Last updated on 3/28/2017

9990 Wheat Ridge Dr.
Frisco TX 75033 USA

Education

Ph.D., Mechanical Engineering, University of California, Berkeley, May 2002
Dissertation: Femtosecond Pulsed Laser Processing of Electronic Materials: Fundamentals and Micro/Nano-scale Applications
Advisor: Dr. Costas Grigoropoulos
M.S., Mechanical Engineering, Seoul National University, Korea, Feb 1997
Dissertation: Evaporative Heat Transfer of HFC Refrigerants in Horizontal Tube
Advisor: Dr. Minsoo Kim
B.S., Mechanical Engineering, Seoul National University, Korea, Aug 1994

Professional Academic Experience

6/2012-Current	**Associate Professor**, Department of Mechanical and Energy Engineering, University of North Texas PO Box 311098 Denton TX 76203-1098
10/2006-5/2012	**Assistant Professor**, Department of Mechanical and Energy Engineering, University of North Texas PO Box 311098 Denton TX 76203-1098
02/2003-09/2006	**Lecturer and Senior Scientist**, Department of Mechanical and Process Engineering, ETH Zurich, CH-8092 Switzerland
06/2002-01/2003	**Visiting Post-doctoral Researcher**, Department of Mechanical Engineering, University of California, Berkeley CA 94720
08/1998-05/2002	**Research/Teaching Assistant**, Department of Mechanical Engineering, University of California, Berkeley CA 94720
03/1997-07/1998	**Assistant Researcher**, Turbomachinery Center at Seoul National University, Seoul 151-744, Korea
03/1995-02/1997	**Research/Teaching Assistant**, Department of Mechanical Engineering, Seoul National University, Seoul 151-744, Korea

Non-Academic Experience

Daehong Technew	Consultant	2011
Brook City Air Force	Summer Research Faculty	2010 and 2012
Busan Mission, South Korea	Missionary	1990-1992
8th US Army	Military Service	1988-1990

Professional Activities

Paper Referee: Nanotechnology Journal; Applied Physics Letters; ASME Journal of Heat Transfer; ASME Journal of Manufacturing; Journal of Enhanced Heat Transfer; ACS Langmuir; Journal of Experimental Heat Transfer; Journal of Physics D; IEEE Topics on Nanotechnology
CART Advisory Board:
Conference Chair: ASME K-15; US Korea Conference (UKC)
Journal Editorship: Journal of Sensors (Lead Guest Editor)
Department Lab Coordinator: Organized and developed 11 labs.
Committee service: Graduate Advisor; MEE Undergraduate Curriculum Committee and Chair; MEE ABET Committee; UNT Clean Room Working Group; MEE and Physics Faculty Search Committee

Research Interest

1. Micro/Nanomanufacturing for electronic materials:
   - Femtosecond laser micro/nano fabrication
   - Nanomanufacturing and nanomanipulation using focused ion beam lithography
2. Micro/Nanoscale Instrumentation:
   - Femtosecond laser spectroscopy and ultrafast microscopy
   - Thermal, electrical and optical characterization in micro and nanoscale materials
3. Laser-cell interaction: laser cancer therapy and laser eye protection
   - Biological energy transport during ultrafast laser irradiation
   - Biosensing using micropipette thermocouple technology

External Funding and Awards

At UNT

- Design and Analysis of Desiccating Nanocomposite Membrane for Optimal Heat and Mass Transfer, 6/1/2016 – 5/31/2019, MOTIE-KIMM, $247,826 (PI)
- Mechanical characterization of bioimplants, CTL Medical, 5/1/2016-12/31/2016, $10,000.
- Boron Nitride Thermally Conductive High Temperature High Dielectric Strength Interface Materials, 1/15/2013-8/31/2016, Semiconductor Research Corporation, $240,000 (co-PI)
- Development of Internal Growth Monitoring Device with Wireless Data Transmission, 1/1/2013-5/30/2013, Texas Scottish Rite Hospital for Children, $10,000 (PI)
- Biodiesel production from wasted vegetable oils, 8/26/2011-5/1/2012, Frito Lay, $35,000 (Senior Design Project).
- Carbon nanostructure-based transparent conducting film for electronics and energy applications, 7/1/2011-6/30/2014, Ministry of Knowledge Economy (Korean Government), $1.4M (co-PI); Dr. Choi's share is $216,000.
- Modernization of Multi-scale Characterization, Analysis, and Synthesis Facility for Materials and Devices: Remote Access, Visualization, and Public Engagement, 10/2010-09/2011, $1,046,053 (Senior Investigator).
- An Investigation on laser-tissue interaction by micropipette-based cellular level temperature sensing, 05/24/2010-8/03/2010, ASEE Summer Faculty Fellowship (PI).
- Exploratory Research: Integration of Multiscale Nanowire Devices and their Thermoelectrical Characterization, 09/01/2008-08/31/2009, NSF-CMMI-00841265, $59,856 (PI).

- Micro/Nanoscale Thermal Sensor for Carbon Nanotube-based nanostructures, Korea Institute of Machinery and Materials, 05/08-04/11, $120,000 (PI).
- Integrated Tin Oxide Nanowire Ozone Sensors, Ralph E. Powe Junior Faculty Enhancement Awards, 06/07-05/08, $5,000 (PI).

Before UNT

Research Grant, Swiss National Science Foundation, 04/05-03/08, $200,000 (co-PI).
Research Grant, ETH (co-PI), 07/05-06/08, $210,000 (co-PI).
Korean Government Overseas Scholarship, 08/98-08/00, $36,000.

Community Activities

Local Organizing Committee Chair, UKC-2016
President, North Texas Chapter (2012-2014), Korean-American Scientists and Engineers Association (KSEA)
Merit Badge Counselor, PAC 6187, Circle 10, Boy Scouts of America
Science Chair, KSEA Math and Science Competition (2009-2011)

Teaching Experiences

Courses Developed

MEEN3120	Fluid Mechanics, Spring 2017
MEEN3110	Thermodynamics II, Fall 2013
MEEN5340	Advanced Fluid Mechanics, Spring 2012
MEEN4890	Bioenergy as a renewable energy source (Independent study), Fall 2010
MEEN 3130	Machine Elements, Spring 2009
MEEN 5300	Advanced Thermodynamics, Fall 2009
MEEN 2210	Thermodynamics I, Spring 2008
*MEEN 3240	Mechanical and Energy Engineering Lab, Fall 2008
MEEN 5100	Advanced Energy Conversion, Fall 2008
MEEN 5900	Nanoscale Energy Transport, Fall 2007

Created *LabView instructional videos* for undergraduate teaching lab

*MEEN3240 includes 12 lab exercises for which all four current faculty members contribute to preparing lab manuals and exercises. Dr. Choi took substantial part of exercises as MEE Lab Development Coordinator.

Courses Taught (2006-Present)

Semester	Course	Course Name	Remarks
Fall 2007	MEEN 5315	Nanoscale Energy Transport	Elective
Spring 2008	MEEN 2210	Thermodynamics I	Core
Fall 2008	MEEN 3240	MEE Lab I	Core
Fall 2008	MEEN 5100	Advanced Energy Conversion	Elective

Spring 2009	MEEN 2210	Thermodynamics I	Core
Spring 2009	MEEN 3130	Machine Elements	Core
Fall 2009	MEEN 3240	MEE Lab I	Core
Fall 2009	MEEN 5100	Advanced Energy Conversion	Elective
Spring 2010	MEEN 2210	Thermodynamics I	Core
Spring 2010	MEEN 3130	Machine Elements	Core
Fall 2010	MEEN 3240	MEE Lab I	Core
Fall 2010	MEEN 5100	Advanced Energy Conversion	Elective
Fall 2010	MEEN 4890	Bioenergy as a renewable energy source	Elective
Spring 2011	MEEN 2210	Thermodynamics I	Core
Spring 2011	MEEN 5315	Nanoscale Energy Transport	Elective
Fall 2011	MEEN 5100	Advanced Energy Conversion	Elective
Spring 2012	MEEN 5340	Advanced Fluid Mechanics	Core
Spring 2012	MEEN 5315	Nanoscale Energy Transport	Elective
Fall 2012	MEEN 5300	Advanced Thermodynamics	Core
Spring 2013	MEEN 5315	Nanoscale Energy Transport	Elective
Spring 2013	MEEN 5340	Advanced Fluid Mechanics	Core
Fall 2013	MEEN 3110	Thermodynamics II	Core
Fall 2013	MEEN 5300	Advanced Thermodynamics	Core
Spring 2014	MEEN 2210	Thermodynamics I	Core
Spring 2014	MEEN 5315	Nanoscale Energy Transport	Elective
Fall 2014	MEEN 3110	Thermodynamics II	Core
Fall 2014	MEEN 5300	Advanced Thermodynamics	Core
Fall 2015	MEEN 5300	Advanced Thermodynamics	Core
Fall 2015	MEEN 3110	Thermodynamics II	Core
Spring 2016	MEEN 2210	Thermodynamics I	Core
Fall 2016	MEEN 3110	Thermodynamics II	Core
Fall 2016	MEEN 5300	Advanced Thermodynamics	Core
Spring 2017	MEEN 3120	Fluid Mechanics	Core

Student Advising Experiences

Present Students

1. Ramesh Shrestha, PhD candidate, Cancer diagnosis
2. Jae Jeong, PhD student, Graphene thermal properties
3. Rohini Atluri, PhD student, Cellular temperature measurement
4. Omar Almahmood, PhD student, Membrane mass transfer
5. Richard Roberts, PhD student, Energy management
6. Yuqi Jin, PhD student, nanocomposite
7. Bhargavan Kandala, MS student, Biological pressure sensor
8. Frank Lima, Undergrad, 3-D printing of PEEK composites
9. Pranav Murugan, Undergrad, Biological pressure sensor
10. Nishant Tyagi, Undergrad, low level light therapy for TBI
11. Justin Ko, Undergrad, boron nitride nanotube

Graduated Students

1. Hyeonu Heo, PhD Dec 2016, Mechanics (formerly Dr. Ju's student)
2. Sanjay Karna, PhD, May 2016, Graphene Oxide optical properties
3. Zach Coker, MS, May 2015, Magnetic field and nanoparticles interaction with cells
4. Meg Mahat, PhD, Dec 2013, Nanoparticle-quantum dot interaction for enhanced optical properties (co-advising with Dr. Neogi)
5. Ashesh Dangol, MS, May 2013, thermal conductivity of carbon nanotube films
6. Daniel Kyungmin Lee, PhD, June 2011, thermal and optical characterization of various nanomaterials.
7. Ramesh Shrestha, MS, June 2011, micropipette thermal sensors
8. Ali Abtahi, MS, June 2010, femtosecond laser processing of biological materials.

Professional Membership

The American Society of Mechanical Engineers (ASME)

Service Experiences

Service inside UNT

- Graduate advisor, MS/PhD program coordinator (Sep 2015 – Present)
- MEE Undergraduate Curriculum Committee Chair (Sep 2010 – Aug 2011)
- MEE Undergraduate Curriculum Committee member (Sep 2010 – Present)
- MEE ABET Committee (Current)
- CART Advisory Board (Current)
- Bio-Nano-Photonics Cluster
- MEE Laboratory Development Coordinator (Sep 2007 – Aug 2008)
- MEE Laboratory Course Development Coordinator (Sep 2007 – Aug 2009)
- Advising a student organization (Korean Students Association, UNT)
- Advising undergraduate students: i.e. change of major, individual research, etc.
- MEE Faculty Search Committee Chair (2012-2014)
- MEE Faculty Search Committee member (2012-Present)

Service outside UNT

- ASME K-15 committee
- Reviewer for Nanotechnology, Journal of Physics D, Journal of Heat Transfer, Journal of Experimental Heat Transfer, IEEE Sensors, Applied Physics Letters
- Executive member, KSEA North Chapter
- Local Organizing committee Chair, UKC-2016

Journal Reviewer:

ASME *Journal of Heat Transfer*
ASME Journal of Manufacturing
Journal of Experimental Heat Transfer
Nanotechnology
Journal of Physics D
IEEE Topics on Nanotechnology

IEEE Sensors
Applied Physics Letters

Editorship:
Journal of Sensors (Lead Guest Editor) – Jan 2017 - Present

Government Review Panel
NSF-Nanomanufacturing, 2007, 2008, 2010, and 2012

Special Skills

Expert in Focused Ion Beam processing
Expert in Clean room processing.

Publications

Patents
1. Multifunctional Micropipette Biological Sensor: Provisional patent filed May 2009. Utility patent filed in May 2010. Patent number, US 2010/0285210 A1.
2. Tae-Youl Choi, Edward Koffeman, and Frank Lima, "Systems and methods for improved layer adhesion in three-dimensional (3D) printed objects," Provisional paten, Application Number, 62428413

Magazine Article

R. Shrestha, K. M. Lee, T. Y. Choi, and D. S. Kim, "Measurement of Thermal Conductivity by a Micropipette Thermocouple," ElectronicsCooling Sep. 11 (2013).

Book Chapter
Kyung-Min Lee and Tae-Youl Choi, "Focused Ion Beam Assisted Nano-Scale Processing and Thermoelectrical Characterization," FIB Nanostructures-Lecture Notes in Nanoscale Science and Technology edited by Zhiming M. Wang (2013).

Communicated Manuscripts
1. Investigation of superparamagnetic (Fe3O4) nanoparticles and magnetic field exposures on CHO-K1 cell line, Journal of Biomedical Optics (Under review)
2. "MECHANICAL EXFOLIATION OF SINGLE LAYER GRAPHENE FROM HOPG AT ROOM ATMOSPHERE ENVIRONMENT, JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY (UNDER REVIEW)

Papers in Refereed Journals

At UNT
1. J. Ha, Y. Seo, T. Y. Choi, and D. Kim, "Enhanced thermal conductivity of alumina nanoparticle suspensions by femtosecond laser irradiation," International Journal of Heat and Mass Transfer, Vol. 107, 755-760 (2017).

2. **Sanjay Karna**, Meg Mahat, Tae-Youl Choi, Ryoko Shimada, Zhiming Wang, and Arup Neogi, “Competition Between Resonant Plasmonic Coupling and Electrostatic Interaction in reduced Graphene Oxide Quantum Dots" Scientific Reports, 6-36898 (2016).
3. Byoung Kyoo Park, Yunho Woo, Dayeong Jeong, Jaesung Park,Tae-Youl Choi, Denise Perry Simmons, Jeonghong Ha and Dongsik Kim, “Thermal conductivity of biological cells at cellular level and correlation with disease state,” J. Appl. Phys. **119**, 224701 (2016).
4. **J Y Jeong**, K M Lee, **R Shrestha**, K Horne, S Das, W Choi, M Kim and T Y Choi, “Thermal conductivity measurement of few layer graphene film by a micropipette sensor with laser point heating source, Material Research Express, Vol. 3 (5), 055004 (2016).
5. Kyung-Min Lee, **Ramesh Shrestha**, Ashesh Dangol, Won Seok Chang, **Zachary Coker**, and Tae-Youl Choi, “Dependence of Thermal Conductivity on Thickness in Single-Walled Carbon Nanotube Films,” J. Nanosci. Nanotechnol. 16, 1028-1032 (2016)
6. Y. Seo, T.-Y. Choi, J. Ha, D.-Y. Jeong, S. Y. Lee, D. Kim,. (2015) “Enhancement of stability of aqueous suspension of alumina nanoparticles by femtosecond laser irradiation,” J. Applied Physics Vol. 118, 114906.
7. Riyan Zahaf, Song-Kil Kim, Juhwan Shin, Kihong Park, Tae-Youl Choi and Donggeun Lee, Effect of Volume Fraction on Transient Structural Behavior of Aerosol Particles Using Off-Lattice Kinetic Monte Carlo Simulation,” Aerosol Science and Technology, 2015.
8. Riyan Zahaf, Jae Wook Jung, Zachary Coker, Songkil Kim, Tae-Youl Choi, Donggeun Lee, “Pt Catalyst over SiO2 and Al2O3 Supports Synthesized by Aerosol Method for HCSCR DeNOx Application,” Aerosol and Air Quality Research, 15: 2409–2421 (2015).
9. K. M. Lee, J. Y. Hwang, B. Urban, A. Singh, A. Neogi, S. K. Lee, and T. Y. Choi, “Origin of broad band emissions of 3C-Silicon carbide nanowire by temperature and time resolved photoluminescence study,” Solid State Communications, Vol. 204, 16-18 (2015).
10. T. Y. Choi, M. L. Denton, G. Noojin, L. Estlack, R. Shrestha, B. Rockwell, R. Thomas, and D. Kim, “Thermal evaluation of laser exposures in an *in vitro* retinal model by micro thermal sensing,” J. Biomed Opt. Vol. 19 (9), 097003 (2014).
11. H. Lee, T. J. Kim, C. Li, I. D. Choi, Y. T. Kim, Z. Coker, T. Y. Choi, D. Lee, “Flame aerosol synthesis of carbon-supported Pt-Ru catalysts for a fuel cell electrode,” Int. J. of Hydrogen Energy, Vol. 39, 14416-14420 (2014).
12. D. A. Firmansyah, R. Kaiser, R. Zahaf, Z. Coker, T. Y. Choi, and D. Lee, “Numerical simulations of supersonic gas atomization of liquid metal droplets,” Japanese J. of Applied Physics, Vol. 53 05HA09 (2014).
13. Shrestha, R., Lee, K. M., Chang, W. S., Kim, D. S., Rhee, G. H., and T. Y. Choi, “Steady heat conduction-based thermal conductivity measurement of single walled carbon nanotubes thin film using a micropipette thermal sensor,” Review of Scientific Instruments **84**, 034901 (2013).
14. S. J. Butler, D. W. Lee, C. W., Burney, J. C. Wigle, T. Y. Choi, “Microfluidic approach for direct and uniform laser irradiation to study biochemical state changes on Jurkat-T cells,” J Biomed Opt. 18 (11), 117004 (2013).
15. Seung-Yong Lee, Mi-Ri Lee, No-Won Park, Gil-Sung Kim, Heon-Jin Choi, Tae-Youl Choi and Sang-Kwon Lee, “Temperature-dependent thermal conductivities of 1D semiconducting nanowires (NWs) *via* four-point-probe 3-ω method,” Nanotechnology, 24 (49), 495202 (2013).
16. H. S. Kim, V. Varanasi, G. Mehta, H. Zhang, T. Choi, K. Namuduri, J. Vingren, N. A. D’Souza, and R. Kowal, “Circuits, systems, and technologies for detecting the onset of sudden cardiac death through EKG analysis,” IEEE Circuits and Systems, Vol. 13 (4), 10-25 (2013).

17. D. H. Ahn, D. S. Jang, T. Y. Choi, and D. S. Kim, “Surface processing technique based on opto-hydrodynamic phenomena occurring in laser-induced breakdown of a microdroplet,” Appl. Phys. Lett. Vol. 100, 104104 (2012).
18. K. M. Lee, S. K. Lee, T. Y. Choi, "Highly Enhanced Thermoelectric Figure of Merit of a β-SiC Nanowire with a Nanoelectromechanical Measurement Approach," Applied Physics A 106, 955-960 (2011).
19. Byoung Kyoo Park, Namwoo Yi, Tae Y. Choi, Jaesumg Park, Jin Young Lee, Ahmed Busnaina, and Dongsik Kim, “Thermal Conductivity of Bovine Serum Albumin: a New Tool to Probe Denaturation of Protein,” Appl. Phys. Lett. Vol. 99, 163702 (2011)
20. R. Shrestha, T. Y. Choi, W. Chang, D. Kim, “High-precision micropipette sensor for cellular-level real-time thermal characterization,” Sensors, Vol. 11, 8826-8835 (2011).
21. K. M. Lee, A. Neogi, M. Kim, B. Kim, R. Luchowski, Z. Gryzynski, N. Calander, T. Choi, “Silver nanostructure sensing platform for maximum-contrast fluorescence cell imaging,” J. Biomed Opt. Vol. 16 (5), 056008 (2011).
22. K. M. Lee, T. Y. Choi, S. K. Lee, D. Poulikakos, “Focused ion beam-assisted manipulation of single and double β-SiC nanowires and their thermal conductivity measurements by the four-point-probe 3-ω method,” Nanotechnology 21, 125301 (2010).
23. K. M. Lee, A. Neogi, J. Perez, and T. Y. Choi, “Focused ion beam-assisted selective control of graphene layers: acquisition of clean-cut ultra thin graphitic film,” Nanotechnology 21, 205303 (2010). This paper was selected as a cover page in Nanotechnology Journal.
24. T. Y. Choi, M. H. Maneshian, B. Kang, W. S. Chang, C. S. Han, D. Poulikakos, “Measurement of thermal conductivity and convective heat transfer coefficient of water-based single-walled carbon nanotubes solution by modified 3-ω method,” Nanotechnology 20 (2009) 315706
25. Romera-Guereca, G., Choi, T. Y., Poulikakos, D., “Explosive vaporization and microbubble oscillations on submicron width thin film strip heaters,” Int. J. Heat and Mass Transfer, Vol. 51, 4427 (2008).
26. Schwamb, T., Choi, T. Y., Schirmer, N., Bieri, N. R., Burg, B., Tharian, J., Sennhauser, U., and Poulikakos, D., “A dielectrophoretic method for high yield deposition of suspended, individual carbon nanotubes with 4-point electrode contact,” Nano Letters, 7 (12), 3633 (2007).
27. Park, C. S., Kang, B. S., Lee, D. W., Choi, T. Y., Y. S. Choi, “Fabrication and characterization of a pressure sensor using a pitch-based carbon fiber,” Microelectronic Engineering **84**, 1316-1319 (2007).
28. Dockendorf, C. P., Choi, T. Y., Poulikakos, D., “Single carbon nanotube soldering with gold nanoink by the fountain-pen technique,” Applied Physics Letters **90**, 193116 (2007).
29. Subramanian, A., Choi, T. Y., Dong, L. X., Tharian, J., Sennhauser, U., Poulikakos, D., Nelson, B. J., “Local control of electric current driven shell etching in multiwalled carbon nanotubes,” *Applied Physics A*, **89**, 133-139 (2007).

Before UNT

30. Hernandez-Ramirez, F., Rodriguez, J., Casals, O., Tarancon, A., Romano-Rodriquez, A., Morante, J. R., Barth, S., Mathur, S., Choi, T. Y., Poulikakos, D., Callegari, V., and Nellen, P. M., “Fabrication and electrical characterization of circuits based on individual tin oxide nanowires,” Nanotechnology **17**, 5577 (2006).
31. Tae Choi, Dimos Poulikakos, Joy Tharian, and Urs Sennhauser, “Measurement of Thermal Conductivity of Indivisual Carbon Nanotubes by the 4-point 3-w Method,” *Nano Letters*, Vol. **6**, 1589 (2006).
32. Cedric P.R. Dockendorf, Tae-Youl Choi, Dimos Poulikakos, Andrea Stemmer, “Size reduction of nanofluidic patterns by fluid-assisted dewetting,” *Appl. Phys. Letts*., **88**, 131903 (2006).

33. David J. Hwang, Tae Choi, and Costas Grigoropoulos, "Efficiency of silicon micromachining by femtosecond laser pulses in ambient air," J of Applied Physics **99**, 083101 (2006).
34. Tae Choi, Dimos Poulikakos, Joy Tharian, and Urs Sennhauser, "Measurement of thermal conductivity of individual multi-walled carbon nanotubes by the 3-ω Method," *APPLIED PHYSICS LETTERS*, **87**, 013108 (2005).
35. T. Y. Choi and C. P. Grigoropoulos, "Observation of femtosecond laser-induced ablation in crystalline silicon," *J. of Heat Transfer* **126**, 723-726 (2004).
36. D. J. Hwang, T. Y. Choi, and C. P. Grigoropoulos, "Liquid-assisted femtosecond laser drilling of straight and three-dimensional microchannels in glass," *Appl. Phys. A* **79** (3), 605-612 (2004).
37. T. Y. Choi, D. Poulikakos and C.P. Grigoropoulos, "Fountain Pen Based Laser Microstructuring with Gold Nanoparticle Inks", *Applied Physics Letters*, **85**, 13-15 (2004).
38. T. Y. Choi, D. J. Hwang, and C. P. Grigoropoulos, "Ultra-fast Laser-induced Crystalization of Amorphous Silicon Films," *Optical Engineering* **42**, 3383-3388 (2003).
39. A. Chimmalgi, T. Y. Choi, C. P. Grigoropoulos, and K. Komvopoulos, "Femtosecond laser aperturless near-field nanomachining of metals assisted by scanning probe microscopy," Appl. Phys. Lett. 82 (8), 1146-1148 (2003).
40. T. Y. Choi and C. P. Grigoropoulos, "Plasma and ablation dynamics in ultrafast laser processing of crystalline silicon," *J. Appl. Phys.* 92 (9), 4918-4925 (2002).
41. T. Y. Choi, D. J. Hwang, C. P. Grigoropoulos, "Femtosecond laser induced ablation of crystalline silicon upon double beam irradiation," *Appl. Surf. Sci* 197, 720-725 (2002).
42. T. Y. Choi, Y. J. Kim, M. S. Kim, and S. T. Ro, 2000, Evaporation Heat Transfer of R-32, R-134a, R-32/134a, and R-32/125/134a inside a Horizontal Smooth Tube, Int. J. Heat Mass Transfer, Vol 43, pp. 3651-3660.

Invited talks

1. T. Y. Choi, "Thermal properties of 1-D, 2-D and 3-D materials," University of Illinois at Urbana Champaign (Sep 2015)
2. T. Y. Choi, "Micropipette Thermal Characterization Technology for Biomedical applications," Southwestern Missouri State University (May 2015)
3. T. Y. Choi, "Small scale thermal science in nanotechnology and biotechnology," The 13th International Symposium on Technology for Next Generation Vehicle & Machine, Chonnam National University, Nov. 19-20, 2010.
4. T. Y. Choi, "Small scale instrumentation for nanophotonics and biophotonics applications," UC Berkeley, Nov. 5, 2010, invited seminar.
5. T. Y. Choi, "Thermal Science in Bioengineering and Nanotechnology," Invited talk at UT Arlington and UT Southwestern, Sep 2009 and May 2010.
6. T. Y. Choi, Boseon Kang, and Dimos Poulikakos, "Focused Ion Beam In Thermal Science And Engineering," Invited talk in Microscopy and Microanalysis 2007 Aug 5-9 Fort Lauderdale, Florida USA.
7. T. Y. Choi, "Small-scale Thermal Science And Engineering Assisted by Focused Ion Beam," 3rd Joint Colloquium at UT Arlington, Oct. 22, 2007.
8. Choi, T. Y., "Electron and Ion beam in Thermo-photonic science and engineering," Lectures on Emerging Thermal Engineering Topics, Korea Institute of Science and Technology, Korea, 2007

Selected Conference Talks

At UNT

1. J. H. Ryu and T. Y. Choi, “Laser assisted stable dispersion of nanoparticles and enhancement of thermal conductivity of nanoparticles-dispersed polymer,” UKC 2016 Dallas TX
2. J. H. Ha, T. Y. Choi, Y. S. Seo, D. S. Kim, “Enhancement of colloidal stability of alumina nanoparticles suspension by femtosecond laser irradiation,” KSME Spring Meeting, Busan, Korea.
3. Zach Coker, Hugo Diaz, Nandika D’Souza, Luu Ngyuen, Hayata Kazunori, and Tae-Youl Choi, “Boron Nitride Nanotubes-based thermal adhesives for thermal management of high-temperature electronics,” ITherm 2014.
4. Tae Choi, “Multiwall carbon nanotubes-based dehumidification system,” UKC 2014.
5. T. Choi, H. Diaz, Z. Coker, A. Garcia, S. Zhao, and N. D’Souza, “Multifunctional electric reliability testing system for semiconductor packaging materials,” 2nd Altas/NIST Workshop, Nov. 2013.
6. M. Burzo, P. E. Raad, P. L. Komarov, C. Wicaksono, and T. Y. Choi, “Measurement of Thermal Conductivity of Nanofluids and Thermal Interface Materials Using the Laser-Based Transient Thermoreflectance Method,” Semitherm 2013, San Jose CA (2013).
7. K.M. Lee, R. Shrestha, and T. Y. Choi, “Thermal conductivity measurement of graphene with a novel high-precision micropipette sensor technique,” UKC 2012, Anaheim CA.
8. J. Kim, Y. Lee, K. Lee, and T. Y. Choi, “Graphene fabrication by mechanical top-down technique,” JSNT 2012, Gaylord, TX
9. "Tunable acoustic terahertz generation in InGaN quantum wells effected by metal nanocrystals", M. Mahat, A. Llopis, S. Periera, I. Watson, T. Choi, A. Neogi, American Physical Society Meeting, Dallas, TX, Abstract: J38.00004, (2011)
10. " Modification of terahertz radiation in semiconductor quantum wells using metal nanoparticles" M. Mahat, Antonio Liopis, Sergio Periera, Ian M. Watson, T.Y. Choi, Arup Neogi, Optical Terahertz Science and Technology, Santa Barbara, CA; Abs TuE39; (March 13-17, 2011),
11. T. Y. Choi, D. Atemie, M. Denton, G. Noojin, L. Estlack, A. Rockwell, R. Thomas, “Laser damage thresholds for in vitro retinal pigment epithelial cell by micro thermal sensing,” APS fall meetings, San Antonio, TX, Oct 21-23 2010.
12. K. M. Lee, A. Neogi, T. Y. Choi, S. K. Lee, “Optical Characterization for a Single β-Silicon Carbide Nanowire,” Nanotech, Jun 2010.
13. R. Shrestha and T. Y. Choi, “Micropipette-based biological thermal sensor,” UKC-2009, Rayleigh, NC, USA.
14. "Hybrid Photonic Crystals for Optical Communication, " Brett W. Garner, Tong Cai, Tae-Youl Choi, Zhibing Hu. Arup Neogi, Proc. International Conference on Nanophotonics, Miyazaki, Japan Invited Talk,(2009).
15. " Infiltration of hydrogel polymer in GaAs Photonic crystal" Brett W. Garner, Tong Cai, Tae-Youl Choi, Zhibing Hu. Arup Neogi" "5th ICYS Conference, Tsukuba, Japan, " W-23, (2008).
16. Mahat, M., Choi, T. Y., Nasrazadani, S., Neogi, A., “Dual pump femtosecond laser induced plasma,” ASME Heat Transfer, Fluids, Energy And Energy Nano Conferences, Jacksonville, FL, Aug. 10-14, 2008.

Before UNT

1. Dockendorf, C.P.R. Steinlin, M., Choi, T. Y., and Poulikakos, D., “Carbon Nanotube Soldering with Gold Nanoink by the Fountain-Pen Technique,” Nanotechnology, 2006. IEEE-NANO 2006. Sixth IEEE Conference on, Vol. 1, p. 274- 275

2. C.S. Park, Y.S. Choi, D.W. Lee, T.Y. Choi, and B.S. Kang, “Fabrication and characterization of a pressure sensor using a pitch-based carbon fiber,” MNE 2006, 17-20 Sep. 2006, Barcelona, Spain
3. C. Dockendorf, T. Y. Choi and D. Poulikakos, “Multilayer direct-writing of electrical conductors with gold nanoinks using the fountain-pen principle,” 2005 Summer Heat Transfer Conference, July 17-22, San Francisco, CA.
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