



UNIVERSITÀ DEGLI STUDI DELL'AQUILA

Prof. Filippo de Monte

Curriculum scientifico

(Aggiornato il 2022/10/20)

NOTE BIOGRAFICHE

[Filippo De Monte on ResearchGate](#)

Filippo de Monte, Ph.D, is currently Professor of Mechanical Engineering at University of L'Aquila, L'Aquila, Italy, Department of Industrial and Information Engineering and Economics (DIIIE) and *Visiting Affiliate Professor* at the Department of Mechanical Engineering, Michigan State University (MSU), East Lansing (MI), USA.

Education and university positions:

- Graduated full-honours (Summa cum laude & encomium) in Mechanical Engineering (March, **1989**) from University of L'Aquila, Italy.
- *Visiting Ph.D. student* at the Department of Engineering, University of Cambridge, UK, **1992 (6 months)**.
- Ph.D. degree in Mechanical Engineering (July, **1993**) from University of L'Aquila, Italy.
- Assistant Professor of Heat Transfer and Engineering Thermodynamics at University of L'Aquila, Italy, since **1992**.
- Associate Professor at University of L'Aquila since **2001**.
- *Visiting Affiliate Professor* at the Department of Mechanical Engineering, Michigan State University (MSU), East Lansing, MI, USA, since **2007**. Office Room: 2328 E; phone: 517-355-8487; E-mail: demonte@msu.edu.
 - spring & fall semester **2007 (3 weeks)**
 - fall semester **2008 (3 months)**
 - fall semester **2009 (2 months)**
 - spring & fall semesters **2010 (2 months)**
 - fall semester **2011 (2 months)**
 - spring & fall semesters **2012 (1 and ½ months)**
 - fall semester **2014 (1 month)**

Collaboration with Universities and Research Centres:

- Dipartimento di Ingegneria Navale e Tecnologie Marine, University of Genoa, Italy (*Stirling cycle machines*). Prof. Giovanni Benvenuto.
- Engineering Department, University of Cambridge, U.K. (*Heat regenerators and Stirling cycle machines*). Prof. Allan J Organ.
- Plataforma Solar de Almeria (PSA), Spain. Research period of **2 weeks** in **1998** and 1 week in **2000** as group leader of the Project *Solar Dish/Stirling systems*, within the TMR (1996-1998) and IHP (2000-2002) Programme Frameworks of the European Commission.
- Optoelectronics Research Centre (ORC), University of Southampton, U.K. (*Theoretical - experimental calculation of the absorptivity of glass materials*). Research period of **1 week** in **2003**. Prof. H. Rutt e Dr. M. Petrovich.
- PROMES-CNRS high flux solar facilities (SOLFACE), Font-Romeu, Odeillo, France. Research period of **2 weeks** in **2004** as group leader of the Project *Theoretical - experimental calculation of the solar absorptivity of metallic materials*, within the 6th Framework Programme Transnational Access of the European Commission (2004 - 2007).
- Department of Mechanical Engineering, Michigan State University MSU (*Heat Conduction Problems - HCPs*). Distinguished Prof. [James V. Beck](#).

Participant in the research group 'L'Aquila' within the COFIN **1997** (*Refrigerating systems and heat pumps*; responsible: prof. L. Laurenti) and COFIN **1998** (*Heating and air-conditioning systems*; responsible: prof. F. Marcotullio); and in the research group 'Ancona' within the PRIN (COFIN) **2007** (*Devices to destabilize the boundary layer*; responsible: prof. G. Cesini).

Member of UIT (Unione Italiana Termofluidodinamica), ATI (Associazione Termotecnica Italiana), ASME (American Society of Mechanical Engineers), ASME Italian Division, AIAA (American Institute of Aeronautics and Astronautics), ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers), IIR/IIF (International Institute of Refrigeration).

Chairman of the Session S11C: Inverse problems (Room C), May 20, 4th International Conference of Computational Heat and Mass Transfer (ICCHMT), Paris-Cachan, May 17 - 20, 2005.

Member of the Steering Committee of the [2009 Inverse Problems Symposium](#), May 31 to June 2, 2009, and of the [2010 Inverse Problems Symposium](#), June 6 - 8, 2010, Michigan State University, East Lansing, MI, USA.

Invited lecture for the graduate course "[Conductive Heat Transfer](#)" at the Department of Mechanical Engineering, Michigan State University (MSU), USA, November 28, 2007 (lecturer: Dr. Guy Raguin).

Invited seminar

for the Department of Mechanical Engineering, Michigan State University (MSU), USA, Building of Engineering, Room # 3540, October 27, 2009.

Visiting Ph.D. student at the Engineering Department, University of Cambridge, UK, **1992(6 months)**.

Tutor: Prof. Allan J Organ.

Visiting Professor

at the Department of Mechanical Engineering, Michigan State University (MSU), USA. E-mail: demonte@msu.edu. ID card: Z41200624. Cooperation with Dr. James V. Beck, Distinguished Prof. at the Engineering College, MSU and 1998 [ASME Heat Transfer Memorial Award](#).

Author of 180 articles published in international and national refereed journals, proceedings of international and national conferences and reports, book chapters.

Referee for various prestigious international journals such as *Int. J. Heat Mass Transfer*, *Int. J. Refrigeration*, *Int. J. Thermal Sciences*, *ASME J. Heat Transfer*, *Numerical Methods for Heat & Fluid Flow*, *Fluid Phase Equilibria*, *Numerical Heat Transfer*, *ASHRAE HVAC & R Research*, *Building and Environment*, *Journal of Composite Materials*, *International Journal of Thermophysics*, *Engineering*, *Journal of Applied Physics*.

Member of the Editorial Board of " [The Open Thermodynamics Journal](#)."

ATTIVITÀ DI RICERCA E AREE D'INTERESSE

Main research fields:

- Heat and mass transport by diffusion ? fundamentals and applications;
- Heat regenerators and Stirling Cycle Machines;
- Thermodynamic properties of new refrigerants.

PUBBLICAZIONI

ISI-WoS International Journals (> 2009)

Giampaolo D'Alessandro, Filippo de Monte, *Optimal Experiment Design for Thermal Property Estimation using a Boundary Condition of the Fourth Kind with a Time-Limited Heating Period*, *International Journal of Heat and Mass Transfer*, Vol. 134, pp. 1268-1282, May **2019**. <https://authors.elsevier.com/c/1YdsJ44xZ~e2z>

- **Giampaolo D'Alessandro, Filippo de Monte**, Intrinsic Verification of an Exact Analytical Solution in Transient Heat Conduction, *Computational Thermal Sciences*, Vol. 10, No. 3, pp. 251-272, 2018.
- **Robert L. McMasters, Filippo de Monte, James V. Beck, Donald E. Amos**, ?Transient Two-Dimensional Heat Conduction Problem with Partial Heating near Corners,? *ASME Journal of Heat Transfer*, Vol. 140, pp. 021301-1 - 021301-10, Issue No. 2, February **2018**.
- Filippo de Monte, A. Haji-Sheikh, ?Bio-Heat Diffusion under Local Thermal Non-Equilibrium Conditions using Dual-Phase Lag-based Green's functions," *International Journal of Heat and Mass Transfer*, Vol. 113, pp. 1291-1305, October **2017**.

- **Robert L. McMasters, Filippo de Monte, James V. Beck, Satish C. Nallapaneni, Donald E. Amos,** "Diffusion penetration time for transient heat conduction," *Journal of Thermophysics and Heat Transfer* (AIAA), Vol. 30, no. 3, pp. 614-621, July **2016**.

National Reports (# 3)

- "Un Modello Dinamico per la Previsione del Funzionamento di MCI," *Pubblicazione Interna, Dipartimento di Energetica, Università di L'Aquila* Marzo **1990** (co-authors: P. Beomonte Zobel e A. De Vita).
- "Il metodo alle differenze finite per la soluzione di flussi in mezzi porosi," *Pubblicazione Interna, Dipartimento di Energetica, Università di L'Aquila* Ottobre **1991**.
- "Analisi Dinamica e Termodinamica di Motori Stirling a Pistone Libero," *Tesi di Dottorato, Dipartimento di Energetica, Università di L'Aquila*, Febbraio **1993**.

International Reports (# 2)

- "Dynamic and Thermodynamic Behaviour of the Free-Displacer Stirling Cycle Cooler," Published by *Cambridge University Engineering Department (UK)*, September **1992** (co-author: A. J. Organ).
- "Modeling Heat Diffusion in a Laser Calorimetry Experiment," Published by *Optoelectronics Research Center (ORC), University of Southampton (UK)*, June **2003** (co-author: M. Petrovich).

National Conferences & Symposia (# 21)

- "Progettazione Ottimizzata di Motori Stirling a Pistone Libero," *44° Congresso Nazionale della Associazione Termotecnica Italiana*, Cosenza, 12-15 Settembre, **1989**, (co-author: G. Benvenuto).
- "Modello Dinamico del Funzionamento di un MCI a Fini Diagnostici," *1° Giornata di Studio "Evoluzione dei Motori a Combustione Interna nel campo dei Trasporti"*, Pisa, 4-6 Giugno, **1990** (co-author: A. De Vita).
- "La macchina di Stirling a pistone libero: studio del comportamento dinamico al variare del carico," *45° Congresso Nazionale della Associazione Termotecnica Italiana*, Cagliari, 18-21 Settembre, **1990** (co-author: G. Benvenuto).
- "Experimental Determination of Evaporation Heat Transfer Coefficients and Pressure Drops of Refrigerants in Inner Grooved Tubes," *X Congresso UIT di Trasmissione del Calore*, Genova, 25-27 Giugno, **1992** (co-authors: L. Laurenti e A. Ponticiello).
- "Heat Conduction Transfer Functions: General one-entry Tables for six two-dimensional Solids of Different Geometric Shapes," *XII Congresso UIT di Trasmissione del Calore*, L'Aquila, 23-24 Giugno, **1994** (co-authors: F. Marcotullio e A. Ponticiello).
- "Utilizzazione dei coefficienti delle funzioni di trasferimento per geometrie bidimensionali: studio del

transitorio termico di un sistema a pannelli radianti,"

49° *Congresso Nazionale della Associazione Termotecnica Italiana*, Perugia, 26-30 Settembre, **1994** (co-authors: L. Laurenti e F. Marcotullio).

• "Un nuovo metodo di soluzione per problemi termici inversi. Considerazioni e confronti," *51° Congresso Nazionale della Associazione Termotecnica Italiana*, Udine, 16-20 Settembre, **1996** (co-authors: L. Laurenti, F. Marcotullio e A. Ponticiello).

• ?Analisi sperimentale delle prestazioni di una macchina frigorifera a compressione funzionante con fluidi alternativi,? *39° Convegno Annuale AICARR* Milano, 27 - 28 Marzo, **1998** (co-authors: L. Laurenti, F. Marcotullio, M. Piccioni).

• ?Analisi sperimentale di un impianto frigorifero con compressore a velocità variabile,?
54° Congresso Nazionale della Associazione Termotecnica Italiana, L'Aquila, 14-17 Settembre, **1999** (co-authors: L. Laurenti, F. Marcotullio, M. Piccioni).

• ?Analisi della compressione isoentropica del fluido frigorifero HFC-134a,?
56° Congresso Nazionale della Associazione Termotecnica Italiana, Napoli, 10-14 Settembre, **2001** (co-authors: L. Laurenti, F. Marcotullio).

• ?Determinazione della resistenza termica di pareti da misure in situ: proposta di un metodo di analisi dinamica dei dati registrati,? *57° Congresso Nazionale della Associazione Termotecnica Italiana*, Pisa, 16-20 Settembre, **2002** (co-authors: L. Laurenti, F. Marcotullio).

• ?Una tecnica completamente automatizzata per il calcolo di autovalori di strutture multi-strato in condizioni non stazionarie di flusso termico,? *58° Congresso Nazionale della Associazione Termotecnica Italiana*, Padova ? S. Martino di Castrozza, 9-12 Settembre, **2003** (co-author: F. Marcotullio).

• ?Computer-aided automatic computation of eigenvalues for multi-layer transient heat conduction problems,?
59° Congresso Nazionale della Associazione Termotecnica Italiana, Genova, 14-17 Settembre, **2004** (co-author: F. Marcotullio).

• ?Analisi termica di collettori solari piani a tubi evacuati con tecnologia ?heat-pipe,? *60° Congresso Nazionale della Associazione Termotecnica Italiana (ATI)*, Roma, 13-15 Settembre, **2005** (co-authors: F. Marcotullio e L. Laurenti).

• ?First-order nonlinear analysis of rapidly switched heat regenerators in counterflow,? *XXIV Congresso Nazionale UIT sulla Trasmissione del Calore*, Napoli, 21- 23 Giugno, **2006** (co-author: Paolo Rosa).

• ? Modeling of mass convection-diffusion in stent-based drug delivery,?
XXV Congresso Nazionale UIT sulla Trasmissione del Calore, Trieste, 18 - 20 Giugno, **2007** (co-author: Giuseppe Pontrelli).

• ? Exposed times of various metallic layers subject to a short-flash of concentrated solar energy. Theoretical-Experimental evaluation ,? *XXV Congresso Nazionale UIT sulla Trasmissione del Calore* , Trieste, 18 - 20 Giugno, **2007**(co-authors: Alain Ferriere, Luca Florio, Paolo Rosa).

- ?Ottimizzazione termica di trasformatori planari ad alta frequenza,?
XXVI Congresso Nazionale UIT sulla Trasmissione del Calore, Palermo, 23 - 25 Giugno, **2008**
(co-author: Stefano Di Sabatino).
- ?Two-dimensional Cartesian heat conduction for short times,?
XXVI Congresso Nazionale UIT sulla Trasmissione del Calore, Palermo, 23 - 25 Giugno, **2008**
(co-author: James V. Beck).
- ?Intrinsic Thermocouple Problem using Unsteady Surface Element Method ,?
XXVII Congresso Nazionale UIT sulla Trasmissione del Calore, Reggio Emilia, 22 - 24 Giugno, **2009**
(co-author: James V. Beck).
- "Correzione dei dati di temperatura ottenuti mediante termocoppie superficiali," 64
° *Congresso Nazionale della Associazione Termotecnica Italiana (ATI)*, L'Aquila-Montesilvano, 8-11 Settembre, **2009**(co-author: G. De Aloysio).

International Conferences & Symposia (# 23)

- "Dynamic Behaviour Prediction of Free-Piston Stirling Engines," *25th Intersociety Energy Conversion Engineering Conference (AIChE)* , Reno, Nevada (USA), 12-17 Agosto, **1990**
(co-authors: G. Benvenuto e F. Farina).
- "Study of the Response to Load Variation of a Free-Piston Stirling Engine," *26th Intersociety Energy Conversion Engineering Conference (ANS)*, Boston, MA, (USA), 4-9 Agosto, **1991** (co-authors: G. Benvenuto e F. Farina).
- "An Adiabatic Approach for the Design and the Response-to-Load-Evaluation of Free-Piston Stirling Engines," *27th Intersociety Energy Conversion Engineering Conference (SAE)*, San Diego, California (USA), 3-7 Agosto, **1992** (co-author: G. Benvenuto).
- "On the Self-Regulation of Free-Piston Stirling Engines: Comparison of Theoretical and Experimental Results," *28th Intersociety Energy Conversion Engineering Conference (ACS)*, Atlanta, Georgia (USA), 8-13 Agosto, **1993** (co-author: G. Benvenuto).
- "Electro-dynamic Analysis of Free-Piston Stirling Engine/Linear Alternator Systems," *29th Intersociety Energy conversion Engineering Conference (AIAA)*, Monterey, California (USA), 7-12 Agosto, **1994** (co-author: G. Benvenuto).
- "Electro-dynamic Analysis of the Harwell Thermo-Mechanical Generator: Comparison of Theoretical and Experimental Results," *29th Intersociety Energy Conversion Engineering Conference (AIAA)*, Monterey, California (USA), 7-12 Agosto, **1994** (co-author: G. Benvenuto).
- "The Influence of Thermodynamic Losses on Free-Piston Stirling Engine Performance," *30th Intersociety Energy Conversion Engineering Conference (ASME)*, Orlando, Florida (USA), 30 Luglio - 4 Agosto, **1995** (co-authors: G. Galli e G. Benvenuto).

- "A Simple Approach to Calculate the Regenerator Effectiveness in Stirling Machines," *7th International Conference on Stirling Cycle Machines (JSME)*, Tokyo, Giappone, 5-8 Novembre, **1995** (co-author: G. Benvenuto).
- "An Analytical Oscillating-Flow Thermal Analysis of the Heat Exchangers and Regenerator in Stirling Machines," *31st Intersociety Energy Conversion Engineering Conference (IEEE)*, Washington (USA), 11-16 Agosto, **1996** (co-authors: G. Galli e F. Marcotullio).
- "The Effect of Nonlinear Thermo-fluid-dynamic Terms on Free-Piston Stirling Machine Stability," *31st Intersociety Energy Conversion Engineering Conference (IEEE)*, Washington (USA), 11-16 Agosto, **1996** (co-author: G. Benvenuto).
- "On the Performance Optimization of Free-Piston Stirling Engine Electrical Generators," 8th International Stirling Engine Conference and Exhibition, Ancona, 27-30 Maggio, **1997** (co-author: G. Benvenuto).
- "The Effect of 'Flushing Ratio' on the Performance of Counterflow Fixed-Bed Thermal Regenerators," *32nd Intersociety Energy Conversion Engineering Conference (AIChE)*, Honolulu (USA), 27 Luglio ? 1 Agosto, **1997** (co-author: G. Galli).
- "Stability Analysis of a Finite Element Condensation Technique for Inverse Heat Conduction Problems," *2nd International Conference on Inverse Problems in Engineering: Theory and Practice*, Le Croisic, Francia, 9-14 Giugno, 1996, ed. D. Delaunay, Y. Jarny, K.A. Woodbury, ASME Technical Publishing Department, New York, **1998**, pp. 523 ?530 (co-author: F. Marcotullio).
- "Performance Prediction of a Vapour Compression Refrigeration Machine with Pure and Mixed Refrigerants. Experimentally Validated," *20th International Congress of Refrigeration (IIR/IIF)*, Sidney, Australia, 19-24 Settembre **1999** (co-authors: L.Laurenti, F. Marcotullio).
- "Analysis of the Optimum Performance of a Vapour Compression Refrigeration Machine," *International Conference on Advances in Refrigeration Systems, Food Technologies and Cold Chain? (IIR/IIF)*, Sofia, Bulgaria, 23 - 26 Settembre, 1998, pubblicato in IIR Proceedings Series (1998/6) "Refrigeration Science and Technology", IIR/IIF **2000** (co-authors: L. Laurenti, F. Marcotullio, M. Piccioni).
- "Analytical determination of R134a thermodynamic properties," Conferenza (IIR/IIF) su "Thermophysical Properties and Transfer Processes of New Refrigerants", Paderborn, Germania, 3 - 5 Ottobre **2001** (co-author: F. Marcotullio).
- "Theory of rapidly switched heat regenerators in counterflow," *Compact Heat Exchanger Symposium*, Grenoble, Francia, 24 Agosto **2002** (co-authors: L. Laurenti, F. Marcotullio).
- "Performance of heat regenerators of refrigerating Stirling-cycle machines," *Eurotherm Seminar no. 72 on Thermodynamics, Heat and Mass Transfer of Refrigeration Machines and Heat Pumps*, Valencia, Spain, March 31 ? April 2, **2003**.
- "Initial guesses for computing eigenvalues of Sturm-Liouville problems of multi-dimensional multi-layer unsteady heat conduction," Proceedings of the *4th European Thermal Sciences Conference*, Birmingham, U.K., 29th? 31st March **2004**.

- Accurate and "easy-handled" solutions for validation of computational methods in transient heat conduction for short times, in *Progress in Computational Heat and Mass Transfer*, Editor: Rachid Bennacer, Editions TEC & DOC, pp. 1035-1040, 4th International Conference of Computational Heat and Mass Transfer (ICCHMT), Paris-Cachan, May 17 - 20, **2005**.
- "Drug delivery in biological tissues: an application to the eluting stents," *7th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering*, Antibes (France), 22 - 25 Marzo, **2006** (co-authors: Giuseppe Pontrelli, Marco Prosi).
- "Computation of Temperature Distribution in Planar Transformers," *13th Biennial IEEE Conference on Electromagnetic Field Computation (CEFC) 2008 Conference*, Athens, Greece, May 11-15, **2008** (co-authors: Concettina Buccella, Carlo Cecati).
- "Investigation about the electro-thermal behaviour of high power/high frequency planar transformers," *2008 IEEE International Symposium on Industrial Electronics (ISIE)*, Cambridge, U.K., June 30 - July 2, **2008** (co-authors: Concettina Buccella, Carlo Cecati).
- "A multi-layer wall model in arterial drug-eluting stents," *Proceedings of ITP2009 Interdisciplinary Transport Phenomena VI: Fluid, Thermal, Biological, Materials and Space Sciences*, Volterra, Italy, October 4-9, **2009** (co-author: Giuseppe Pontrelli).

National Journals (# 1)

- "Impianto sperimentale alimentato da pompa di calore elioassistita," *Condizionamento dell'Aria*, N. 1, pp. 54 - 58, Gennaio **2003** (co-authors: L. Laurenti, F. Marcotullio, L. Rampazzi).

ISI International Journals (# 22 in the period: 1995 - 2009)

- "Analysis of Free-Piston Stirling Engine/ Linear Alternator Systems. Part 1: Theory," *Journal of Propulsion and Power (AIAA)*, Vol. 11, No. 5, pp. 1036-1046, September-October **1995** (co-author: **Giovanni Benvenuto**).
- "Analysis of Free-Piston Stirling Engine/ Linear Alternator Systems. Part 2: Results," *Journal of Propulsion and Power (AIAA)*, Vol. 11, No. 5, pp. 1047-1055, September-October **1995** (co-author: **Giovanni Benvenuto**).
- "Thermal Analysis of the Heat Exchangers and Regenerator in Stirling Cycle Machine," *Journal of Propulsion and Power (AIAA)*, Vol. 13, No. 3, pp. 404-411, May-June **1997**.
- "Reflections on Free-Piston Stirling Engines. Part 1. Cyclic Steady Operation," *Journal of Propulsion and Power (AIAA)*, Vol. 14, No. 4, pp. 499-508, July-August **1998** (co-author: **Giovanni Benvenuto**).
- "Reflections on Free-Piston Stirling Engines. Part 2. Stable Operation," *Journal of Propulsion and Power (AIAA)*, Vol. 14, No. 4, pp. 509-518, July-August **1998**, (co-author : **Giovanni Benvenuto**).

"Cyclic Steady Thermal Response of Rapidly Switched Fixed-Bed Heat Regenerators in Counterflow," *International Journal of Heat and Mass Transfer*, Vol. 42, No. 14, pp. 2591-2604, July **1999**.

•
"Transient heat conduction in one-dimensional composite slab. A "natural" analytic approach," *International Journal of Heat and Mass Transfer*, Vol. 43, No. 19, pp. 3607-3619, October **2000**.

•
"An analytic approach to the unsteady heat conduction processes in one-dimensional composite media," *International Journal of Heat and Mass Transfer*, Vol. 45, No. 6, pp. 1333 - 1343, March **2002**.

•
"Calculation of thermodynamic properties of R407C and R410A by the Martin-Hou equation of state. Part I. Theoretical development," *International Journal of Refrigeration*, Vol. 25, No. 3, pp. 306 - 313, May **2002**.

•
"Calculation of thermodynamic properties of R407C and R410A by the Martin-Hou equation of state. Part II. Technical interpretation," *International Journal of Refrigeration*, Vol. 25, No. 3, pp. 314 - 329, May **2002**.

•
"Analysis of the gas compressibility effects on the constant-entropy reversible processes for refrigerants and refrigerant mixtures," *International Journal of Refrigeration*, Vol. 25, No. 6, pp. 765 - 779, September **2002**.

•
"Unsteady heat conduction in two-dimensional two slab-shaped regions. Exact closed-form solution and results," *International Journal of Heat and Mass Transfer*, Vol. 46, No. 8, pp. 1455 - 1469, April **2003**.

•
"Transverse eigenproblem of steady-state heat conduction for multi-dimensional two-layered slabs with automatic computation of eigenvalues," *International Journal of Heat and Mass Transfer*, Vol. 47, No. 2, pp. 191-201, January **2004**.

•
"Determination of the thermal resistance of walls through a dynamic analysis of in-situ data," *International Journal of Thermal Sciences*, Vol. 43, No. 3, pp. 297-306, March **2004** (co-authors: **L. Laurenti, F. Marcotullio**).

•
"Multi-layer transient heat conduction using transition time scales," *International Journal of Thermal Sciences*, Vol. 45, No. 3, pp. 882-892, September **2006**.

•
"Drug dynamics in eluting stents: modelling, simulation and design," *Journal of Biomechanics*, Vol. 39 (Suppl. 1) S 378, **2006** (co-author: **Giuseppe Pontrelli**).

•
"Mass diffusion through two-layer porous media: an application to the drug-eluting stent," *International Journal of Heat and Mass Transfer*, Vol. 50, No. 17-18, pp. 3658-3669, August **2007** (co-author: **Giuseppe Pontrelli**).

•
"Linear analysis of rapidly switched heat regenerators in counterflow," *International Journal of Heat and Mass Transfer*, Vol. 51, No. 13-14, pp. 3642-3655, July **2008** (co-author: **Paolo Rosa**).

•
"A coupled electro-thermal model for planar transformers temperature distribution computation," *IEEE Transactions on Industrial Electronics (TIE), Special Section of Thermal Issues in Electrical Machines and Drives*, Vol. 55, No. 10, pp. 3583-3590, October **2008** (co-authors: **Concettina Buccella, Carlo Cecati**).

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"Diffusion of thermal disturbances in two-dimensional Cartesian transient heat conduction," *International Journal of Heat and Mass Transfer*, Vol. 51, No. 25-26, pp. 5931-5941, December **2008** (co-authors: **James V. Beck**, **Donald E. Amos**).

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?Modelling of mass dynamics in arterial drug-eluting stents,? *Journal of Porous Media*, Vol. 12, No 1, pp. 19-28, January, **2009**(co-author: **Giuseppe Pontrelli**).

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"Eigen-periodic-in-space surface heating in conduction with application to conductivity measurement of thin films?,*International Journal of Heat and Mass Transfer*, Vol. 52, No. 23-24, pp. 5567-5576, November **2009**(co-author: **James V. Beck**).

Open access web-site International Journals (# 1)

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?Solar absorptivity of metallic layers subject to a short-flash of concentrated solar energy. Theoretical-experimental evaluation,? [*Journal of Physics: Conference Series*](#), Vol. 135, Paper No. 012034, published on line November 26, **2008**, by the *Institute of Physics*. Presented at *6th International Conference on Inverse Problems in Engineering (ICIPE): Theory and Practice*, Dourdan (Paris), France, June 15 ? 19, 2008(co-authors: Alain Ferriere, James V. Beck).

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