Patterns in Forced Liquid Flow in Microchannels," *Int'l. Heat and Mass Transfer*, vol. 48, 2005, pp. 4797-4810.
147. Carbajal, G., Sobhan, C. B. and Peterson, G. P., "Dimensionless Governing Equations for Vapor and Liquid Flow Analysis of Heat Pipes," *AIAA J. Thermophysics and Heat Transfer*, vol. 20, no. 1, 2006, pp. 140-144.
148. Li, H. C. and Peterson, G. P., "Experimental Investigation of Temperature and Volume Fraction Variations on the Effective Thermal Conductivity of Nanoparticle Suspensions," *Journal of Applied Physics*, vol. 99, no. 8, 2006, pp. 475-476.
149. Li, J. and Peterson, G. P., "Suppression of Heterogeneous Bubble Nucleation by Upstream Subcooled Liquid Flow," *Applied Physics Letters*, vol. 88, 201910, 2006.
150. Ma, H. B., Lofgreen, K. P. and Peterson, G. P., "An Experimental Investigation of a High Flux Heat Pipe Heat Sink," *ASME J. Electronic Packaging*, vol. 128, no. 1, 2006, pp. 18-22.
151. Chen, Y., Sobhan, C. B. and Peterson, G. P., "Review of Condensation Heat Transfer in Microgravity," *AIAA J. Thermophysics and Heat Transfer*, vol. 20, no. 3, 2006, pp. 353-360.
152. Carbajal, G. Sobhan, C. B., Peterson, G. P., Queheillalt, D. T. and Wadley, H. N. G., "Thermal Response of a Flat Heat Pipe Sandwich Structure to Localized Heat Flux," *Int'l. Heat and Mass Transfer*, vol. 49, 2006, pp. 4070-4081.
153. Li, C. and Peterson, G. P., "The Effective Thermal Conductivity of Wire Screen," *Int'l. J. Heat and Mass Transfer*, vol. 49, 2006, pp. 4095-4105.
154. Sobhan, C. B. and Peterson, G. P., "Recent Investigation of Fluid Flow and Heat Transfer in Microchannels," Special Issue - "Convective Heat Transfer in Microchannels" in the *J. of Engineering and Machinery*, vol. 557, 2006, pp. 1-67.
155. Carbajal, G., Sobhan, C. B. and Peterson, G. P., "Numerical Study of Heat Pipe Heat Spreaders with Large Periodic Heat Inputs," *AIAA J. Thermophysics and Heat Transfer*, vol. 20, no. 4, 2006 pp. 835-841.
156. Li, C. and Peterson, G. P., "Evaporation Boiling in Thin Capillary Wicks (I) – Wick Thickness Effects," *ASME J. Heat Transfer*, vol. 128, no. 12 2006, pp. 1312-1319.
157. Li, C. and Peterson, G. P., "Evaporation Boiling in Thin Capillary Wicks (II) – Effects of Volumetric Porosity and Mesh Size," *ASME J. Heat Transfer*, vol. 128, no. 12 2006, pp. 1320-1328.
158. Hilderbrand, J., Peterson, G. P. And Rothman, S., M. "Development of a Phase Change heat Spreader to Enable Focal Cooling as a Treatment for Intractable Neocortical Epilepsy," *Heat Transfer Engineering*, vol. 28, no. 4, April 2007, pp. 282-291.
159. Sobhan, C. B. and Peterson, G. P., "Comparative Evaluation of Different Types of Micro Heat Pipes," *International Journal of Energy Research*, vol. 31, 2007, pp. 664-688.
160. Li, Ji. and Peterson, G. P., "3-Dimensional Numerical Optimization of Silicon-based High Performance Parallel Microchannel Heat Sink with Liquid Flow," *Int'l. J. Heat and Mass Transfer*, vol. 50, 2007, pp. 2895-2904.
161. Li, C. H. and Peterson, G. P., "The effect of particle size on the effective thermal conductivity of Al<sub>2</sub>O<sub>3</sub>-water Nanofluids," *J. Appl. Phys.*, vol. 101, no. 4, 2007, pp. 044312.
162. Carbajal, G., Sobhan, C. B., Peterson, G. P., Queheillalt, D. T. and Wadley, H.N.G. "A Quasi 3D

- Analysis of the Thermal Performance of a Flat Plate heat Pipe," *Int'l. Heat and Mass Transfer*, vol. 50, 2007, pp. 4286-4296.
163. Li, C. and Peterson, "Parametric Study of Pool Boiling on Horizontal Conductive Micro Porous Coated Surfaces," *ASME J. Heat Transfer*, vol. 129, no. 11, 2007, pp.1465-1475.
  164. Li, C. H., Williams, W., Buonquorno, J. and Peterson G. P. "Transient and steady-state experimental comparison study of effective thermal conductivity of Al<sub>2</sub>O<sub>3</sub>-water Nanofluid," *ASME J. Heat Transfer*, vol. 130, no. 4, 042407, 43, 2008, pp.
  165. Kim, B. H. and Peterson, G. P. "Effect of Morphology of Carbon Nanotubes on Thermal Conductivity Enhancement of Aqueous Fluids," *AIAA J. Thermophysics and Heat Transfer*, vol. 21, no. 3, 2007, pp. 451-459.
  166. Li, C. H. and Peterson, G. P., "Mixing Effect on the Enhancement of Thermal Conductivity of Nanoparticle Suspensions (nanofluids)," *Int'l. Heat and Mass Transfer*, vol. 50, no. 3, 2007, pp. 4668-4677.
  167. Li, J., Peterson, G. P., and Peng, P. "Dynamic Characteristics of Transient Boiling On a Square Platinum Microheater Under Millisecond Pulsed Heating," *Int'l. J. Heat and Mass Transfer*, vol. 51, 2008, pp. 273-282.
  168. Queheillalt, D. T., Carbajal, G., Wadley, H.N.G. and Peterson, G. P., "A Multifunctional Heat Pipe Sandwich Panel Structure," *Int'l. Heat and Mass Transfer*, vol. 51, 2008, pp. 312-326.
  169. Chen, Y., Cheng, P., Peterson, G. P. and Shi, M., "Condensation in Microchannels," *Nanoscale and Microscale Thermophysical Engineering*, vol. 12, no. 2, April 2008, pp.117 – 143.
  170. Li, C., Wang, Z., Wang, P.I., Peles, Y., Koratkar, N. and Peterson, G.P., "Nanostructured Copper Interfaces for Enhanced Boiling," *Small – Nano and Micro*, vol. 4, no. 8, 2008, pp. 1084-1088.
  171. Chen, Y., Zhang, C., Shi, M., Wu, J. and Peterson, G. P., "Study on Flow and Heat Transfer Characteristics of Heat Pipe with Axial "Ω"-shaped Micro Grooves," *Int. J. Heat and Mass Transfer*, vol. 52, 2008, pp. 636-643.
  172. Chen, Y., Wu, J., Shi, M., and Peterson, G. P., "Numerical Simulation for Steady Annular Condensation Flow in Triangular Microchannels Simulation," *Int. Comm. Heat and Mass Transfer*, vol. 35, 2008, pp. 805–809.
  173. Wu, J., Chen, Y., Shi, M. and Peterson, G. P., "Three-Dimensional Numerical Simulation for Annular Condensation in Rectangular Microgrooves," *Nanoscale and Microscale Thermophysical Engineering*, vol. 13, no. 1, 2009, pp. 13-29.
  174. Chen, Y. P., Wu, R., Shi, M., Wu, J. and Peterson, G. P. "Visualization Study of Steam Condensation in Triangular Microchannels," *Int'l. J. Heat and Mass Transfer*, vol. 52, 2009, pp. 5122-5129.
  175. Zhang, C., Chen, Y., Shi, M. and Peterson, G. P. Chen, Y. and Peterson, G. P., "Optimization of Heat Pipe with Axial "Ω"-shaped Micro Grooves Based on Niched Pareto Genetic Algorithm (NPGA)," *Applied Thermal Engineering*, vol. 29, 2009, pp. 3340-3345.
  176. Chen, Y. and Peterson, G. P., "Role of Surface Roughness characterized by Fractal Roughness on Laminar Flow in Microchannels," *Physical Review E*, submitted February 5, 2009, in press.
  177. Li, C. H. and Peterson G. P. "Experimental Studies of Natural Convection of Al<sub>2</sub>O<sub>3</sub> Nanoparticle Suspensions (Nanofluids)," *Advances in Mechanical Engineering*, vol. 2010 Art. ID 742739, 2009, pp. 2010-2020.
  178. Feng, B, Li, Z., Zhang, X. and Peterson, G. P., "Numerical Approach for the Theory of Harmonic Self-heating Technique to Measure Thermophysical Properties of Suspended Thin Samples," *J. Vac. Sci. Technology*, vol. 27, no. 5, September 2009, pp. 2280-2285.
  179. Li, C. and Peterson, G. P., "Geometric Effects on CHF on Horizontal Microporous Coatings," *AIAA J Thermophysics and Heat Transfer*, vol. 24, no. 3, July 2010, pp. 449-455.
  180. Sajith, V., Sobhan, C. B., and Peterson, G. P., "Experimental Investigations on the Effects of Cerium Oxide Nanoparticle Fuel Additives on Biodiesel," *Advances in Mechanical Engineering*, vol. 2010, no. 6, Article Number 581407, July 1, 2010. doi:10.1155/2010/581407
  181. Li, C. H. and Peterson, G. P., "Experimental and Numerical Study on the Cold Start Performance of a Single PEM Fuel Cell," *Advances in Mechanical Engineering*, vol. 2010, no. 6, Article Number 403816, July 1, 2010. doi:10.1155/2010/403816
  182. Li, C. H. and Peterson, G. P., "Experimental Studies of Natural Convection Heat Transfer of Al<sub>2</sub>O<sub>3</sub>/Di Water Nanoparticle Suspensions (Nanofluids)," *Advances in Mechanical Engineering*, vol. 2010, no. 6, Article Number 742739, July 1, 2010. doi:10.1155/2010/742739
  183. Horton, M., Hong, H., Li, C., Shi, B., Peterson, G. P., and Jin, S., "Magnetic Alignment of Ni-Coated Single Wall Carbon Nanotubes in Heat Transfer Nanofluids," *J. Applied Physics*, vol. 107, no. 10, Article Number 104320, May 15, 2010. doi:10.1063/1.3428450
  184. Li, C. H. and Peterson, G. P., "Experimental Study of Enhanced Nucleate Boiling Heat Transfer on Uniform and Modulated Porous Structures," *Frontiers in Heat and Mass Transfer*, vol. 1, no. 2, Article Number 1-023007, 2010. doi:10.5098/hmt.v1.2.3007

185. Chen, Y., Zhang, C., Shi, M., and Peterson, G. P., "Optimal Surface Fractal Dimension for Heat and Fluid Flow in Microchannels," *Applied Physics Letters*, vol. 97, no. 8, Article Number 084101, August 23, 2010. doi:10.1063/1.3481379
186. Li, J., Wang, D., and Peterson, G. P., "Experimental Studies on a High Performance Compact Loop Heat Pipe with a Square Flat Evaporator," *Applied Thermal Engineering*, vol. 30, no. 6-7, pp. 741-752, May 2010. doi:10.1016/j.applthermaleng.2009.12.004
187. Li, J. and Peterson, G. P., "3D Heat Transfer Analysis in a Loop Heat Pipe Evaporator with a Fully Saturated Wick," *Int'l J. Heat and Mass Transfer*, vol. 54, no. 1-3, pp. 564-574, January 15, 2011. doi:10.1016/j.ijheatmasstransfer.2010.09.014
188. Oshman, C., Shi, B., Li, C., Yang, R., Lee, Y. C., Peterson, G. P., and Bright, V. M., "The Development of Polymer-Based Flat Heat Pipes (PFHP)," *J. Microelectromechanical Systems*, vol. 20, no. 2, pp. 410-417, April 2011. doi:10.1109/JMEMS.2011.2107885
189. Jones, M., Li, C., Afjeh, A., and Peterson, G. P., "Experimental Study of Combustion Characteristics of Nanoscale Metal and Metal Oxide Additives in Biofuel (Ethanol)," *Nanoscale Research Letters*, vol. 6, no. 1, pp. 246-258, March 22, 2011. doi:10.1186/1556-276X-6-246
190. Hodkins, P., Li, C. H. and Peterson, G. P., "Experimental Study of Fundamental Mechanisms in Inductive Heating of Ferromagnetic Nanoparticles Suspension ( $\text{Fe}_3\text{O}_4$  Iron Oxide Ferrofluid)," *J. Applied Physics*, vol. 110, 054303, 2011.
191. Hong, H., Horton, M., Luan, X., Li, C. and Peterson, G. P., "Alignment of Carbon Nanotubes Comprising Magnetically Sensitive Metal Oxides in Heat Transfer Nanofluids," *Thermochimica Acta*, vol. 525, 2011, pp. 87-92.
192. Zhang, Z. M., Bright, T. J. and Peterson, G. P., "Statistical Reassurance of Fourier's Law against Cattaneo's Equation," *Nanoscale and Microscale Thermophysical Engineering*, vol. 15, 2011, pp. 220-228.
193. Li, C., Li, T., Hodgins, P. and Peterson, G. P., "Characteristics of Pool Boiling Bubble Dynamics in Bead Packed Porous Structures," *ASME J. Heat Transfer*, vol. 133, no. 3, 031004, 7, November 15, 2011.
194. Bai, L., Lin, G., Peterson, G. P. and Wen, D., "Modeling and Analysis of Supercritical Startup of a Cryogenic Loop Heat Pipe," *ASME J. Heat Transfer*, vol. 133, no. 4, December 2011, doi: 10.1115/1.4004595.
195. Li, C. H., Li, T., Hodgins, P., Hunter, C. N., Voevodin, A. A., Jones, J.G. and Peterson, G. P., "Comparison Study of Liquid Replenishment Impacts on Critical Heat Flux and Heat Transfer Coefficient of Nucleate Pool Boiling on Modulated Porous Structures," *Int'l J. Heat and Mass Transfer*, vol. 54, no. 5, 2011, pp. 3146-3155.
196. Moon, J, Weaver, K., Feng, B., Chae, H. G., Kumar, S., Baek, J. and Peterson, G. P., "Thermal Conductivity Measurement of Individual PEK/CNT Fibers Using a Steady-State DC Thermal Bridge Method," *Review of Scientific Instruments*, vol. 83, issue 1, 016103, 2012, doi:10.1063/1.3676650, (also as *Proc. 3<sup>rd</sup> Micro/Nanoscale Heat and Mass Transfer Int'l Conf.*, Paper no. MNHMT2012-75388, March 3-6, 2012, Atlanta, GA.)
197. Zhou, L., Yoda, M. and Peterson, G. P., "Effects of Temperature Gradient Induced Nanoparticle Motion in Conduction and Convection of Fluid," *J. Nanopart. Research*, vol. 14, Issue 4, doi:10.1007/s11051-012-0822-8.
198. Feng, B., Weaver, K. and Peterson, G. P., "Enhancement of Critical Heat Flux in Pool Boiling Using Atomic Layer Deposition of Alumina" *Applied Physics Letters*, vol. 100, Issue 5, 053120, 2012, doi: 10.1063/1.3681943, (also as *Proc. 3<sup>rd</sup> Micro/Nanoscale Heat and Mass Transfer Int'l Conf.*, Paper no. MNHMT2012-75388, March 3-6, 2012, Atlanta, GA.)
199. Chen, Y., Zhang, C., Shi, M. and Peterson, G. P., "Slip Boundary Conditions for Fluid Flow at Rough Solid Surfaces" *Applied Physics Letters*, vol. 100, February 2012, doi: 10.1063/1.3685490.
200. Li, D., Wu, G. S., Wang, W., Wang, Y. D., Liu, D., Zhang, D. C., Chen, Y. F., Liu, D., Peterson, G. P. and Yang, R., "Enhancing Flow Boiling Heat Transfer in Microchannels for Thermal Management with Monolithically-Integrated Silicon-Nanowires," *Nano Letters*, vol. 12, pp. 3385-3390, 2012.
201. Acharya, S., Alvarado, J., Banerjee, D., Billups, W.E., Chen, G., Cola, B. A., Cross, W., Duke, E., Graham, Jr., S., He, H., Hong, H., Jin, S., Karna, S., Li, C., Li, C. H., Li, J., Peterson, G. P., Puszynski, J. A., Routbort, J., Shan, J., Shin, D., Smirnova, A., Smith, P., Wang, X., Waynick, A., White, R., Yan, X. and Yu, W., "Report on Carbon Nano Material Workshop: Challenges and Opportunities," *Nanoscale and Microscale Thermophysical Engineering*, vol. 17, pp. 10-24, 2013.
202. Feng, B., Faruque, F., Bao, P., Chien, A.T., Kumar, S. and Peterson, G. P., "Double-Sided Tin Nanowire Arrays for Advanced Thermal Interface Materials," *Appl. Physics Lett*, vol. 102, 093105 (2013); doi: 10.1063/1.4791575, December 27, 2012.

203. Christensen, G., Younes, H., Hong, H. and Peterson, G. P., "Alignment of Different Functional Single Wall Carbon Nanotubes using Fe<sub>2</sub>O<sub>3</sub> Nanoparticles under External Magnetic Field," *J. of Nanofluids*, vol. 2, 2013, pp. 4-10.
204. Christensen, G., Younes, H., Hong, H. and Peterson, G. P., "Alignment of Carbon Nanotubes Comprising Magnetically Sensitive Metal Oxides by Nonionic Chemical Surfactants," *J. of Nanofluids*, vol. 2, 2013, pp. 25-28.
205. Feng, B., Faruque, F., Bao, P., Chien, A., Kumar, S. and Peterson, G. P., "Double-sided Tin Nanowire Arrays for Advanced Thermal Interface Materials," *Applied Physics Letters*, vol. 102, 093105 2013, (also as 29th Annual SEMI-THERM symposium and Exhibition, March 17-21, 2013, San Jose, USA.).
206. Bai, L., Lin, G. and Peterson, G. P., "Evaporative heat transfer Analysis of a Heat Pipe with Hybrid Axial Groove," *ASME J. Heat Transfer*, vol. 135, no. 3, 2013, pp. 1320-1328.
207. Yao, F., Chen, Y.P. and Peterson, G.P., "Hydrogen Production by Methanol Steam reforming in a Disc Microreactor with Tree-shaped Flow Architectures," *Int'l. J. Heat and Mass Transfer*, vol. 64, 2013, pp. 418-425.
208. Carbajal, G., Sobhan, C., and Peterson, G. P., "Symmetrical Porous Surfaces for Boiling Enhancement in Mini-channels: Effects on Liquid Pressure Drop," *J. Enhanced Heat Transfer*, vol. 20, no.1, 2013, pp. 73-81.
209. Ramos-Alvarado, B., Feng, B. and Peterson, G. P., "Comparison and Optimization of Single-Phase Liquid Cooling Devices for the Heat Dissipation of High-Power LED Arrays," *Applied Thermal Engineering*, vol. 59, August 2013, pp. 648-659.
210. Nolan, E., Rioux, R., Jiang, P., Peterson, G. P. and Li, C., "Experimental Study of Contact Angle and Active Nucleation Site Distribution on Nanostructure Modified Copper Surface in Pool Boiling Heat Transfer Enhancement," *Heat Tran. Research*, vol. 44, no. 1, 2013, pp. 115-131.
211. Ramos-Alvarado, B., Brown, D., Chen, X., Feng, B. and Peterson, G. P., "On the Assessment of Voids in the Thermal Interface Material on the Thermal Performance of a Silicon Chip Package," *Microelectronics Reliability*, vol. 53, November 2013, pp. 1987-1995.
212. Li, C. H., Jiang, P., Peterson, G. P. and Li, C., "Dual Role of NanoParticles in the Thermal Conductivity Enhancement of Nanoparticle Suspensions," *J. Nanofluids*, vol. 2, no. 1, 2013, pp. 1-5.
213. Chien, A. T., Gulgunje, P. V., Chae, H. G., Joshi, A., Moon, J. Feng, B. and Peterson, G. P. and Kumar, S., "Functional polymer-polymer/carbon nanotube bi-component Fibers," *Polymer*, vol. 54, 2013, pp. 6210-6217.
214. Chen, Y.P., Shen, C., Shi, M. and Peterson, G.P., "Visualization Study of Flow Condensation in Hydrophobic Microchannels," *AIChE J.*, vol. 60, no. 32014, 2014, pp. 1182-1192.
215. Zhang, C., Chen, Y.P. and Peterson, G.P., "Thermal Slip for Liquids at Rough Solid Surfaces," *Physical Rev. E*, vol. 89, no. 062407, 2014, pp.
216. Jesseela, S., Sobhan, C.B. and Peterson, G.P., "Optimum Design of Microchannel Heat Sinks for Annular Flow with Phase Change," *J. Enhanced Heat Transfer*, vol. 21, nos. 4-5, 2014, pp. 373-395.
217. Newcomb, B. A., Lyons, K., Gulgunje, P. V., Gupta, K., Liu, Y., Manjeshwar, G. K., Feng, B., Peterson, G. P. and Chae, H.G., "High Resolution Transmission Electron Microscope Study on Polyacrylonitrile /Carbon Nanotube Based Carbon Fibers and the Effect of Structure Development on the Thermal and Electrical Conductivities," *CARBON*, vol. 93, November 2015, pp. 502-514.
218. Chen, Y. P., Shen, C. and Peterson, G. P., "Hydrodynamics and Droplet Coalescence" *Ind. Eng. Chem. Res.*, vol. 54, 044703, 2015, pp. 9257-9262.
219. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "Wettability of Graphitic-Carbon and Silicon Surfaces: MD Modeling and Theoretical Analysis," *J. Chemical Physics (AIP)*, vol. 143, no. 4, 044703, December 2015.
220. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "On the Wettability Transparency of Graphene-coated Silicon Surfaces," *J. Chemical Physics (AIP)*, vol. 144, no. 1, 014701, January 2016.
221. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "The Hydrodynamic Slip Length as a Surface Property," *Physical Review E*, vol. 93, 023101, January 2016.
222. Torabi, M., Zhang, K., Karimi, N. and Peterson, G. P., "Entropy Generation in Thermal Systems with Solid Structures - A Concise Review," *Int'l. J. Heat and Mass Transfer*, vol. 97, no. 1, 2016, pp. 917-931.
223. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "Wettability Transparency and the Quasiuniversal Relationship between Hydrodynamic Slip and Contact Angle," *Appl. Physics Lett.*, vol. 108, no. 7, 074105, February 2016.

224. Torabi, M., Peterson, G. P., Torabi, M. and Karimi, N., "A Thermodynamic Analysis of Forced Convection through Porous Media using Pore Scale Modeling," *Int'l. J. Heat and Mass Transfer*, vol. 99, 2016, pp. 303-316.
225. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "Hydrodynamic Slip in Silicon Nanochannels," *Physical Review E*, vol. 93, no. 3, 033117, March 2016.
226. Torabi, M., Karimi, N., Zhang, K. and Peterson, G. P., "Generation of Entropy and Forced Convection of Heat in a Conduit Partially Filled with Porous Media – Local Thermal Non-Equilibrium and Exothermicity Effects," *Applied Thermal Engineering*, vol. 106, 2016, pp. 518–536.
227. Bai, L., Zhang, L., Lin, G. and Peterson, G. P., "Pool Boiling with High Heat Flux Enabled by an Artery Porous Structure," *Appl. Physics Lett.*, vol. 108, 233901 June 2016.
228. Awin, V., Sajith, V., Sobhan, C. B. and Peterson, G. P., "Electrical and Thermal Conductivities of Dilute Nanofluids – Experimental Determination and Parametric Studies," *J. Nanofluids*, vol. 5, 2016, pp.1-8.
229. Marsh, K., Morris, T., Peterson, G. P., Hughes, T., Ran, Q. and Holste, J., "Vapor Pressure of Dichlorosilane, Trichlorosilane and Tetrachlorosilane from 300 K to 420 K," *J. Chem. & Engr. Data*, vol. 61, 2016, pp. 2799-2804.
230. Torabi, M. and Peterson, G. P., "Effects of Velocity Slip and Temperature Jump on the Heat Transfer and Entropy Generation in Micro Porous Channels under Magnetic Field," *Int'l. J. Heat and Mass Transfer*, vol. 102, 2016, pp. 585-595.
231. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "Solid-liquid Thermal Transport and its Relationship with Wettability and the Interfacial Liquid Structure" *J. Physical Chemistry Lett.*, vol. 7, 2016, pp. 3497-3501.
232. Torabi, M., Zhang, Z. M. and Peterson, G. P., "Interface Entropy Generation in Micro Porous Channels with Velocity Slip and Temperature Jump," *Applied Thermal Engineering*, Vol. 111, 2017, pp. 684–693.
233. Torabi, Me., Torabi M. and Peterson, G. P., "Heat Transfer and Entropy Generation Analyses of Forced Convection through Porous Media using Pore Scale Modeling," *J. Heat Transfer*, vol. 139, 2017, 012601 (10 Pages).
234. Anas, N. S., Thomas, S., Sobhan, C. B. and Peterson, G. P., "An Experimental Investigation of the Refrigerant Adsorption Performance of Carbon Nanotube Activated Carbon Mixtures," *Intl., J. Air Conditioning and Refrigeration*, vol. 25, no. 2, 2017, DOI 10.1142/S2010132517500171, pp.1-12.
235. Torabi, M., Torabi, Me. and Peterson, G. P., "Entropy Generation of Double Diffusive Forced Convection in Porous Channels with Thick Walls and Soret Effect," *Entropy*, vol. 19, 2017, pp. 171-187.
236. Sobhan, C. B., Thomas, S. and Peterson, G. P., "Microscale Transport Phenomena for Bio-Engineering Applications: Recent Advances" *J. Advances in Nanomaterials (JAN)*, vol. 2, no. 1, March 2017, pp. 41-59.
237. Torabi, Me., Torabi, M., Ghiaasiaan, S. and Peterson, G. P., "The Effect of Al<sub>2</sub>O<sub>3</sub>-water Nanofluids on the Heat Transfer and Entropy Generation of Laminar Forced Convection through Isotropic Porous Media," *Int'l J. Heat and Mass Trans*, vol. 111, 2017, pp. 804-816.
238. Torabi, M., Karimi, N., Peterson, G. P. and Yee, S., "Challenges and Progress on the Modeling of Entropy Generation in Porous Media," *Int'l. J. Heat and Mass Transfer*, vol. 114, 2017, pp. 31-46.
239. Torabi, M., Keyhani, A. and Peterson, G.P., "A comprehensive investigation of natural convection inside a partially differentially heated cavity with a thin fin using the lattice Boltzmann method," *Int'l. J. Heat and Mass Transfer*, vol. 115, 2017, pp. 264-277.
240. Paul, J., Madhu, A. K , Jayadeep, U.B., Sobhan, C. B. and Peterson, G. P., "A Molecular Dynamics Study of Liquid Layering and Thermal Conductivity Enhancement in Nanoparticle Suspensions," *Heat and Mass Trans. (Springer)*, vol. 54, doi 10.1007/s0023-017-2175-4, October 2, 2017, pp. 785-791.
241. Zhou, G., Li, J., Lv, L. and Peterson, G. P., "Comparative Study on Thermal Performance of Ultrathin Miniature Loop Heat Pipes with Different Internal Wicks," *ASME J. Heat Transfer*, vol. 139, December 2017, pp. 31-46.
242. Rag, R. L., Sobhan, C. B. and Peterson, G. P., "Computational Analysis of Wire-Bonded Micro Heat Pipe: Influence of Thermophysical Parameters,' *AIAA J. Thermophysics and Heat Transfer*, vol. 32, no. 4, 2018, pp. 925-932.
243. Shrivastava, S. Thomas, S. Sobhan, C. and Peterson, G. P., "An Experimental Investigation of the CO<sub>2</sub> Adsorption Performance of Graphene Oxide Forms," *Int'l. J. Refrigeration*, DOI 10.1016/j.jrefrig.2018.07.014, vol. 96, July 2018, pp. 179-190.
244. Guo, Y., Lin, G., Bai, L., Miao, J. and Peterson, G. P., "Experimental Study of the Thermal Performance of a Neon Cryogenic Loop Heat Pipe," *Int'l. J. Heat and Mass Transfer*, vol. 120, 2018, pp. 1266-1274.

245. Vyas, D., Sobhan, C. B. and Peterson, G. P., "An Investigation of Marangoni-Benard Convection in Water Based Nanofluids," *J. Heat and Mass Trans*, vol. 55, no. 3, March 2019, pp. 791–809.
246. Torabi, Me., Torabi, M., Yazdi, E. and Peterson, G. P., "Fluid Flow, Heat Transfer and Entropy Generation Analyses of Turbulent Forced Convection through Isotropic Porous Media using RANS Models," *Int'l. J. Heat and Mass Transfer*, vol. 132, 2019, pp. 443-461.
247. Liu, M., Younes, H., Hong, H. and Peterson, G. P., "Polymer Nanocomposites with Magnetically Aligned Carbon Nano Materials," *Polymer*, vol. 166, 2019, pp. 81-87.
248. Sobhan, C. B. and Peterson, G. P., "Investigations on Wire-Bonded Micro Heat Pipes - A Review," *Frontiers in Heat and Mass Transfer (FHMT)*, doi.org/10.5098/hmt, Vol. 13, August 7, 2019, pp. 5-16.
249. Luan, X., Younes, H., Hong, H. and Peterson, G.P. "Improving Mechanical Properties of PVA Based Nano Composite Using Aligned Single-Wall Carbon Nanotubes" *Materials Research Express*, DOI.org/10.1088/2053-1591/ab4058, vol. 6, September 11, 2019.
250. Ramachandran, S., Sobhan, C. B. and Peterson, G. P., "Thermophoresis of Nanoparticles in Liquids," *Int'l. J. Heat and Mass Transfer*, vol. 147, 2020.
251. Jian, G., Peterson, G.P. and Wang, S., "Experimental Investigation of the Condensation Mechanisms of Spiral Wound Heat Exchangers," *Int'l J. Heat and Mass Trans.*, vol. 154, 2020, pp. 119-133.
252. Torabi, Me., Karimi, R., Torabi, M. and Peterson, G. P., "Generation of Entropy in Micro Thermofluidic and Thermochemical Energy Systems - A Critical Review," *Int'l. J. Heat and Mass Transfer*, vol. 163, 2020, pp.
253. Christensen, G., Lou, D., Hong, H, and Peterson, G. P., "Improved thermal conductivity of fluids and composites using boron nitride nanoparticles (BN) through hydrogen bonding," *Thermochemica Actahermal*, accepted for publication November 28, 2020.
254. Younes, H., Hong, H. and Peterson, G. P., "A Novel Approach to Fabricate Carbon Nanomaterials-Nanoparticle Solids through Aqueous Solutions and their Applications," *J. Nanomanufacturing and Metrology*, <https://doi.org/10.1007/s41871-020-00094-z>, March 20, 2021.
255. Lou, D., Grablander, T., Hong, H, and Peterson, G. P., "Improved Thermal Conductivity of PEG Based Fluids Using Hydrogen Bonding and Long Chain of Nanoparticle," *J. of Nanoparticle Research*, accepted for publication, April 5, 2021.
256. Choi, H. C., Peterson, G. P. and Li, C., "Dynamic Processes of Nanobubbles: Growth, Collapse, and Coalescence," Ephraim Sparrow Memorial Issue of the *J. of Heat Trans. Transactions of the ASME*, accepted for publication, April 27, 2021.

#### REFEREED PAPERS AND CONFERENCE PROCEEDINGS (not including those listed above):

1. Bennett, C. A., Lee, H. B., Peterson, G. P., and Yoon, D., "Three Studies of Parameters of Consumer Products," *Proc. of the Human Factors Society*, pp. 31-34, October 1978.
2. Peterson, G. P. and Konz, S. A., "Inspection: A Case Study," *Transactions of the American Society for Quality Control*, Tulsa, Okla., pp. 1-6, October 9-10, 1980.
3. Peterson, G. P. and Konz, S. A., "Visual Problems during Repetitive Inspection," *Proc. of the American Industrial Hygiene Conf.*, Portland, Oregon, pp. 106-112, June 1981.
4. Peterson, G. P., "Heat Pipe Heat Exchangers in Waste Heat Recovery," *Proc. of the ASME/ETCE Industrial Pollution Control Symposium*, Houston, Texas, pp. 94-98, January 30-February 3, 1983.
5. Peterson, G. P., "Two-Phase Thermal Control Systems for Spacecraft Instrumentation," 18th AIAA Thermophysics Conf., Paper no. AIAA 83-1489, Montreal, Canada, June 1-3, 1983.
6. Peterson, G. P. and Stalmach, D. D., "Concept Evaluation of Four Thermal Utility Systems for Low Orbit Spacecraft," 13th SAE/ASME Intersociety Conf. on Environmental Systems, SAE Paper no. 11ES3, San Francisco, CA, July 11-13, 1983.
7. Henry, J. and Peterson, G. P., A Combination Programmable Controller/Robotics Laboratory for Engineering Technology Programs," Institute of Electronic and Electrical Engineers (IEEE), *Frontiers in Education Conf. Proc.*, Worcester, Massachusetts, pp. 231-236, October 17-19, 1983.
8. Peterson, G. P., Gowdy, K. K. and Henry, J. C., "Robotics Application Research in Engineering Technology," *1984 ASEE Annual Conf. Proc.*, pp. 891-895, June 18-24, 1984.
9. Peterson, G. P., "Integration of Robotics Instruction into an Engineering Technology Program," *ASEE Pacific Southwest Conf. Proc.*, Tempe, Arizona, October 29-30, 1984.
10. Peterson, G. P. and Anderson, M. A., "Development of a Flexible Welding Cell," *1984 Autoweld Conf. Proc.*, St. Louis, Missouri, pp. 146-153, November 6-7, 1984.
11. Peterson, G. P., "Heat Pipe Modeling and Simulation," *AIAA 23rd Aerospace Sciences Meeting*, Paper no. AIAA 85-0152, Reno, Nevada, January 14-17, 1985.
12. Peterson, G. P. and Niznik, B. D., "Robotics in the Manufacture of Oil Field Equipment," *7th ASME/ETCE Drilling and Production Symposium Conf. Proc.*, Dallas, Texas, pp. 100-107, February

- 17-21, 1985.
13. Peterson, G. P. and Hunt, A. C., "Advanced Scanning Architecture Systems Composite Material Evaluation," *AIAA 26th Structures, Structural Dynamics and Materials Conf.*, Paper no. AIAA 85-0724, Orlando, Florida, April 15-17, 1985.
  14. Peterson, G. P., Vittrup, J. B., "The FESS Plan for Development of Programmable Automation Laboratories for Research and Instruction," *1985 ASEE Annual Conf. Proc.*, Atlanta, Georgia, pp. 172-174, June 16-20, 1985.
  15. Peterson, G. P., "Heat Pipe Thermal Control of Electronic Components," *AIAA 20th Thermophysics Conf.*, Paper no. AIAA 85-0937, Williamsburg, Virginia, June 19-21, 1985.
  16. Fletcher, L. S. and Peterson, G. P., "The Effect of Interstitial Materials on the Thermal Contact Conductance of Metallic Junctions," *Proc. of the Heat Transfer in Thermal Systems Seminar-Phase II*, National Cheng Kung University, Tainan, Taiwan, pp. 1-8, January 13-14, 1986.
  17. Peterson, G. P., Niznik, B. and Chan, L. M. "Efficient End-of-Arm Tooling for the Insertion of Printed Circuit Boards," *Proc. of the 1986 ASME/SAE Electronic Manufacturing Technologies and Systems Conf.*, Los Angeles, California, pp. 294-304, March 17-20, 1986.
  18. Kundu, N., Peterson, G. P. and Riley, K., "Pressure Intensification and Control Using Programmable Controllers," *1986 ASEE Annual Conf. Proc.*, Cincinnati, Ohio, pp. 759-763, June 22-26, 1986.
  19. Peterson, G. P. and Fletcher, L. S., "Thermal Contact Conductance Between Spherical Particles and Flat Surfaces," 8th International Heat Transfer Conf., *Open Forum*, #OP-6C-9, San Francisco, Calif., August 17-22, 1986, (Received an award for Outstanding Presentation in Poster Format).
  20. Kundu, N. and Peterson, G. P., "Two-Phase Slurries for the Transport of Solid Particulate Matter," *Proc. of the 10th International Conf. on the Hydraulic Transport of Solids in Pipes*, Innsbruck, Austria, pp. 311-317, October 29-31, 1986.
  21. Peterson, G. P., "Analytical Development and Computer Modeling of a Bellows Type Heat Pipe for Cooling of Electronic Components," ASME Paper no. 86-WA/HT-69, ASME Winter Annual Meeting, Anaheim, California, December 7-12, 1986.
  22. Peterson, G. P., "Thermal Contact Resistance in Waste Heat Recovery Systems," *Proc. of the 8th ASME/ETCE Hydrocarbon Processing Symposium*, Dallas, Texas, pp. 45-51, February 15-19, 1987.
  23. Kundu, N. and Peterson, G. P., "Thermal Conductivity of Offshore Pipeline Coating Materials," *Proc. of the 4th ASME/ETCE Pipeline Conf.*, Dallas, TX, pp. 173-177, February 15-19, 1987.
  24. Peterson, G. P. and Fletcher, L. S., "Thermal Contact Resistance of Silicon Chip Bonding Materials," *Proc. of the International Symposium on Cooling Technology for Electronic Equipment*, Honolulu, Hawaii, pp. 438-448, March 18-21, 1987.
  25. Peterson, G. P. and Fletcher, L. S., "A Review of the Thermal Conductivity of Composite Materials," 22nd AIAA Thermophysics Conf., Paper no. AIAA 87-1586, Honolulu, Hawaii, June 8-10, 1987.
  26. Peterson, G. P. "Analytical Comparison of Three External Artery Heat Pipes," 22nd AIAA Thermophysics Conf., Paper no. AIAA 87-1616, Honolulu, Hawaii, pp. 438-448, June 8-10, 1987.
  27. Park, J. S. and Peterson G. P., "Turbulent Heat Transfer in Hydrodynamic and Thermal Entrance Regions of a Square Duct," *Proc. of the 10th Korea Symposium on Science and Technology*, Seoul, Korea, vol. II, pp. 162-169, July 7-18, 1987.
  28. Park, J. S. and Peterson, G. P., "A Study of Numerical Modeling of Combustion of Korean Anthracite Briquettes," *Proc. of the 10th Korea Symposium on Science and Technology*, Seoul, Korea, vol. 1, pp. 35-38, July 7-18, 1987.
  29. Peterson, G. P., "Heat Removal Key to Shrinking Avionics," *Aerospace America*, no. 8, pp. 20-22, October 1987.
  30. Peterson, G. P., "Thermophysics Highlights," *Aerospace America*, no. 12, pp. 22, December 1987.
  31. Peterson, G. P. and Fletcher, L. S., "Thermal Contact Conductance in the Presence of Thin Metallic Foils," 26th AIAA Aerospace Sciences Meeting, Paper no. AIAA 88-0466, Reno, Nevada, January 11-14, 1988.
  32. Peterson, G. P., "Reducing the Thermal Contact Resistance in Heat Exchangers," *Proc. of the Technical Economics Symposium*, New Orleans, Louisiana, pp. 89-94, January 15-19, 1988.
  33. Ochterbeck, J. M., Fletcher, L. S. and Peterson, G. P., "Experimental Investigation of Thermal Contact Conductance at the Interface between Bone and PMMA Cements," 6th Annual Meeting on Biomedical Research, Houston, Texas, February 12, 1988.
  34. Moses, W. M., Chowdhury, A. H., Peterson, G. P. and Rogers T. D., "Performance Characterization of a Waste/Water Recovery System," *Proc. of the Controlled Environmental Life Support System Research Conf.*, College Station, TX, February 22-23, 1988.
  35. Fletcher, L. S. and Peterson, G. P., "On the Thermal Contact Conductance between Bone and Artificial Joints," *Proc. of the World Congress on Medical Physics and Biomedical Engineering*, Paper no. BE-278-3, San Antonio, TX, August 6-12, 1988.
  36. Duncan, A. B., Peterson, G. P. and Fletcher, L. S., "Effective Conductivity within Packed Beds of

- Spherical Particles," 1988 ASME Winter Annual Meeting, Chicago, Ill., pp. 77-88, Nov. 28-Dec. 2, 1988.
37. Ochterbeck, J. M. and Peterson, G. P., "Frozen Heat Pipe Startup Characteristics in One-g and Micro-g Environments: Issues and Objectives," *Proc. of the Commercialization of Space Fluid Management Workshop*, NASA-Marshall Space Flight Center, Huntsville, Alabama, March 21-22, 1990, pp. 286-295.
  38. Peterson, G. P., "Analytical and Experimental Investigation of Micro Heat Pipes," *Proc. of the 7th International Heat Pipe Conf.*, Paper no. A-4, Minsk, USSR, May 21-25, 1990.
  39. Ochterbeck, J. M., Peterson, G. P. and Fletcher, L. S., "Evaluation of Thermal Enhancement Films for Electronic Equipment," *Proc. of the 9th International Heat Transfer Conf.*, vol. 5, Jerusalem, Israel, pp. 445-451, August 19-22, 1990.
  40. Peterson, G. P., "On the Use of Micro Heat Pipes for the Thermal Control of Electronic Devices," 9th Int'l Heat Transfer Conf., *Open Forum*, OPF II-11, Jerusalem, Israel, August 19-22, 1990.
  41. Babin, B. R., Leiner, W. and Peterson, G. P., "Cooling Electronic Components with Thermosyphons," 1990 ASME Winter Annual Meeting, Dallas, TX, ASME HTD-vol.153, ASME New York N.Y., pp. 89-94, December 1990.
  42. Peterson, G. P., "Experimental and Analytical Investigations of Micro Heat Pipes," *Research and Development in Heat Pipe Technology*, vol. 7, L. L. Vasiliev (ed.), Hemisphere Publishing, New York, N.Y., December 1990, pp. 243-251.
  43. Ochterbeck, J. M. and Peterson, G. P., "Frozen Heat Pipe Startup: A Shuttle Flight Experiment," 29th AIAA Aerospace Sciences Meeting, AIAA-91-0365, Reno, Nevada, January 7-10, 1991.
  44. Mallik, A. K., Peterson, G. P. and Weichold, M. H., "Construction Processes for Vapor Deposited Micro Heat Pipes," *10th Symp. on Electronic Materials Processing and Characteristics*, June 3-4, 1991, Richardson, TX, (Received an award for Outstanding Poster Presentation).
  45. Peterson, G. P., Duncan, A. B., Ahmed, A. K., Mallik, A. K. and Weichold, M. H. "Experimental Investigation of Micro Heat Pipes in Silicon," 1991 ASME Winter Annual Meeting, ASME vol. DSC-32, ASME New York N.Y., pp. 341-348, December 1-6, 1991.
  46. Peterson, G. P., "Thermal Contact Conductance in Dual-in-line Packages," *Proc. of the U.S.-Australia Joint Seminar on Thermal Contact Conductance in Microelectronics*, Melbourne, Australia, pp. 7-12, May 1992.
  47. Kihm, K. D., Kim, B. H. and Peterson, G. P., "SMD Measurements of Intermittent Sprays Entrained from Wire Mesh Interfaces Driven by Parallel Convective Air Flows," *5th Annual Conf. on Liquid Atomization and Spray Systems*, San Ramon, CA, pp. 225-232, May 18-20, 1992.
  48. Mallik, A. K., Peterson, G. P. and Weichold, M. H., "Fabrication of Vapor Deposited Micro Heat Pipes," *Proc. 11th Symp. on Electronic Materials Processing and Characteristics*, June 1-2, 1992, Richardson, TX.
  49. Ochterbeck, J. M. and Peterson, G. P., "Experimental Investigation of Freezing Blowby in a Copper Water Heat Pipe," 1992 AIAA Thermophysics Conf., AIAA 92-290, Nashville, TN, July 6-8, 1992.
  50. Ochterbeck, J. M. and Peterson, G. P., "Experimental Investigation of Frozen Heat Pipe Startup in One-g and Micro-g Environments," *Proc. 8th Int'l Heat Pipe Conf.*, Beijing, China, September 14-18, 1992, pp. 292-297.
  51. Peterson, G. P., "Investigation of Micro Heat Pipes Fabricated as an Integral Part of Silicon Wafers," *Proc. 8th Int'l Heat Pipe Conf.*, Beijing, China, September 14-18, 1992, pp. 385-395.
  52. Peng, X. F., Wang, B. X. and Peterson, G. P., "Film and Transition Boiling Heat Transfer Characteristics of Subcooled Liquid Flowing Through a Horizontal Flat Duct," *Proc. 1st European Thermal-Science and 3rd UK Nat'l. Heat Transfer Conf.*, September 16-18, 1992, Birmingham, England.
  53. Peterson, G. P., "An Overview of Micro Heat Pipes and Their Applications," *Proc. 1st Korean Heat Pipe Conf.*, Pohang, Korea, September 20-23, 1992, pp. 77-91.
  54. Peterson, G. P., "An Overview of Heat Pipe Applications," ITRI Workshop on Heat Pipe Theory and Applications, Hinschu, Taiwan, ROC, December 9-12, 1992.
  55. Peterson, G. P., "Heat Pipes: Fundamentals of Operation," ITRI Workshop on Heat Pipe Theory and Applications, Hinschu, Taiwan, ROC, December 9-12, 1992.
  56. Howard, A. and Peterson, G. P., "The Effect of Multiple Layering on the Thermal Contact Conductance of Vapor Deposited Metallic Coatings," 1993 AIAA Aerospace Sciences Conf., AIAA 93-0843, Reno, NV, January 11-14, 1993.
  57. Kim, B. H., Peterson, G. P. and Kihm, K. D., "Experimental Investigation of Entrainment in Heat Pipe Wicking Structures," 1993 AIAA Aerospace Sciences Conf., AIAA 93-0281, Reno, NV, January 11-14, 1993.
  58. Ochterbeck, J. M., Peterson, G. P. and Ungar, E., "Acceleration Induced Depriming and Capillary Rewetting of External Artery Heat Pipes: Comparison with Share II Flight Experiment, 1993 AIAA

- Aerospace Sciences Conf., AIAA 92-0282, Reno, NV, January 11-14, 1993.
59. Kihm, K. D., Kim, B. H. and Peterson, G. P., "Critical Velocity and Droplet SMD's of Entrained Sprays from Meshed-Interface Convective Air Streams," *6th Int. Symposium on Transport Phenomena in Thermal Engineering (ISTP-6)*, Seoul, Korea, May 9-13, 1993, pp. 431-434.
  60. Lu, X. F. and Peterson, G. P., "A Finite Element Analysis of the Freeze/Thaw Behavior of External Artery Heat Pipes," 1993 Thermophysics Conf., AIAA-93-2739, Orlando, FL, July 6-9, 1993.
  61. Peterson, G. P., "Microscale Heat Pipes in Silicon Devices," *Proc. of the 1994 JPL/DATATAPE Symposium on Thermal Control of Electronics*, May 23-25, 1994, Pasadena, CA.
  62. Coudel, A., Fletcher, L. S. and Peterson, G. P., "A Correlation for the Thermal Contact Conductance of Interstitial Metallic Foils," *Proc. 10th Int'l. Heat Transfer Conf.*, vol. 6, Brighton, England, August 14-18, 1994, pp. 337-342.
  63. Ochterbeck, J. M. and Peterson, G. P., "Current Status of Frozen Heat Pipe Startup Research," *Proc. 10th Int'l. Heat Transfer Conf.*, vol. 7, Brighton, England, August 14-18, 1994, pp. 351-356.
  64. Peterson, G. P., "An Overview of Conduction and Insulation," Invited Review, *Proc. 10th Int'l. Heat Transfer Conf.*, August 14-18, 1994, Brighton, England.
  65. Juhasz, A. L. and Peterson, G. P., "Review of Advanced Radiator Technologies for Spacecraft Thermal Control," *NASA Technical Memorandum*, TM 4555, August 2, 1994, Washington D.C.
  66. Kitto, J. B., Fiveland, W. A., Latham, C. E. and Peterson, G. P., "Advances in Thermal Engineering," *Mechanical Engineering*, vol. 117, no. 3, 1995, pp. 88-93.
  67. Boo, J. H., Lui, X. and Peterson, G. P., "Measurement of Evaporation/Condensation Heat Transfer through a Liquid-Vapor Interface in a Flat Plate Heat Pipe," *Proc. 9th Int'l Heat Pipe Conf.*, Albuquerque, NM, vol. 1, 1995, pp. 302-309.
  68. Noboa, H. and Peterson, G. P., "Thermodynamic Aspects of Heat Pipes," *Proc. 9th Int'l Heat Pipe Conf.*, Albuquerque, NM, vol. 1, 1995, pp. 568-572.
  69. Boo, J. H., Yoon C. and Peterson, G. P., "An Experimental Study of the Thermal Performance of a Capillary Pumped Loop having a Flat Evaporator," AIAA Paper #95-3514, 1995 National Heat Transfer Conf., Portland, OR, August 5-8, 1995.
  70. Shatto, D. P. and Peterson, G. P., Experimental Investigation of the Effects of Velocity and Subcooling on the Critical Heat Flux in a Circular Tube," AIAA Paper #95-3513, 1995 National Heat Transfer Conf., Portland, OR, August 5-8, 1995.
  71. Ma, H. B. and Peterson, G. P., "Theoretical Analysis of the Maximum Heat Transport in Triangular Grooves: Study of Idealized "Micro" Heat Pipes," 1995 ASME IMECE Meeting, *Proc. ASME Heat Transfer Division*, , HTD-vol. 317-1, November 12-17, 1995, San Francisco, CA, pp. 185-192.
  72. Ma, H. B. and Peterson, G. P., "Characteristics of the Minimum Meniscus Radius in Micro Heat Pipes," 34th AIAA Aerospace Sciences Conf., AIAA 96-0476, Reno, NV, January 15-18, 1996.
  73. Liu, X. Q. and Peterson, G. P., "Numerical Analysis of Vapor Flow in a Micro Heat Pipe with Rectangular Grooves," 34th AIAA Aerospace Sciences Conf., AIAA 96-0475, Reno, NV, January 15-18, 1996.
  74. Shatto, D., Morris, T. K. and Peterson, G. P., "A Visualization Study of Pool Boiling in Reduced Gravity," *Energy Week Conf. Proc.*, vol. IV, Houston, TX, January 29-February 3, 1996, pp. 22-30.
  75. Benson, D. A., Adkins, D. R., Peterson, G. P., Mitchell, R. T., Tuck, M. R. and Palmer, D. W., "Turning Silicon Substrates into Diamond: Micromachining Heat Pipes," Advances in Design, Materials and Processes for Thermal Spreaders and Heat Sinks Workshop, Vail, CO, April 19-21, 1996.
  76. Angirasa, D. and Peterson, G.P., "Numerical Modeling of High Performance Metallic Fibrous Heat Sinks for External Cooling," *Proc. Intersociety Conf. on Thermal Phenomena in Electronic Systems (ITHERM '96)*, May 29 - June 1, 1996, Orlando, FL, pp. 203-210.
  77. Shatto, D., Renzi, K., Peterson, G. P., Morris, T. K., and Aaron, J. W., "An Experimental Study of Pool Boiling Heat Transfer in Reduced Gravity," 1996 National Heat Transfer Conf., *Proc. AIChE Symposium Series*, vol. 92, August 3-5, 1996, Houston, TX, pp. 52-59.
  78. Angirasa, D. and Peterson, G. P., "Forced Convection Heat Transfer Augmentation in a Channel with a Localized Heat Source Using Fibrous Material," *Proc. ASME Heat Transfer Division*, HTD-vol. 330-7, August 3-5, 1996, Houston, TX, pp. 141-149.
  79. Peterson, G. P., Benson, D. A., Adkins, D. R., Mitchell, R. T., Tuck, M. R. And Palmer, D. W., "Ultra High Capacity Micro Machined Heat Spreaders," Paper no. 1-A Proc. 2nd US/Japan-Molecular and Microscale Phenomena Conf., August 8-10, 1996, Santa Barbara, CA.
  80. Ma, H. B. and Peterson, G. P., "Experimental Investigation of the Thermal Capillary Limit of a Novel Micro Heat Pipe," 1997 AIAA Aerospace Sciences Conf., AIAA 97-0979, Reno, NV, January 6-9, 1997.
  81. Camarda, C. J., Rummler, D. R. and Peterson, G. P., "Multi Heat Pipe Panels," *NASA Tech Briefs*, LAR-14150, 1997.
  82. Angirasa, D. and Peterson, G. P., "Natural Convection in a Downward Facing Horizontal Surface in a

- Saturated Porous Medium," *Proc. Of the 1997 Energy Week Conf.*, vol. 1, Houston, TX, January 28-30, 1997, pp. 1-9.
83. Angirasa, D. and Peterson, G. P., "Natural Convection above a Horizontal Surface in a Saturated Porous Medium," *Proc. Of the 1997 Energy Week Conf.*, vol. 1, Houston, TX, January 28-30, 1997, pp. 10-19.
  84. Peterson, G. P., "Ultra High Capacity, Micromachined Heat Spreaders - Invited Paper," *Proc. Pacific Rim Thermal Science and Energy Engineering Workshop*, Hong Kong, March 9-12, 1997, pp. 20.
  85. Peterson, G. P. and Peng, X. F., "Transient Conduction in Two-Dimensional Two-Component Composite Systems - Invited Paper," *Proc. 4th World Conf. on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics*, vol.1, Brussels, Belgium, June 2-6, 1997, pp. 85-92.
  86. Morris, T. K., Ran, Q., Marsh, K. N., Peterson, G. P. and Holste, J. C., "Vapor Pressure Measurements for Dichlorosilane, Trichlorosilane and Tetrachlorosilane," *Proc. 13th Symposium on Thermophysical Properties*, Boulder, CO, June 22-27, 1997.
  87. Shatto, D. P., Renzi, K. and Peterson, G. P., "An Experimental Study of Pulse Boiling in a Two-Phase Thermosyphon," *Proc. ASME Heat Transfer Division*, HTD-vol. 342, Baltimore, MD, August 10-12, 1997, pp. 147-155.
  88. Peterson, G. P., "Advances in Phase Change Microscale Heat Spreaders for Electronic Applications Invited Paper," *Proc. 10th International Heat Pipe Conf.*, Stuttgart, Germany, September 22-26, 1997.
  89. Dickey, J. T. and Peterson, G. P., "Thermal Characterization of Two-Phase Heat Transfer in Porous Materials: An Experimentally Confirmed Method in Non-dimensionalized Form," *Proc. ASME Heat Transfer Division*, HTD-vol. 62, Dallas, TX, November 16-21, 1997, pp. 221-230.
  90. Angirasa, D., Frank Pyrtle, III and Peterson, G. P., "Experimental Investigation of Metallic Fibrous Heat Sinks for External Cooling of an Electronic Package," *Proc. ASME Heat Transfer Division*, HTD-vol. 62, Dallas, TX, November 16-21, 1997, pp. 279-286.
  91. Ma, H. B. and Peterson, G. P., "Disjoining Pressure Effect on the Wetting Characteristics in a Capillary Tube," 2nd Microtherm Workshop, Albuquerque, NM, June 14 -15, 1998.
  92. Peterson, G. P. and Ma, H. B., "Temperature Response and Heat Transfer in a Micro Heat Pipe," 1998 AIAA/ASME Joint Thermophysics and Heat Transfer Conf., HTD vol. 357-3, Albuquerque, NM, June 114 -15, 1998, pp. 233-242.
  93. Boo, J., Sohn, S. P. and Peterson, G. P., "Experimental Investigation of Heat Transfer at the Liquid-Vapor Interface in a Flat Heat Pipe," *Proc. 1998 Int'l Heat Transfer Conf.*, vol. 2, August 23-28, 1998, pp. 81-86.
  94. Dickey, J. T. and Peterson, G. P., "Moody's Diagram and Heat Transfer Frictional Flow Losses in Porous Materials," *Proc. Of the International, Intersociety, Electronic Packaging Conf.*, June 13-19, 1999, Maui, Hawaii.
  95. Peterson, G. P., "Flexible, Highly Conductive Heat Spreaders Utilizing Micro Structures and Phase Change Processes," NSF Japan/US Joint Workshop on Molecular and Microscale Thermophysical Phenomena in Nanotechnology, Sendai, Japan, August 8-11, 1999.
  96. Westheimer, D. and Peterson, G. P., "Visualization of Flow Boiling in an Annular Heat Exchanger under Micro Gravity Conditions," Paper no. AIAA-2000-0967, 38th Aerospace Sciences Meeting, January 10-13, 2000, Reno, NV.
  97. Barron, R., Hu, H. and Peterson, G. P., "Experimental Study of Condensation in Micro Grooved Plates," paper no. AIAA-2000-0965, 38th Aerospace Sciences Meeting, January 10-13, 2000, Reno, NV.
  98. Wang, Y., Ma, H. B. and Peterson, G. P., "Investigation of the Temperature Distributions on Radiator Fins with Micro Heat Pipes," Paper no. AIAA-2000-0969, 38th Aerospace Sciences Meeting, January 10-13, 2000, Reno, NV.
  99. Chesser, J., Peterson, G. P., and Lee, S., "A Simplified Method for Determining the Capillary Limitation of Flat Plate Heat Pipes in Electronic Cooling Applications," Paper no. AIAA 2000-12161, National Heat Transfer Conf., Pittsburgh, PA, August 20-22, 2000.
  100. Ma, H. B. and Peterson, G. P., "Heat Transfer Performance Analysis of a Heat Sink," Paper no. 2000-1612, National Heat Transfer Conf., Pittsburgh, PA, August 20-22, 2000.
  101. Wang, Y. and Peterson, G. P., "Experimental Investigation of Wire Bonded Micro Heat Pipe Arrays," Paper no. AIAA-2001-3092, 35<sup>th</sup> AIAA Thermophysics Conf., Anaheim, CA June 11-14, 2001.
  102. McDaniels, D. and Peterson, G. P., "Investigation Polymer Based Micro Heat Pipes for Flexible Spacecraft Radiators," *Proc. ASME Heat Transfer Division*, HTD-vol. 142, New York, NY, November 11-16, 2001.
  103. Wang, Y. and Peterson, G. P., "Experimental Investigation of Micro Heat Pipe Radiators in a Radiation Environment," *Proc. ASME Heat Transfer Division*, HTD-vol. 142, New York, NY, November 11-16, 2001.
  104. Wang, Y. and Peterson, G. P., "Capillary Evaporation in Microchanneled Polymer Films," Paper no.

- AIAA-2002-2767, 8<sup>th</sup> AMSE/AIAA Joint Thermophysics and heat Transfer Conf., St. Louis, MO, June 24-27, 2002.
105. Wang, Y. and Peterson, G. P., "Investigation of Thin Film Evaporation Limit in a Single Screen Mesh Layer," *Proc. ASME Heat Transfer Division*, HTD-vol. 142, New Orleans, LA, November 17-22, 2002.
  106. Wang, Y., Peterson, G. P. and Q. Chen, "Investigation of the Heat Transfer Limits in Thin Capillary Wicks of Phase-Change Cooling Devices," *Proc. ASME-JSME Thermal Engineering Conf.*, TED-AJ03-638, Kohala Coast, Hawaii, March 16-20, 2003.
  107. Wang, Y. and Peterson, G. P., "Investigation of Novel Flat Plate Heat Pipe," *Proc. ASME Heat Transfer Division*, HTD-vol. Paper no. 47083, Las Vegas NV, July 21-23, 2003.
  108. Wang, Y. and Peterson, G. P., "Flat Plate Heat Pipe Cooling Device for Mobile Computers," *Proc. ASME Heat Transfer Division*, HTD-vol.3, Paper no. 43930, Washington, D.C., November 15-21, 2003.
  109. Li, C., Peterson, G. P. and Wang, Y., "Capillary Condensation on Micro-Finned Surfaces," 42<sup>nd</sup> AIAA Aerospace Sciences, 2nd Aerospace Sciences Meeting, Paper no. AIAA 2004-0162, January 5-8, 2004, Reno, NV.
  110. Sobhan, C. B. and Peterson, G. P., "Modeling of the Flow and Heat Transfer in Micro Heat Pipes," 2nd International Conf. on Microchannels and Minichannels, Rochester, NY, June 15-17, 2004.
  111. Ma, H. B., Lofgreen, K. P. and Peterson, G. P., "An Experimental Investigation of a High Flux Heat Pipe Heat Sink," *Proc. of the 2004 International Mechanical Engineering Congress*, IMECE2004-59764, Washington, D.C., November 13-19, 2004.
  112. Wang, Y., Hwang, C., Huang, D. and Peterson, G. P., "Investigation of The High-power Density Phase-Change Heat Spreader Devices" 13th International Heat Pipe Conf., Shanghai, China, September 21-25, 2004.
  113. Wang, B. X., Li, H., Peng, X. F. and Peterson, G. P., "Numerical Simulation for Microconvection around Brownian Motion Moving Nano-Particles," 3<sup>rd</sup> Int'l Symposium on Two-Phase Flow Modeling and Experimentation, Pisa, Italy, September 22-24, 2004.
  114. Li, C., Peterson, G. P. and Wang, Y., "Experimental Study of Thickness Effects in Evaporation-Boiling on Thin Sintered Copper Mesh Surfaces," *Proc. ASME Heat Transfer Division*, NHTC2005-72431, San Francisco, CA, July 17-22, 2005.
  115. Carbajal, G., Sobhan, C. B. and Peterson, G. P., "Analysis of the Evaporation Process in a High Heat Flux Flat Plate Heat Pipe," *Proc. of the 2005 International Mechanical Engineering Congress*, Paper no. IMECE 2005-82586, Orlando, FL, November 5-11, 2005.
  116. Li, C., Peterson and G. P. "Experimental Study of the Effects of Volumetric Porosity and Critical Meniscus Radius on Evaporation/Boiling from Thin Capillary Wicks," *Proc. of the 2005 International Mechanical Engineering Congress*, Paper no. IMECE 2005-80152, Orlando, FL, November 5-11, 2005.
  117. Li, C. H. and Peterson, G. P., "Dual Role of Nanoparticles in the Thermal Conductivity Enhancement of Nanoparticle Suspensions," *Proc. of the 2005 International Mechanical Engineering Congress*, Paper no. IMECE 2005-80451, Orlando, FL, November 5-11, 2005.
  118. Carbajal, G., Peterson, G. P. and Sobhan, C. B., "A Quasi 3D Analysis of the thermal Performance of a Heat Pipe Thermal Spreader," 9<sup>th</sup> AIAA/ASME Joint Thermophysics and Heat Transfer Conf., Paper no. AIAA 2006-3106, San Francisco, CA, June 4-8, 2006.
  119. Li, C. H. and Peterson, G. P., "Transport Phenomena of Nanoparticle Suspension Pulse-Heated under Various Heating Conditions," 9<sup>th</sup> AIAA/ASME Joint Thermophysics and Heat Transfer Conf., Paper no. AIAA 2006-3120, San Francisco, CA, June 4-8, 2006.
  120. Li, C. H., Williams, W., Hu, L. W., and Peterson, G. P., "Transient and Steady-state Experimental Comparison of Effective Thermal Conductivity of Al<sub>2</sub>O<sub>3</sub>/Water," *Proc. Energy Nanotechnology International Conf.*, Boston, MA, June 26-28, 2006.
  121. Sobhan, C., Snoop, P. S., Armor, K., Abraham, T. and Peterson, G. P., "Micro channel Optimization for Heat Dissipation from a Solid Substrate," *Proc. of the Micro/Nanoscale International Heat Transfer Conf.*, Tainan, Taiwan, January 6-9, 2008
  122. C. H. Li, Wesley Williams, Lin-Wen Hu, Jacopo Buonquorno and G. P. Peterson, "Transient and steady-state experimental comparison study of effective thermal conductivity of Al<sub>2</sub>O<sub>3</sub>/water nanofluid," *Proc. Energy Nanotechnology International Conf.*, MIT, Boston MA, June 26th - 28th,
  123. Li, C. and Peterson, G. P., "Comprehensive Comparisons between Evaporation and Pool Boiling" *Proc. of the 2006 International Mechanical Engineering Congress*, Paper no. IMECE 2006-15905, Chicago, Ill, November 5-10, 2006.

124. Chen, Y. and Peterson, G. P., "Influence of Hydraulic Diameter on Flow Condensation in Silicon Microchannels," *Proc. 13th International Heat Transfer Conf.*, Sydney Australia, August 13-18, 2006.
125. Yang, R., Peterson, G. P. Li, C., Bright, V., Lee, Y. C., Dunn, M., George, S. M., Maute, K., Murnane, M. M. and Kapteyn, H. "Thermal Challenges and Innovations in Emerging Micro/Nano Systems," *DARPA Microsystems Technology Symposium*, March 3-5, 2007, San Jose, CA.
126. Peterson, G. P., "New Horizons - Envisioning the Future of Educational institutions in the Global Frontier," ABET Annual Conf., Lake Tahoe, NV, November 1-3, 2007.
127. G. Carbajal, Peterson, G. P. and Sobhan, C. B., "Comparison of Performance of Aluminum and Titanium Heat Pipes," *Proc. of the 2007 International Mechanical Engineering Congress*, Paper no. IMECE2007-42758, Seattle, WA, November 11-15, 2007.
128. Li, C. and Peterson, G. P., "Experimental Study on CHF of Pool Boiling on Horizontal Conductive Sintered Copper Mesh Screen" *Proc. of the Space Technology and Applications International Forum (STAIF-2008)* Albuquerque, NM.
129. Sobhan, C.B., Anoop, P. S., Arimboor, A., Abraham, T. and Peterson, G. P. "Microchannel Optimization for Heat Dissipation from a Solid Substrate," *Proc. of the Micro/Nanoscale Heat Transfer International Conf.*, Paper no. MNHT-52117, Tainan, Taiwan, January 6-8, 2008.
130. Shi, B, Bright, V., Yang, R., Peterson, G. P., Peterson, K. and Li, C. "Thermal Modeling and Design of Flexible Thermal Ground Plane," *DARPA/iMINT Center Best Poster Award*, March 2008.
131. Li, C., Koratkar, N. and Peterson, G.P, "Bubble Dynamics on Nanostructured Cu Surfaces," *Proc. MicroNano08*, June 3-5, 2008, Clear Water Bay, Kowloon, Hong Kong.
132. Li, C., Peterson, G.P, Li, J., and Koratkar, N., "The Visualization of Thin Film Evaporation on Thin Micro Sintered Copper Mesh Screen," *Proc. of the 2008 ASME Heat Transfer Division*, Paper no. HT2008-56352, Jacksonville, FL August 10-14, 2008.
133. Carbajal, G, Peterson, G. P., Sobhan, C. B. and Queheillalt, D.T., "A Hybrid Heat Flux Distribution Model for Jet Impingement on a Flat Plate," *Proc. of the 2008 International Mechanical Engineering Congress*, Paper no. IMECE2008-67830, Boston, MA, Nov 6-10, 2008.
134. Carbajal, G. Peterson, G. P. and Sobhan, C. B., "Experimental Analysis of the Convective Coefficient for Jet impingement on a Flat Plate," *Proc. of the 2009 International Mechanical Engineering Congress*, Paper no. IMECE 2009-11991, November 13-19, 2009, Lake Buena Vista, Florida, USA.
135. Feng, B., Peterson, G. P., Li, Z. and Zhang, X., "Numerical Analyses of 3-Omega and 2-Omega Methods to Probe Thermophysical Properties of Thin Samples," *3<sup>rd</sup> International Conference on One-dimensional Nanomaterials*, Atlanta, GA, December 7-9, 2009.
136. Li, J., Wang, D. and Peterson, G. P., "Development of a Robust Miniature Loop Heat Pipe for High Power Chip Cooling," *Proc. of ASME 2009 2nd Micro/Nanoscale Heat & Mass Transfer Int'l Conf.*, MNHMT2009-18011, December 18-21, 2009, Shanghai, China.
137. Li, J., Peterson, G. P., Li, C. and Su, G., "A Stabilized Boiling Two-Phase Flow in Microchannels," *Proc. of ASME 2009 2nd Micro/Nanoscale Heat & Mass Transfer Int'l Conf.*, MNHMT2009-18012, December 18-21, 2009, Shanghai, China.
138. Feng, B., Peterson, G. P., Ma, W., Li, Z. and Zhang, W., "An Electrothermal Method to Probe Thermal Conductivity and Specific Heat of Individual Nano-sized Samples," *15th Int'l Heat Pipe Conference*, April 25-30, Clemson, SC.
139. Zhou, L., Zhang, Y., Yang, L., Du, X., Yoda, M. and Peterson, G. P., "Numerical Study on Near-Wall Natural Convection over a Microscale Heating Wire," *Proc. 3<sup>rd</sup> Micro/Nanoscale Heat and Mass Transfer Int'l Conf.*, Paper no. MNHMT2012-75067, March 3-6, 2012, Atlanta, GA.
140. Zhou, L., Li, Y., Yoda, M., Kim, M. Cevheri, N. Feng, B., Yoda, M. and Peterson, G. P., "Experimental Investigation on Near Wall Natural Convection with Fluorescent Nanoparticles" *Proc. 3<sup>rd</sup> Micro/Nanoscale Heat and Mass Transfer Int'l Conf.*, Paper no. MNHMT2012-75016, March 3-6, 2012, Atlanta, GA.
141. Moon, J., Weaver, K., Feng, Bo and Peterson, G. P., "Thermal Conductivity Measurement of Individual PEK/CNT Fibers Using a Steady-State DC Thermal Bridge," *Proc. 3<sup>rd</sup> Micro/Nanoscale Heat and Mass Transfer Int'l Conf.*, Paper no. MNHMT2012-75059, March 3-6, 2012, Atlanta, GA.
142. Weaver, K., Feng, Bo and Peterson, G. P., "Enhancement of Critical Heat Flux in Pool Boiling Using Atomic Layer Deposition of Alumina," *Proc. 3<sup>rd</sup> Micro/Nanoscale Heat and Mass Transfer Int'l Conf.*, Paper no. MNHMT2012-75388, March 3-6, 2012, Atlanta, GA.

143. Chien, A. T., Gulgunje, P.V., Chae, H. G., Joshi, A., Moon, J., Feng B., Peterson, G. P. and Kumar, S. "Functional Polymer-Polymer/Carbon Nanotube Bi-component Fibers," *Proc. Society for the Advancement of Material and Process Engineering (SAMPE) Tech Meeting 2012*, October 22-25, 2012, North Charleston, USA (selected for Outstanding Paper Award).
144. Feng, B., Faruque, F., Bao, P., Chien, A., Kumar, S. and Peterson, G. P., "Gecko-Feet Inspired Tin Nanowire Arrays for Advanced Thermal Interface Materials," 29th Annual SEMI-THERM symposium and Exhibition, March 17-21, 2013, San Jose, USA.
145. Ramos-Alvarado, B., Kumar, S. and Peterson, G. P., "Hydrodynamic Slip in Silicon Nanochannels; A Molecular Dynamics Investigation," Proceedings of the 14<sup>th</sup> international Conference on Nanochannels. Microchannels and Minichannels, July 12-14, 2016, Washington, D.C.
146. M. Torabi, M. Torabi and G.P. Peterson, "Thermodynamic Investigation of Nanofluid Flow in Heat Exchanger Bundles using Temperature Dependent Correlations for Nano Particles", *Proc. 4<sup>th</sup> Int'l Forum on Heat Transfer*, IFHT2016-1900, November 2-4, 2016.

### EDITED VOLUMES

1. Peterson, G. P., (ed.), *Proc. of the 2<sup>nd</sup> ASME/ETCE Industrial Pollution Control Symposium*, American Society of Mechanical Engineers, Houston, Texas, January 3 - February 7, 1984.
2. Peterson, G. P. and Lau, S. C., (eds.), *Proc. of the 3rd ASME/ETCE Industrial Pollution Control Symposium*, American Society of Mechanical Engineers, Dallas, Texas, February 17-21, 1985.
3. Imber, M., Peterson, G. P. and Yovanovich, M. M., (eds.), *Fundamentals of Conduction and Recent Developments in Contact Resistance*, ASME HTD-vol. 69, ASME, New York, N.Y., 1987.
4. Peterson, G. P., (ed.), *Proc. of the 1990 Intersociety Conf. on Thermal Phenomena in Electronic Systems*, Institute of Electrical and Electronic Engineers, Library of Congress no. 89-81075, Las Vegas, NV, May 23-25, 1990.
5. Peterson, G. P. and Simons, R., (Guest eds.), *IEEE Trans. J. Components, Hybrids, and Manufacturing Technology*, vol. 13, no. 4, December 1990.
6. Peterson, G. P. and Yovanovich, M. M. (ed.), *Fundamental Problems in Conduction Heat Transfer*, ASME HTD-vol. 207, ASME, New York, N.Y., 1992.
7. Bayatizglou, Y. and Peterson, G. P., (ed.), *Fundamental Issues in Micro Scale Heat Transfer*, ASME HTD-vol. 215, ASME, New York, N.Y., 1992.
8. Cho, D., Peterson, G. P., Pisano A. P. and Friedrich, (ed.), *Symposium on Micromechanical Systems*, ASME WAM-vol. 40, ASME, New York, N.Y., 1992.
9. Peterson, G. P. et al., "Applications of Information Technologies to Engineering and Science Education, *IEEE Transactions on Education* - Special Issue, June 1996.
10. Majumdar, A., Peterson, G. P. and Poulikakos, D., "Special Issue on Micro Scale Heat Transfer," Guest Editor, *ASME Journal of Heat Transfer*, vol. 124, April 2002. 2008-2009,
11. Peterson, G. P., Li, C., M. Wang and G. Chen, Special issue "Micro/Nano Heat Transfer in Renewable Energy and Energy Efficiency," Guest Editor, *Advances in Mechanical Engineering*, ISSN:1687-8132, July 1, 2010.
12. Zhang, Z., Norris, P. and Peterson, G. P., "Special Issue on Micro/Nanoscale Heat Transfer," Guest Editor, *ASME Journal of Heat Transfer*, September 2013.
13. Hong, H. and Peterson, G.P., "Special Issue on Micro Scale Fluidics," Guest Editor, *Journal of Nanofluids*, TBD

### GRADUATE STUDENT SUPERVISION

#### Ph.D. Students and Thesis - Texas A&M University

1. Jay M. Ochterbeck - Ph.D., August 1993, "Restart of a Heat Pipe from the Frozen State: Incorporating Thermal History Effects."
2. Allen B. Duncan - Ph.D., August 1993, "Experimental and Analytical Evaluation of Etched Micro Heat Pipes."
3. Arnab K. Mallik - Ph.D, August 1993, "Vapor Deposited Micro Heat Pipe Modeling, Testing, and Development."
4. Bonghun Kim, Ph.D. - May 1994, "Analytical and Experimental Investigation of Entrainment in Operating Heat Pipes."
5. Hongbin Ma - Ph.D., August 1995, "The Theoretical Analysis and Experimental Investigation of

Pressure Drop and Maximum Heat Transport in Triangular Grooves - A study of Idealized Micro Heat Pipes."

6. Ja-Mann Ha, Ph.D. - December 1995, "Capillary Performance and Heat Transfer of the Evaporating Liquid Thin Film in a Triangular Microgroove."
7. Chang S. Chang - Ph.D., December 1996, "Frictional Pressure Drop and Heat Transfer Characteristics in Microchannels."
8. James T. Dickey - Ph.D., December 1996, "Investigation of Liquid-Vapor Flow and heat Transfer in Porous Media."
9. Xiao-Jun Lu, Ph.D. - December 1997 "Analysis of the Freeze/Thaw Characteristics of External Artery Heat Pipes."
10. Donald P. Shatto - Ph.D., December 1998 "Vertical In-tube Flow Boiling of Mixtures."
11. Yaxiong Wang - Ph.D., May 2001 "Flexible Micro Scale Heat Pipe Radiators."

#### **Ph.D. Students and Thesis – Rensselaer Polytechnic Institute**

12. Chen Li - Ph.D. August 2006, "Evaporation and Nucleate Boiling on Thin Micro Porous Coated Surfaces."
13. Gerardo J. Carabajal - Ph.D. December 2006, "Analytical Modeling and Experimental Investigation of Passive Jet Blast Deflectors."
14. C. H. Li - Ph.D. May 2007, "Numerical Simulation of Microconvection around Nano-Particles with Brownian Motion in Liquids."

#### **Ph.D. Students and Thesis – Georgia Institute of Technology**

15. Bladimir Ramos Alvarado - Ph.D. December 2016, "The Effect of Wetting Transparency on the Interfacial Phenomena between Water and Solid Surfaces: An Atomistic Modeling Investigation."

#### **M.S. Students and Thesis - Texas A&M University**

1. Preetam Patnaik - M.S., August 1987, "Parametric Modeling of a Bellows Heat Pipe for Electronic Component Cooling"
2. Clark R. Havis, M.S. - December 1987, "Effects of Fiber Direction on Heat Conduction in Unidirectionally Aligned Fiber Composites"
3. Tik K. Kang - M.S., December 1989, "Effect of Metallic Coatings on the Thermal Contact Conductance of Turned Surfaces"
4. Abu H. Chowdhury - M.S., December 1989, "Reduced Pressure and Temperature Reclamation of Water Using the GE Integrated Water-Waste Management System for Potential Space Flight Applications"
5. Allen B. Duncan - M.S., December 1990, "Effective Thermal Conductivity of Packed Beds of Spheres"
6. Jay M. Ochterbeck - M.S., August 1990, "Thermal Contact Conductance of Metallic Coated Superconductor/Copper Interfaces at Cryogenic Temperatures"
7. Bruce R. Babin - M.S., August 1991, "Ion Drag Pump Assisted Heat Pipes"
8. Marvin D. Szeto - M.S., May 1992, "Experimental Investigation of a Micro Heat Pipes in Zero-g"
9. James T. Dickey - M.S., December 1993, "Modeling and Testing of a Capillary Pressure Driven Heat Transfer Loop"
10. Alicia H. Howard - M.S., December 1993, "Evaluation of a Heat Pipe Finned Heat Rejection System"
11. Xiaoquin Liu - M.S., December 1996, "Numerical modeling of the Vapor Flow in Micro Heat Pipes"
12. Donald P. Shatto - M.S., May 1996, "An Experimental Investigation of the Effects of Velocity and Subcooling on Convective Film Boiling in a Circular Tube"
13. Tony K. Morris - M.S., August 1997, "Vapor Pressure Measurements for Dichlorosilane"
14. Brian Lundy - M. S., December 1998, "A Visualization Comparison of Convective Flow Boiling Heat Transfer Augmentation Devices"
15. K. Renzi - M.S., December 1998, "Designing, Testing and Analyzing Coupled Flux Transformer Heat Pipes"
16. David Westheimer - M. S., May 2000, "Two-Phase Heat-Transfer and Fluid Dynamics of an Annular Heat Exchanger in Micro Gravity Conditions"
17. J. Chesser - M.S., May 2000, "An Investigation of a Heat Pipe Heat Sink for Microprocessor Cooling"
18. Rodolfo Barron-Jimenez - M. S., May 2001, "Condensation Heat Transfer in Microchannels"
19. Debbie McDaniels - M. S., May 2001, "Experimental Investigation of Polymer-based Micro Heat Pipes for a Flexible Spacecraft Thermal Radiator"

### **M.S. Students and Thesis – Rensselaer Polytechnic Institute**

20. Josh Hilderbrand – M.S. December 2004, "Design of a Flat Bendable Heat pipe for the Treatment of Neo-Cortical Epilepsy"
21. Benjamin Lin – M.S. May 2007, "Thermal treatments for Neo-Cortical Epilepsy"

### **Senior Honors Theses Directed - Texas A&M University**

1. Peter F. Stevenson - Senior Honors Thesis, "Thermal Rectification in Dissimilar Metal Contacts," May 1988.
2. Gregory Starks - Senior Honors Thesis, "Comparative Evaluation of Two Attachment Techniques for Space Station Cold Plates," May 1989.
3. Nancy K. Tsai - Senior Honors Thesis, "An Investigation of Entrainment limits in Heat Pipes," May 1990.
4. Kelly Albrecht - Senior Honors Thesis, "A Study of the Refrigeration Characteristics of a Vortex Heat Exchanger," May 1991.
5. Tony K. Morris - Senior Honors Thesis, "Pool Boiling in Reduced Gravity Environments," August 1995.
6. Jason A. Besly - Senior Honors Thesis, "Visualization and Analysis of the Onset of Flooding and Entrainment in a Closed Two-Phase Thermosyphon," May 1996.
7. Frank Prytle, III - Senior Honors Thesis, "Convective Heat Transfer from Fibrous Media for the Thermal Control of Electronic Components, May 1997
8. Brian Corbett, - Senior Honors Thesis, "Silicon Fabricated Micro Thermal Structures, May 2000

### **PROFESSIONAL SERVICE:**

#### **Current Editorial Activities**

- Editorial Advisory Board, *Frontiers in Heat and Mass Transfer*, 2015- present.
- Editorial Advisory Board, *AIAA Journal of Thermophysics and Heat Transfer*, American Institute of Aeronautics and Astronautics, January 2013 - present.
- Editorial Advisory Board, *Advances in Transport Phenomena*, Elsevier Science Ltd., January 2006 – present.
- Editor, *Nanoscale and Microscale Thermophysical Engineering*, Taylor and Francis Publ. Co., May 1996 - present.
- Editorial Advisory Board, *Int'l. J. of Thermal Science*, March 2001 - present.
- Editorial Board, *Frontiers in Heat and Mass Transfer*, February 1, 2010 – present.

#### **Past Editorial Activities**

- Associate Editor, *AIAA Journal of Thermophysics and Heat Transfer*, American Institute of Aeronautics and Astronautics, January 1996 - 2012.
- Editorial Board, *Int'l. J. of Heat and Fluid Flow*, Elsevier Science Ltd., August 1, 1994 – February 2006.
- Editor for North America, *Experimental Thermal and Fluid Science*, Elsevier Science Ltd., May 1, 1993 - April 30, 2003.
- Associate Editor, *ASME Journal of Heat Transfer*, American Society of Mechanical Engineering, January 2000 - December 31, 2003.
- Editorial Advisory Board, *JSME Int'l. J. of Fluids and Thermal Engineering*, Japan Society of Mechanical Engineering, January 1998 – December 2001.
- Editorial Board, *Int'l. J. of Heat and Fluid Flow*, August 1, 1994 - July 31, 2000.
- Associate Editor, *ASME Journal of Energy Resources Technology*, American Society of Mechanical Engineering, January 1986 - December 1992.
- Editor, *Heat Transfer Division Newsletter*, American Society of Mechanical Engineering, June 1990 - May 1993.
- Editor, *Heat Transfer - Recent Contents*, American Society of Mechanical Engineering, June 1992 - May 1997.

#### **ASME - American Society of Mechanical Engineers, (Fellow)**

- Peer Reviewer, *ASME J. Heat Transfer*, *J. Of Fluids Engineering*, *J. Of Energy resources*

*Technology*

- Region X Representative, Mechanical Engineering Technology Department Heads Committee, July 1984-June 1985.
- Petroleum Division, Industrial Pollution Control Operating Committee, Vice-Chairman, 1985; Chairman, January 1985-January 1987.
- Heat Transfer Division, K-8 Committee on Theory and Fundamental Research, Member, December
- Brazos Valley Section of ASME, Chairman, May 1986-April 1987; Vice-Chairman; May 1985-April 1986; Secretary, May 1984-April 1985.
- Petroleum Division Executive Committee, Member, June 1986-July 1992; Treasurer, 1988, Secretary, 1989, 1st Vice-Chairman, 1990, Chairman, 1991, Past Chairman, 1992.
- Committee on the Technology Executives Conf. (CTEC), June 1989-May 1992.
- Region X Commission on Technical Affairs, Chairman, June 1989-May 1992.
- Heat Transfer Division Executive Committee, Chair, July 1, 1997, Secretary, July 1, 1993-June 30, 1995, Member, July 1, 1995-June 31, 1996.
- Member, ASME Basic Engineering Group Operating Board, Washington D. C., 1998-2000.

**AIAA - American Institute of Aeronautics and Astronautics, (Fellow)**

- Peer Reviewer, *AIAA Journal*, *AIAA J. of Thermophysics and Heat Transfer*, *AIAA J. of Spacecraft and Rockets*.
- AIAA Representative to the National Heat Transfer Conf., 1990-1993.
- General Chair, AIAA Summer Conf., Albuquerque, NM, June 15-18, 1998.
- AIAA Fellow Grade Selection Committee - Peer Group Review Committee, 1998-2002
- AIAA Pre-College Outreach Committee, 2000-2002
- AIAA Vice President for Education, 2001-2006
- AIAA Chair of the Honors And Award Committee, 2003-2009

**ABET - Accreditation Board for Engineering and Technology**

- Technology Accreditation Commission, Ad hoc Visitor - Mechanical Engineering Technology, June 1985-June 1991, Nine Accreditation visits made.
- Engineering Accreditation Commission, Ad hoc Visitor - Mechanical Engineering, August 1991-Present, six accreditation visits made.

**ICHMT - International Centre for Heat and Mass Transfer**

- Member, International Scientific Council, July 2002 – June 2008.

**AIHTC - Assembly for International Heat Transfer Conferences**

- Secretary, US Scientific Committee, 1987-1990.
- Session Chair, "Energy, Urban Processes," 9th International Heat Transfer Conf., Jerusalem, Israel, August 22, 1990.
- Member, US Scientific Committee, 2000-2002.
- Member, International Advisory Board, 8<sup>th</sup> International Heat Pipe Symposium, Kumamoto, Japan, September 24-27, 2006.

**RESEARCH AND RELATED ACTIVITIES:**

**Funded Research Projects**

- "Computer Modeling and Simulation of Dual Passage Heat Pipes," NASA-JSC, Houston, Texas, G. P. Peterson (PI), May 15, 1982-January 15, 1983, \$6,000.
- "Bearing Carrier Preconditioning," Lufkin Industries, Lufkin, Texas, G. P. Peterson (Co-PI) and K. K. Gowdy (Co-PI), July 18, 1983 - February 28, 1984, \$7,437.
- "Joint Studies Program, IBM/TAMU," IBM-Austin, Texas, G. P. Peterson (PI), January 1, 1984-December 31, 1986, \$150,000.
- "Analytical and Experimental Determination of Boiling, Dryout and Wicking Limitations of Heat Pipes," NASA-Johnson Space Center (JSC), Houston, Texas, G. P. Peterson (PI), September 1, 1984-December 31, 1984, \$10,800.
- "Analytical Development and Computer Modeling of a Bellows Type Heat Pipe for the Cooling of Electronic Components," IBM-E. Fishkill, New York, G. P. Peterson (PI), October 1, 1984-August

- 31, 1985, \$14,310.
- "Assembly of Laminated Magnets for a Superferric Supercollider," Houston Area Research Center, G. P. Peterson (PI) and T. Sastri (Co-PI), Woodlands, Texas, September 1, 1984-August 31, 1984, \$12,844.
  - "Low Temperature Design Using Cryogenic Heat Pipes," Eastman Kodak Company, Rochester, New York, G. P. Peterson (PI), October 14, 1985-January 31, 1986, \$7,500.
  - "Contact Conductance between Spherical Particles in Packed Beds," University Minigrant, G. P. Peterson (PI), December 16, 1985-January 1, 1987, \$400.
  - "Liquid-Vapor Flow Regimes in Microgravity Environments," Texas A&M Engineering Excellence Program, G. P. Peterson (PI), January 16, 1986-December 31, 1986, \$16,707.
  - "Computer Modeling of a Modified Artery-Cryogenic Heat Pipe," Eastman Kodak Company, Rochester, New York, G. P. Peterson (PI), February 1, 1986-January 1, 1988, \$26,574.
  - "Testing and Evaluation of a Bellows Type Heat Pipe for the Cooling of Electronic Components," IBM-E. Fishkill, New York, G. P. Peterson (PI), March 1, 1986-February 28, 1988, \$77,695.
  - "Conceptual Design for a Food Production, Wastewater Processing and Gas Regeneration Module," NASA-JSC, Houston, Texas, G. P. Peterson (Co-PI), C. Patterson (Co-PI) and P. Sharpe (Co-PI), May 19, 1986-May 1, 1987, \$80,669.
  - "Thermal Test Bed System Analysis," Rockwell International-Space Systems Division, Houston, Texas, G. P. Peterson (PI), May 30, 1986-January 31, 1987, \$4,400.
  - "Effective Thermal Conductivity of Laminated and Composite Materials for Electric Discharge Machining," AGIE Corporation, Locarno, Switzerland, G. P. Peterson (Co-PI) and L. S. Fletcher (Co-PI), June 1, 1986-May 31, 1987, \$24,784.
  - "Thermal Test Bed System Analysis-Phase II," Rockwell International-Space Systems Division, Houston, Texas G. P. Peterson (PI), July 1, 1987-June 30, 1988, \$3,425.
  - "Modification and Refurbishment of the General Electric Integrated Waste and Water Management System," NASA-JSC, Houston, Texas, G. P. Peterson (Co-PI) and W. M. Moses (Co-PI), July 1, 1987-December 31, 1987, \$50,000.
  - "Conceptual Design for a Food Production, Wastewater Processing and Gas Regeneration Module-Phase II," NASA-JSC, Houston, Texas, O. W. Nicks (PI) and G. P. Peterson (Co-PI) and W. M. Moses (Co-PI), September 1, 1987-March 31, 1988, \$98,000.
  - "International Enhancement Grant - Enhancing the Exchange of Faculty and Students Between Texas A&M University and the Ruhr University of Bochum," Texas Office of International Coordination, G. P. Peterson (PI), January 1, 1988-May 31, 1988, \$600.
  - "Improving the Thermal Contact Conductance through the Use of Metallic Coatings," NASA-JSC, Houston, Texas, G. P. Peterson (PI) and L.S. Fletcher (Co-PI), Feb. 1, 1988-Jan.31, 1989, \$44,726.
  - "Thermal Contact Conductance and Conductivity of Anodized Coatings," IBM Corporation, Austin, Texas, G. P. Peterson (Co-PI) and L. S. Fletcher (Co-PI), April 1, 1988-January 1, 1989, \$10,000.
  - "Steady-state and Transient Analysis of Miniature Heat Pipes," Wright Patterson AFB, Dayton, Ohio, G. P. Peterson (PI), May 1, 1988-February 24, 1990, \$120,000.
  - "Investigations of the Boiling and Entrainment Limits in Heat Pipes through Flow Visualization," NASA ODAA, Washington D.C., G. P. Peterson (PI), June 1, 1988-August 31, 1989, \$59,100.
  - "Improving the Performance and Reliability of Microelectronic Devices Through Enhanced Thermal Control," Texas Advanced Technology Program, Austin, Texas, L. S. Fletcher (Co-PI) and G. P. Peterson (Co-PI), June 1, 1988-August 31, 1990, \$218,500.
  - "Development of an Integrated Micro Heat Pipe for Thermal Control of Microelectronic Devices," NASA ODAA, Washington D.C., G. P. Peterson (PI), June 1, 1989-August 31, 1990, \$50,000.
  - "Thermal Contact Conductance of Finned Interfaces," Foster-Miller Inc., Waltham, MA, G. P. Peterson (Co-PI) and L. S. Fletcher (Co-PI), May 1- June 30, 1989, \$1,500.
  - "New Power Generation Subsystems for Satellites," Naval Research Labs, Washington, D.C., A. J. Appleby (PI) and G. P. Peterson (Co-PI), July 1, 1989 - December 31, 1989, \$20,092.
  - "Determination of the Thermal Contact Conductance and Adhesion Characteristics of Coldplate Thermal Test Pads," Rockwell International, Canoga Park, CA, G. P. Peterson (PI) and L. S. Fletcher (Co-PI), July 1, 1989 - May 31, 1990, \$98,000.
  - "Numerical Investigation of Entrainment In Heat Pipes," Houston Area Research Center, The Woodlands, TX, G. P. Peterson (PI), August 17, 1989 - December 31, 1989, \$80,000.
  - "Incorporation of Micro Heat Pipes into Semiconductor Devices," Texas Advanced Technology Program, Austin, Texas, G. P. Peterson (PI) and M. H. Weichold (Co-PI), Jan. 1, 1990-December

- 31, 1992, \$152,480.
- "Analytical Investigation of the Frozen Startup Characteristics of High Capacity Heat Pipes," NASA-Code C, Washington, D.C., G. P. Peterson (PI), January 1, 1990-December 31, 1990, \$160,000.
  - "Determination of the Thermal Contact Conductance of Diamond Coated Thermal Test Pads," EER Systems, Seabrook, MA, G. P. Peterson (PI) and L. S. Fletcher (Co-PI), April 1 - July 30, 1990, \$24,000.
  - "Investigation of Entrainment in Capillary Pumped Devices," National Science Foundation (NSF), Washington, D.C., G. P. Peterson (Co-PI) and K. D. Kihm (Co-PI), August 1, 1990 - July 31, 1993, \$149,597.
  - "Development of a Generalized Model for High Capacity External Artery Heat Pipes," McDonnell-Douglas Corporation, Houston, TX, G. P. Peterson (PI), August 1, 1990 - October 1, 1990, \$12,540.
  - "Micro Heat Pipe Construction Using Anisotropic Etchants," NASA ODAA, Washington D.C., G. P. Peterson (PI), November 1, 1990 - December 31, 1992, \$40,000.
  - "Investigation of the Frozen Startup Characteristics of Two High Capacity Heat Pipes in Microgravity: A Shuttle Flight Experiment," NASA-Code C, Washington, D.C., G. P. Peterson (PI), January 1, 1991-December 31, 1992, \$200,000.
  - "Measurement of the Thermal Conductivity and Contact Conductance of Thermosetting Encapsulated Mold Compounds," IBM Corporation, Endicott, NY, G. P. Peterson (PI) and L. S. Fletcher (Co-PI), January 1, 1991 - June 31, 1991, \$10,000.
  - "An Investigation of Thermal Enhancement Techniques for Navy SEM Guide Ribs and Card Rails," DOD/DON Naval Weapons Support Center, Crane, IN, L. S. Fletcher (PI) and G. P. Peterson (Co-PI), December 26, 1990 - December 31, 1993, \$354,730.
  - "Rewetting of Hot Grooved Surfaces," NASA-JSC, Houston, Texas, G. P. Peterson (PI), April 1, 1991-March 30, 1993, \$59,400.
  - "Microgravity Testing and Evaluation of the Transient Operating Characteristics of Miniature Heat Pipes: A Shuttle Flight Experiment," NASA-Code C, Washington, D.C., G. P. Peterson (PI), June 1, 1991 - May 31, 1992, \$28,440.
  - "Development of a Numerical Model to Predict the Frozen Startup Characteristics of External Artery Heat Pipes," NASA-Code C, Washington, D.C., G. P. Peterson (PI), January 1, 1992-December 31, 1992, \$40,000.
  - "Data Acquisition for Investigation of the Frozen Startup Characteristics of Heat Pipes," NASA-Code C, Washington, D.C., G. P. Peterson (PI), June 1, 1992-May 31, 1995, \$33,500.
  - "Performance Enhancement of Large Scale Thermosyphons," ABB Preheater Inc., Wellsville, N.Y., G. P. Peterson (PI), November 1, 1992-July 31, 1993, \$18,000.
  - "Multi-component Flow Boiling," Heat Transfer Research Inc., College Station, TX, G. P. Peterson (PI), January 15, 1993-May 31, 1993, \$9,418.
  - "Performance Evaluation of Micro Heat Pipes Operating at Cryogenic Temperatures," Wright Research and Development Center, Dayton, Ohio, G. P. Peterson (PI), January 1, 1993-December 31, 1993, \$45,000.
  - "Convective Flow Boiling of Multi-component Mixtures," Center for Energy and Mineral Resources (CEMR), TAMU, College Station, TX, G. P. Peterson (PI), September 1, 1993-August 31, 1994, \$18,800.
  - "Thermal Transport and Thermal Processing - Program Director," National Science Foundation, Washington, D.C., G. P. Peterson (PI), August 1, 1993 - July 31, 1994, \$144,120.
  - "Data Acquisition System Design for the COMET Spacecraft," NASA-Code C, Washington, D.C., G. P. Peterson (PI), September 1, 1993-August 31, 1994, \$60,000.
  - "Ultra Heat Spreading Substrates: Micro Heat Pipes Within Silicon Substrates," Texas Advanced Technology Program, Austin, Texas, G. P. Peterson (PI), January 1, 1994-December 31, 1996, \$217,725.
  - "Convective Flow Boiling of Multi-component Mixtures," Texas Advanced Technology Program, Austin, Texas, G. P. Peterson (PI), January 1, 1996-December 31, 1998, \$139,092.
  - "Fluid Flow and Heat Transfer in Fibrous Heat Sinks," Motorola, Power PC Division, Austin Texas, G. P. Peterson (PI), December 15, 1995, - December 31, 1996, \$35,000.
  - "Solid Sorption Machines with Heat Pipe Heat Exchangers for Heat Transfer Enhancement and Thermal Control," US Civilian Research and Development Foundation, Arlington, VA, G. P. Peterson (PI), January 1, 1997 - December 31, 1997, \$40,460.

- "Condensation Phenomena in Micro Grooves," National Science Foundation (NSF), Washington, D.C., G. P. Peterson (PI), January 15, 1997 - December 31, 2000, \$179,965.
- "Analysis of Operation and Manufacture of a Low Cost Innovative Heat Pipes for a High Volume Desktop," Intel Corporation, Hillsboro, OR, G. P. Peterson (PI), September 1, 1996 - December 31, 1998, \$150,000.
- "Flexible Micro Scale Heat Pipe Radiators for Spacecraft Applications," jointly funded by the Texas Space Grant Consortium and Lockheed, Martin, Vought Systems, Dallas, TX, G. P. Peterson (PI), September 1, 1998 - August 31, 2001, \$175,000.
- "Low Cost thermal Management for Desktop Computers," Intel Corporation, Hillsboro, OR, G. P. Peterson (PI), September 1, 1999 - August 31, 2000, \$62,040.
- "Thin Film Evaporation," Office of Naval Research, Washington, DC, G. P. Peterson (PI), October 1, 2000 – September 30, 2003, \$288,070.
- "Heat Pipe Applications on High Volume Desktop," Intel Corporation, Hillsboro, OR, G. P. Peterson (PI), July 1, 2001 - December 31, 2002, \$24,635.
- "Flexible Heat Pipe Radiators for Spacecraft Applications," Lockheed, Martin, Vought Systems, Dallas, TX, G. P. Peterson (PI), September 1, 1998 - August 31, 2001, \$50,000.
- "Thermal Control Systems of the Gossamer Spacecraft" jointly funded by NASA – Goddard and Lockheed, Martin, Vought Systems, Dallas, TX, G. P. Peterson (PI), September 1, 2001 - August 31, 2002, \$250,000.
- "New Strategies for Neo-Cortical Epilepsy," National Institute for the Humanities (NIH), Washington, D.C., G. P. Peterson (Co-PI) w/ Dr. Steve Rothman, Washington University, St Louis, MO, April 1, 2003 – March 31, 2008, Total Award \$1.6M, sub-contract to Rensselaer \$360,000.
- "A Study of Passive Jet Blast Deflection Concepts," Office of Naval Research, Washington, DC, G. P. Peterson (Co-PI) w/Haydn Wadley, University of Virginia, June 1, 2003 – September 30, 2006, Total Award \$3.5M, sub-contract to Rensselaer \$309,970.
- "Condensation Phenomena in Modified Micro/Nano-Scale Functional Surfaces," National Science Foundation (NSF), Washington, D.C., G. P. Peterson (PI), August 1, 2003 – July 31, 2008, \$294,344.
- "Modeling and Simulation Tools for Evaluation of Passive jet Blast Deflection Concepts," Office of Naval Research, Washington, DC, G. P. Peterson (Co-PI) w/Haydn Wadley, University of Virginia, January 1, 2005 – June 30, 2005, Total Award \$253,323, sub-contract to Rensselaer \$46,980.
- "ADVANCE Institutional Transformation Award: RAMP-UP: Reforming Advancement Processes through Institutional Transformation," National Science Foundation (NSF), Washington, D.C., G. P. Peterson (Co-PI), w/C. Geilser (PI, R. Palazzo, Co-PI and D. Kaminski (Co-PI), August 1, 2005 – July 31, 2010, \$3,265,781.
- "An Experimental and Analytical Investigation of Condensing Radiators for Application to Reduced Gravity," National Aeronautics and Space Administration (NASA), Washington, D.C., G. P. Peterson (PI), January 1, 2005 – December 31, 2006, \$293,931.
- "Biomimetic nanostructures to Promote Dropwise Condensation," National Science Foundation (NSF), Washington, D.C., R. Yang, S.M. George, G. P. Peterson and Z. Ren, (Co-PI), June 1, 2007 – July 31, 2010, \$480,000.
- "Flexible Thermal Ground Plane with Micro/Nano-Scaled Wicking Structure" Y.C. Lee (PI), V. M. Bright, R. Yang, S.M. George, C. Li, G.P. Peterson, and Suraj P. Rawal (Co-PI), ODARPA, Washington DC, \$3,950,000, October 1, 2007 - June 30, 2011.
- "Probe Station for Measuring Nanoscale Thermal Radiation and Heat Conduction, BES/DOE, Z. Zhang, (PI), B. Feng and G. P. Peterson (Co-PI), \$105K, June 1, 2010 – October 31, 2013.
- "Developing Supernucleating Surfaces Featuring Hierarchical Morphology and Tunable Wettability for Enhanced Two-Phase Heat Transfer," University Grants Committee of Hong Kong, Zuankai Wang (PI), G.P. Peterson and Bo Feng (Co-PI), Total: HK\$ 1,287,750, September 1, 2012 – August 31, 2015.
- "Modeling Tools for Two-phase Electronic Cooling Systems-Specially on Micro/Nano wicking Structure based (such as heat pipe) High Power Density Two-phase Cooling System", Y. Wang, X. Liu, G. P. Peterson, and C. Li (Co-PIs), ONR/SBIR, August 1, 2012 – July 30, 2013, \$ 70,000. (Pending).
- "Gecko-Feet Inspired Tin Nanowire Arrays for Advanced Thermal Interface Materials," Bo Feng (PI) and G.P. Peterson (Co-PI), \$75K, September 1, 2012 – August 31, 2013. (Pending).

- "Multi-Scale Investigation of Thermal Property and Dynamics of Carbon Nanotube Doped Liquid Crystals," National Science Foundation (NSF), Washington, PI: Satish Kumar, A. Alexeev, G.P. Peterson, Bo Feng, M. Srinivasarao, \$407,750, May 1, 2014 – April 31, 2017.

#### **Equipment Grants:**

- "Thermal Conductivity Measurement Facility," DOE Equipment Grant, L. S. Fletcher (Co-PI) and G. P. Peterson (Co-PI), August 19, 1988, \$20,544.
- "High Vacuum Test Chamber," DOE Equipment Grant, G. P. Peterson (Co-PI) and L. S. Fletcher (Co-PI), December 12, 1988, \$19,620.
- "Vacuum Pumping System," DOE Equipment Grant, G. P. Peterson (Co-PI) and L. S. Fletcher (Co-PI), July 6, 1989, \$23,843.
- "Surface Measurement Facility," DOE Equipment Grant, L. S. Fletcher (Co-PI) and G. P. Peterson (Co-PI), August 19, 1989, \$50,300.
- "Enhancement of Critical Heat Flux in Pool Boiling Using Atomic Layer Deposition of Alumina and Titanium Oxide, GT-UROP - Materials and Supplies Grants, Bo Feng (PI), G.P. Peterson (Co-PI), \$1K, May 1, 2012 – June 5, 2012.

#### **TEES Summer Undergraduate Research Fellowships:**

- "External Memory Address and Palletizing Using a Unimate 2005P," Texas Engineering Experiment Station Undergraduate Research Fellowship, M. Anderson, student and G. P. Peterson, Faculty Sponsor, competitive and subject to peer review, May 1983, \$2,000.
- "Advanced Scanning Architecture," Texas Engineering Experiment Station Undergraduate Research Fellowship, A. C. Hunt, student and G. P. Peterson, Faculty Sponsor, competitive and subject to peer review, May 1984, \$2,000.
- "Testing and Evaluation of a Flexible Heat Pipe for the Cooling of Electronic Components," Texas Engineering Experiment Station Undergraduate Research Fellowship, B. R. Babin, student and G. P. Peterson, Faculty Sponsor, competitive and subject to peer review, May 1987, \$2,000.

#### **HONORS AND AWARDS:**

##### **Teaching Awards**

- Exxon Award for Excellence in Teaching and Research, December 18, 1987.
- J. G. H. Thompson Award for Excellence in Teaching, awarded by Pi Tau Sigma, May 2, 1988.
- College of Engineering Outstanding Teaching Award, Texas A&M University Association of Former Students, September 14, 1990.
- 1991-92 Teacher/Scholar Award, Texas A&M University Honors Program, May 5, 1992.
- 1993 Texas A&M University Faculty Distinguished Achievement Award for Teaching, Texas A&M University - Association of Former Students, May 6, 1993.

##### **National and International Awards**

- ASME Ralph James Award for Outstanding Contribution to the Petroleum Division, February 1986.
- ASEE/DOW Chemical Corporation-Outstanding Young Faculty Award, June 1988.
- NASA Innovation Award, *Micro Heat Pipe Panels*, (NASA), October 1990.
- AIAA Associate Fellow, 1991, Fellow 1998.
- ASME Gustus L. Larson Memorial Award, November 1992.
- ASME Ralph James Award, January, 1993
- ASME Petroleum Division-Past Chairman's Award, February 1993.
- ASME Fellow, 1993.
- ASME O. L. "Andy" Lewis Award, January 1994.
- Certificate for Exemplary Service to the *ASME J. Heat Transfer*, July 1994.
- NASA Innovation Award, *Micro Heat Pipe Panels and Method for Producing Same*, (NASA), March 29, 1995.
- National Science Foundation (NSF) *Management Excellence Award*, June 1995.
- AIAA Thermophysics Award, June 1996.
- ASME Heat Transfer Memorial Award, November 2001.
- AIAA Sustained Service Award, June 2003.

- Elected to the International Academy of Astronautics, October 2004.
- Frank J. Malina Medal, International Astronautical Federation, August 2005.
- ASEE Benjamin Garver Lamme Award for Excellence in Engineering, June 2006.
- AIAA Distinguished Service Award, January 2011.
- Leadership Excellence Award, National Diversity Council, September 2011.
- Charter Fellow, The National Academy of Inventors (NAI) December 2012.
- Honorary Doctorate of Engineering, Colorado School of Mines, May 2013.
- 75<sup>th</sup> Anniversary Medal, ASME Heat Transfer Division, July 2013.
- Chevalier (Knight) in the Order of Légion d'Honneur - *National Order of the Legion of Honor of France*, May 2014.
- 2017 GEM Academic Leadership Award, September 2017.
- Technology Association of Georgia - Hall of Fame, March 2018.
- ASME Petroleum Division – Allen R. Rhodes Petroleum Industry Award, April 2018.
- Honorary Doctorate of Engineering, Kansas State University, May 2018.
- Eagle Scout Class of 2018, Class Naming Award, June 2018.
- Pat Jackson Higher Education Advocate Award, Public Relations Society of America, June 2018.
- Manufacturing Advocate of the Year, presented by NIST at the National Summit, Atlanta, GA, September, 2019.
- Honorary Alumni Award, Georgia Institute of Technology, Atlanta, GA, Annual Gold and White Awards, June 16, 2021.

#### **Presentation/Paper Awards**

- Award for Outstanding Presentation in Poster Format, 8th International Heat Transfer Conf., August 17-22, 1986, San Francisco, CA, *Thermal Contact Conductance Between Spherical Particles and Flat Surfaces*, by G. P. Peterson and L. S. Fletcher.
- IEEE Outstanding Paper Award, 10th Symposium on Electronic Materials Processing and Characteristics, June 3-4, 1991, Richardson, TX, *Construction Processes for Vapor Deposited Micro Heat Pipes*, by A. K. Mallik, G. P. Peterson and M. H. Weichold.
- AIAA American Institute of Aeronautics and Astronautics, "1990 Best Paper in Thermophysics Award," June 24, 1991, *Experimental Investigation of the Transient Behavior of Micro Heat Pipes*, by D. Wu, G. P. Peterson and W. S. Chang.
- 2008 iMINT Award for Outstanding Poster Presentation, "Thermal Modeling and Design of Flexible Thermal Ground Plan," DARPA Symposium on Thermal Management, March 20, 2008, by Shi, B, Bright, V., Yang, R. Peterson, G. P., Peterson, K. and Li, C.
- SAMPE Outstanding Paper Award, "Functional Polymer-Polymer/Carbon Nanotube Bi-component Fibers," *Proc. Society for the Advancement of Material and Process Engineering (SAMPE) Tech Meeting 2012*, October 22-25, 2012, by Chien, A. T., Gulgunje, P. V., Chae, H. G., Joshi, A., Moon, J., Feng B., Peterson, G. P. and Kumar, S.

#### **Fellowships**

- NASA/ASEE Summer Faculty Research Fellowship, NASA-Johnson Space Center, Houston, TX, 1981.
- NASA/ASEE Summer Faculty Research Fellowship, NASA-Johnson Space Center, Houston, TX, 1982.
- Key Professor, Fluid Power Educational Foundation, Milwaukee, Wisconsin, 1982.
- TRW/SME Travel Fellowship, February 1983.

#### **Honor Societies**

- Tau Beta Pi, National Engineering Honor Society.
- Pi Tau Sigma, Mechanical Engineering Honor Society.
- Sigma XI, National Research Society.
- Phi Kappa Phi, National Scholastic Honor Society.
- Kappa Kappa Psi, National Honorary Band Fraternity

#### **Other Awards**

- Texas A&M University, Texas Engineering Experiment Station - Select Young Fellow, 1986-87.

- Texas A&M University, Texas Engineering Experiment Station - Research Fellow, 1988-89.
- Texas A&M University, Texas Engineering Experiment Station - Senior Research Fellow, 1989-90.
- Kansas State University, College of Engineering - Eminent Engineer, November 27, 1995.
- Kansas State University, College of Engineering Alumni Fellow, 1998.
- Kansas State University, College of Engineering Hall of Fame, November 7, 2003.
- Texas A&M University, Department of Mechanical Engineering Academy of Distinguished Graduates, October 21, 2004.
- Texas A&M University, Dwight Look College of Engineering Outstanding Alumni Award, April 12, 2012.

## **PATENTS AND INVENTIONS:**

### **Invention Disclosures:**

1. Invention Disclosure Filed, "Gripping Device for Board-like Work Pieces," May 15, 1985.
2. Invention Disclosure Filed, "Automatic Feed Mechanism for a Pneumatic Screwdriver," May 31, 1986.
3. Invention Disclosure Filed, "A Flexible Heat Pipe Catheter," June 22, 1992.
4. Invention Disclosure Filed, "Common Condenser, Multi-bellow Heat Pipe," (Joint w/IBM) September 2, 1992.
5. Invention Disclosure Filed, "Micro Heat Pipe Charging and Priming," October 1, 1993
6. Invention Disclosure Filed, "Dry Evaporating Cooling", (Joint w/C. Li) Disclosed to CU Technology Transfer Office, April 2008.
7. Invention Disclosure Filed, "Gecko Feet Inspired Nanowire Array for Advanced Thermal Interface Materials," (Joint w B. Feng) Disclosed to Georgia Tech Research Corporation, May 31, 2012.
8. Invention Disclosure Filed, "Metallic Nanowires Array for Thermal Interface Materials and Manufacturing the Same," (Joint w/B. Feng) Disclosed to Georgia Tech Research Corporation, June 25, 2012.
9. Invention Disclosure Filed, "Development of a Supernucleating Surface," (Joint w/B. Feng), July 1, 2012.
10. Invention Disclosure Filed, "Atomic Layer Deposition Enabled Transparent, Hydrophilic and Scratch Resistant Coating for Touch Screens," (Joint w B. Feng and B. Williams), August 1, 2012.
11. Invention Disclosure (U.S.), "Novel Cathode Materials for High Performance Lithium-Sulfur Batteries," (w/Haiping Hong), submitted to the Georgia Tech Research Corporation on February 5, 2021.
12. NASA Technology Report – Invention Disclosure, "Thermal Management of Aerodynamic Heating through Phase Change Thermal Capacitors," NASA NTR 1623873977 (Joint w/K. H. Peterson), June 16, 2021.

### **Patents:**

1. Patent Issued (U.S.), "Bellows Heat Pipe for the Thermal Control of Electronic Devices," (Joint w/ S. Oktay, IBM Corporation), U.S. Patent no. 4,951,740, issued August 28, 1990.
2. Patent Issued (U.S.), "Heat Transfer Cylinder," (Joint w/L. S. Fletcher), U.S. Patent no. 5,119,886, issued June 9, 1992.
3. Patent Issued (U.S.), "Vapor Deposited Micro Heat Pipe," (Joint w/M. H. Weichold, TAMU), U.S. Patent no. 5,179,043, issued January 12, 1993.
4. Patent Issued (U.S.), "A Micro Heat Pipe Catheter for Local Tumor Hyperthermia," (Joint w/L. S. Fletcher), U.S. Patent no. 5,190,539, issued March 2, 1993.
5. Patent Issued (U.S.), "Temperature Control Mechanisms for a Micro Heat Pipe Catheter," (Joint w/L. S. Fletcher), U.S. Patent no. 5,417,686, issued May 23, 1995.
6. Patent Issued (U.S.), "Micro Heat Pipe Panels and Method for Producing Same," U. S. Patent no. 5,527,588, (Joint w/C. Camarda, NASA Langley), issued June 18, 1996.
7. Patent Issued (U.S.), "Treatment Method Using a Micro Heat Pipe Catheter," (Joint w/L. S. Fletcher), U.S. Patent no. 5,591,162, issued January 7, 1997.
8. Patent Issued (U.S.), "Method for Producing Micro Heat Pipe Panels," U. S. Patent no. 5,598,632, (Joint w/C. Camarda, NASA Langley), issued February 4, 1997.

9. Patent Issued (U.S.), "Coupled, Flux Transformer Heat Pipes," (Joint w/S. Oktay, IBM Corporation), U.S. Patent no. 5,647,429, issued July 15, 1997.
10. Patent Issued (U.S.), "Method and Apparatus for Jet Blast Deflection," (Joint w/H.N. G.Wadley, D. T. Queheillalt, H. Haj-Hariri, A. G. Evans R. Kurtz and G. D. Long), U.S. Patent no. 8,360,361, issued January 29, 2013.
11. Patent Issued (U.S.), "Alignment of Carbon Nanotube Comprising Magnetic Sensitive Metal Oxides in Nanofluids," (Joint w/H. Hong), U.S. Patent no. 8,652,386 B2, issued February 18, 2014.
12. Patent Issued (U.S.), "Flexible Thermal Ground Plan and Manufacturing Thereof," (Joint w/R. Yang, Y.C. Lee, V. M. Bright, C. Li, C. Oshman, B. Shi, J.H. Cheng), Patent no. 9,163,883B2, issued October 20, 2015.
13. Patent Issued (U.S.), "Composite Materials with Magnetically Aligned Carbon Nanoparticles and Methods of Preparation," (Joint w/H. Hong), U.S. Patent 9,312,046B2, issued April 12, 2016.
14. Patent Issued (U.S.), "Alignment of Carbon Nanotube Comprising Magnetic Sensitive Metal Oxides in Nanofluids," (Joint w/H. Hong), U.S. Patent no. 9,396,853 B2, issued July 19, 2016.
15. Patent Issued (U.S.), "Flexible Thermal Ground Plan and Manufacturing Thereof," (Joint w/R. Yang, Y.C. Lee, V. M. Bright, C. Oshman, B. Shi, J.H. Cheng), Patent no. 9,651,312B2, issued May 16, 2017.
16. Patent Issued (U.S.) "Composite Materials with Magnetically Aligned Carbon Nanoparticles and Methods of Preparation," (Joint w/H. Hong, S. Salem, D.), U.S. Patent no. 9,892,835B2, issued February 13, 2018.
17. Patent Issued (U.S.), "Flexible Thermal Ground Plan and Manufacturing Thereof," (Joint w/R. Yang, Y.C. Lee, V. M. Bright, C. Oshman, B. Shi, J.H. Cheng), (U.S). Patent no. 9,909,814B2, issued March 6, 2018.
18. Patent Issued (U.S.), "Thermal Ground Plane," (Joint w/R. Yang, Y.C. Lee, V. M. Bright, C. Li, C. Oshman, B. Shi, J.H. Cheng), Patent no. 10,527,358 B2, issued January 7, 2020.
19. Patent Issued (U.S.), "Thermal Ground Plan – Continuation-in Part," (Joint w/R. Yang, Y.C. Lee, V. M. Bright, C. Li, C. Oshman, B. Shi, J.H. Cheng), Patent no. 10,571,200 B2, issued February 25, 2020.
20. Patent Pending (Int'l.), "Method and Apparatus for Jet Blast Deflection," (Joint w/H.N. G. Wadley, D. T. Queheillalt, H. Haj-Hariri, A. G. Evans R. Kurtz and G. D. Long), U.S. Patent no. 8,360,361, Int'l Patent Application filed October 6, 2018.
21. Patent Pending (U.S.), "Homogeneously Mixed Solids and Methods for Making the Same," (Joint w/H. Hong), GTRC 7578 PCT, Patent Pending, May 4, 2021.
22. Patent Pending (U.S.), "Thermal Management Materials and Methods of Making the Same Continuation-in-part," (Joint w/H. Hong), GTRC 7922 PCT, Patent application filed November 10, 2020.

January 28, 2020