

Yitung Chen

Senior Associate EnviroComp Consulting, Inc.

EDUCATION:

Ph.D., 1991: Department of Mechanical Engineering, University of Utah, Salt Lake City, Utah
M.S., 1988: Department of Mechanical Engineering, University of Utah, Salt Lake City, Utah
B.S., 1983: Department of Chemical Engineering, Feng Chia University, Taichung, Taiwan
(1991: Minor in Nuclear Engineering Program, Department of Mechanical Engineering, University of Utah, Salt Lake City, Utah)

EMPLOYMENT HISTORY:

2009-present: Department of Mechanical Engineering, University of Nevada Las Vegas, Professor
2008-present: Center for Energy Research, University of Nevada Las Vegas, Co-Director
2003-present: EnviroComp Consulting, Inc., Senior Associate
2003-2009: Department of Mechanical Engineering, University of Nevada Las Vegas, Associate Professor (Tenured since July 1, 2006)
2003-2006: Nevada Center for Advanced Computational Methods, University of Nevada Las Vegas, Associate Director
2002-2003: Nevada Center for Advanced Computational Methods, University of Nevada Las Vegas, Interim Director
1999-2003: Department of Mechanical Engineering, University of Nevada Las Vegas, Research Associate Professor (Non-tenure track)
1998-2002: Nevada Center for Advanced Computational Methods, University of Nevada Las Vegas, Assistant Director
1994-1999: Department of Mechanical Engineering, University of Nevada Las Vegas, Research Assistant Professor (Non-tenure track)
1993: Department of Mechanical Engineering, National Chulalongkon University, Bangkok, Thailand, Visiting Professor (Non-tenure track)
1991-1993: Con-Aid Construction and Consulting Company, U.S.A., Taiwan, Thailand, and South Africa, Technical Director

PROFESSIONAL AFFILIATIONS:

- American Society of Mechanical Engineers
- American Nuclear Society
- American Institute of Chemical Engineering
- Phi Kappa Phi

RESEARCH INTERESTS:

Dr. Chen has served as project PI and Co-PI on many projects. The research funding for this amounted to more than \$8.85M from DOE, DOD, NSF, NASA, EPA, Sandia National Laboratories, Clark County of the State of Nevada, and private sectors. Research interests are: Computational fluid dynamics and numerical heat and mass transfer, finite element, finite volume, and meshless numerical techniques, lattice Boltzmann method, perturbation method, high performance computing, compressible flow simulation, atmospheric and environmental modeling, groundwater flow, thermal system design, renewable energy, data acquisition system, advance nuclear fuel cycle, fuel cell, high temperature heat exchanger and decomposer design, corrosion modeling, hydrogen production, and biomedical engineering.

PUBLICATIONS:

Author or co-author of nearly 60 technical journals and 300 conference papers and 250 technical presentations in different fields that include computational fluid dynamics and numerical heat and mass transfer, finite element, finite volume, and meshless numerical techniques, lattice Boltzmann method, perturbation method, high performance computing, compressible flow simulation, atmospheric and environmental modeling, groundwater flow, thermal system design, renewable energy, energy conversion, data acquisition system, advance nuclear fuel cycle, fuel cell, high temperature heat exchanger and decomposer design, corrosion modeling, hydrogen production, fuel cell, and biomedical engineering. Both analytical/numerical studies and experimental studies are reported.

PUBLICATIONS:

Book:

(1) Jichun Li and **Yitung Chen**, “Computational Partial Differential Equations using MATLAB,” ISBN: 978-1-4200-8904-2, 2009 by Taylor & Francis Group, LLC.

Book Chapters:

(1) “Time-Domain Finite Element Methods for Maxwell’s Equations in Dispersive Media: a Review,” in: *Recent Advances in Computational Sciences*, pp. 116-132, ISBN: 13-978-981-270-700-0

(2) “Chapter 3.4: Numerical simulations of solar hydrogen production,” in: *Multiscale simulations of fluid flow and heat transfer: fundamentals and applications*, W. Q. Tao, ed., Science Press, Beijing, 2008

(3) “Design Considerations for Compact Ceramic Offset Strip-Fin High Temperature Heat Exchangers,” *Advances in Compact Heat Exchangers*, Editors: B. Sunden, R.K. Shah. R.T. Edwards, Inc., Philadelphia, ISBN: 978-1-930217-16-4

(4) “Environmental Hydraulic and Sustainable Water Management,” Volume 2, 2005, Edited by J.H.W. Lee and K. M. Lam, Taylor and Francis Group, UK. ISBN: 04-1536-5465

(5) “Numerical Calculation of the Unsteady Gas Flow Around a Projectile Moving Through a Gun Barrel,” *Computational Ballistics II*, Edited by V. Sanchez-Galvez, C. A. Brebbia, A. A. Motta, and C. E. Anderson, WIT Press, UK. ISBN: 1-84564-015-2

Journal Articles – Refereed (Recent 6 years):

(1) Taide Tan, **Yitung Chen**, Zhuoqi Chen, “Parametric Study on the Performance of a Solid Particle Solar Receiver,” *ASME Journal of Solar Energy Engineering*, (Submitted in Nov. 2009, under review).

(2) Taide Tan and **Yitung Chen**, Performance of Solid Particle Receivers with or without the Protection of an Aerowindow, (invited paper by *ASME Journal of Energy Resources Technology*, submitted in Feb 2009, under review).

(3) Jianhu Nie, **Yitung Chen**, and Jianfei Wu, “Numerical simulations of flow and heat transfer in a simplified bipolar plate, with experimental validations,” *International Journal of Heat and Fluid Flow*, (accepted and in press)

(4) Jianhu Nie, David A. Hopkins, **Yitung Chen**, and Hsuan-Tsung Hsieh, “Development of an Object-oriented Finite Element Program with Adaptive Mesh Refinement for Multiphysics applications,” *Advances in Engineering Software*, 2009 (accepted and in press)

- (5) Valery Ponyavin, **Yitung Chen**, Taha Mohamed, Mohamed Trabia, Anthony E. Hechanova, and Merrill Wilson, "Design of a Compact Ceramic High Temperature Heat Exchanger and Chemical Decomposer for Hydrogen Production. Part I: Modeling," *International Journal of Heat Exchangers* (accepted and in press)
- (6) Valery Ponyavin, **Yitung Chen**, Taha Mohamed, Mohamed Trabia, Anthony E. Hechanova, and Merrill Wilson, "Design of a Compact Ceramic High Temperature Heat Exchanger and Chemical Decomposer for Hydrogen Production. Part II: Parametric Study," *International Journal of Heat Exchangers* (accepted and in press)
- (7) Taide Tan and **Yitung Chen**, "Review of Study on Solid Particle Solar Receivers," *Renewable and Sustainable Energy Reviews*, 14 (2010), pp. 265-276
- (8) Chaiyod Soontrapa and **Yitung Chen**, "Optimization approach in variable-charge potential for metal/metal oxide systems," *Computational Materials Science*, 46 (2009), pp. 887-892
- (9) Taide Tan and **Yitung Chen**, and Zhuoqi Chen, Nathan Siegel, Gregory J. Kolb, "Wind Effect on the Performance of Solid Particle Solar Receivers with and without the Protection of an Aerowindow," *Solar Energy*, 83 (2009), pp. 1815-1827
- (10) Jianhu Nie, **Yitung Chen**, Steve Cohen, Blake Carter and Robert F. Boehm, "Numerical and experimental study of three-dimensional fluid flow in the bipolar plate of a PEM electrolysis cell," *International Journal of Thermal Sciences*, 48 (10), pp. 1914-1922, 2009
- (11) Taide Tan and **Yitung Chen**, "Simulations of Metal Oxidation in LBE at a Mesoscopic Level," *Journal of Engineering for Gas Turbines & Power*, May 2009, Vol. 131, 032903/pp. 1-11
- (12) Vijaisri Nagarajan, Valery Ponyavin, **Yitung Chen**, Milton E. Vernon, Paul Pickard, and Anthony E. Hechanova, "CFD Modeling and Experimental Validation of Sulfur Trioxide Decomposition in Bayonet Type Heat Exchanger and Chemical Decomposer for Different Packed Bed Designs," *International Journal of Hydrogen Energy*, 34 (2009), pp. 2543-2557
- (13) Taide Tan, **Yitung Chen**, and Xianfang Tan, "Buoyancy Enhanced Oxygen Transport in Liquid Lead Bismuth Eutectic Systems," *Journal of Nuclear Science and Technology*, Vol. 46, No. 2, pp. 109-131, 2009
- (14) Taide Tan and **Yitung Chen**, "Scale removal cellular automaton oxidation models of metals in lead bismuth eutectic," *Journal of Electroanalytical Chemistry*, 626 (2009), pp. 89-97
- (15) Jianhu Nie, **Yitung Chen** and Hsuan-Tsung Hsieh, "Effects of baffle on separated convection flow adjacent to backward-facing step," *International Journal of Thermal Sciences*, 48(3), 618-625, 2009
- (16) Taide Tan, **Yitung Chen**, and Huajun Chen, "A Diffusion Controlling Oxidation Model with Scale Removal in Oxygen Containing Liquid Flow," *Computational Material Science*, 44, (2008), pp. 750-759
- (17) Vijaisri Nagarajan, Valery Ponyavin, **Yitung Chen**, Milton E. Vernon, Paul Pickard, and Anthony E. Hechanova, "Numerical Study of Sulfur Trioxide Decomposition in Bayonet Type Heat Exchanger and Chemical Decomposer with Porous Media Zone and Different Packed Bed Designs," *International Journal of Hydrogen Energy*, 33, (2008), pp. 6445-6455
- (18) Gayatri Kuchi, Valery Ponyavin, **Yitung Chen**, Steven Sherman, and Anthony Hechanova, "Numerical of High Temperature Shell and Tube Heat Exchanger and Chemical Decomposer for Hydrogen Production," *International Journal of Hydrogen Energy*, 33, (2008), pp. 5460-5468
- (19) **Yitung Chen**, Taide Tan, and Huajun Chen, "Oxidation Companied by Scale Removal: Initial and Asymptotical Kinetics," *Journal of Nuclear Science and Technology*, Vol. 45, No. 7, pp. 1-6, 2008
- (20) Tefvik Gemci, Valery Ponyavin, **Yitung Chen**, Huajun Chen, Richard Collins, "Computational Model of Airflow in Upper 17 Generations of Human Respiratory Tract," *Journal of Biomechanics*, 41, (2008) pp.2047-2054.
- (21) Jianhu Nie, **Yitung Chen**, Robert F. Boehm, and Shanthi P. Katukota, "A Photo-electrochemical Model of Proton Exchange Water Electrolysis for Hydrogen production," *Journal of Heat Transfer*, Vol. 130, Number 4, April 2008, 042409/pp.1-6

- (22) Jichun Li, **Yitung Chen**, and Valjean Elander, "Mathematical and numerical study of wave propagation in negative-index materials," *Computer Methods in Applied Mechanics and Engineering*, 197, (2008), pp. 3976-3987
- (22) Jichun Li and **Yitung Chen**, "Uniform Convergence Analysis for Singularly Perturbed Elliptic Problems with Parabolic Layers," *NUMERICAL MATHEMATICS: Theory, Methods and Applications*, Vol. 1, No. 2, pp. 138-149 (2008)
- (24) Taide Tan, **Yitung Chen**, and Huajun Chen, "Theoretical Modeling and Numerical Simulation of the Corrosion and Precipitation in Non-isothermal Liquid Lead Alloy Pipe/loop Systems," *Heat and Mass Transfer* (2008), 44:355-366
- (25) Valery Ponyavin, **Yitung Chen**, James Cutts, Merrill Wilson, and Anthony E. Hechanova, "Calculation of Fluid Flow Distribution Inside a Compact Ceramic High Temperature Heat Exchanger and Chemical Decomposer," *Journal of Fluids Engineering*, Vol. 130, Number 6, June 2008, 061104/pp.1-8
- (26) Valery Ponyavin, **Yitung Chen**, Anthony E. Hechanova, and Merrill Wilson, "Numerical modeling of compact high temperature heat exchanger and chemical decomposer for hydrogen production," *Heat and Mass Transfer* (2008), 44:1379-1389
- (27) Jichun Li and **Yitung Chen**, "Uniform Convergence Analysis for Singularly Perturbed Elliptic Problems with Parabolic Layers," *Numerical Mathematics: Theory, Methods and Applications*, Vol. 1, No. 2, pp. 138-149 (2008).
- (28) Taide Tan, **Yitung Chen**, and Huajun Chen, "An Improved Mesoscopic Oxidation Model of Metals in Lead Bismuth Eutectic," *Computational Materials Science*, 43, (2008), pp. 251-267
- (29) Jichun Li and **Yitung Chen**, "Finite Element Study of Time-dependent Maxwell's Equations in Dispersive Media," *Numerical Methods for Partial Differential Equations*, 24, pp. 1203-1221, 2008
- (30) Valery Ponyavin, **Yitung Chen**, Taha Mohamed, Mohamed Trabia, Anthony E. Hechanova, and Merrill Wilson, 2008, "Parametric Study of Sulfuric Acid Decomposer for Hydrogen Production," *Progress in Nuclear Energy*, Vol. 50, pp.427-433, 2008
- (31) Huajun Chen, **Yitung Chen**, and Jinsuo Zhang, "Cellular automaton modeling on the corrosion/oxidation mechanism of steel in liquid metal environment," *Progress in Nuclear Energy*, Vol. 50, pp.587-593, 2008
- (32) Huajun Chen, **Yitung Chen**, and Jinsuo Zhang, "A Lattice Boltzmann Modeling of Oxygen Transport and Corrosion Behavior in the Nature Convection Lead-alloy Flow," *Nuclear Engineering and Design* 237 (2007) pp. 1987-1998.
- (33) **Yitung Chen**, Huajun Chen, and Jinsuo Zhang, "Numerical Investigation on Enhancement of Oxygen Transfer by Forced Convection in Lead-bismuth Eutectic System," *International Journal of Heat and Mass Transfer*, Vol. 50, pp. 2139-2147, 2007.
- (34) Huajun Chen, **Yitung Chen**, Hsuan-Tsung Hsieh, and Nate Siegel, "CFD Modeling of Gas Particle Flow within a Solid Particle Solar Receiver," *Journal of Solar Energy Engineering*, Vol. 129, pp. 160-170, May 2007.
- (35) **Yitung Chen**, Jianhu Nie, Bassem F. Armaly, Hsuan-Tsung Hsieh, and Robert F. Boehm, "Developing Turbulent Forced Convection in Two-dimensional Duct," *Journal of Heat Transfer*, 129(9), pp. 1295-1299, 2007.
- (36) Clayton R. De Losier, Sundaresan Subramanian, Valery Ponyavin, **Yitung Chen**, Anthony E. Hechanova, and Per F. Peterson, "The Parametric Study of an Innovative Offset Strip-fin Heat Exchanger," *Journal of Heat Transfer*, 129(10), pp. 1453-1458, 2007.
- (37) Tefvik Gemci, Valery Ponyavin, **Yitung Chen**, Huajun Chen, Richard Collins, "CFD Simulation of Airflow in a 17-generation Digital Reference Model of the Human Bronchial Tree," *Series on Biomechanics*, Vol.23, No.1, pp.5-18, 2007
- (38) **Yitung Chen**, Huajun Chen, Jinsuo Zhang, Benzhao Zhang, "Viscoelastic Flow in Rotating Curved Pipes," *Physics of Fluids*, 2006, 18, 083103 (2006).

- (39) **Yitung Chen**, Huajun Chen, Jinsuo Zhang, Hsuan-Tsung Hsieh, "Theoretic Analysis on the Secondary Flow in a Rotating Helical Pipe with an Elliptical Cross-section," *Journal of Fluids Engineering*, 2006, 128 (2), pp. 209-409.
- (40) **Yitung Chen**, Huajun Chen, Benzhao Zhang, Hsuan-Tsung Hsieh, "Fluid Flow and Convective Heat Transfer in a Rotating Helical Square Duct," *International Journal of Thermal Science*, 2006, 45, pp. 1008-1020.
- (41) **Yitung Chen**, Jianhu Nie, Hsuan-Tsung Hsieh, and Lijian Sun, "Three-dimensional Convection Flow Adjacent to Inclined Backward-facing Step," *International Journal of Heat and Mass Transfer*, Vol. 49, No. 25-26, pp. 4795-4803, 2006.
- (42) **Yitung Chen**, Jianhu Nie, Bassem F. Armaly, and Hsuan-Tsung Hsieh, "Turbulent Separated Convection Flow Adjacent to Backward-facing Step – Effects of Step Height," *International Journal of Heat and Mass Transfer*, Vol. 49, No. 19-20, pp. 3670-3680, 2006.
- (43) Jichun Li and **Yitung Chen**, "Analysis of a Time-domain Finite Element Method for 3-D Maxwell's Equations in Dispersive Media," *Computer Methods in Applied Mechanics and Engineering*, Vol.195 (2006), pp.4220-4229.
- (44) Jichun Li, **Yitung Chen**, and Guoqing Liu, "High-order Compact ADI Methods for Parabolic Equations," *Computers and Mathematics with Applications*, Vol. 52, Issue 8-9, pp. 1343-1356, 2006.
- (45) Jinsuo Zhang, Ning Li, and **Yitung Chen**, "Oxygen Control Technique in Molten Lead and Lead-bismuth Eutectic Systems," *Nuclear Science and Engineering*, 2006, 154 (2), pp. 223-232.
- (46) **Yitung Chen**, Huajun Chen, Jinsuo Zhang, Hsuan-Tsung Hsieh, "Modeling Corrosion and Precipitation in Non-isothermal LBE Pipe/Loop Systems," *Journal of Nuclear Science and Technology*, 2005, 42 (11): 970-978.
- (47) Huajun Chen, **Yitung Chen**, Jinsuo Zhang, Hsuan-Tsung Hsieh, "Improved Applications of a Kinetic Corrosion Model in Non-isothermal Loop/pipe Systems," *Transactions of the American Nuclear Society*, 2005, 92, 137-138
- (48) Jinsuo Zhang, Ning Li, and **Yitung Chen**, "Dynamics of High Temperature Oxidation Accompanied by Scale Removal and Implications for Technological Applications," *Journal of Nuclear Materials*, 342 (2005), pp.1-7.
- (49) Darrell Pepper and **Yitung Chen**, "Heat Transfer Analysis of Nuclear Waste Casks Stored in the Yucca Mountain Repository," *Num. Heat Transfer*, Part A, 47:671-690, 2005
- (50) Jinsuo Zhang, Ning Li, **Yitung Chen**, and A.E. Rusanov, "Corrosion Behaviors of US Steels in Flowing Lead-bismuth Eutectic (LBE)," *Journal of Nuclear Materials*, 336 (2005), pp.1-10.
- (51) Jichun Li and **Yitung Chen**, "High-order Compact Schemes for Dispersive Media," *IEE ELECTRONICS LETTERS*, 8th July, pp. 853-855, Vol. 40, No. 14, (2004)
- (52) Jichun Li and **Yitung Chen**, "Radial Basis Function Based Meshless Method for Groundwater Modeling," *Contemporary Mathematics*, Volume 329, pp. 237-244, (2003)
- (53) Jichun Li, **Yitung Chen**, and Darrell Pepper, "Radial Basis Function for 1-D and 2-D Groundwater Contaminant Transport Modeling," *Computational Mechanics*, 32 (2003) 10-15.

Conference Proceedings – Refereed (Recent 6 years):

- (1) Jianhu Nie, **Yitung Chen**, Bunsen Wong and Lloyd C. Brown, "Numerical study of nozzle design on cadmium quenching process in thermochemical splitting of water," IMCEC2009-12862, ASME International Mechanical Engineering Congress and Exposition, Lake Buena Vista, FL, November 13-19, 2009.
- (2) Jephanya Kasukurthi, Kiran M. Veepuri, Jianhu Nie and **Yitung Chen**, "Numerical modeling of velocity and temperature distributions in a bipolar plate of PEM electrolysis cell with greatly improved flow uniformity," IMECE2009-10519, ASME International Mechanical Engineering Congress and Exposition, Lake Buena Vista, FL, November 13-19, 2009.

- (3) Taide Tan and **Yitung Chen**, "Formation and Protection of the Fe-Cr Oxide Spinel in Stainless Steels in Oxygen Controlled LBE Environment," IMECE2009-12899, ASME International Mechanical Engineering Congress and Exposition, Lake Buena Vista, Florida, November 13-19, 2009.
- (4) Taide Tan and **Yitung Chen**, "The Behaviors of Fe-Cr Oxide Spinel during the Oxidation Process of Stainless Steel in Flowing LBE Environments at a Mesoscopic Level," International Conference GLOBAL 2009, September 6-11, 2009, Paris, France, (paper number: 9016)
- (5) **Yitung Chen**, Jianhu Nie, Allen Johnson, Matthew Hodges, Anthony Hechanova, "Energy Analysis of Bayonet Heat Exchanger and Decomposer for Hydrogen Production," International Conference GLOBAL 2009, September 6-11, 2009, Paris, France, (paper number: 9474)
- (6) Taide Tan and **Yitung Chen**, "Protection of an Aerowindow, One Scheme to Enhance the Cavity Efficiency of a Solid Particle Solar Receiver," ASME Summer Heat Transfer Conference, July 19-23, 2009, San Francisco, (HT2009-88059)
- (7) Jianhu Nie, **Yitung Chen**, Bunsen Wong, and Lloyd Brown, "Numerical Modeling of Vapor Condensation during Cadmium Quenching Process in a Solar Receiver," ASME 3rd International Conference on Energy Sustainability, July 19-23, 2009, San Francisco, (ES2009-90382)
- (8) Taide Tan and **Yitung Chen**, "The Influence of Chrome in the Oxidation Process of Steels in Flowing LBE," The 17th International Conference on Nuclear Engineering (ICONE-17), July 12-16, 2009, Brussels, Belgium (ICONE17-75025)
- (9) Hsuan-Tsung Hsieh, Kenny Kwan, Jen-Yuan Huang and Changyeol Lee, and **Yitung Chen**, "Knowledge-based Information Resource Management System for Materials of Fast Reactor," The 17th International Conference on Nuclear Engineering (ICONE-17), July 12-16, 2009, Brussels, Belgium (ICONE17-75485)
- (10) Jianhu Nie, **Yitung Chen**, and Robert F. Boehm, "Numerical modeling of two-phase flow in a bipolar plate of a PEM electrolysis cell," ASME International Mechanical Engineering Congress and Exposition, Oct 31-Nov 6, 2008, Boston, Massachusetts (IMECE2008-68913)
- (11) Taide Tan and **Yitung Chen**, "Numerical Investigation of Oxide Layer Growth of Stainless Steel LBE at a Mesoscopic Level," ASME International Mechanical Engineering Congress and Exposition, Oct 31-Nov 6, 2008, Boston, Massachusetts (IMECE2008-67961)
- (12) Taide Tan, **Yitung Chen**, and Xianfang Tan, "Natural Convection Induced Oxygen Transport in Liquid Lead Bismuth Eutectic," the 7th International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Operation and Safety, (NUTHOS-7), October 5-9, 2008, Seoul, Korea.
- (13) Taide Tan and **Yitung Chen**, "Review of Study on Solid Particle Solar Receivers," 2nd International Forum on Heat Transfer (IFHT2008), September 17 -19, 2008, Tokyo, Japan.
- (14) Jianhu Nie, **Yitung Chen**, Jianhu Wu, and Kiran M. Veepuri, "Explorations of improving flow uniformity in the bipolar plate of a PEM electrolysis cell using different designs," Proceedings of ASME Heat Transfer, Fluids, Energy, Solar & Nano Conferences, August 10-14, 2008, Jacksonville, FL. (FEDSM2008-55187)
- (15) Jianhu Nie, Jianfei Wu, Steve Cohen, Blake Carter, and **Yitung Chen**, "Numerical simulations of coupled flow and heat transfer distributions in a bipolar plate of the PEM electrolysis cell," Proceedings of ASME Heat Transfer, Fluids, Energy, Solar & Nano Conferences, August 10-14, 2008, Jacksonville, FL. (FEDSM2008-55188)
- (16) Jianhu Nie, Kiran M. Veepuri, **Yitung Chen**, and Jianhu Wu, "A new bipolar plate of PEM electrolysis cell with uniform flow and heat transfer fields," Proceedings of ASME Heat Transfer, Fluids, Energy, Solar & Nano Conferences, August 10-14, 2008, Jacksonville, FL. (HT2008-56362)
- (17) Jianfei Wu, Jianhu Nie, and **Yitung Chen**, "Optimization of fluid flow in 3D bipolar plates," Proceedings of ASME Heat Transfer, Fluids, Energy, Solar & Nano Conferences, August 10-14, 2008, Jacksonville, FL. (FEDSM2008-55040)

- (18) Zhuoqi Chen, **Yitung Chen**, and Taide Tan, "Numerical Analysis on the Performance of the Solid solar Particle Receiver with the Influence of Aerowindow," ASME Fluids Engineering Division Summer Conference, Aug 10-14, 2008, Jacksonville, Florida, USA. (FEDSM 2008-55285)
- (19) Taide Tan, **Yitung Chen**, and Zhuoqi Chen, "Performance of Solid Particle Receivers with or without the Protection of an Aerowindow," ASME 2nd International Conference on Energy Sustainability, Aug 10-14, 2008, Jacksonville, Florida, USA. (ES 2008-54129)
- (20) Ming Chang, Hsuan-Tsung Hsieh, **Yitung Chen**, Matthew Hodges, George Vandegrift, Jacqueline Copple, and James Laidler, "Development of an Integrated Systems Engineering Modeling Package for Chemical Separation Processes under Advanced Fuel Cycle Initiative," Proceedings of ICAPP, Anaheim, CA USA, June 8-12, 2008.
- (21) Ming Chang, Hsuan-Tsung Hsieh, **Yitung Chen**, Matthew Hodges, George Vandegrift, Jacqueline Copple, and James Laidler, "Development of an Object-Oriented Integrated Systems Engineering Modeling Package Using Unified Modeling Language (UML) for Chemical Separation Processes," ICONE 2008, May 11-15, Orlando, FL, 2008.
- (22) Taide Tan and **Yitung Chen**, "Simulations of Metal Oxidation in LBE at a Mesoscopic Level", Proceedings of the ASME 16th International Conference on Nuclear Engineering, ICONE16, May 11-15, 2008, Orlando, Florida, USA (ICONE16-48025).
- (23) Taide Tan, **Yitung Chen**, and Zhuoqi Chen, "Numerical Investigation of Influences of an Aerowindow on the Performance of Solid Particle Receivers", Solar 2008-0239, May 3-8, San Diego, CA, USA.
- (24) Jianhu Nie, **Yitung Chen**, Steve Cohen, Blake Carter, and Robert F. Boehm, "Velocity and temperature distributions in bipolar plate of PEM electrolysis cell," Proceedings of ASME International Mechanical Engineering Congress and Exposition (IMECE 2007), IMECE2007-42622, November 11-15, Seattle, WA, USA, 2007.
- (25) Taide Tan, **Yitung Chen**, Huajun Chen, and Hsuan-Tsung Hsieh, "Modeling of a Diffusion Controlling Oxidation Process with Scale Removal in Oxygen-containing Liquid Flow," Proceedings of ASME International Mechanical Engineering Congress and Exposition (IMECE 2007), IMECE2007-42322, November 11-15, Seattle, WA, USA, 2007.
- (26) Jianfei Wu, Jianhu Nie, and **Yitung Chen**, "Three-dimensional fluid flow and coupled heat transfer in simplified bipolar plates," Proceedings of ASME International Mechanical Engineering Congress and Exposition (IMECE 2007), IMECE2007-42360, November 11-15, Seattle, WA, USA, 2007.
- (27) Vijaisri Nagarajan, Valery Ponyavin, **Yitung Chen**, Milton Vernon, Paul Pickard, and Anthony E. Hechanova, "CFD Modeling of Bayonet Type High Temperature Heat Exchanger and Chemical Decomposer with Different Packed Bed Designs," Proceedings of ASME International Mechanical Engineering Congress and Exposition (IMECE 2007), IMECE2007-42465, November 11-15, Seattle, WA, USA, 2007.
- (28) Gayatri Kuchi, Valery Ponyavin, **Yitung Chen**, Steve Sherman, and Anthony E. Hechanova, "Flow Distribution on the Tube Side of a High Temperature Heat Exchanger and Chemical Decomposer," Proceedings of ASME International Mechanical Engineering Congress and Exposition (IMECE 2007), IMECE2007-42652, November 11-15, Seattle, WA, USA, 2007.
- (29) Valery Ponyavin, Taha Mohamed, Mohamed Trabia, **Yitung Chen**, and Anthony E. Hechanova, "Transient Analysis of a Ceramic High Temperature Heat Exchanger and Chemical Decomposer," Proceedings of ASME International Mechanical Engineering Congress and Exposition (IMECE 2007), IMECE2007-42199, November 11-15, Seattle, WA, USA, 2007.
- (30) Jianhu Nie, **Yitung Chen**, Steve Cohen, Blake Carter, and Robert F. Boehm, "Non-uniform velocity distributions in bipolar plate PEM electrolysis cell," Proceedings of 5th Joint ASME/JSME Fluids Engineering Conference, FEDSM2007-37299, July 30 - August 2, San Diego, California, USA, 2007.

- (31) Jianfei Wu, Jianhu Nie, and **Yitung Chen**, "Numerical simulations of three-dimensional fluid flow and coupled heat transfer in bipolar plates," Proceedings of 5th Joint ASME/JSME Fluids Engineering Conference, FEDSM2007-37712, July 30 - August 2, San Diego, California, USA, 2007.
- (32) Jianhu Nie, **Yitung Chen**, and Hsuan-Tsung Hsieh, "Parametric study of turbulent separated convection flow over a backward-facing step," Proceedings of 5th Joint ASME/JSME Fluids Engineering Conference, FEDSM2007-37315, July 30 - August 2, San Diego, California, USA, 2007.
- (33) Aihua Wang, Samir Moujaes, **Yitung Chen**, and Valery Ponyavin, "Experimental and Numerical Analyses of Friction Factors in Offset Strip Fin Heat Exchangers," Proceedings of FEDSM2007: 5th Joint ASME/JSME Fluids Engineering Conference, FEDSM2007-37482, July 30 - August 2, San Diego, California, USA, 2007.
- (34) Jichun Li and **Yitung Chen**, "Developing Time-domain Finite Element methods for Wave Propagation in Negative-index Materials," Waves 2007 Conference, University of Reading, 23-27 July 2007, UK.
- (35) Jichun Li and **Yitung Chen**, "Finite Element Study of Time-dependent Maxwell's Equations in Dispersive Media," Waves 2007 Conference, University of Reading, 23-27 July 2007, UK.
- (36) Jianhu Nie, David A. Hopkins, **Yitung Chen**, and Hsuan-Tsung Hsieh, "Development of an object-oriented program with adaptive mesh refinement for heat transfer simulations," Proceedings of ASME-JSME Thermal Engineering and Summer Heat Transfer Conference and InterPack, HT2007-32897, July 8-12, Vancouver, Canada, 2007.
- (37) Huajun Chen, **Yitung Chen**, Hsuan-Tsung Hsieh, and Liangcai Tan, "Computational Fluid Dynamics Analysis on Underfloor Air Distribution (UFAD) System in BTLab," Proceedings of 2007 ASME-JSME Thermal Engineering Summer Heat Transfer Conference and InterPack, HT2007-32697, July 8-12, Vancouver, Canada, 2007.
- (38) Merrill Wilson, Charles Lewinsohn, James Cutts, **Yitung Chen**, and Valery Ponyavin, "Optimization of Micro-channel Features in a Ceramic Heat Exchanger," Proceedings of 2007 ASME-JSME Thermal Engineering Summer Heat Transfer Conference and InterPack, HT2007-32181, July 8-12, Vancouver, Canada, 2007.
- (39) Valery Ponyavin, **Yitung Chen**, Anthony E. Hechanova, and Merrill Wilson, "Fluid/Thermal Analysis of High Temperature Heat Exchanger and Chemical Decomposer for Hydrogen Production," Proceedings of 2007 ASME-JSME Thermal Engineering Summer Heat Transfer Conference and InterPack, HT2007-32676, July 8-12, Vancouver, Canada, 2007.
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- (2) **Yitung Chen**, 2009, “Application of Computational Fluid Dynamics for High Energy Efficiency Design with Human Comfort of CAD – VAV and UFAD Systems,” June 9, Hong Kong Polytechnic University, China
- (3) **Yitung Chen**, 2009, “High Temperature Heat Exchanger and Decomposer Design for Hydrogen Production Using Nuclear Energy,” June 6, Xi’an Jiaotong University, China
- (4) **Yitung Chen**, 2009, “Deterministic and Probabilistic Modeling of Corrosion and Oxidation of Steels in Liquid Lead and Lead Alloys Coolant,” June 4, Xi’an Jiaotong University, China
- (5) **Yitung Chen**, 2009, “Hydrogen Production Using Solar Particle Solar Receiver,” June 4, Xi’an Jiaotong University, China
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- (7) **Yitung Chen**, 2008, “Incompressible and Compressible Flows, and Acoustic and Noise Control,” July 2008, Feng Chia University, Taiwan
- (8) **Yitung Chen**, 2008, “Hydrogen Production using Solar or Nuclear Thermochemical Techniques,” October 9, National Taipei University of Technology, Taiwan
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- (16) **Yitung Chen**, 2006, “Development of Advanced High Temperature Heat Exchanger and Decomposer for Hydrogen Production,” Feng Chia University, Taiwan
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