

## CURRICULUM VITAE

### M. PINAR MENGÜÇ

#### PERSONAL

OFFICE ADDRESS: Department of Mechanical Engineering  
269 RGAN Bldg., University of Kentucky  
Lexington, KY 40506-0503, USA

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URL: <http://www.engr.uky.edu/~menguc/>

#### EDUCATION

Ph.D.: Purdue University, School of Mechanical Engineering, West Lafayette, IN, 1985.  
Dissertation Title: Modeling of Radiative Heat Transfer in Multidimensional Enclosures  
Using Spherical Harmonics Approximation. Advisor: Prof. R. Viskanta.

MSME: METU, Department of Mechanical Engineering, Ankara, Turkey, 1980 (with honors).  
Thesis Title: Heat Transfer in a Radiating Laminar Flow between Parallel Plates.  
Advisor: Prof. Y. Yener.

BSME: METU, Department of Mechanical Engineering, Ankara, Turkey, 1978 (with honors).  
Area of Specialization: Heat Transfer.

#### EXTENDED EDUCATION:

Woods Hole Oceanographic Institute College Faculty Workshop, Woods Hole, MA, June 1992.  
Laser Surgery Principles, Harvard University, Cambridge, MA, October 1998.

#### INDUSTRIAL ACTIVITIES:

Founding member of the Synergetic Technologies, Inc., Rensselaer, NY. Developer of particle  
characterization tools. (w/ former PhD. Student, Sivakumar Manickavasagam, and w/ C. Saltiel).

#### PROFESSIONAL EMPLOYMENT

7/1993 – Present Professor of Mechanical Engineering, University of Kentucky, Lexington, KY

7/2006 Honorary Professor, ESPOL, Guayaquil, Ecuador

8/2005 – Present Honors Faculty, University of Kentucky

8/2003 – Present Coordinator of the Nano-Scale Engineering Program at the College of  
Engineering for Undergraduate Students.

1/2003 – 8/2004 Program faculty for the Joint Mechanical Engineering Program between the  
University of Kentucky and Western Kentucky Univ., at Bowling Green, KY

9/1998 – 7/1999 Senior Research Fellow, Shriners Research Center, Harvard University/  
Massachusetts General Hospital, Cambridge, MA

6/1994 – 6/1999 Faculty Associate, Center for Applied Energy Research, University of  
Kentucky, Lexington, KY

Fall 1991 Visiting Professor, Universita degli Studi "Federico II," Naples, Italy

7/1988 – 6/1993	Associate Professor of Mechanical Engineering, University of Kentucky, Lexington, KY (received tenure in 1988).
6/1988	Summer Research Fellow, IBM-Lexington, KY
7/1985 – 6/1988	Assistant Professor of Mechanical Engineering, University of Kentucky, Lexington, KY
8/1980 - 6/1985	Research Assistant, School of Mechanical Engineering, Purdue University, West Lafayette, IN
6/1978 - 7/1980	Teaching Assistant, Department of Mechanical Engineering, METU - Middle East Tech. Univ., Ankara, Turkey
4/1979 - 7/1980	Consultant, Chamber of Mechanical Engineers, on Heat Exchangers and Boilers, Ankara, Turkey

## PROFESSIONAL ACTIVITIES

### EDITORIAL RESPONSIBILITIES:

Editor-in-Chief (with M. Mishchenko and L. Rothman)

*Journal of Quantitative Spectroscopy and Radiative Transfer, JQSRT*, 2006-2009.

Associate Technical Editor:

*Journal of Quantitative Spectroscopy and Radiative Transfer*, 2002-2005.

Associate Technical Editor:

*ASME Journal of Heat Transfer*, 1997-2000; Special Issue, 2006.

### INTERNATIONAL ACTIVITIES:

Scientific Council Member and Fellow:

International Center for Heat and Mass Transfer, 1998-2004; (one of the 15 US members)

Chairman of the Organizing Committee:

- First International Symposium on Radiative Transfer, sponsored by the International Center of Heat and Mass Transfer (ICHMT), Kusadasi, Turkey, August 14-18, 1995.
- Second International Symposium on Radiative Transfer, sponsored by the International Center of Heat and Mass Transfer (ICHMT), Kusadasi, Turkey, July 21-25, 1997.
- Third International Symposium on Radiative Transfer, sponsored by the International Center of Heat and Mass Transfer (ICHMT), Antalya, Turkey, June 17-22, 2001.
- Fourth International Symposium on Radiative Transfer, sponsored by the International Center of Heat and Mass Transfer (ICHMT), Istanbul, Turkey, June 20-25, 2004.
- Fifth International Symposium on Radiative Transfer, sponsored by the International Center of Heat and Mass Transfer (ICHMT), Bodrum, Turkey, June 17-23, 2007.  
(To be co-located with the 10<sup>th</sup> Electromagnetic wave and Light Scattering Conference (co-Organizer))

Scientific Advisory Committee Member:

International Conferences on Combustion Technologies for a Clean Environment, Lisbon, Portugal (3<sup>rd</sup> Conference in July 1995, 4<sup>th</sup> in 1997; 5<sup>th</sup> in 1999; 6<sup>th</sup> in 2001; 7<sup>th</sup> in 2003)

First Mediterranean Combustion Meeting, Antalya, Turkey, June 1999.

International Heat and Mass Transfer Conference, Istanbul, Turkey, July 2000

Second Mediterranean Combustion Meeting, Sharma-el-Sheikh, Egypt, January 2002.

Third Mediterranean Combustion Meeting, Marrakech, Morocco, June 2003  
Fourth Mediterranean Combustion Meeting, Lisbon, Portugal, 2005  
First International Forum on Heat Transfer, Kyoto, Japan, November 2004.  
Invited Participant, TASSA-TUBITAK Workshop, Gebze/Istanbul, Turkey, November 2005; May 2006.

#### NATIONAL ACTIVITIES:

##### Organizer:

- ASME IMECE Mini-Symposium on Nano- and Micro-Scale Radiative Transfer (w/ Z. Zhang), November 2005, Orlando and November 2006, Chicago.
- ASME Technical Program Representative for the 2002 8<sup>th</sup> ASME/AIAA Joint Thermophysics-Heat Transfer Conference; St. Louis, MO, June 2002
- Ad-Hoc Organizing Committee Member for ASME Heat Transfer Conferences (1998-2006)
- Symposium on Fires and Combustion Systems, International Mechanical Engineering Congress and Exposition (IMECE), Atlanta, GA, November 1996.

##### Session Chairman/Co-Organizer:

ASME/AIAA Thermodynamics and Heat Transfer Conference, Boston, MA, June 1986.  
ASME National Heat Transfer Conference, Atlanta, GA, August 1993.  
International Mechanical Engineering Congress and Exhibition, Atlanta, GA, November 1996.  
International Mechanical Engineering Congress and Exhibition, Dallas, TX, November 1997.  
International Mechanical Engineering Congress and Exhibition, Anaheim, CA, November 1998.  
Panel on Heat Transfer at Purdue U. Heat Transfer Celebrations, West Lafayette, IN, April 2003.  
ASME IMECE, Co-Chair, w/ P. Norris, of a session on "Nanoscale Education Programs,"  
Chicago, IL, November 2006.

##### Member:

ASME K-11 Committee on Heat Transfer in Combustion Systems and Fire. (1985-...)  
ASME K-3 Heat Transfer Memorial Awards Committee Member (2005-...)

##### Participant:

NSF Workshop to Determine the Emerging Technologies and Critical Phenomena in Thermal Engineering, Chicago, IL, April 19-21, 1991.

NSF Workshop, Joint with Russian-Belorussian Scientists on "Radiative Transfer in Highly Interacting Physical Systems," University of Texas, Austin, TX, October 4-8, 1993.

#### UNIVERSITY SERVICES:

##### University Wide:

Honors Program Faculty (2005- )  
Physical Sciences and Engineering Tenure and Promotion Area Committee, 1996-1998  
(Member, 96-97; Chair, 97-98)  
Academic Facilities Committee, University Senate, 1995-1997  
Search Committee, Associate Director of the Office of International Affairs, 1996-1997  
University Senate Member, Engineering Representative, 1994 -1997  
PEW Round Table Discussion Group, Engineering Representative, 1994  
Vice Chancellor's Equipment Maintenance Committee, 1995-1997  
Major Research Equipment Proposals Review Committee, 1993, 1994  
Biomedical Engineering Director Search Committee, Engineering Representative, 1989-1990  
Center for Robotics and Manufacturing Systems, Liaison Committee, 1989-1990

##### College Wide:

Coordinator, Nano-Scale Engineering Certificate Program, 2003-Present  
Program Faculty for the Joint Mechanical Engineering Program between UK (Lexington) and  
WKU (Bowling Green, KY), 2003-2005  
Raymond-Shaver Chair-Professor Search Committee, 1994-1995

Robinson Chair-Professor Search Committee, 1993  
College of Engineering Computer Advisory Committee, 1988-1991; (Chairman, 1990-1991)  
College of Engineering, ME Program Review Committee, 1992

Departmental Wide:

ME Department Faculty Search Committee, 2005-2007.  
Hardymon Chair Search Committee Chairman, 2000-2002  
Thermo-Fluid Sciences Area Chairman, 1999-2002  
ME Faculty Development Committee, 1999-2002  
Curriculum Development Committee, Chairman, 1996-1997  
ME Department Chair Search Committee, Chairman, 1994-1995  
Awards Committee, Chairman, 1989-1992  
Activities Committee, 1992-1996, 2004- ,  
William Maxwell Reed Seminars Coordinator, 1988-1990; 2003-2004  
Faculty Search Committee, 1988-1989, 1995-1996, 1996-1997, 2005- .  
Undergraduate Appeals Committee, 1988-1989  
Laboratory Planning Committee, 1987-1988  
Mechanical Engineering Energy Committee, Chairman, 1985-1987  
Graduate Studies Committee, 1985-1987  
Undergraduate Studies Committee, 2005- .

SOCIETY MEMBERSHIP:

American Society of Mechanical Engineers, Fellow  
The Combustion Institute  
Optical Society of America  
Society of Engineering Sciences  
Tau Beta Pi, Sigma Xi, Pi Tau Sigma

REVIEWER:

National Science Foundation  
National Institutes of Health  
ASME Journal of Heat Transfer  
AIAA Journal of Thermophysics and Heat Transfer  
International Journal of Heat and Mass Transfer  
Journal of Quantitative Spectroscopy and Radiative Transfer  
Nanotechnology Journal  
Applied Optics  
Applied Physics  
Combustion Science and Technology  
Combustion and Flame  
Energy and Fuels  
Experimental Heat Transfer  
Fuel  
Combustion Symposia  
Journal of Thermal Insulation  
Canadian Journal of Chemical Engineering  
Powder Technology  
ASME Conferences (since 1984)  
American Scientist, McGraw-Hill, Inc, Taylor and Francis  
Begell House Publishers  
John Wiley Publishers  
McGraw Hill, Inc.

**AWARDS AND HONORS**

Turkish Scientific and Technical Research Council Fellowship (1972-1980)

University of Kentucky Summer Faculty Research Fellowship (1986)  
 University of Kentucky Special Summer Faculty Research Fellowship (1987)  
 National Science Foundation Engineering Initiation Award (1987)  
 University of Kentucky Presidential Special Faculty Incentive Award (1988-1990)  
 IBM Summer Research Faculty (1988)  
 Cited in Who's Who in South and Southwest, 22nd Edition (1990 -)  
 Cited in Who's Who Among Young American Professionals, 2nd Edition (1992 -)  
 Outstanding Research Paper Award, College of Engineering, University of Kentucky (1991) (JA 21)  
 Outstanding Research Paper Award, College of Engineering, University of Kentucky (1994) (JA 28)  
 Best Paper Award, ASME Heat Transfer Division (1994) (given in November 1995) (JA 28)  
 Fellow, ASME (American Society of Mechanical Engineers) (1999)  
 Fellow, ICHMT (International Center for Heat and Mass Transfer) (2002)  
 Listed in the Marquee's Who's Who in the World (2000)  
 Invited Member of ElectroOptics Research Institute, University of Louisville, KY (2006)  
 Honorary Professor, ESPOL, Guayaquil, Ecuador (2006)

#### **AREA OF RESEARCH SPECIALIZATION**

Radiative heat transfer in multidimensional geometries  
 Inverse radiation problems  
 Radiative/optical properties of particulates and combustion products  
 Applied optics - laser diagnostic techniques  
 Radiative transfer and visualization applications in biological systems  
 Thermal Transport in Nano-Scale: Electrons, Phonons, and Photons

#### **THESES DIRECTED**

1. S. Chakravarty, "Analytical Inversion Techniques for the Integral Form of the Radiative Transfer Equation," MSME, 1987.
2. R.K. Iyer, "Modeling of Radiative Transfer Using Multiple Spherical Approximations," MSME, 1987.
3. K.R. Varma, "Modeling of Heat Transfer in Pulverized-Coal Fired Furnaces," MSME, 1988.
4. B.M. Agarwal, "An Experimental and Theoretical Study of Single and Multiple Scattering in an Axisymmetric System," MSME, 1989.
5. S. Subramaniam, "Solution of Inverse Radiation Problem with Monte Carlo Technique," MSME, 1989.
6. M.B. Bush, "Design of a CO<sub>2</sub>-Laser Nephelometer to Determine the Radiative Properties of Pulverized-Coal Particles," MSME, 1989.
7. D.A. Dsa, "Transmission/Scattering of Visible and Infrared Radiation by Pulverized-Coal Particles," MSME, 1990.
8. J. Funk, "A Semi-Analytical Method to Predict Printed Circuit Board Package Temperatures," MSME, 1990. (co-advisor: K. Tagavi)
9. A. Mahadeviah, "Study of Morphology of Soot Particles in a Diffusion Flame using the Discrete Dipole Approximation," MSME, 1991.
10. P. Dutta, "Application of Angular Tomography to Axisymmetric Flames Containing Absorbing and Scattering Particles," MSME, 1991.
11. S. Sitaraman, "Modeling of Forward and Inverse Radiation Transfer in Cylindrical Geometries," MSME, 1992.
12. S. Manickavasagam, "Effective Optical and Radiative Properties of Pulverized Coal and Char," Ph.D., 1993.
13. R. Govindan, "Identification of Characteristics of Soot Agglomerates from Polarization Experiments," MSME, 1996.
14. S. Alstedt, "Optical and Radiative Properties of Phytoplanktons," MSME, 1996.
15. S. Mukerji, "Radiation-Turbulence Interactions," Ph.D. 1997 (served as a Co-Advisor in a Joint DOE Project with Professor J.M. McDonough, Director of the Dissertation).

16. S. Swabb, "Radiation-Turbulence Interactions," Ph.D., 199?. (student is inactive)).
17. C. Klusek, "Radiative Properties of Agglomerates," MSME, 1999.
18. C. Crofcheck, "Identification of Optical/Radiative Properties of Dairy Products," Ph.D. 2001. (with Fred Payne).
19. D. Barnett, "Design of a Fire-Fighter Helmet," MSME, 2003 (co-Advisor with K. Saito)
20. Phani K. Bolloju; MS in Mechanical Engineering (no Thesis option), 2004.
21. B. Wong, "Monte Carlo Techniques for the Solution of the Transient and Steady Radiative Transfer Equation," MSME, 2001; "Thermal Heat Transport at the Nano-Scale Level and its Application to Nano-Machining" Ph.D. 2006.
22. P. G. Venkata, "Characterization of Nano-size Particles Near Metallic Surfaces via Surface Plasmon Scattering," MSME 2006.
23. R. Kumar, "Numerical Investigation and Parallel Computations for Thermal Transport for Nanomachining," MSME 2006.
24. M. Kozan, "Characterization of Agglomeration of Nanostructures," Ph.D., to be completed in 2007.
25. K.-F. Hii, "Nano-Machining Facility," (w/ R. Vallance), Ph.D., to be completed in 2007.
26. J.N. Swamy; "Characterization of Foam," (w/ C. Crofcheck), Ph.D., to be completed in 2007.
27. Ellie (Derbyshire) Hawes; "Directed Self-Assembly of Nano-Size Particles," (w/ C. Crofcheck and T. Hastings, co-advisors), Ph.D., to be completed in 2007.
28. B. Hawes, "Nanoparticle-based Fabrication Techniques for Surface-Wave Enhanced Reflection," MSME 2007.
29. Jaime Sanchez; "Nano-Scale Melting," Ph.D., to be completed in 2008.
30. Mathieu Francoeur, "Nano-Scale Radiation," Ph.D., to be completed in 2008.
31. Illay "Victor" Kunadian, "Carbon-nano-tube based energy devices," (w/ Rodney Andrews), Ph.D., to be completed in 2008.

#### **POST DOCTORAL FELLOWS/RESEARCH ASSOCIATES**

1. Siva Manickavasagam, Ph.D. from University of Kentucky, 1993 – 1995.
2. Sarbajit Ghosal, Ph.D. from Stanford University, 1993 – 1995.
3. De Kui Qing, Ph.D. from Yokohama U. Japan, 2000 – 2001.
4. Mustafa M. Aslan, Ph.D. from Pennsylvania State U., 2001 – 2006.
5. P.D. Kichambare, Ph.D., Japan, 2002-2004. (Dr. R. Vallance is the Principal Mentor).
6. Pablo Albella, Universita de Cantabria, Spain, 2006 Summer.
7. Basil Wong, Ph.D. from University of Kentucky, September-December, 2006.

#### **DISSERTATION AND THESES COMMITTEES SERVED AS A COMMITTEE MEMBER**

1. K.C. Midkiff, Jr., Ph.D. in Mechanical Engineering, 1986.
2. D.W. Mackowski, Ph.D. in Mechanical Engineering, 1987.\*
3. J.S. Zaveri, M.S. in Chemical Engineering, 1988.
4. N. Srikantaiah, M.S. in Mechanical Engineering, 1988.
5. M.W. Whitney, M.S. in Civil Engineering, 1988.
6. S. Jolly, M.S. in Mechanical Engineering, 1989.\*
7. B. Chen, Ph.D. in Mechanical Engineering, 1990.\*
8. W. Godfrey, M.S. in Mechanical Engineering, 1990.\*
9. Y. Raja, M.S. in Chemical Engineering, 1992.
10. Z. Ivezic, Ph.D. in Astronomy, 1995.\*
11. R.T. Pogue, Ph.D. in Chemistry, 1995.
12. D. Bhanti, Ph.D. in Chemical Engineering, 1996.\*
13. A. Thomasson, Ph.D. in Agricultural Engineering, 1997.\*
14. D. Weatherly, Ph.D. in Mechanical Engineering, 1997.
15. D. Wang, Ph.D. in Mechanical Engineering (inactive).\*
16. V. Devakandra, Ph.D. in Chemical Engineering, 1998.
17. F. Wu, Ph.D. in Electrical Engineering (inactive student).
18. L. Yuan, Ph.D. in Mechanical Engineering, 2001.

19. D. Vinkovich, Ph.D. in Physics and Astronomy, 2003.
20. M. Omar, Ph.D. in Mechanical Engineering, 2005.
21. H. Xu, Ph.D. in Mechanical Engineering, (work in progress).
22. R. Swamy, Ph.D. in Biosystems and Agricultural Engr., (work in progress).
23. Maoming Fan, Ph.D. in Mining Engr., (work in progress)
24. M.G. Danao, M.S. in Agricultural Engineering and Biosystems, 2001; Ph.D. 2005.\*
25. Sriram Venkatesan, M.S. in Mechanical Engineering, 2005.
26. Sarang Kortikar, M.S. in Mechanical Engineering, 2005.
27. Tracy Xu, Ph.D. in Mechanical Engineering, 2006.
28. Bilal, O, Ph.D. in Mechanical Engineering, 2006.
- 29.

\*(joint work with these students resulted refereed journal articles.)

#### **DISSERTATION COMMITTEES SERVED AS A REPRESENTATIVE OF THE GRADUATE SCHOOL**

1. Fariba Bigdeli, Ph.D. in Mathematics, 1991.
2. Mitchell Owens, Ph.D. in Chemistry, 1993.
3. James Carl Day, Ph.D. in Physics, 1995.
4. Christopher Rock, Ph.D. in Materials Science, 1997.
5. Oleg Makarov, Ph.D. in Physics, 1998.

#### **UNDERGRADUATE RESEARCH STUDENTS**

1. Chad Buckner, University of Kentucky, 1993.
2. Erin Rapela, Clarion University, PA, 1993.
3. Carrie Miller, University of Kentucky, 1997
4. Randy Williams, University of Kentucky, 1997.
8. Jeff Stephenson, University of Kentucky, 1997.
6. Joe Istre, University of Kentucky, 2000.
7. Jeff Evans, University of Kentucky, 2002.
8. Jessica Beckham, University of Kentucky, 2002.
9. Brian Hawes, University of Kentucky, 2004-2005.
10. Robert Martin, University of Kentucky, 2005-2007.
11. Denis Livchak, University of Kentucky. 2006-2007.

#### **HIGH-SCHOOL RESEARCH STUDENTS**

1. Kyle Kral, Paul Lawrance Dunbar HS, Lexington, KY, 2003-2005.
2. Zach Kratzer, Paul Lawrance Dunbar HS, Lexington, KY, 2004-2006.
3. Tianming Liu, Paul Lawrance Dunbar HS, Lexington, KY, 2004-2006.
4. Rohit Ray, Paul Lawrance Dunbar HS, Lexington, KY, 2004-2007.

#### **COURSES TAUGHT**

Engineering Thermodynamics I, ME 220, [Spring'87,90,91,93,00; Fall 88,89,92,99,00,02,03, Sum 05,06]  
 Engineering Thermodynamics II, ME 321, [Fall'85,93,94,96,97; Spring'95,96,97]  
 Heat Transfer, ME 325, [Spring'97,98,02,05; Fall 97,01]  
 Independent Study, ME 395: Internal Combustion Engines [Spring/Fall 1997]  
 Applications of Heat Transfer, ME 550, (new course), [Spring 1987]  
 Engineering Optics, ME 560, (new course), [Fall'86, 87, 88, 89, 90, 93; Spring'92,95,98,00,01,02,05]  
 Radiation Heat Transfer, ME 627, [Spring'86,89,94,00,04,06; Fall'87,90,92,95,98,01]  
 Boundary Layer Theory, ME 631, [Spring'88]  
 Applications of Radiative Transfer and Optics to Engineering Processes, ME 599, [Spring'96]  
 Nano-Scale Thermal Sciences, (new course) ME 599, [Fall'04,05,06]  
 Impact of Emerging Technologies on Society, Honors Hon 101b, [Fall'05,06] New Course.

## INVITED SEMINARS - SHORT COURSES

1. Brigham Young University, "Determining the Radiative Properties of Coal Particles from Experiments," Provo, UT; December 5, 1990.
2. University of Cincinnati, "Inverse Radiation Problems to Determine the Effective Radiative Properties of Particles from Experiments," Cincinnati, OH; April 5, 1991.
3. Middle East Technical University, "Radiative Heat Transfer in Combustion Systems," Ankara, Turkey; October 11, 1991.
4. Università degli Studi "Federico II," "Radiative Heat Transfer," Napoli, Italy; November, 5, 8, 12, 15, 1991; (eight-lecture short course).
5. Università degli Studi "Federico II," "Discrete Dipole Approximation to Determine the Radiative Properties of Soot Agglomerates," Naples, Italy; November 20, 1991.
6. ENEL - Italian Electricity Board, "Radiative Heat Transfer: Fundamentals and Applications," Pisa, Italy; November 27-28, 1991; (eight-lecture short course).
7. Tulane University, "Inverse Radiation Problems to Determine the Effective Radiative Properties of Particles from Experiments," New Orleans, LA, May 7, 1992.
8. University of Kentucky, "Computational Aspects of Forward and Inverse Radiation Problems," Center for Computational Sciences Seminar Series, Lexington, KY, October 28, 1992.
9. Instituto Superior Tecnico, University of Lisbon, "Radiative Heat Transfer," Lisbon, Portugal; April 13-17, 1993; (four lectures).
10. Texas A & M University, "Effective Radiative and Optical Properties of Coal/Char Particles," College Station, TX, October 8, 1993.
11. Purdue University, "Diagnostics of Size and Structure of Particles using Polarized Light and Scattering Matrix Concept," West Lafayette, IN, October 27, 1995.
12. Chandrasekhar Memorial Symposium, "Radiation Transfer and Polarized Light," Society of Engineering Sciences Meeting, Tempe, AZ, October 20-23, 1996.
13. University of Kentucky, "Radiation Transfer and Polarized Light," Center For Computational Sciences Seminar Series, Lexington, KY, November 6, 1996.
14. Sandia National Laboratories, "Identification of the Structure of Particles via Polarized Light Diagnostics," Albuquerque, NM, February 13, 1997.
15. National Technical University of Athens, Athens, Greece, "Particle Characterization Techniques," April 1, 1998.
16. EURO THERM Seminar #56, Delphi, Greece, "Chaotic Radiation-Turbulence Interactions in Flames," April 3, 1998.
17. Università degli Studi "Federico II," "Radiation Transfer," Napoli, Italy, May 22, 1998.
18. Italian Combustion Section Meeting, "Fundamentals of Scattering-Matrix Based Particle Characterization Techniques," Ravello, Italy, May 28, 1998.
19. Massachusetts General Hospital/Harvard Medical School, Department of Dermatology, Wellman Laboratory, "Characterization of Particles/Cells using Elliptically Polarized Light Scattering," Boston, MA, October 28, 1998.
20. Army Research Laboratory, "Particle Characterization Techniques," Aberdeen Grounds, Maryland, November 12, 1998.
21. International Mechanical Engineering Congress and Exhibition, "Fundamentals of Scattering-Matrix Based Particle Characterization Techniques," FACTS Division, Anaheim, CA, November 16, 1998.
22. Purdue University, School of Mechanical Engineering, "New Directions in Radiation Transfer Research: From Particle Characterization to Applications in Surgery," West Lafayette, IN, January 12, 1999.
23. University of Connecticut, Dept. of Mechanical Engineering "A Particle Characterization Technique based on Elliptically Polarized Light Scattering," Storrs, CT, February 12, 1999.
24. Northeastern University, Dept. of Mechanical Engineering "A Particle Characterization Technique based on Elliptically Polarized Light Scattering," Boston, MA, March 5, 1999.
25. French Radiative Transfer Conference, Action Concertée en Rayonnement Thermique (ACRT) "Characterization of Size and Structure of Agglomerates and Inhomogeneous Particles with Elliptical Light; Lyon, France, October 1999.
26. National Institute for Laser Enhanced Sciences (NILES), "Light Scattering and Imaging Techniques, Applications to Combustion Systems," Cairo University, Egypt, November 19, 2000.

27. University of Missouri-Rolla, "A Particle Characterization Technique based on Elliptically Polarized Light Scattering," Rolla, MO January 23, 2002.
28. National Institute for Standards and Technology (NIST), "A Particle Characterization Technique based on Elliptically Polarized Light Scattering," June 03, 2002.
29. Rice University, "A Particle Characterization Technique based on Elliptically Polarized Light Scattering," September 27, 2002.
30. Vanderbilt University, "A Particle Characterization Technique based on Elliptically Polarized Light Scattering," February 24, 2003.
31. University of Texas at Austin, "Modeling of Energy Transfer for Carbon-Nanotube based Precision Machining," March 5, 2003.
32. CETHIL, Insa, Lyon, France, "Modeling of Energy Transfer for Carbon-Nanotube based Precision Machining," April 11, 2003.
33. KSTC/Kentucky High Schools Science Teachers Association, Lexington, KY, "Nano-Scale Engineering Certificate Program at the University of Kentucky," November 19, 2004.
34. University of Louisville, Louisville, KY, "Nano-Scale Machining and Nano-Engineering Certificate Program at the University of Kentucky," February 4, 2005.
35. Lexmark Inc., Lexington, KY, "Nano-Engineering: A Natural extension Beyond Nanosciences and Nanotechnology," March 17, 2005
36. ASME Lexington Chapter, Lexington, KY, "Nano-Engineering: A Natural extension Beyond Nanosciences and Nanotechnology," March 24, 2005,
37. International Workshop on Nanophotonics and Nanobiotechnology, Koc University, Istanbul, Turkey, "Characterization of Fine Particles with Elliptically Polarized Scattered Light: Elastic and Evanescent Waves and Surface Plasmons," June 28-July 8, 2005.
38. Texas A&M University, Department of Mechanical Engineering, College Station, TX, "Machining and Characterization at the Nanoscale," March 1, 2006.
39. Drexel University, Department of Mechanical Engineering, Philadelphia, PA, "Nano-Scale Machining and Characterization," March 24, 2006
40. Fresnel Institute, Marseille, France, "Nano-Scale Characterization and Machining," April 3, 2006.
41. Universidad de Cantabria, Santander, Spain, "Nano-Scale Characterization and Machining," April 10, 2006.
42. ESPOL, Guayaquil, Ecuador, "Nanoscale Machining and Characterization," July 31, 2006.
43. ESPOL Downtown Campus, Guayaquil, Ecuador, "Nanoscale Engineering: Impact on Economy via Education," August 1, 2006.
44. ASME IMECE, Chicago, IL, Panel on Nano/Micro Scale Radiation, "Can we characterize and manipulate nanoscale particles?" November 6, 2006.
45. ASME IMECE, Chicago, IL, Panel on Nanoeducation, "Nanoscale Engineering Education Programs at the University of Kentucky," Organized by ASME K-21 Committee on Education, November 7, 2006.
46. University of Texas, Austin, TX. "Can we characterize and manipulate nanoscale particles?" December 8, 2006.

## ARCHIVAL PUBLICATIONS

### BOOKS

- B 1. Basil Wong and M. Pinar Mengüç, "*Thermal Transport for Applications to Nanomachining*," Microtechnology and MEMS Series, Springer-Verlag, Heidelberg, Germany, 2007 (in preparation for publication in 2007).

### EDITED BOOKS (EB) and JOURNALS (EJ)

- EB 1. M.P. Mengüç, Editor, "*Radiative Transfer I*," Proceedings of the First International Symposium on Radiative Transfer, (held in Kusadasi, Turkey, August 1995; organized by the International Centre For Heat and Mass Transfer), Begell House, New York, 1996.

- EB 2. M.P. Mengüç, Editor, "*Radiative Transfer II*," Proceedings of the Second International Symposium on Radiative Transfer, (held in Kusadasi, Turkey, July 1997; organized by the International Centre For Heat and Mass Transfer), Begell House, New York, 1998.
- EB 3. M.P. Mengüç, N. Selcuk, Editors, "*Radiative Transfer III*," Proceedings of the Third International Symposium on Radiative Transfer, (held in Antalya, Turkey, June 2001; organized by the International Centre For Heat and Mass Transfer), 2001.
- EJ 4. M.P. Mengüç, N. Selcuk, J.R. Howell, J.-F. Sacadura, co-editors, "*Selected papers from the Third International Symposium on Radiative Transfer*," Special Issue of *Journal of Quantitative Spectroscopy and Radiative Transfer*," Volume 73, Number 2-5, 2002.
- EJ 5. P. Lybaert, N. Selcuk, D. Lemonnier, M.P. Mengüç, co-editors, "*Selected papers from Eurotherm 73*" Special Issue of *Journal of Quantitative Spectroscopy and Radiative Transfer*," January 2004.
- EJ 6. M.P. Mengüç, N. Selcuk, B.W. Webb, D. Lemonnier, co-Editors, "*Selected papers from the Fourth International Symposium on Radiative Transfer*" Special Issue of *Journal of Quantitative Spectroscopy and Radiative Transfer*," Vol. 93, Numbers 1-3, July 2005.
- EJ 7. D. Lemonnier, P. Lybaert, N. Selcuk, M.P. Mengüç, co-editors, "*Selected papers from Eurotherm 78*" Special Issue of *Journal of Quantitative Spectroscopy and Radiative Transfer*," March 2007.

#### **BOOK CHAPTERS (BC)**

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#### **CLASS NOTES (CN)** *(for distribution to students)*

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- CN 2. M.P. Mengüç, "Engineering Optics".
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#### **WEB PAGES**

M. P. Mengüç: <http://www.engr.uky.edu/~menguc/>  
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#### **INDUSTRIAL ACTIVITIES/CONTRACTS**

M. P. Mengüç is one of the founders of the Synergetic Technologies Inc., (STI), an advanced particle characterization start-up company, with Dr. Sivakumar Manickavasagam (former Ph.D. student) and Dr. Craig Saltiel. Since 1997, STI has received several SBIR grants from NSF and NIH.

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