Miles Greiner, Ph.D.

Foundation Professor and Department Chair of Mechanical Engineering
University of Nevada, Reno
Mail Stop 312, 1664 North Virginia Street, Reno, Nevada 89557
(775) 784-4873, (775) 784-1701 (fax), greiner@unr.edu

Professional Expertise

Heat transfer research with expertise in convection augmentation, large-scale fires, nuclear packaging and transportation safety, vacuum drying, advanced hydrogen reformer technology, and gas turbine engine film cooling.

Education

- **University of California, Berkeley**
  B.S. 1979 with Highest Honors
- **Massachusetts Institute of Technology**
  S.M. 1982, Advisor: T.Y. Toong
  Thesis: Onset of Instability in a Chemically Reacting Shear Layer
  Ph.D. 1986, Advisors: A.T. Patera, B.B. Mikic
  Dissertation: Experimental Investigation of Resonance and Heat Transfer Enhancement in Grooved Channels

Awards

- University of Nevada, Reno, Senior Mentor Faculty Award, 1989
- University of Nevada, Reno, Senior Mentor Faculty Award, 2000
- Outstanding Operations, Applications, and Components Technical Paper at the 2003 ASME Pressure Vessel and Piping Conference, Awarded July 28, 2004
- G.E.O. Widera Award for the 2004 Outstanding Technical Paper in the Journal of Pressure Vessel Technology, Awarded July 20, 2005
- Fellow of the American Society of Mechanical Engineers, December 2006
- Lemelson Award for Innovation and Entrepreneurship, University of Nevada, Reno College of Engineering, Awarded May 6, 2008
- Foundation Professor, University of Nevada, Reno, 2016

Employment History

- Standard Oil Chevron Research Company
  Research Engineer, June 1979 to December 1979
- Brunswick Defense Corporation
  Technical Staff, January 1980 to August 1980
- Massachusetts Institute of Technology
  Research Assistant, August 1980 to July 1986
- University of Nevada, Reno
  Assistant Professor, August 1986 to June 1991
  Associate Professor, July 1991 to June 2001
  Professor, July 2001 to present

Interim Director, UNR Renewable Energy Center,
July 1, 2011 to March 15, 2013
Interim Chair, UNR Mechanical Engineering Department,
July 1, 2012 to June 30, 2013
September 2014 to June 2016
Chair, UNR Mechanical Engineering Department
July 1, 2016 to present

- **Sabbatical Leave Positions**
  - United Technologies Research Center, January 1996 to July 1996
  - Alion Science Innovative Technologies Solution, Corp., July 2002 to June 2003
  - Argonne National Laboratories, September 2009 to May 2010

Teaching

Courses Taught:

- *Undergraduate:*
  - ME 151 Introduction to Mechanical Engineering II
  - ME 299 Introduction to Engineering Mathematics
  - ME 311 Thermodynamics I
  - ME 314 Introduction to Heat Transfer
  - ME 322 Instrumentation
  - ME 414/614 Intermediate Heat Transfer
  - ME 475/675 Introduction to Combustion
  - ME 465 System Design
  - ME 475/675 Introduction to Combustion
  - ME 491 Mechanical Engineering Laboratory
- *Graduate:*
  - ME 761 Convection Heat Transfer
  - ME 762 Radiation Heat Transfer
  - ME 763 Enhanced Heat Transfer
  - ME 781 Mechanics of Viscous Flow
  - ME 782 Turbulent Flow and Transport

Advisees:

- *Postdoctoral Associates:*
  - S. Shin
  - Y.Y. Jin
  - H.M. Tufo
  - Esam Abu-Irshaid
  - M. Hadj Nacer (Postdoc, then Research Scientist)

- *Ph.D. Students:*
  - R.-F. Chen (June 1993)
  - N.R. Chalasani (May 2010)
  - Dilesh Maharjan (May 2018)

- *M.S. Students:*
  - David Weinfeld (May 1994)
  - Robert Faulkner (August 1997)
  - H.C. Ju (September 2001)
  - M. Alex Kramer (December 2001)
  - Narendra Are (December 2003)
  - Kishore Kumar Gangadharan (December 2005)
  - Neelima Mallidi (May 2006)
  - N.R. Chalasani (May 2006)
  - Pablo Araya (May 2007)
  - Venkata Venigalla (December 2007)
  - Mithun Gudipati (August 2007)
  - Krishna Kumar Kamichetty (May 2010)
  - Timothy Bullard (May 2010)
  - John Akerley (May 2012)
  - Austin Thibault (December 2013)
  - Rachel Green (September 2015)
  - Hasibul Alam (January 2016)
  - Md Shujan Ali (January 2017)
  - Corey Trujillo (January 2017)
  - Nishan Pandey (June 2018)
  - Cody Zampella (May 2019)
  - Megan Higley (expected December 2019)
  - M Iffat Hasan (expected December 2019)
  - Triton Manzo (did not complete)

Externally Funded Projects (Research, Teaching, Government Service)

Research

1. National Science Foundation, Engineering Initiation Award, "Natural Convection Heat Transfer Enhancement in Grooved Channels," CBT-8708802, 7/87 to 10/90, PI: M. Greiner, $59,312 (peer reviewed).
2. Gas Research Institute, "Free Shear Layer and Swirl Flow Heat Transfer Enhancement," 5087-260-1562, 9/87 to 12/89, PI: R.A. Wirtz, Co-PI"s M. Greiner and B. Snyder, $172,851 (peer reviewed).
3. United Technologies Research Center, "Technical Assessment of Tube-Side Heat Transfer-Pumping Power Performance Techniques," PO 232537, 5/1/92 to 6/30/92, PI: M. Greiner, $9671.

4. Department of Energy/University of Nevada System, "Nuclear Waste Transportation Cask Accident Testing," 10/93 to 9/94, PI: R.A. Wirtz, Participants: M. Greiner, S.Y. Luo and B. Snyder, $262,380.
5. Department of Energy/University of Nevada System, "Nuclear Waste Transportation Cask Accident Testing," 10/94 to 9/96, PI: R.A. Wirtz, Co-PI"s: M. Greiner, S.Y. Luo and B. Snyder, $260,810.
6. National Science Foundation, "Experimental Measurement and Numerical Modeling of Augmented Heat Transfer in Intermittently Grooved Channels," CTS-9501502, including "Heat Transfer Augmentation-REU," 4/15/95 to 12/31/99, PI: M. Greiner, Co-PI: R.A. Wirtz, $229,061 (peer reviewed).
7. United Technologies Research Center, "Advanced Turbine Blade Outer Air Seal Film Cooling," Sabbatical Leave Research, 1/1/96 to 7/31/96, PI: M. Greiner, $19,196.
8. Hydrogen Burner Technology, Inc. "Heat Transfer/Pressure Drop Design Code for the HBT Gasoline Fueled Under-Oxidized Burner," 1/19/98 to 12/31/99, PI: M. Greiner, $62,000.
9. US Department of Energy, DE-FG02-98ER45715, "Experimental Benchmarking of Fire Modeling Simulations," 9/15/98 to 9/14/01, PI: M. Greiner, $149,784 (peer reviewed).
10. Sandia National Laboratories, "Effect of Package Placement on Fire Response," 26119, including Nevada Applied Research Initiative, "Benchmarking and Use of the Container Analysis Fire Environment (CAFE) Computer Code," 12/18/01 to 9/30/02, PI: M. Greiner, $66,000.
11. Hoefer Foundation, "Benchmarking and Use of the Container Analysis Fire Environment (CAFE) Computer Code," 1/02 to 7/03, PI: M. Greiner, $5,000.
12. Sandia National Laboratories, "Analysis of the Effects of Small, Long-Duration Fires on SNF Packages," 2/1/04 to 2/28/05, PI: M. Greiner, $41,657.
13. US Department of Energy (through Sandia National Labs), "Nuclear Waste Package Internal Heat Transfer," 7/1/04 to 1/30/07, PI: M. Greiner, $242,470.
14. US Department of Energy, DE-FC07-06ID14782, "AFCI Transportation Research," including Nevada System for Higher Education, NSHE-06-88, "ARI Nuclear Transportation Research," 5/27/06 to 8/26/07, PI: M. Greiner, $641,455.
15. Sandia National Laboratories, “Rational Design Method for Choosing Gamma Shield Thickness for Fast Neutron Reactor Spent Fuel Transport Casks,” 12/11/2008 to 12/10/2009, PI: M. Greiner, $66,000
16. Argonne National Laboratories, “Sabbatical Research on Hydrogen Detonation and Polyurethane Foam Degradation,” July 1, 2009 to June 30, 2010, $66,235
17. US Department of Energy, DE-EE0003231, "Advanced Heat/Mass Exchanger Technology for Geothermal and Solar Renewable Energy Systems," DE-EE0003231, 10/1/10 to 9/30/13, PI: R.A. Wirtz, co-PIs A. Childress, M. Greiner, K. Kim and C. Park, $1,500,000.
18. US Department of Energy, Nuclear Energy Research Program (NEUP), “Development and Experimental Benchmark of Simulations to Predict Used Nuclear Fuel Cladding Temperatures during Drying and Transfer Operations,” 9/1/2012 to 12/31/2016, PI: Miles Greiner, $745,000 (peer reviewed).
19. National Aeronautics and Space Administration, “Advanced Transport Technologies for NASA Thermal Management/Control Systems,” 7/1/2015 to 6/30/2018, PI: Fenstermaker; Lead Science Investigator: M. Greiner (UNR), Co-Investigators: K. Kim (UNLV), T. Plaggemeyer (TMCC), C, Robbins (DRI), $1,125,000 (Federal Funds: $750,000; NSHE Match: $375,000). Greiner portion: $445,646 (peer reviewed).

20. US Department of Energy, Nuclear Energy Research Program (NEUP), "Development and Experimental Benchmark of Computational Models to Predict Cladding Temperature and Vapor Removal from UNF Canisters during Drying Operations," 10/1/2017 to 12/31/2020, $399,753, PI: Miles Greiner ($250,000), Co-PI: Mustafa Hadj Nacer ($149,753), (peer reviewed).

Education

1. (Internally funded) UNR Technology Fee Fund, "MECH 391 Instrumentation Laboratory," 6/02, PI: M. Greiner, $15,853
2. US Nuclear Regulatory Commission, "The University of Nevada, Reno Fellowship Program in Materials and Thermal Science for Nuclear Power," 5/1/2010 to 4/30/2014, Co-PIs: D. Chidambaram and M. Greiner, $399,997 (peer reviewed).
3. SPX Corporation, "Short Course on Wall-Shape-Induced Flow Destabilization and Heat Transfer Augmentation," 9/2/2010, PI: M. Greiner, $5538.
4. US Nuclear Regulatory Commission, "Development of Nuclear Materials Engineering and Combustion Courses at the University of Nevada, Reno," NRC-HQ-11-G-38-0056, 8/22/2011 to 8/31/2013, PI: D. Chidambaram, Co-PI: M. Greiner, $82,916 (peer reviewed).
5. US Nuclear Regulatory Commission, "The University of Nevada, Reno Fellowship Program in Materials and Thermal Science for Nuclear Energy," 8/1/2013 to 7/31/2017, Co-PIs: D. Chidambaram and M. Greiner, $399,926 (peer reviewed).
6. US Department of Energy, Argonne National Laboratory, "Nuclear Packaging Graduate Certificate," 11/1/2013 to 10/31/2016, PI: M. Greiner, $49,998.
7. US Department of Energy, Argonne National Laboratory, "Development and Assessment of the UNR Graduate Certificate in Nuclear Packaging Program," 11/1/2016 to 10/31/2019, PI: M. Greiner, $50,000.
8. US Department of Energy, Argonne National Laboratory, "Creation of the University of Nevada, Reno Graduate Certificate in Transportation Security and Safeguards," 05/03/2018-03/31/2020, PI: M. Greiner, $183,048
9. US Nuclear Regulatory Commission, "The University of Nevada, Reno Fellowship Program in Materials and Thermal Science for Nuclear Energy," 7/1/2018 to 6/30/2021, Co-PIs: D. Chidambaram and M. Greiner, $400k?? (peer reviewed).

Government Service (Assessing adequacy of Federal Relations that specify the performance of used nuclear fuel transport packages in severe accidental fires)

1. State of Nevada, Agency for Nuclear Projects, "Nuclear Waste Package Fire Testing," 4/15/03 to 6/30/03, PI: M. Greiner, $25,000.
2. State of Nevada, Agency for Nuclear Projects, "Analysis of Spent Fuel Shipment Accident Consequences," 8/1/03 to 12/31/04, PI: M. Greiner, $71,600.
3. State of Nevada, Agency for Nuclear Projects, "HLW Highway Transportation Safety Issues: Shipping Cask Performance in Severe Accident Fire Environments," 5/1/00 to 7/31/00, PI: M. Greiner, $52,500.
4. State of Nevada, Agency for Nuclear Projects, "Severe Fires under High Wind Conditions: Potential Implications for Spent Nuclear Fuel Transportation," 5/31/01 to 12/31/01, PI: M. Greiner, $14,430.

5. Sandia National Laboratories, 26139, "Package Performance Study Peer Review Panel," 12/21/01 to 9/30/03, PI: M. Greiner, $5,288.
6. State of Nevada, Agency for Nuclear Projects, "Cask Performance in Fire Environments," 7/21/05 to 1/31/06, PI: M. Greiner, $24,710.
7. State of Nevada, Agency for Nuclear Projects, "Cask Performance - Task 3.6," 3/1/06 to 6/1/06, PI: M. Greiner, $4500.
8. State of Nevada, Agency for Nuclear Projects, "PVP Travel," 7/1/06 to 7/31/06, PI: M. Greiner, $2450.
9. US Nuclear Regulatory Commission, "Severe Transportation Accident Technical Peer Review," 9/25/2009 to 6/30/2011, PI: M. Greiner, $100,000.
10. US Nuclear Regulatory Commission, "Severe Transportation Fire Accident Case Studies," NRC-HQ-11-P-02-0189, 9/15/2011 to 2/28/2012, PI: M. Greiner, $66,340.
11. US Nuclear Regulatory Commission, "Severe Rail Transportation Accident Case Study," NRC-HQ-12-Q-02-0127, 10/15/2012 to 3/31/2013, PI: M. Greiner, $53,192.

Archival Journal Articles

1. R.D. Kamm, J. Collins, J. Whang, A.S. Slutsky and M. Greiner, **1984**, "Gas Transport During Oscillatory Flow in a Network of Branching Tubes," *J. Biomedical Engineering*, Vol. 106, pp. 315-320.
2. N.K. Ghaddar, M. Greiner, A.T. Patera and B.B. Mikic, **1985**, "Heat Transfer Enhancement by Oscillatory Perturbation of a Stable Separated Flow," *International Communications in Heat and Mass Transfer*, Vol. 12, pp. 369-379. .
3. M. Greiner, R.-F. Chen and R.A. Wirtz, **1990**, "Heat Transfer Augmentation through Wall-Shape-Induced Flow Destabilization," *J. Heat Transfer*, Vol. 112, pp. 336-341.
4. M. Greiner, R.-F. Chen, and R.A. Wirtz, **1991**, "Enhanced Heat Transfer/Pressure Drop Measured From a Flat Surface in a Grooved Channel," *J. Heat Transfer*, Vol. 113, pp. 498-501.
5. M. Greiner, **1991**, "An experimental investigation of resonant heat transfer enhancement in grooved channels," *Int. J Heat Mass Transfer*, Vol. 34, pp. 1383-1381.
6. M. Greiner, R-F Chen and R.A. Wirtz, **1995**, "Augmented Heat Transfer in a Recovery Passage Downstream from a Grooved Section: An Example of Uncoupled Heat/Momentum Transport*", J. Heat Transfer*, Vol. 117, pp. 303-308.
7. M. Greiner, G. Spencer and P.F. Fischer, **1998**, "Direct Numerical Simulation of Three-Dimensional Flow and Augmented Heat Transfer in a Grooved Channel," *J. Heat Transfer*, Vol. 120, n. 3, pp. 717-723.
8. M. Greiner, S. Shin, R.J. Faulkner and R.A. Wirtz, **1998**, "Transport Cask Response to Regulatory Format Thermal Events, Part 1: Rail Package," *International J. of Radioactive Material Transport*, Vol. 9, n 3, pp. 187-192.
9. M. Greiner, R.J Faulkner and Y.Y. Jin, **1998**, "Transport Cask Response to Regulatory Format Thermal Events, Part 2: Truck Cask," *International J. of Radioactive Material Transport*, Vol. 9, n 3, pp. 193-198.
10. R.A. Wirtz, F. Huang and M. Greiner, **1999**, "Correlation of Fully-Developed Heat Transfer and Pressure Drop in a Symmetrically Grooved Channel," *J. Heat Transfer*, Vol. 121, n. 1, pp. 237-239.

11. M. Greiner, R.J. Faulkner, V.T. Van, H.M. Tufo and P.F. Fischer, **2000**, "Simulations of Three-Dimensional Flow and Augmented Heat Transfer in a Symmetrically Grooved Channel with Constant Temperature Walls", *J. Heat Transfer*, Vol. 122, pp. 653-660.
12. D.D. Clarke, V.R. Vasquez, W.B. Whiting, and M. Greiner, **2001**, "Sensitivity and Uncertainty Analysis of Heat-Exchanger Designs to Physical Properties Estimation," *J. Applied Thermal Engineering,* Vol. 21, pp. 993-1017.
13. M. Greiner, P.F. Fischer, H.M. Tufo, and R.A. Wirtz, **2002**, "Three Dimensional Simulations of Enhanced Heat Transfer in a Flat Passage Downstream from a Grooved Channel," *J. Heat Transfer*, Vol. 124, pp. 169-176.
14. M. Greiner, P.F. Fischer and H.M. Tufo, **2002**, "Two-Dimensional Simulations of Enhanced Heat Transfer in an Intermittently Grooved Channel," *J. Heat Transfer*, Vol. 124, pp. 538-545.
15. M. Greiner, P.F. Fischer, and H.M. Tufo, **2002**, "Numerical Simulations of Resonant Heat Transfer Augmentation at Low Reynolds Numbers," *J. Heat Transfer*, Vol. 124, pp. 1169-1175.
16. Ju, H., Greiner, M., and Suo-Anttila, A., **2002** "Computer Simulations of a Generic Truck Cask in a Regulatory Fire Using the Container Analysis Fire Environment (CAFE) Code," *Int. Journal of Radioactive Materials Transport*, Vol. 13, pp. 35-40.
17. Kramer, M.A., Greiner, M., Koski, J.A. Lopez, C., and Suo-Anttila, A., **2003**, "Measurements of Heat Transfer to a Massive Cylindrical Object Engulfed in a Circular Pool Fire," *J. Heat Transfer*, Vol. 125, pp. 110-118, 2003.
18. Greiner, M., and Suo-Anttila, A., **2004,** "Validation of the ISIS Computer Code for Simulating Large Pool Fires Under a Varity of Wind Conditions," *ASME J. Pressure Vessel Technology,* Vol. 126, pp. 360-368.
19. Are, N., Greiner, M., Suo-Anttila, A., **2005**, "Benchmark of a Fast-Running Computational Tool for Analysis of Massive Radioactive Material Packages in Fire Environments," *ASME Journal of Pressure Vessel Technology,* Vol. 127, pp. 508-514.
20. Greiner, M., and Suo-Anttila, A., **2006**, "Radiation Heat Transfer and Reaction Chemistry Models for Risk Assessment Compatible Fire Simulations," Journal of Fire Protection Engineering, Vol. 16, pp. 79-103.
21. Araya, P.E.; Greiner, M., **2007**, "Two-dimensional simulations of natural convection/radiation heat transfer for BWR assembly within isothermal enclosure," *Packaging, Transport, Storage and Security of Radioactive Material,* Volume 18, Number 3, 2007, pp. 171-179.
22. Greiner, M., Gangadharan, K.K., and Gudipati, M., **2007**, "Use of Fuel Assembly/Backfill Gas Effective Thermal Conductivity Models to Predict Basket and Fuel Cladding Temperatures within a Rail Package During Normal Transport," *Nuclear Technology*. Vol. 160, pp. 325-336.
23. Mallidi, N., Greiner, M., and Venigalla, V.R.V., **2007**, "Fire Durations of Concern for a Modern Legal Weight Truck Cask," Nuclear Technology, Vol. 159, pp. 192-201.
24. Araya, P.E. and Greiner, M., **2007**, "Use of Regular Rod Arrays to Model Heat Transfer from BWR Fuel Assemblies inside Transport Casks," Packaging, Transport, Storage and Security of Radioactive Material, Vol. 18, pp. 171-179.
25. Greiner, M., Chalasani, N.R., and Suo-Anttila, A., **2008**, "Thermal Protection Provided by Impact Limiters to Containment Seal within a Truck Package," *ASME Journal of Pressure Vessel Technology,* Vol. 130.
26. Gudipati, M., and Greiner, M., **2008**, "Computational fluid dynamics simulations of fuel cladding and basket surface temperatures in multipurpose canister rail cask during normal transport," *Packaging, Transport, Storage & Security of Radioactive Material*, Vol. 19, No 3, pp 173-179.

27. Chalasani, N.R., and Greiner, M., **2009**, "Natural Convection/Radiation Heat Transfer Simulations of an Enclosed Array of Vertical Rods," *Packaging, Transport, Storage and Security of Radioactive Material,* Vol. 20, no. 3, pp. 117-125.
28. Araya-Gomez, P.E.A., and Greiner, M. **2009**, "Benchmark Natural Convection/Radiation Simulations within an Enclosed Array of Horizontal Heat Rods," *Nuclear Technology,* Vol. 167, No. 3, pp. 384-394.
29. Venigalla, V.V.R., and Greiner, M., **2009**, "Use of Geometrically-Accurate Fuel Models to Predict Cladding and Basket Temperatures within a Truck Cask during Normal Transport," *Nuclear Technology*. Vol. 167, pp. 313-324.
30. Chalasani, N.R., Araya, P., and Greiner, M., **2009**, " Benchmark of Computational Fluid Dynamics Simulations using Temperatures Measured within Enclosed Vertical and Horizontal Arrays of Heated Rods," *Nuclear Technology*., Vol. 167, No. 3, pp. 371-383.
31. Bullard, T., Greiner, M., Dennis, M., Bays, S., and Weiner, R., **2010**, "Thermal Analysis of a Proposed Transport Cask for Three Advanced Burner Reactor Used Fuel Assemblies," *Packaging, Transport, Storage & Security of Radioactive Material*, Vol. 21 No. 3, pp. 158-164.
32. Chalasani, N.R., Greiner, M., and Suo-Anttila, A., **2012**, "Benchmarking of Container Analysis Fire Environment simulation using the memorial tunnel fire ventilation tests," Journal of Fire Protection Engineering, 22(1) 45–70.
33. Greiner, M., Li, J., Tam, S.W., Liu, Y., and Smith, A., **2012**, "Modeling of polyurethane foam thermal degradation within an annular region subjected to fire conditions," *Packaging, Transport, Storage and Security of Radioactive Material*, Vol.22, No. 4, pp. 206-216.
34. Mittal, K., and Greiner, M., **2013**, "Thermal Analysis of an NAC-LWT Package under Normal and Fire Accident Conditions," to appear in *Packaging, Transport, Storage and Security of Radioactive Material*
35. Greiner, M., del Valle, M., Lopez, C., and Figueroa, V., **2013**, "Thermal measurements of a rail-cask-size pipe-calorimeter in jet fuel fires," *Journal of Fire Protection Engineering*, 2013.
36. Kamichetty, K.K., Venigalla, V., and Greiner, M., **2014**, "Development, Use, and Accuracy of a Homogenized Fuel Region Model for Thermal Analysis of a Truck Package Under Normal and Fire Accident Conditions," *Journal of Pressure Vessel Technology*, Vol. 136/021208-1-12.
37. Mittal, K., Greiner, M., Suo-Anttila, A.J., **2015**, "Dependence of Fire-Time-of-Concern on Location of a One-Assembly Transport Package," *Nuclear Technology*, Vol.192, pp. 142-154.
38. Hadj-Nacer, M., M. Triton, M. T. Ho, I. Graur and M. Greiner, **2016** "Effects of Gas Rarefaction on Used Nuclear Fuel Cladding Temperatures during Vacuum Drying," *Nuclear Technology*, 194, 3, pp: 387-399.
39. Hadj-Nacer, M., D. Maharjan, M. T. Ho, S. K. Stefanov, I. Graur and M. Greiner, **2017** "Continuum and kinetic simulations of Heat Transfer trough Rarefied Gas in Annular and Planar Geometries in the Slip Regime," *Journal of Heat Transfer*, 139(4), 042002.
40. D. Maharjan, Hadj-Nacer, M., Chalasani, N., and M. Greiner, **2017** "Experimental Validation of Heat Transfer Simulations for a Vertical Heated Rod Array within a Square-Cross-Section, Helium-Filled Isothermal Enclosure," *Journal of Thermal Science and Engineering Application*, 10, p. 021007.

In Preparation

1. Maharjan, D., M. Hadj-Nacer, and M. Greiner, “Temperatures Measurement of a Heated Rod Array within a Square Cross-Section Enclosure Filled with Dry Rarefied Helium,” to be submitted to the *ASME Journal of Heat Transfer* in 2019.
2. Maharjan, D., M. Hadj-Nacer, and M. Greiner, “Experimentally-Benchmarked Computational Fluid Dynamics Simulations of a 7×7 Array of Heated Rods within a Square-Cross-Section Enclosure Filled with Rarefied Helium,” to be submitted to the *ASME Journal of Heat Transfer* in 2019.
3. Hadj-Nacer, M., Higley, M., Trujillo, C., Greiner, M. “Geometrically-Accurate Three-Dimensional Simulations of Nuclear Fuel Canister under Vacuum Drying,” to be submitted to the *ANS Nuclear Technology* in 2019.
4. Hadj-Nacer, M., D. Maharjan, M. T. Ho, S. K. Stefanov, I. Graur and M. Greiner, “Heat Transfer through Rarefied Gas in Complex Geometry: Comparison between DSMC and CFD simulations,” to be submitted to *Physics of Fluid* in 2019.
5. C. Zampella, M. Lane, M. Hadj-Nacer and M. Greiner, “Experimental Measurement of Moisture Temperature Jump Coefficient in the Slip Regime,” to be submitted to the *ASME Journal of Heat Transfer* in 2019.

Conference Papers

1. M. Greiner, N.K. Ghaddar, B.B. Mikic and A.T. Patera, **1986**, "Resonant Heat Transfer in Grooved Channels," *Proc. of The Eighth International Heat Transfer Conference,* San Francisco, California, August 17-22, Vol. 6, pp. 2867- 2872.
2. M. Greiner, G.E. Karniadakis, B.B. Mikic and A.T. Patera, **1986**, "Heat Transfer Augmentation and Hydrodynamic Stability Theory: Understanding and Exploitation," *Heat Transfer: Korea-US Seminar on Thermal Engineering and High Technology,* Seoul, Korea, October 16-22, edited by J.H. Kim, S.T. Ro and T.S. Lee, pp. 31-50.
3. M. Greiner **1987**, "Flow Field Destabilization and Heat Transfer Enhancement in Grooved Channels," *Proc. ASME Applied Mechanics, Bioengineering and Fluids Conference,* Cincinnati, Ohio, June 14-17, FED-Vol. 52, pp. 131-138.
4. M. Greiner, R.-F. Chen and R.A. Wirtz, **1989**, "Heat Transfer Augmentation through Wall-Shape-Induced Flow Destabilization," presented at the *ASME National Heat Transfer Conference,* Philadelphia, Pennsylvania, August 6-9, HTD-Vol. 107, pp. 337-342.
5. M. Greiner, R.F. Chen and R.A. Wirtz, **1991**, "Decay of Supercritical-Flow Heat Transfer Enhancement Downstream from a Grooved Surface," presented at the 28th National Heat Transfer Conference, Minneapolis, Minnesota, July 28-31, ASME HTD-Vol. 158, *Heat Transfer in Unsteady Flows*, pp. 35-40.
6. M. Greiner, R.-F. Chen, and R.A. Wirtz, **1991**, "Enhanced Heat Transfer/Pressure Drop Measured from a Flat Surface in a Grooved Channel," presented at the *Third ASME/JSME Thermal Engineering Joint Conference*, Vol. 3, pp. 97-102.
7. M. Greiner, R-F Chen and R.A. Wirtz, **1994**, "Augmented Heat Transfer in a Recovery Passage Downstream from a Grooved Section: An Example of Uncoupled Heat/Momentum Transport*",* presented at the International Mechanical Engineering Congress and Exposition, Chicago, Illinois, November 6-11, *Advances in Enhanced Heat Transfer,* ASME HTD-Vol. 287, pp. 9-16.

8. M. Greiner, S. Shin, B. Snyder and R.A. Wirtz, **1995**, "Transportation Package Thermal and Shielding Response to a Regulatory Fire", *Proc. 6th International High Level Radioactive Waste Management Conference*, April 30-May 5, Las Vegas, NV, pp. 538-541.
9. M. Greiner, S. Shin, and R.A. Wirtz, **1995**, "Response of a Spent Nuclear Fuel Transport Package to Regulatory Format Thermal Events," presented at the *11th International Conference on the Packaging and Transportation of Radioactive Materials*, Las Vegas, Nevada, December 3-8, pp.664-671.
10. M. Greiner, R.J Faulkner and Y.Y. Jin, **1996**, "Legal Weight Truck Cask Response to Regulatory Format Thermal Events, Part 1: Fuel Cladding," presented at the *Seventh Annual International Conference on High Level Radioactive Waste Management*, pp. 351-353.
11. M. Greiner, Y.Y. Jin, and R.J Faulkner, **1996**, "Legal Weight Truck Cask Response to Regulatory Format Thermal Events, Part 2: Containment Seal," presented at the *Seventh Annual International Conference on High Level Radioactive Waste Management*, pp. 354-356.
12. M. Greiner, G. Spencer and P.F. Fischer, **1996**, "Direct Numerical Simulation of Three-Dimensional Flow and Augmented Heat Transfer in a Grooved Channel," *ASME 31st National Heat Transfer Conference*, Houston, Texas, August 3-6, HTD-Vol. 330, Vol. 8, pp. 125-130.
13. R.A. Wirtz, F. Huang and M. Greiner, **1997**, "Correlation of Fully-Developed Heat Transfer and Pressure Drop in a Symmetrically Grooved Channel," presented at the International Mechanical Engineering Congress and Exhibition, HTD-Vol. 353, *ASME Heat Transfer Division*, Fundamentals of Augmented Single-Phase Convection, Vol. 3, pp. 29-35.
14. M. Greiner, R.J. Faulkner, R.A. Wirtz, and P.F. Fischer, **1997**, "Simulations of Three-Dimensional Flow and Augmented Heat Transfer in a Symmetrically Grooved Channel with Constant Temperature Walls", presented at the International Mechanical Engineering Congress and Exposition, Dallas, Texas, November 16-21, *ASME Heat Transfer Division*, Vol. 3, HTD-Vol. 353*,* pp. 269-276.
15. E.L. Wang, R.A. Wirtz and M. Greiner), **1998**, "Simulating Corporate Environment Project Engineering for Freshman," *Proc. ASEE Frontiers in Education Conference*, IEEE catalog #98CH36214 (published on CD-ROM no page numbers.
16. M. Greiner, P.F. Fischer, H.M. Tufo, and R.A. Wirtz, **2000**, "Three Dimensional Simulations of Enhanced Heat Transfer in a Flat Passage Downstream from a Grooved Channel," presented at the *2000 National Heat Transfer Conference*, Pittsburgh, Pennsylvania, August 20-22 (CD-ROM).
17. M. Greiner, P.F. Fischer and H.M. Tufo, **2000**, "Two-Dimensional Simulations of Enhanced Heat Transfer in an Intermittently Grooved Channel," presented at the International Mechanical Engineering Congress and Exhibition, Orlando, Florida, November 5-10, *ASME Heat Transfer Division, HTD-Vol. 366-2,* pp. 23-31.
18. J. A. Koski, C. Lopez, A. Suo-Anttila, M. A. Kramer, and M. Greiner, **2000**, "Numerical Prediction of Heat Flux to Massive Calorimeters Engulfed in Regulatory Fires using the Cask Analysis Fire Environment (CAFE) Model," *Transportation, Storage, and Disposal of Radioactive Materials*, PVP-Vol. 408, pp. 117-123.
19. M. A. Kramer, M. Greiner, J. A. Koski, C. Lopez and A. Suo-Anttila, **2000**, "Design of an Experiment to Measure Heat Transfer to a Massive Object Engulfed in a Full Scale Regulatory Fire," *Transportation, Storage, and Disposal of Radioactive Materials*, PVP-Vol. 408, pp. 125-131.
20. Kramer, M.A., Greiner, M., and Koski, J.A., **2001**, "Radiation Heat Transfer to the Leeward Side of a Massive Object Suspended Over a Pool Fire," presented at the *2001 International*

Mechanical Engineering Congress and Exposition, paper number IMECE2001/HTD-24250 (Published on CD-ROM, no page numbers) New York, NY, November 11-16, 2001.

21. Ju, H., Greiner, M., and Suo-Anttila, A., **2001** "Computer Simulations of a Generic Truck Cask in a Regulatory Fire Using the Container Analysis Fire Environment (CAFE) Code," presented at the *13th International Symposium on the Packaging and Transportation of Radioactive Material (PATRAM)*, CD-ROM, Chicago, Illinois, September 3-7, 2001.
22. Kramer, M.A., Greiner, M., Koski, J.A. Lopez, C., and Suo-Anttila, A., **2001** "Measurements of Heat Transfer to a Massive Cylindrical Object Engulfed in a Circular Pool Fire," presented at the *2001 ASME National Heat Transfer Conference*, Paper number NHTC01-11466, (CD-ROM), Anaheim, California, June 10-12.
23. M. Greiner, P.F. Fischer, and H.M. Tufo, **2001**, "Numerical Simulations of Resonant Heat Transfer Augmentation at Low Reynolds Numbers," presented at the *2001 ASME International Mechanical Engineering Congress and Exposition*, Paper number IMECE2001/HTD-2-8-5-34, CD-ROM, New York, NY, November 11-16.
24. Kramer, M.A., Greiner, M., Koski, J.A. and Lopez, C., **2002**, "Uncertainty of Heat Transfer Measurements in an Engulfing Pool Fire," presented at the *Symposium on Thermal Measurements: The Foundation of Fire Standards*, Dallas, Texas, December 3, 2001, published in ASTM Stock # STP1427, pp. 111-127.
25. Greiner, M., and Suo-Anttila, A., **2003** "Validation of the ISIS Computer Code for Simulating Large Pool Fires Under a Varity of Wind Conditions," presented at the *ASME Pressure Vessels and Piping Conference*, Cleveland, Ohio, July 20 - 24.
26. Greiner, M., and Suo-Anttila, A., **2003**, "Fast Running Pool Fire Computer Code for Risk Assessment Calculations," presented at the *ASME International Mechanical Engineering Congress and Exhibition*, November 15-21, 2003, Washington, DC.
27. Suo-Anttila, A., Wagner, K.C., and Greiner, M., **2004**, "Analysis of Enclosure Fires Using the Isis-3D^{TM} CFD Engineering Analysis Code," *Proceedings of ICONE12, 12th International Conference on Nuclear Engineering*, Arlington, Virginia USA, April 25-29**.**
28. Greiner, M, Are, N., Lopez, C., and Suo-Anttila, A., **2004**, "Effect of Small Long-Duration Fires on a Spent Nuclear Fuel Transport Package," *Institute of Nuclear Materials Management 45th Annual Meeting,* Orlando, FL, July 18-22.
29. Are, N., Greiner, M., Suo-Anttila, A. , **2004**, "CAFE-3D: A Fast Running Computational Tool for Analysis of Radioactive Material Packages in Fire Environments," ASME/JSME Pressure Vessel and Piping Conference, Transportation, *Storage, and Disposal of Radioactive Materials*, edited by A.C. Smith and R.S. Hafner, PVP-Vol. 483, pp. 165-173.
30. Gomez, P.E.A, and Greiner, M., **2005**, "Simulations of Heat Transfer within the Fuel Assembly/Backfill Gas Region of Transport Packages," PVP2005-71070, Proceedings of PVP2005, 2005 ASME Pressure Vessels and Piping Division Conference, July 17-21, Denver, Colorado USA, 2005.
31. Greiner, M., Chalasani, N.R., and Suo-Anttila, A., **2005**, "Thermal Protection Provided by Impact Limiters to Containment Seal within a Truck Package," PVP2005-71117, Proceedings of PVP2005, 2005 ASME Pressure Vessels and Piping Division Conference, July 17-21, Denver, Colorado USA, 2005.
32. Gomez, P.E.A., and Greiner, M., **2006**, "2D Natural Convection and Radiation Heat Transfer Simulations of a PWR Fuel Assembly within a Constant Temperature Support Structure PVP2006-ICPVT-11-93332, Proceedings of PVP2006-ICPVT-11, 2006 ASME Pressure Vessels and Piping Division Conference, July 23-27, Vancouver, BC, Canada.

33. Chalasani, N.R., and Greiner, M., **2006**, "Natural Convection/Radiation Heat Transfer Simulations of an Enclosed Array of Vertical Rods," PVP2006-ICPVT-11-93734, Proceedings of PVP2006-ICPVT-11, 2006 ASME Pressure Vessels and Piping Division Conference, July 23-27, Vancouver, BC, Canada.
34. Greiner, M., Gangadharan, K.K., and Gudipati, M., **2006**, "Use of Fuel Assembly/Backfill Gas Effective Thermal Conductivity Models to Predict Basket and Fuel Cladding Temperatures within a Rail Package During Normal Transport," PVP2006-ICPVT-11-93742, Proceedings of PVP2006-ICPVT-11, 2006 ASME Pressure Vessels and Piping Division Conference, July 23-27, Vancouver, BC, Canada.
35. Gomez, P.E.A., and Greiner, M. **2006**, "Benchmark Natural Convection/Radiation Simulations within an Enclosed Array of Horizontal Heat Rods," PVP2006-ICPVT-11-94021, Proceedings of PVP2006-ICPVT-11, 2006 ASME Pressure Vessels and Piping Division Conference, July 23-27, Vancouver, BC, Canada.
36. Mallidi, N., Greiner, M., and Venigalla, V.R.V., **2006**, "Fire Durations of Concern for a Modern Legal Weight Truck Cask," PVP2006-ICPVT-11-93748, Proceedings of PVP2006-ICPVT-11, 2006 ASME Pressure Vessels and Piping Division Conference, July 23-27, Vancouver, BC, Canada.
37. Araya, P.E. and Greiner, M., **2007**, "Use of Regular Rod Arrays to Model Heat Transfer from BWR Fuel Assemblies inside Transport Casks," PVP2007-26686, Proceedings of the 2007 ASME Pressure Vessels and Piping Division Conference, July 22-26, 2007, San Antonio, Texas.
38. Venigalla, V.V.R., and Greiner, M., **2007**, "CFD Simulations of Natural Convection/Radiation Heat Transfer within the Fuel Regions of a Truck Cask for Normal Transport," PVP2007-26242, Proceedings of the 2007 ASME Pressure Vessels and Piping Division Conference, July 22-26, 2007, San Antonio, Texas.
39. Gudipati, M., and Greiner, M., **2007**, "CFD Simulations of Fuel Cladding and Basket Surface Temperatures in an MPC Rail Cask during Normal Transport," proceedings of the 15th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM).
40. del Valle, M.A., Kramer, M.A., Lopez., C., Suo-Anttila, A., and Greiner, M., **2007**, "Temperature Response of a Rail-Cask-Size Pipe Calorimeter in Large-Scale Pool Fires", proceedings of the 15th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM).
41. Venigalla, V.V.R, and Greiner, M., **2007**, "Natural Convection/Radiation Heat Transfer Simulations within the Fuel Regions of a Truck Cask Under 10CFR71-Format Fire Conditions," proceedings of the 15th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM).
42. Chalasani, N.R., Araya, P., and Greiner, M., **2007**, "Simulations of Natural Convection/Radiation Heat Transfer for Horizontal and Vertical Arrays of Heated Rods inside a Uniform Temperature Enclosure," proceedings of the 15th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM).
43. Li., J., Murakami, H., Liu, Y., Gudipati, M., and Greiner, M., **2007**, Peak Cladding Temperature in a Spent Fuel Storage or Transportation Cask," proceedings of the 15th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM).
44. Araya, P.E., and Greiner, M, **2008**, "CFD Simulations of an 8X8 Heated Rod Array Inside of an Isothermal Enclosure Filled with a Rarefied Gas," PVP2008-61582, Proceedings of the

2008 ASME Pressure Vessels and Piping Division Conference, July 27-31, 2008, Chicago, Illinois, USA.

45. Kramer, M.A., del Valle, M., and Greiner, M., **2008**, "Measurement and Uncertainty of Heat Flux to a Rail-Cask Sized Pipe Calorimeter in a Pool Fire," PVP2008-61600, Proceedings of the 2008 ASME Pressure Vessels and Piping Conference, PVP2008, July 27-31, 2008, Chicago, Illinois, USA.
46. Greiner, M., del Valle, M., Lopez, C., Figueroa, V., and Abu-Irshaid, E., **2009**, "Thermal Measurements of a Rail-Cask-Size Pipe-Calorimeter in Jet Fuel Fires," ASME 2009 Summer Heat Transfer Conference, HT2009-88520, July 19-23, 2009, San Francisco, California USA.
47. Bullard, T., and Greiner, M., **2009**, "Calibration of the Sandia One-Dimensional Direct and Inverse Thermal (SODDIT) Code for Estimating Heat Flux to a Large Pipe Calorimeter in a Jet Fuel Fire," ASME 2009 Summer Heat Transfer Conference, HT2009-88521, July 19-23, 2009, San Francisco, California USA.
48. Bullard, T., Greiner, M., Dennis, M., Bays, S., and Weiner, R., **2010**, "Thermal Analysis of a Proposed Transport Cask for Three Advanced Burner Reactor Used Fuel Assemblies," PVP2010-26138, Proceedings of the ASME 2010 Pressure Vessels and Piping Division / K-PVP Conference, PVP2010, July 18-22, 2010, Bellevue, Washington, USA.
49. Chalasani, N.R., Greiner, M., and Suo-Anttila, A., **2010**, "Validation of Container Analysis Fire Environment (CAFE) Code for Memorial Tunnel Fire Ventilation Test Program," PVP2010-26075, Proceedings of the ASME 2010 Pressure Vessels and Piping Division / K-PVP Conference, PVP2010, July 18-22, 2010, Bellevue, Washington, USA,.
50. Kamichetty, K.K., Greiner, and Venigalla, V.V.R., **2010**, "Use of Geometrically-Accurate Models to Predict Spent Nuclear Fuel Cladding Temperatures Within a Truck Cask Under Normal and Fire Accident Conditions," PVP2010-25991, Proceedings of the ASME 2010 Pressure Vessels and Piping Division/K-PVP Conference, PVP2010, July 18-22, 2010, Bellevue, Washington, USA.
51. Chalasani, N.R and Greiner, **2010**, "Benchmark of Computational Fluid Dynamics Simulations Using Temperatures Measured Within Enclosed Vertical and Horizontal Arrays of Heated Rods," PVP2010-25803, Proceedings of the ASME 2010 Pressure Vessels and Piping Division/K-PVP Conference, PVP2010, July 18-22, 2010, Bellevue, Washington, USA.
52. Greiner, M., Li, J., Tam, S.W., Liu, Y., and Smith, A., **2010**, "Modeling of polyurethane foam thermal degradation within an annular region subjected to fire conditions," 16th International Symposium on the Packaging and Transport of Radioactive Materials (PATRAM2010), October 3-8, London, UK.
53. Lopez, C., Suo-Anttila, A., and Greiner, M., **2010**, "Fire Tests and Analyses of a Rail Cask-Sized Calorimeter," 16th International Symposium on the Packaging and Transport of Radioactive Materials (PATRAM2010), October 3-8, London, UK.
54. Weiner, R., Sorenson, K., Dennis, M., Bays, S., and Greiner, M., **2010**, "Transportation Implications of a Closed Fuel Cycle," 16th International Symposium on the Packaging and Transport of Radioactive Materials (PATRAM2010), October 3-8, London, UK.
55. Greiner, M., Chalasani, N.R., and Suo-Anttila, A, **2011**, "Simulated Response of a One-PWR Truck Package to the Caldecott Tunnel Fire Scenario," paper 11573, Waste Management Symposium (WM2011), February 27- March 4, Phoenix, AZ.
56. Mittal, K., and Greiner, M., **2012**, "Thermal Analysis of an NAC-LWT Package under Normal and Fire Accident Conditions," PVP2012-78882, to appear in the Proceedings of the ASME 2012 Pressure Vessels & Piping Division Conference, PVP2012, July 15-19, 2012, Toronto, Ontario, Canada.

57. Kamichetty, K.K., Venigalla, V., and Greiner, M., **2012**, "Development and use of a Homogenized Fuel Region Model for Thermal Analysis of a Truck Package under Normal and Fire Accident Conditions," PVP2012-78370, Proceedings of the ASME 2012 Pressure Vessels & Piping Division Conference, PVP2012, July 15-19, 2012, Toronto, Ontario, Canada.
58. Akerley, J., Obabko, A., Fischer, P., and Greiner, M., **2012**, "Flow Destabilization and Heat Transfer Augmentation in an Array of Grooved passages with Developing Flow," HT2012-58528, to appear in the Proceeding of the ASME 2012 Summer Heat Transfer Conference, HT2012, July 8-12, 2012, Rio Grande, Puerto Rico.
59. Greiner, M., Araya, P., Chalasani, N.R., Li, J., and Liu, Y., **2013**, "Two-Dimensional CFD Simulations of a Square 8x8 Heater Rod Array in and Isothermal Enclosure Filled with Rarified Air," *Proceedings of the International High-Level Radioactive Waste Management Conference* (IHLRWMC 2013), pp. 831-840, Albuquerque, NM, April 28-May 2, 2013.
60. Green, R., Manzo, E.T., Greiner, M., Li, J., and Liu, Y.Y., **2013**, "Experimental Benchmark of Simulations that Predict Temperatures of an 8x8 Array of Heater Rods within a Vessel Filled with Rarefied Helium Gas," Proceedings of the 17th International Symposium on the Packaging and Transportation of Radioactive Materials, PATRAM 2013, August 18-23, 2013, San Francisco, CA, USA.
61. Mittal, K., Greiner, M., Suo-Anttila, A.J., **2013**, "Dependence of Fire Time of Concern on Package Location for a 1 PWR Transport Package," Proceedings of the 17th International Symposium on the Packaging and Transportation of Radioactive Materials, PATRAM 2013, August 18-23, 2013, San Francisco, CA, USA.
62. Green, R., Manzo, E.T., Hadj Nacer, M., and Greiner, M., **2014**, "Design of an Experimental Apparatus to Measure the Thermal Accommodation Coefficient Between Stainless Steel Surfaces and Rarefied Helium," Proceedings of the ASME 2014 Pressure Vessels & Piping Division Conference, PVP2014-29018, July 20-24, 2014, Anaheim, California.
63. Manzo, E.T., Green, R., Hadj Nacer, M., and Greiner, M., **2014**, "Prediction of Cladding Temperatures within a Used Nuclear Fuel Transfer Cask Filed with Rarified Helium," Proceedings of the ASME 2012 Pressure Vessels & Piping Division Conference, PVP2014-29048, July 20-24, 2014, Anaheim, California.
64. Hadj-Nacer M., Manzo T., Ho M.T., Graur I., and Greiner M., **2015**, "Phenomena Affecting Used Nuclear Fuel Cladding Temperatures during Vacuum Drying Operations," Proceedings of the International High-Level Radioactive Waste Management, Charleston, SC, April 12-16, 2015.
65. Dilesh Maharjan, D., Hadj-Nacer, M., Ho, M.T., Stefanov, S.K., Graur, I., and Greiner, M., **2015**, "Simulations of Heat Transfer across Rarefied Gas in Annular and Planar Geometries: Comparison of Navier-Stokes, S-Model and DSMC Methods Results," Proceedings of the ASME 2015 International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems and ASME 2015 12th International Conference on Nanochannels, & Microchannels, and Minichannels InterPACK/ICNMM 2015, July 6-9, 2015, San Francisco, California, USA.
66. Green, R., Hadj-Nacer, M., and Greiner, M., **2015**, "Design of an Experiment to Measure the Thermal Accommodation Coefficient between Helium and Stainless-Steel in Concentric Cylinders," PVP2015-45852, Proceedings of the ASME 2015 Pressure Vessels & Piping Division Conference, PVP2015, July 19-23, 2015, Boston, Massachusetts, USA.
67. Manzo T., Hadj-Nacer M. and Greiner M., **2015**, "Geometrically-Accurate-Three-Dimensional Simulations of a used Nuclear Fuel Canister Filled with Helium," PVP2015

PVP2015-45851, Proceedings of the ASME 2015 Pressure Vessels & Piping Division Conference, PVP2015, July 19-23, 2015, Boston, Massachusetts, USA.

68. Maharjan, D., Hadj-Nacer, M., Chalasani, M., and Greiner, M., **2016** "Experimentally-Benchmarked Computational Fluid Dynamics Simulations of an Array of Heated Rods within a Square-Cross-Section Helium-Filled Pressure Vessel," Proc. of the ASME Pressure, Vessel, and Pipe (PVP) conference, Vancouver, BC, Canada.
69. Trujillo, C., Hadj-Nacer M., and Greiner M., **2017**, "Effect of Rarefication on Cladding Temperatures within a Used Nuclear Fuel Canister Filled with Dry Helium," Proceedings of the International High-Level Radioactive Waste Management, Charlotte, NC, April 9-13, 2017.
70. Maharjan, D., M. Hadj-Nacer, and M. Greiner, **2017** "Temperature Measurement of an Array of Heated Rods Subjected to Vacuum Drying Conditions," Proc. of the ASME Pressure, Vessel, and Pipe (PVP) conference, Waikoloa Village, HI.
71. Maharjan, D., M. Hadj-Nacer, and M. Greiner, **2017** "Experimentally Benchmarked Computational Fluid Dynamics Simulations of a 7×7 Array of Heated Rods within a Square-Cross-Section Enclosure Filled With Rarefied Helium," Proc. of the ASME Pressure, Vessel, and Pipe (PVP) conference, Waikoloa Village, HI.
72. Maharjan, D., M. Hadj-Nacer, and M. Greiner, **2017** "Experimentally Benchmarked CFD Model to Predict Cladding Temperatures of Used Nuclear Fuel During Vacuum Drying," ANS Winter Meeting, Washington, DC.
73. Greiner, M., Liu, YY, Shuler, J., **2017**, "Development and Assessment of the University Of Nevada, Reno Graduate Certificate in Nuclear Packaging," Education, Training, and Workforce Development: General Session, 2017 ANS Winter Meeting and Nuclear Technology Expo, Washington, DC October 29-November 2, 2017.
74. Higley, M., M. Hadj-Nacer, and M. Greiner, **2018**, "Temperature Prediction of a TN-32 Canister Subjected to Vacuum Drying," ANS Winter Meeting, Orlando, FL, November 11-15, 2018.
75. Zampella, C., M. Hadj-Nacer, and M. Greiner, **2018**, "Experimental Measurement of Temperature Jump Coefficient in the Slip Regime," ANS Winter Meeting, Orlando, FL, November 11-15, 2018.
76. Higley, M., M. Hadj-Nacer, and M. Greiner, **2018**, "Temperature Prediction of a TN-32 Used Nuclear Fuel Canister Subjected to Vacuum Drying Conditions," Proc. of the ASME Pressure, Vessel, and Piping Conference, Prague, Czech Republic, July 15-20, 2018.
77. Zampella, C., M. Hadj-Nacer, and M. Greiner, **2018**, "Temperature Jump Measurement at Stainless Steel and Helium Interface: Application to Used Nuclear Fuel Vacuum Drying Process," Proc. of the ASME Pressure, Vessel, and Pipe (PVP) conference, Prague, Czech Republic, July 15-20, 2018.
78. Maharjan, D., M. Hadj-Nacer, M. Greiner and S.K. Stefanov, **2018**, "Comparison of DSMC and CFD Models of Heat Transfer in a Rarefied Two-Dimensional Geometry," Proc. of the ASME Pressure, Vessel, and Pipe (PVP) conference, Prague, Czech Republic, July 15-20, 2018.
79. Greiner, M., Liu, YY, Shuler, J., **2018**, "Progress in University of Nevada, Reno Graduate Certificate in Nuclear Packaging," Education & Training: Mining and Milling the Workforce — Professional Development Initiatives, Institute of Nuclear Materials Management 59th Annual Meeting, July 22-26, 2018, Baltimore.
80. Greiner, M., Liu, YY, Shuler, J., **2018**, "Practical Experience Integration into the Univ. of NV, Reno Nuclear Packaging Graduate Certificate," paper 18210, Advancement in Technical

Education and Training to Improve and Sustain Institutional Knowledge WM2018 Conference, March 18 – 27, 2018, Phoenix, Arizona.

Selected Invited Presentations (Not associated with refereed conference publications)

1. M. Greiner, "Destabilized Flow Heat Transfer Enhancement in Grooved Channels," presented at the following locations: (1) IBM, Endicott, NY, Oct. 9, 1991, (2) IBM, Fishkill, NY, October 10, (3) United Technologies Research Center, East Hartford, CT, Oct. 11, 1991.
2. M. Greiner, "Destabilized Flow Heat Transfer Enhancement in Grooved Channels, an Update" invited lecture, United Technologies Research Center, East Hartford, Connecticut, March 22, 1993.
3. M. Greiner, "Nuclear Waste Transportation Cask Accident Testing," invited lecture, Electric Power Research Institute (EPRI), Palo Alto, CA, February 28, 1995.
4. M. Greiner, "Numerical Simulations of Film Cooling Under Unsteady Conditions," *Special Seminar*, United Technologies Research Center, East Hartford, Connecticut, and Pratt & Whitney Corporation, West Palm Beach, Florida (via Eagle Vision), July 26, 1996.
5. Clarke, D., Vasquez, V., Greiner, M. and Whiting, W. "Sensitivity and Uncertainty Analysis of Heat Exchanger Designs to Physical Properties Estimation," presented at the *Annual AIChE Meeting*, Dallas Texas, October 31- November 5, 1999
6. M. Greiner and J. Koski, "Numerical Prediction of Heat Flux to Massive Objects Engulfed in Large Fires," *Federal Rail Administration Meeting on the Rail Fire Environment*, Washington, DC, March 31, 2000.
7. Kramer, M.A., M. Greiner, J.A. Koski, C. Lopez, A. Suo-Anttila, "Measurements of Heat Transfer to a Massive Object Engulfed in a Pool Fire," 5th Thermal Specialists Meeting, Sandia National Laboratories, Albuquerque, NM, October 17-18, 2000.
8. Ju, H., M.A. Kramer, M. Greiner, J.A. Koski, C. Lopez and A. Suo-Anttila, "Effect of Velocity Boundary Conditions on CAFE Heat Transfer Results," 5th Thermal Specialists Meeting, Sandia National Laboratories, Albuquerque, NM, October 17-18, 2000.
9. Greiner, M., "Measurements of Heat Transfer to a Massive Cylindrical Object," Chemical and Mechanical Engineering Seminar, University of Nevada, Reno, March, 2001.
10. Kramer, M.A., Greiner, M., Koski, J.A., Lopez, C., and Suo-Anttila, A., "Measurements of Heat Transfer to a Massive Cylindrical Object Engulfed in a Regulatory Pool Fire," presented at the *2001 ASME Pressure Vessel and Piping Conference*, Atlanta, Georgia, July 32-25, 2001.
11. Greiner, M., "CAFE Computer Code: A Design Tool for Nuclear Waste Transport Packages," presented at the panel session on Pool Fire Measurement, Modeling and Simulation, *2001 International Mechanical Engineering Congress and Exposition*, New York, NY, November 11-16, 2001
12. Greiner, M., "Numerical Simulations of Resonant Heat Transfer Augmentation at Low Reynolds Numbers," Sandia National Laboratories BEOL Advanced Packaging Department, Albuquerque, NM, April 9, 2002.
13. Greiner, M., "Measurements of Heat Transfer to a Thermally Massive Cylindrical Calorimeter Engulfed in a Circular Pool Fire," Sandia National Laboratories Fire Science and Technology Seminar, Albuquerque, NM, April 11, 2002.
14. Greiner, M., "Findings of the Thermal Science Expert Panel," US Nuclear Regulatory Commission Package Performance Study Expert Panel Meeting, Albuquerque, NM, April 11, 2002.

15. Greiner, M., 2005, "Heat Transfer in Spent Nuclear Fuel Casks during Normal Transport and Hypothetical Accidents," Invited Seminar, Argonne National Laboratories, September 2.
16. Greiner, M., 2005, "Nuclear Transportation Hazard Research for the Advanced Fuel Cycle Initiative," Invited Seminar for the Advanced Fuel Cycle Initiative, December.
17. Greiner, M., 2006, "Thermal Analysis Tools for Storage, Transfer and Transport of Advanced Nuclear Fuels and Materials," Advanced Fuel Cycle Initiative Annual Meeting, Santa Fe, NM, September 6.
18. Greiner, M., 2006, "Thermal Analysis Tools for Storage, Transfer and Transport of Advanced Nuclear Fuels and Materials," Global Nuclear Energy Partnership (GNEP) Systems Analyses Working Group Meeting, Las Vegas, NV, December 12-13, 2006
19. Greiner, M., 2007, "Temperature Response of a Massive Pipe Calorimeter in a JP8 Pool Fire," Invited Seminar, Center for the Simulation of Accidental Fires & Explosions, University of Utah, May 18.
20. Greiner, M., 2007, "Thermal Analysis Tools for Advanced Nuclear Materials Storage and Transport," Global Nuclear Energy Partnership (GNEP) Systems Analyses Working Group Meeting, June 12-13, Cincinnati, Ohio
21. Greiner, M., 2007, "Thermal Analysis of Spent LWR Fuel Casks under Normal and Accident Conditions," Global Nuclear Energy Partnership (GNEP) Systems Analyses Working Group Meeting, September 18, 19, 2007, San Francisco, CA
22. Greiner, M., 2007, "Thermal Analysis of Spent LWR Fuel Casks under Normal and Accident Conditions," GNEP Annual Meeting, Litchfield Park, AZ, October 1.
23. Greiner, M., 2008, "Thermal Analysis of Spent LWR Fuel Casks under Normal and Fire Accident Conditions, "AFCI Annual Meeting, Idaho Falls, Idaho, October 9.
24. Greiner, M., 2014, "Development and Experimental Benchmark of Simulations to Predict Used Nuclear Fuel Cladding Temperatures during Drying Operations," 2015 Used Fuel Disposition Workshop, Las Vegas, NV, June 2015
25. Greiner, M., 2015, 2015, "Development and Experimental Benchmark of Simulations to Predict Used Nuclear Fuel Cladding Temperatures during Drying Operations," 2015 Used Fuel Disposition Workshop, Las Vegas, NV, June 9, 2015.
26. Greiner, M., 2015, Advanced Transport Technologies for NASA Thermal Management/Control Systems," seminar at Jet Propulsion Laboratory, Pasadena, CA, November 12, 2015.
27. Greiner, M., **2018**, "Prediction of Used Nuclear Fuel Cladding Temperatures under Vacuum Drying Conditions," Leaders in Engineering Lecture, Rensselaer Polytechnic Institute, Mechanical, Aerospace and Nuclear Engineering Department, Troy, NY, April 25, 2018.
28. Greiner, M., **2018**, "Prediction of Used Nuclear Fuel Cladding Temperatures under Vacuum Drying Conditions," Dick and Carol Pletcher Seminar, Iowa State University Mechanical Engineering Department, Ames, IA, September 4, 2018.
29. Greiner, M., **2018**, "Progress in the University of Nevada, Reno Graduate Certificate in Nuclear Packaging," Invited technical/education presentation, Orano USA, Columbia, MD, July 24, 2018.
30. Greiner, M., **2018**, "University of Nevada, Reno Graduate Certificate in Nuclear Packaging," Southern States Energy Board, Radioactive Materials Transportation Committee and Transuranic Waste Transportation Working Group, December 12-13, 2018, Austin, Texas.
31. N. Pandey, M.S. Ali, M. Hadj-Nacer and M. Greiner, **2018**, "Modeling of Heat Transfer and Flow Patterns in a Porous Wick: Parametric Study," 3rd Thermal and Fluids Engineering Conference (TFEC), March 4–7, 2018, Fort Lauderdale, FL, USA.

Conference Volumes Edited (Associated with a sessions organized by M. Greiner):

1. M. Greiner and C.A. Amon, editors, "Symposium on the Fundamentals of Heat Transfer in Transitional Flows," *Proceedings of the ASME Heat Transfer Division, HTD-Vol. 361-1, International Mechanical Engineering Congress & Exposition*, Anaheim, California, November 15-20, 1998, 357 pages.
2. J. Bogart, M. Jensen, M. Greiner and P. Oosthuizen, editors, "Enhanced Heat Transfer, Fundamentals of Augmented Single Phase Convection," *ASME Proceedings of the 31st National Heat Transfer Conference*, Vol. 8, HTD-Vol. 330, Houston, Texas, August 3-6, 1996, 151 pages.
3. S.V. Garimella, M. Greiner, M.M. Yovanovich and V.W. Antonetti, editors, "Enhanced Cooling Techniques for Electronics Applications," *Proceedings of the ASME Winter Annual Meeting,* HTD-Vol. 263, New Orleans, Louisiana, November 28-December 3, 1993, 142 pages.
4. S.H. Bhavnani and M. Greiner, editors, "Heat Transfer Enhancement in Electronics Cooling," *Proceedings of the ASME Winter Annual Meeting,* Atlanta, Georgia, December 1-6, 1991, 59 pages.