JUNGHO KIM
Curriculum Vitae
August, 2005

1). PERSONAL DATA:

Department:	Mechanical Engineering
Rank:	Associate Professor
Year appointed to present rank:	July, 2001

A). Education

1990	Ph.D, Department of Mechanical Engineering, University of Minnesota, Minneapolis
1986	MSME, Department of Mechanical Engineering, University of Minnesota, Minneapolis
1982	BSME, Department of Mechanical Engineering, University of California, Berkeley

B). Employment

2001-Present	Associate Professor, Department of Mechanical Engineering, University of Maryland
1998-2001	Assistant Professor, Department of Mechanical Engineering, University of Maryland
1992-1998	Assistant Professor, Department of Engineering, University of Denver
1990-1992	Senior Mechanical Engineer, Physical Sciences Department, Arvin/Calspan Corp., Buffalo, NY
1983-1990	Research and Teaching Assistant, Department of Mechanical Engineering, University of Minnesota
1982-1983	Mechanical Engineer, Plant Engineering, Lawrence Berkeley Laboratory
1980-1982	Research Assistant, Materials Science Department, University of California, Berkeley

2). HONORS AND AWARDS:

2005	ASME Fellow for Research, Teaching, and Service
2002	Keynote talk at the 1st International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics (HEFAT 2002)
2000	University of Maryland, Pi Tau Sigma "Purple Camshaft Award"
1996	ASME Curriculum Innovation Award, Honorable Mention
1995	Sigma Xi, Calspan Chapter, Best Paper Award
1995	University of Denver Mortar Board Senior Honor Society "Top Prof"
1994	University of Denver AUSA Outstanding Faculty Award
1989	Rosemount Instrumentation Award

3). RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

Research Focus:
Fundamental investigations of phase change heat transfer phenomena with an emphasis on boiling heat transfer in earth and microgravity environments, transition boiling, spray cooling heat transfer, and solid-liquid phase change heat transfer for electronics. Transient heat flux gauge performance in gas turbine environments.

A). Chapters in Books

1). Rule, T.D., Kim, J., Quine, R.W., Kalkur, T.S., and Chung, J.N., "Measurements of Spatially and Temporally Resolved Heat Transfer Coefficients in Subcooled Pool Boiling", in Convective Flow and Pool Boiling, Edited by Lehner, M. and Mayinger, F., Taylor and Francis, 1999.

2). Kim, J., Sherif, S.A., and McDonald, A.T., "Flow Measurement and Instrumentation", CRC Handbook of Thermal Engineering, edited by F. Kreith, CRC Press, 2000, pp 4.592-4.619.

3). Kim, J., McDonald, A.T., and Sherif, S.A. "Flow Measurement", CRC Handbook of Mechanical Engineering, 2nd edition, 2004, pp. 3.191-3.218.

4). Kim, J., "Pressure Measurement", CRC Handbook of Mechanical Engineering, 2nd edition, 2004, pp. 3.218-3.222.

5). Moffatt, R.J. and Kim, J., "Temperature and Heat Transfer Measurements", CRC Handbook of Mechanical Engineering, 2nd edition, 2004. pp. 4.174-4.199.

B). Archival Journals

1). Kim, J. and Simon, T.W. "Measurements of the turbulent transport of heat and momentum in convexly curved boundary layers: Effects of curvature, recovery and free-stream turbulence", Journal of Turbomachinery, Vol. 110, No. 1, pp. 80-87, 1988.

2). You, S.M., Simon, T.W., and Kim, J. "Free-stream turbulence effects on convex-curved turbulent boundary layers", Journal of Heat Transfer, Vol. 111, No. 1, pp. 66-72, 1989.

3). Kim, J., Simon, T.W., and Russ, S.G. "Free-stream turbulence and concave curvature effects on heated, transitional boundary layers", Journal of Heat Transfer, Vol. 114, No. 2, pp. 338-347, 1992.

4). Kim, J., Baran, A.J., Dunn, M.G., Wade, D.P, and Tremba, E.L. "Deposition of volcanic materials in the hot sections of two gas turbine engines", Journal of Engineering for Gas Turbines and Power, Vol. 115, No. 3, pp. 641-651, 1993.

5). Dunn, M.G., Kim, J., Civinskas, K.C., and Boyle, R.J. "Time-averaged heat transfer and pressure measurements and comparison with prediction for a two-stage turbine", Journal of Turbomachinery, Vol. 116, No. 1, pp. 14-22, 1994 , Sigma Xi, Calspan Chapter, Best Paper Award.

6). Kim, J., Simon, T.W., and Kestoras, M. "Fluid mechanics and heat transfer measurements in transitional boundary layers conditionally sampled on intermittency", Journal of Turbomachinery, Vol. 116, No. 3, pp. 405-416, 1994.

7). Dunn, M.G., Kim, J., and Rae, W.J. "Investigation of the Heat-Island Effect for Heat-Flux Measurements in Short-Duration Facilities", Journal of Turbomachinery, October, 1997.

8). Kim, J., Whitten, M., Quine, R.W., Kalkur, T.S., "Design and Development of a Diode Array for Use in Boiling Heat Transfer", Journal of the Japan Society of Microgravity Application, Vol. 15, 1998, pp. 202-207.

9). Rule, T.D. and Kim, J., "Heat Transfer Behavior on Small Horizontal Heaters During Pool Boiling of FC-72", Journal of Heat Transfer, Vol. 121, No. 2, May, 1999, pp. 386-393.

10). Bae, S., Kim, M.H., and Kim, J., "Improved Technique to Measure Time and Space Resolved Heat Transfer under Single Bubbles during Saturated Pool Boiling of FC-72", Experimental Heat Transfer, Vol. 12, No. 3, 1999, pp. 265-278.

11). Bae, S.W., Kim, J., Mullen, J.D., and Kim, M.H., "Wall Heat Flux Variation Underneath Bubbles During Pool Boiling of FC-72", Journal of Heat Transfer, Heat Transfer Gallery, Vol. 121, August 1999.

12). Kim, J., Sakamoto, H., and Dunn, M.G., "A Numerical Investigation of Button-Type Heat Flux Gauge Performance in Short Duration Facilities", Journal of Turbomachinery, Vol. 122, No. 1, pp. 184-187, 2000.

13). Lee, J., Kim, J., Kiger, K., "Droplet Cooling Heat Transfer Model Validation", SAE Transactions Journal of Aerospace, Vol. 109, Section 1, pp. 925-931, 2000.

14). Kim, J., Yaddanapuddi, N., and Mullen, J.D., "Heat Transfer Behavior on Small Horizontal Heaters During Saturated Pool Boiling of FC-72 in Microgravity", Microgravity Science and Technology, Vol. XII, pp. 116-127, 2001.

15). Lee J., Kim, J., and Kiger, K.T., "Time and Space Resolved Heat Transfer Characteristics of Single Droplet Cooling Using Microscale Heater Arrays", International Journal of Heat and Fluid Flow, Vol. 22, pp. 188-200, 2001.

16). Yaddanapudi, N., and Kim, J., "Single Bubble Heat Transfer in Saturated Pool Boiling of FC-72", Multiphase Science and Technology, Vol. 12, No. 3-4, pp. 47-63, 2001.

17). Kim, J., Benton, J.F., McQuillen, J., and Vickerman, M., (2001) "Subcooled Pool Boiling Heat Transfer in Microgravity and Hi-g", Vol. 123, pp. 620, Journal of Heat Transfer, August, 2001.

18). Bae, S.W. and Kim, J., "Wall Heat Transfer Measurements and Visualization of Bubble Growth and Departure During Saturated Nucleate Boiling of FC-72", Heat and Technology, Vol. 19, No. 1, pp. 3-10, June, 2001.

19). Kim, J., and Benton, J.F., "Subcooled pool boiling heat transfer at various gravity levels", International Journal of Heat and Fluid Flow, Volume 23, No. 4, pp. 497-508, August 2002.

20). Kim, J., Benton, J.F., and Wisniewski, D., "Pool Boiling Heat Transfer on Small Heaters: Effect of Gravity and Subcooling", International Journal of Heat and Mass Transfer, Vol. 45, No. 19, pp. 3921-3934, 2002.

21). Gurrum, S.P., Joshi, Y., and Kim, J. "Thermal Management of High Temperature Pulsed Electronics Using Phase Change Materials", Numerical Heat Transfer, part A, Vol. 42, No. 8, pp. 777-790, 2002.

22). Lee, J., Kiger, K.T., and Kim, J., "Enhancement of Droplet Heat Transfer Using Dissolved Gases", SAE 2002 Transactions Journal of Aerospace, pp. 736-746.

23). Kim, J. "Local Heat Transfer Measurements During Phase Change Processes Using Microscale Heaters", R&D Journal, Vol. 19, No. 1, March, 2003.

24). Kim, J., "Review of reduced gravity boiling heat transfer: US Research", Invited review paper for Japan Society of Microgravity Application Journal, Vol. 20, No. 4, pp. 264-271, 2003.

25). Yin, Z., Prosperetti, A., Kim, J. "Bubble Growth on an Impulsively Powered Microheater", International Journal of Heat and Mass Transfer, Vol. 47, No. 5, pp. 1053-1067, 2004.

26). Henry, C.D. and Kim, J. ""Heater size, subcooling, and gravity effects on pool boiling heat transfer", International Journal of Heat and Fluid Flow, Vol. 25, No. 2, pp. 262-273, 2004.

27). Saidi, A. and Kim, J., "Heat flux sensor with minimal impact on boundary conditions", Experimental Thermal and Fluid Science, Vol. 28/8 pp 903-908, 2004.

28). Demiray, F. and Kim, J., "Microscale Heat Transfer Measurements During Pool Boiling of FC-72: Effect of Subcooling", International Journal of Heat and Mass Transfer, Vol. 47 pp. 3257-3268, 2004.

29). Horacek, B., Kim, J., and Kiger, K., "Spray Cooling Using Multiple Nozzles: Visualization and Wall Heat Transfer Measurements", IEEE Transactions on Device and Materials Reliability, Vol. 4, Issue 4, pp. 614-625, 2004.

30). Coursey, J. S., Kim, J., and Boudreaux, P.J., "Performance of graphite foam evaporator for use in thermal management", Journal of Electronic Packaging, Vol. 127, No. 2, pp. 127-134, 2005.

31). Henry, C.D., Kim, J., "Thermocapillary Effects on Low-G Pool Boiling From Microheater Arrays of Various Aspect Ratio", Microgravity Science and Technology, XVI, pp. 170-175, 2005.

32). Horacek, B., Kiger, K., Kim, J., "Single Nozzle Spray Cooling Heat Transfer Mechanisms", International Journal of Heat and Mass Transfer, Vol. 48, No. 8, pp. 1425-1438, 2005.

33). Myers, J.G., Yerrramilli, V.K., Hussey, S.W., Yee, G.F., and Kim, J., "Time and space resolved wall temperature and heat flux measurements during nucleate boiling with constant heat flux boundary conditions", International Journal of Heat and Mass Transfer, Vol. 48, No. 12, pp. 2429-2442, 2005.

34). Henry, C.D., Kim, J., Chamberlain, B., and Hartmann, T.G., "Heater aspect ratio effects on pool boiling heat transfer under varying gravity conditions", Experimental Thermal and Fluid Science, Vol. 29, No. 7, pp. 773-782, 2005.

35). Wakatsuki, K., Hamins, A., Nyden M. R., Jackson, G. S., Kim, J., and Fuss, S. P., "Determination of Planck Mean Absorption Coefficients for Hydrocarbon Fuels", submitted to Combustion and Flame.

C). Peer-Reviewed Conference Papers

1). You, S.M., Simon, T.W., and Kim, J. "Boundary layer heat transfer and fluid mechanics measurements on a mildly-curved convex wall", Proceedings of the Eighth International Heat Transfer Conference, San Francisco, Vol. 3, pp. 1089-1094, 1986.

2). Lee, S.J. and Kim, J. "An experimental study of the Taylor-vortex instability and annulus-length effects in rotating Couette flow", Proceedings of the Second World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, Dubrovnik, Yugoslavia, June, 1991.

3). Dunn, M.G., and Kim, J., "Turbine blade platform, blade tip, and shroud heat transfer", Proceedings of the Twelfth International Symposium for Airbreathing Engines, Melbourne, Australia, 1995.

4). Kim, J., and Kalkur, T.S., "Development of a Surface Array of Microscale Heaters to Measure Wall Heat Transfer Underneath Single Bubbles in Nucleate Pool Boiling", Proceedings of the ASME Winter Annual Meeting, San Francisco, CA, November, 1995.

5). Kim, J., Ross, R., and Dunn, M.G., "Numerical Investigation of the Heat-Island Effect for Button-type, Transient, Heat-Flux Gauge Measurements", Proceedings of the ASME National Heat Transfer Conference, Houston, TX, August, 1996, HTD-Vol. 327, Vol.5, pp. 33-39.

6). Kim, J. and Mirth, J., "An Integrated Design Experience for Freshmen", ASME Curriculum Innovation Award, Honorable Mention, Proceedings of the ASME 1996 Winter Annual Meeting, Atlanta, GA.

7). Delyser, R.R., Rosa, A.J., Mirth, J.A., and Kim, J., "Undergraduate Engineering Curricula Revision at the University of Denver", Proceedings of the Frontiers in Education Conference, 1996.

8). Rule, T.D. and Kim, J., "Wall Heat Transfer Measurements in Saturated Pool Boiling of FC-72 on a Small Heated Area", Proceedings of the ASME IMECE conference in Dallas, TX, November 1997.

9). Kim, J. and Whitten, M., "Surface Temperature Fluctuations on a Silicon Wafer During Saturated Pool Boiling of FC-72", Proceedings of the ASME IMECE conference, Anaheim, CA, November 1998.

10). Bae, S.W., Kim, J., Mullen, J.D., and Kim, M.H., "Preliminary Wall Heat Transfer Measurements and Visualization of bubble Growth and Departure: Saturated Nucleate Boiling of FC-72", Proceedings of the 5th ASME/JSME Joint Thermal Engineering Conference, San Diego, CA, 1999.

11). Yaddanapudi, N., and Kim, J., "Single Bubble Heat Transfer in Saturated Pool Boiling of FC-72", Proceedings of the Engineering Foundation Boiling 2000 Conference, Girdwood, AK, May 2000.

12). Gurrum, S.P., Joshi, Y.K., and Kim, J., "Thermal Management of High Temperature Pulsed Electronics Using Phase Change Materials", Proceedings of the 2000 National Heat Transfer Conference, Pittsburgh, PA, August, 2000.

13). Lee, J., Kim, J., Kiger, K., "Droplet Cooling Heat Transfer Model Validation", Proceedings of the 2000 SAE Conference, Paper No. 2000-01-3644, San Diego, CA.

14). Lee, J., Kim, J., Kiger, K. and Horacek, B., "Heat Transfer Characteristics of Single Droplet Cooling Using a Microscale Heater Array", Proceedings of the 2000 ASME IMECE, Orlando, FL.

15). Kim, J., Demiray, F., and Yaddanapudi, N., "Saturated Pool Boiling Mechanisms During Single Bubble Heat Transfer: Comparison at Two Temperatures", Proceedings of the 2000 ASME IMECE, Orlando, FL.

16). Kim, J. and Benton, J.F., "Subcooled Pool Boiling Heat Transfer in Earth Gravity and Microgravity", Proceedings of the 2001 National Heat Transfer Conference, Anaheim, CA, June, 2001.

17). Kim, J., and Benton, J.F., "Microgravity pool boiling heat transfer: Effects of gravity and subcooling level", 2001 Engineering Foundation Conference on Microgravity Transport Processes in Fluid, Thermal, Biological, and Materials Science Conference II, Banff, CA.

18). Kim, J., McQuillen, J., and Balombin, J., "Microheater Array Boiling Experiment", Proceedings of the AIAA Conference on International Space Station Utilization, Kennedy Space Center, October, 2001.

19). Kim, J. "Local heat transfer measurements during phase change processes using microscale heaters", 1st International Conference on Heat Transfer, Fluid Mechanics, and Thermodynamics, 8-10 April 2002, Kruger Park, South Africa, Keynote talk.

20). Demiray, F. and Kim, J. "Single bubble heat transfer during saturated pool boiling of FC-72 using an array of 100 micron heaters", Proceedings of ESDA 2002 Conference of Engineering Systems Design and Analysis, Istanbul, Turkey, July 8-11, 2002.

21). Demiray, F. and Kim, J. "Heat transfer from a single nucleation site during saturated pool boiling of FC-72 using an array of 100 micron heaters", Proceedings of the AIAA/ASME Thermophysics and Heat Transfer Conference, St. Louis, MO June 24-26, 2002.

22). Lee, J., Kiger, K., and Kim, J. "Enhancement of Droplet Heat Transfer Using Dissolved Gases", Proceedings of the SAE Power Systems Conference, Coral Springs, FL, 2002, Paper No. 2002-01-3195.

23). Coursey, J.S., Roh, H., Kim, J., and Boudreaux, P.J., "Graphite Foam Thermosyphon Evaporator Performance: Parametric Investigation of the Effects of Working Fluid, Liquid Level, and Chamber Pressure", Proceedings of the 2002 ASME IMECE, New Orleans, LA, paper No. 2002-33733.

24). Kim, J. and Henry, C.D. “Heater Size and Gravity Effects on Pool Boiling Heat Transfer”, American Institute of Physics Conference Proceedings, Volume 654, pp. 132-141.

25). Coursey, J., Kim, J., and Boudreaux, P.J., "The Effects of Geometry and Density on the Performance of a Graphite Foam Thermosyphon Evaporator”, Presented at the 5th International Conference on Boiling Heat Transfer, May 4-8, 2003, Jamaica.

26). Henry, C.D. and Kim, J., “A study on the effects of heater size, subcooling, and gravity level on pool boiling heat transfer”, Presented at the 5th International Conference on Boiling Heat Transfer, May 4-8, 2003, Jamaica.

27). Demiray, F. and Kim, J. " Heat Transfer from a Single Nucleation Site During Pool Boiling of FC-72: Effect of Subcooling”, Presented at the 5th International Conference on Boiling Heat Transfer, May 4-8, 2003, Jamaica.

28). Roh, H., Kim, J., and Boudreaux, P.J., “Thermal Characteristics of Graphite Foam Thermosyphon for Electronics Cooling”, Proceedings of InterPACK03 conference, Paper InterPACK 2003-35002, July 6-11, 2003, Maui, HI.

29). Saidi, A. and Kim, J. (2003), “Heat flux sensor with minimal impact on boundary conditions”, Proceedings of the 2003 ASME National Heat Transfer Conference, Las Vegas, NM.

30). Myers, J.G., Hussey, S.W., Yee, G.F. and Kim, J. (2003), “Time and space resolved heat transfer measurements under nucleate bubbles with constant wall heat flux boundary conditions”, Proceedings of the 2003 ASME National Heat Transfer Conference, Las Vegas, NM.

31). Horacek, B., Kim, J., and Kiger, K. (2003), “Effects of noncondensable gas and subcooling on the spray cooling of an isothermal surface”, Proceedings of the ASME IMECE, Washington D.C.

32). Horacek, B., Kim, J., and Kiger, K. (2004), “Gas effects on spray cooling of an isothermal surface: Visualization and time and space resolved heat transfer measurements”, Proceedings of the AIAA Conference, Reno, NV.

33). Yerramilli, V.K., Myers, J.G., Hussey, S.W., Yee, G.F., and Kim, J., “Time and space resolved heat flux measurements during nucleate boiling with constant heat flux boundary conditions”, 2004 International Conference on Multiphase Flows, Yokohama, Japan, May, 2004.

34). Horacek, B., Kim, J., and Kiger, K., “Spray cooling using multiple nozzles: Visualization and wall heat transfer measurements”, ASME Heat Transfer/Fluids Engineering Summer Conference, Charlotte, NC, July, 2004.

35). Myers, J.G., Hussey, S.W., Yee, G.F., Yerramilli, V.K., and Kim, J., “Time and space resolved wall temperature measurements during nucleate boiling with constant heat flux boundary conditions”,ASME Heat Transfer/Fluids Engineering Summer Conference, Charlotte, NC, July, 2004.

36). Henry, C.D., Kim, J., “Thermocapillary effects on low-g pool boiling from microheater arrays of various aspect ratio”, Proceedings of the 2nd International Symposium on Physical Sciences in Space, Toronto, Canada, May 23-27, 2004.

37). Henry, C.D., Kim, J., Chamberlain, B., and Hartman, T.G. “Heater size and heater aspect ratio effects on subcooled pool boiling heat transfer in low-g”, 3rd International Symposium on Two-Phase Flow Modeling and Experimentation, Pisa, 22-24 September 2004.

38). Amon, F., Benetis, V., Kim, J., and Hamins, A., "Development of a performance evaluation facility for fire fighting thermal imagers", Proceedings of SPIE, International Society for Optical Engineering, vol. 5407-35, 244-252, Orlando, FL, April 2004.

39). Silk, E.A., Kim, J., and Kiger, K., "Investigation of enhanced surface spray cooling", Proceedings of the ASME IMECE, Nov, 13-19, Anaheim, 2004.

40). Moghaddam, S., Lawler, J., McCaffery, C., and Kim, J., "Heat Flux-Based Emissivity Measurement", American Institute of Physics Conference Proceedings, Vol. 746, pp. 32-37, 2005.

41). Silk, E., Kim, J., and Kiger, K., "Effect of spray cooling trajectory on heat flux for a straight finned enhanced surface", ASME Summer Heat Transfer Conference, July 17-22, San Francisco, 2005.

42). Silk, E., Kim, J., and Kiger, K., "Impact of cubic pin finned surface structure geometry on spray cooling heat transfer", ASME Interpak Conference, July 17-22, San Francisco, 2005.

D). Selected Technical Reports/Other Publications

1). Kim, J., Baran, A.J., and Dunn, M.G. "Design and construction of a F-100 engine hot-section rig for dust phenomenology testing", Defense Nuclear Agency Report DNA-TR-91-159.

2). Kim, J., Dunn, M.G., and Baran, A.J. "The 'most probable' dust blend and its response in the F-100 combustor", Defense Nuclear Agency Report DNA-TR-91-160.

3). Dunn, M.G. and Kim, J. "The 'most probable' dust blend and its response in the T56 gas turbine combustor", Defense Nuclear Agency Report DNA-TR-91-256.

4). Kim, J., and Kalkur, T.S., "A Surface Mounted Array of Microscale Heaters for Use in Nucleate Boiling", presented at the 1995 National Heat Transfer Conference, Portland, OR, August, 1995.

5). Kim, J., Ch'ng, C.P., and Kalkur, T.S., "Design of An Improved Heater Array to Measure Microscale Wall Heat Transfer", Third Microgravity Fluid Physics Conference, NASA Conference Publication 3338, June, 1996, pp. 165-170.

6). Kim, J., Bae, S.W., Whitten, M., Mullen, J.D., Kalkur, T.S., "Boiling Heat Transfer Measurements on Highly Conductive Surfaces Using Microscale Heater and Temperature Arrays", Fourth Microgravity Fluid Physics Conference, Cleveland, OH, August, 1998.

7). Rule, T.D., Kim, J., and Kalkur, T.S., "Design, Construction, and Qualification of a Microscale heater Array for use in Boiling Heat Transfer", NASA/CR-1998-207407, 1998.

8). Bae, S., Kim, J., and M.H. Kim, "Wall Heat Flux Variations Underneath Bubbles During Pool Boiling of FC-72", presented in the Heat Transfer Visualization session at the ASME IMECE conference, Anaheim, CA, November 1998.

9). Kim, J., Benton, J., and Kucner, R., "Pool Boiling Heat Transfer Mechanisms in Microgravity", presented at the Heat Transfer Video session at the ASME NHTC, Pittsburgh, PA, August, 2000.

10). Kim, J. and Quine, R., "Array of Microscale Heaters and Heat-Flux Sensors", NASA TECH-Briefs, Vol. 24, No. 9, p. 36, September, 2000.

11). Kim, J., Benton, J., and Kucner, R., "Subcooled Pool Boiling Heat Transfer Mechanisms in Microgravity: Terrier-Improved Orion Sounding Rocket Experiment", NASA/CR–2000-210570.

12). Kim, J., “Time and space Resolved Heat Transfer–Boiling and Droplet Cooling Studies Using Microheaters, Report of droplet and Spray Cooling Heat Transfer”, AFRL-PR-WP-TR-2003-2069.

E). Patents

1). Non-uniform temperature profile generator for use in short-duration wind tunnels, Patent No. 5,353,370, October, 1994.

F). Invited Lectures:

1). "Design and Development of Microscale Heater Arrays for use in Phase Change Heat Transfer Measurements", NIST, October, 1997.

2). "Design and Development of Microscale Heater Arrays for use in Phase Change Heat Transfer Measurements", University of Maryland, Department of Mechanical Engineering, Distinguished ASHRAE Lecturer, October, 1997.

3). "Human Powered Vehicles: History and Recent Development at DU", University of Denver Provost's Lecture, May, 1998.

4). "Boiling Heat Transfer Mechanisms in Earth and Microgravity", Korea Advanced Institute of Science and Technology, Dept. of Mechanical Engineering, July, 1999.

5). "Boiling Heat Transfer Mechanisms in Earth and Microgravity", Seoul National University, Dept. of Mechanical Engineering, July, 1999.

6). "Microscale Wall Heat Flux Measurements during Single Bubble Pool Boiling", Rochester Institute of Technology, Workshop on Heat Transfer Research Needs in Emerging Technologies, April, 2000.

7). "Boiling Heat Transfer in Earth and Microgravity Using Microscale Heater Arrays", Johns Hopkins University, Dept. of Mechanical Engineering, October, 2000.

8). “Boiling Heat Transfer Mechanisms at Various Gravity Levels”, 6th NASA Fluid Physics Conference, Cleveland, OH, 2002.

9). “Local Heat Transfer Measurements in Boiling and Droplet Cooling”, Dept. of Mechanical Engineering, Edinburgh University, Scotland, October, 2002.

10). “Pool Boiling Experiment with Electric Fields and Microscale Heaters”, ESTEC, Amsterdam, Netherlands, March, 2003.

11). “Time and space resolved heat transfer measurements during phase change processes”, Dept. of Mechanical and Industrial Engineering, University of Toronto, Toronto, Canada, April, 2003.

12). “Local heat transfer measurements during phase change processes”, Distinguished ASHRAE Lecturer, Dept. of Mechanical Engineering, University of Maryland, April, 2003.

13). “Microscale heat transfer measurements during phase change processes”, NASA Goddard Space Flight Center, September, 2003.

14). “Microscale Heat Transfer Measurements During Phase Change Heat Transfer Processes”, Rockwell Scientific, Thousand Oaks, February, 2004.

15). “Effects of Dissolved Gas, Surface Enhancement, and Fluid Enhancement on Spray Cooling Heat Transfer”, Coolcon Conference, Scottsdale, AZ, May, 2004.

16). “Boiling Heat Transfer Mechanisms in Earth and Low Gravity: Boundary Condition and Heater Aspect Ratio Effects”, NASA Conference on “Strategic Research to Enable NASA’s Exploration Missions”, June, 2004.

17). “Spray Cooling Heat Transfer on Enhanced Surfaces”, ONR Direct Energy Conversion Conference, San Diego, CA, December, 2004.

18). “Gravity Effects on Boiling Heat Transfer: Investigations Using a Microheater Array”, Dept. of Mechanical Engineering, University of Minnesota, February, 2005.

19). “Spray Cooling Heat Transfer Mechanisms on Flat and Enhanced Surfaces”, International Two-Phase Thermal Control Technology Workshop, Los Angeles, CA, March, 2005.

20). “Gravity Effects on Boiling Heat Transfer: Investigations Using a Microheater Array”, Dept. of Mechanical Engineering, State University of New York at Stony Brook, April, 2005.

21). “Phase Change Heat Transfer Mechanisms: Investigations Using a Microheater Array”, Intel Corporation, June, 2005.

This curriculum vitae is accurate and complete.

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