CURRICULUM VITAE
Francesco Saverio MARRA

Nome: Francesco Saverio Marra

Indirizzo:
Istituto di Scienze e Tecnologie per L'Energia e la Mobilità Sostenibili - CNR

Titoli di studio e formazione post-laurea:
- Marzo 1998, Dottorato di ricerca in Ingegneria dei Sistemi Termomeccanici – X ciclo, Università degli Studi di Napoli 'Federico II'
- Marzo 1992, Laura (vecchio ordinamento) in Ingegneria Aeronautica, Università degli Studi di Napoli 'Federico II', 110/110 con lode
- Luglio 1982, Diploma di Maturità Scientifica, Liceo Scientifico "G. Mercalli", Napoli, 60/60
- Luglio 2017, OpenFOAM Training: Combustion, LUB, VUB and PoliMi, Brussels
- Luglio 2008, OpenFOAM Workshop and Training course, Politecnico di Milano.
- Settembre 2001, University of Leeds (United Kindom), "Fire and Explosion – Protection and Investigation"
- Aprile 2001, "CFD-RC ACE+ software training", Huntsville, USA
- Marzo 2000, 'von Karman Institute' - Brussels (Belgium), "Introduction to the modelling of turbulence "
- Marzo 1999, 'von Karman Institute' - Brussels (Belgium), "Introduction to turbulent combustion"
- Luglio 1997, Fondazione CIME, Internazional Studies Centre, "Summer school on Numerical Treatment of Hyperbolic Equations"
- Settembre 1996, International Centre for Theoretical Physics - Trieste, Italy, "Advanced Numerical Approximation of Partial Differential Equations"
- Marzo 1994, 'von Karman Institute' - Brussels (Belgium), "Computational Fluid Dynamics"
- Dicembre 1992, CERFACS - Toulose (France), "Parallel Computation".

Storia Professionale:
Settembre 2020 – oggi, Ricercatore, Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili – CNR

Febbraio 1998 – Settembre 2020, Ricercatore, Istituto di Ricerche sulla Combustione – CNR

Ottobre 2008 – oggi, Professore a contratto presso l'Università degli Studi del Sannio. Insegnamenti ricoperti: Analisi e Simulazione dei Processi Chimici (Laurea Specialistica), Laboratorio di Calcolo Numerico (Laurea Triennale), Analisi e Simulazione dei Processi di Combustione (Laurea Magistrale).

Ottobre 1995 – Marzo 1998, Dottorato di Ricerca, Dipartimento di Energetica, Termofluidodinamica e Condizionamenti Ambientali, Università degli Studi di Napoli 'Federico II'

Marzo 1994 – Marzo 1995, Contratto di Ricerca, Dipartimento di Ingegneria Chimica, Università degli Studi di Napoli 'Federico II'

Ottobre 1992 – Settembre 1994, Borsa di Studio biennale CNR-MISM, Istituto di Ricerche sulla Combustione – CNR

Febbraio 1992 – Ottobre 1992, Borsa di Studio, Istituto di Ricerche sulla Combustione – CNR

Principali attività di ricerca:
Attività di ricerca sulla modellistica numerica della combustione non stazionaria premiscelata, sia laminare che turbolenta, rivolta allo studio delle prestazioni e della stabilità dei combustori per applicazioni industriali e domestiche o per gli aspetti di sicurezza, come la propagazione della fiamma nelle esplosioni e gli incendi. Modellistica numerica di combustione catalitica. Simulazione numerica della combustione della biomassa. Simulazione di flussi reagenti multifase per lo studio della combustione di polverino di carbone. Studio di camere di combustione di turbine a gas e di impianti a biomassa.
Sviluppo di sistemi di micro-cogenerazione ibridi alimentati da biomassa e da calore solare concentrato. Metodi di integrazione e continuazione parametrica di cinetiche chimiche dettagliate in condizioni transienti per lo studio di combustibili derivanti da fonti rinnovabili. Metodi di riduzione delle cinetiche di combustione. Sviluppo di schemi numerici per il trasporto convettivo di specie chimiche reagenti.
Ha maturato esperienza modellistica nei campi della Fluidodinamica Computazionale, della Teoria delle biforcazioni e del calcolo parallelo, sia sviluppando in proprio codici per la soluzione delle equazioni di Navier-Stokes per flussi reagenti sia adoperando codici commerciali e OpenSource su architetture di calcolo parallele.

Dal 2018 è responsabile del progetto di collaborazione bilaterale tra il MoST (Taiwan) ed il CNR per attività di ricerca dal titolo "Generatori Stirling per edifici zero energy: sistemi di trigenerazione".
Dal 2017 è referente per l'area di attività ENOVA - Processi termo-chimici per la sostenibilità energetica da fonti rinnovabili dell'IRC-CNR.
Dal 2011 al 2013 è responsabile dell'UO del IRC-CNR del progetto di ricerca MEGARIS, in collaborazione con Aerosoft Spa di Napoli e l'Università del Sannio, Benevento, per lo sviluppo di un sistema cogenerativo alimentato a Biomassa e Solare Concentrato, finanziato dal MATTM .
Dal 2010 partecipa alle attività di ricerca previste dall'Accordo di Programma CNR-MiSE, progetto denominato "Carbone pulito".
Nel 2001-2003 è designato responsabile del progetto triennale "Analisi e simulazione di sostanze gassose in impianti industriali" finanziato dal Gruppo Nazionale per la Difesa dai Rischi Chimici, Industriali ed Ecologici - CNR per le attività promosse dal Dipartimento Nazionale della Protezione Civile.
Nel 2000 è designato coordinatore della linea di ricerca dell'Istituto di Ricerche sulla Combustione denominata "Analisi della propagazione instazionaria di fiamma".
Nel 1998 è responsabile del progetto di ricerca "Propagazione di fiamma in miscele di idrocarburi-aria a seguito di innesco accidentale" finanziato dal Gruppo Nazionale per la Difesa dai Rischi Chimici, Industriali ed Ecologici - CNR

E' stato responsabile o ha partecipato alle seguenti attività di ricerca conto terzi:

2014, responsabile del progetto di ricerca "Sviluppo di modelli di calcolo numerico per la caratterizzazione di fiamme parzialmente premiscelate in bruciatori domestici per piani cottura attraverso l'impiego di software di simulazione sviluppato da ESI-Group", ESI-Italia srl e Istituto di Ricerche sulla Combustione - CNR.
2013, responsabile dell'attività di simulazione numerica dell'efficacia di Water Mist per lo spegnimento di incendi, nell'ambito del contratto conto terzi ""Valutazione della efficacia prestazionale di ultrafine water-mist mediante prove sperimentali in scala ridotta e confronto con

simulazioni numeriche", Norsim Water Mist Engineering srl e Istituto di Ricerche sulla Combustione - CNR.

2008, responsabile delle attività "Simulazione numerica della camera di combustione – Ipotesi di Ottimizzazione " nell'ambito del progetto di innovazione FIT "Progettazione e sviluppo di un Termocamino innovativo alimentato a legna e pellets", CTM S.r.l. e Istituto di Ricerche sulla Combustione - CNR.

2004, responsabile dell'attività "Simulazione numerica del flusso all'interno della camera di combustione - Analisi e ottimizzazione", nell'ambito del progetto "Sviluppo, ingegnerizzazione e la costruzione di una nuova generazione di termocamini ecologici con concetti avanzati di combustione", CTM S.r.l. e Istituto di Ricerche sulla Combustione - CNR.

2003, corresponsabile del progetto "Studio di un bruciatore domestico WORGAS mediante la teoria delle biforcazioni", WORGAS Bruciatori S.r.l. e Istituto di Ricerche sulla Combustione - CNR.

2001, responsabile del progetto "Simulazione numerica di camere di combustione in regimi di flusso instazionari ", ENEL Produzione S.p.A. e Istituto di Ricerche sulla Combustione - CNR.

Egli è stato anche il responsabile del Centro di Calcolo dell'Istituto di Ricerche sulla Combustione, in cui vari computer high-end server sono stati installati (Digital AlphaServer 4100-4000, workstation HP, 16 nodi cluster Linux Beowulf, 64 nodes E4), coadiuvato da personale tecnico specializzato.

Pubblicazioni:
Più di 70 articoli pubblicati su Riviste Internazionali e Atti di Conferenze Internazionali. Oltre 60 articoli pubblicati su atti di conferenze nazionali.

Attività di referaggio:
Combustion Theory and Modelling, Combustion Science and Technology, Proceedings of the Combustion Institute, Journal of Loss Prevention in the Process Industries, Journal of Physics A, Renewable Energy, Aerospace Science and Technology, International Journal of Adaptive Control and Signal Processing, and reviewer for several International Conferences.
Membro del Program Committee del 21th ICDERS, ENSMA, Poitier, France, 2007.
Membro del Program Committee del 23th ICDERS, University of California, Irvine, 2011.
ProgramCo-Chair del 24th ICDERS, Taiwan, 2013.

Collaborazioni principali:
Gaetano Continillo (*Università del Sannio*), Marcello Manna (*Università di Napoli Federico II*), Gennaro Russo (*Università di Napoli Federico II*), Carlo Meola (*Università di Napoli Federico II*), Piero Salatino (*Università di Napoli Federico II*), Fabio Montagnaro (*Università di Napoli Federico II*), Filippo Maria Denaro (*Seconda Università di Napoli*), Emanuele Martelli (*Seconda Università di Napoli*), Fabio Inzoli (*Politecnico di Milano*), John H. S. Lee (*"Shock Wave Physic Group", McGill University, Montreal – Canada*), Ugo Piomelli (*Quenn's University, Canada e University of Maryland, USA*), Jozef Jarosinski (*University of Lodz, Poland*), Francesco Tamanini (*Factory Mutual Global Research Campus, USA*), Christos Frouzakis (*ETH, Switzerland*), Chin-Hsiang Cheng (*NCKU, Taiwan*).

Attività di insegnamento:
Professore a contratto del corso "*Analisi e simulazione dei processi di combustione*", Corso di Laurea in Ingegneria Energetica, AA.AA. 2020/2021, 2019/2020, 2018/2019, 2017/2018, 2016/2017, 2015/2016, 2014/2015,2013/2014, 2012/2013, 2011/2012, 2010/2011, 2009/2010, 2008/2009, Università del Sannio, Benevento, Italy.
Professore in mobilità Erasmus+ presso la Université de Orleans, Francia, giugno 2015.

Professore a contratto del corso "*Laboratorio di Calcolo Numerico*", Corso di Laurea Magistrale in Ingegneria Energetica, AA.AA. 2010/2011 e 2011/2012, Università del Sannio, Benevento, Italy.

Professore a contratto del corso "*Analisi e simulazione dei processi chimici*", Corso di Laurea Specialistica in Ingegneria Energetica, AA.AA. 2009/2010, 2008/2009 e 2007/2008, Università del Sannio, Benevento, Italy.

2008, contratto nell'ambito del VI Programma Quadro dell'Unione Europea, Azioni Marie Curie, in qualità di esperto per Transfer of Knowledge in Poland, nell'ambito del proggetto ECHTRA, "Excellence in Combustion and Heat Technology Research and Application", Technical University of Lodz, Poland.

2007 ciclo di seminari per studenti di Laurea Specialistica in Ingegneria Energetica presso l'Università degli Studi del Sannio, Benevento, Italy, sulla simulazione di flussi reagenti mediante codici CFD.

2005 contratto nell'ambito del VI Programma Quadro dell'Unione Europea, Azioni Marie Curie, in qualità di esperto per Transfer of Knowledge in Polonia nell'ambito del progetto ECHTRA, "Excellence in Combustion and Heat Technology Research and Application", Technical University of Lodz, Poland.

Tutor di diversi assegnisti e borsisti dell'Istituto di Ricerche sulla Combustione del CNR e di Dottorandi di Ricerca, studenti laureandi e tirocinanti provenienti da Università degli Studi di Napoli Federico II, Università degli Studi del Sannio e Seconda Università di Napoli.

Membro di commissioni di laurea presso l'Università degli Studi del Sannio e l'Università degli Studi di Napoli "Federico II".

Vico Equense, 3 agosto 2021

Francesco Saverio Marra

Il sottoscritto Francesco Saverio Marra nato   e
                                                              consapevole della responsabilità penale prevista, dall'art. 76 del D.P.R. 445/2000, per le ipotesi di falsità in atti e dichiarazioni mendaci ivi indicate:

DICHIARA

che le informazioni sopra riportate sono veritiere.

Vico Equense, 3 agosto 2021

Francesco Saverio Marra

Il sottoscritto Francesco Saverio Marra, ai sensi del D. Lgs. 196/2003 sulla riservatezza dei dati personali, dichiara di essere stato compiutamente informato delle finalità e modalità del trattamento dei dati personali consapevolmente forniti nel presente curriculum e di autorizzarne l'utilizzo e l'archiviazione in banca dati.

Vico Equense, 3 agosto 2021

Francesco Saverio Marra

List of Publications, Francesco Saverio Marra

Elenco delle Pubblicazioni, Francesco Saverio Marra

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h-index SCOPUS: 10 (28/01/2021)

Indice H Google Scholar   13   (28/01/2021)
i10-index Google Scholar   14   (28/01/2021)

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REFEREED PUBLICATIONS

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P. Iodicea, A. Amoresanoa, G. Langellaa, F. S. Marra, *Combined use of Volumetric Expanders and Scheffler Receivers to Improve the Efficiency of a Novel Direct Steam Solar Power Plant*, **International Journal of Energy Research**, accepted for publication, 2021

L. Acampora, F.S. Marra, *Second law thermodynamic analysis of syngas premixed flames*, **International Journal of Hydrogen Energy**, 45, 12185-12202, 2020 (doi: 10.1016/j.ijhydene.2020.02.142)

L. Acampora, F.S. Marra, *Numerical Algorithms for the Parametric Continuation of Stiff ODEs Deriving from the Modeling of Combustion with Detailed Chemical Mechanisms,* in **Numerical Computations: Theory and Algorithms**, Third International Conference, NUMTA 2019, Crotone, Italy, June 15–21, 2019, Revised Selected Papers, Yaroslav D. Sergeyev and Dmitri E. Kvasov (Eds.), Lecture Notes in Computer Science Series, n. 11973, Springer Nature Switzerland AG 2020, ISBN 978-3-030-39080-8, ISBN 978-3-030-39081-5 (doi: 10.1007/978-3-030-39081-5)

F. S. Marra, F. Miccio, R. Solimene, R. Chirone, M. Urciuolo, M. Miccio, *Coupling a Stirling Engine with a Fluidized Bed Combustor for Biomass*, **International Journal of Energy Research**, 44, 12572–12582, 2020 (doi: 10.1002/er.5662)

L. Acampora, G. Continillo, F.S. Marra, F. Miccio, M. Urciuolo, *Development of an Experimental Test Rig for Cogeneration Based on a Stirling Engine and a Biofuel Burner*, **International Journal of Energy Research**, 44, 12559–12571, 2020 (doi: 10.1002/er.5663)

L. Acampora, M. Kooshkbaghi, C.E. Frouzakis, F.S. Marra, *Generalized entropy production analysis for mechanism reduction,* **Combustion Theory and Modelling**, 23, 197-209, 2019 (doi: 10.1080/13647830.2018.1504990)

M. Urciuolo, R. Chirone, F. S. Marra, R. Solimene, *Power generation by Stirling engine during fluidized bed combustion of wood pellets,* **Combustion Science and Technology**, 1,12-21, 2018 (doi: 10.1080/00102202.2018.1453122)

L. Acampora, F.S. Marra, *Numerical Strategies for Detection of Bifurcation Points in the Parametric Continuation of Model Reactors with Detailed Chemical Mechanisms*. **AIP Conf. Proc.** 1906:100012-1:4. 2017 (doi: 10.1063/1.5012382)

L. Acampora, F.S. Marra, *Investigation by thermodynamic properties of methane combustion mechanisms under harmonic oscillations in perfectly stirred reactor*, **Chemical Engineering Transactions**, 57, 1459-1464, 2017 (doi: 10.3303/CET1757244)

F. S. Marra, M. Troiano, F. Montagnaro, P. Salatino, R. Solimene, *Particle–wall interaction in entrained-flow slagging coal gasifiers: Granular flow simulation and experiments in a cold flow model reactor,* **International Journal of Multiphase Flow**, 91, 142-154, 2017 (doi: 10.1016/j.ijmultiphaseflow.2017.01.011)

L. Acampora, F. S. Marra, E. Martelli, *Comparison of Different CH4-Air Combustion Mechanisms in a Perfectly Stirred Reactor with Oscillating Residence Times Close to Extinction*, **Combustion Science and Technology**, 188, 707-718, 2016 (doi: 10.1080/00102202.2016.1138810)

L. Acampora, F. S. Marra, *Numerical strategies for the bifurcation analysis of perfectly stirred reactors with detailed combustion mechanisms*, **Computers & Chemical Engineering**, 85, 273-282, 2015 (doi: 10.1016/j.compchemeng.2015.07.008)

F. S. Marra, L. Acampora, E. Martelli, *Non-linear response to periodic forcing of methane-air global and detailed kinetics in Continuous Stirred Tank Reactors close to extinction conditions*, **International Journal of Spray and Combustion Dynamics**, 7(3), 175 – 208, 2015. (doi: 10.1260/1756-8277.7.3.175)

E. Mancusi, L. Acampora, F. Marra, P. Altimari, *Hysteresis in Autothermal Methane Reforming over Rh Catalysts: Bifurcation Analysis*, **Chemical Engineering Journal**, 262, 1052-1064, 2015. (doi:10.1016/j.cej.2014.10.061)

L. Acampora, E. Mancusi, F. S. Marra, *Bifurcation analysis of perfectly stirred reactors with large reaction mechanisms*, **Chemical Engineering Transactions**, 43, 877-882, 2015. (doi: 10.3303/CET1543147)

S. Lombardi, K. Bizon, F. S. Marra, G. Continillo, *Effect of coupling parameters on the performance of Fluidized Bed Combustor - Stirling Engine for a microCHP System,* **Energy Procedia**, 75, 834-839, 2015. (doi:10.1016/j.egypro.2015.07.149)

S. Lombardi, K. Bizon, F. S. Marra, G. Continillo, *Optimization of Design Parameters of a Stirling Generator for use with a Fluidized Bed Combustor*, **International Journal of Thermodynamics**, 16, 155-162, 2013. (doi: 10.5541/ijot.472)

G. Angrisani, K. Bizon, R. Chirone, G. Continillo, G. Fusco, S. Lombardi, F. S. Marra, F. Miccio, C. Roselli, M. Sasso, R. Solimene, F. Tariello, M. Urciuolo, *Development of a new concept solar-biomass cogeneration system*, **Energy Conversion and Management,** 75 552–560, 2013. (doi: 10.1016/j.enconman.2013.06.042)

M. E., Kavousanakis, L. Russo, F. S. Marra, C. Siettos, *Homoclinic bifurcations in radiating diffusion flames,* **Combustion Theory and Modelling**, 17, 40-52, 2012. (doi: 10.1080/13647830.2012.721899)

F. Ambrosino, A. Aprovitola, P Brachi, F. S. Marra, F. Montagnaro, P. Salatino, *Entrained-flow gasification of coal under slagging conditions: Relevance of fuel-wall interaction and char segregation to the properties of solid wastes*, **Fuel**, 114, 44-55, 2013. (doi: 10.1016/j.fuel.2013.03.040)

M. E. Kavousanakis, L. Russo, F. S. Marra, and C. Siettos, *Systematic bifurcation analysis of a planar diffusion flame model with radiative heat losses*, **AIP Conf. Proc.** 1479, 1430 (2012); doi: 10.1063/1.4756428.

F. Ambrosino, A. Aprovitola, P. Brachi, F. S. Marra, F. Montagnaro, P. Salatino, *Investigation of Char–Slag Interaction Regimes in Entrained-Flow Gasifiers: Linking Experiments with Numerical Simulations*, **Combustion Science and Technology**, 184:7-8, 871-887, 2012. (doi: 10.1080/00102202.2012.663979)

V. Di Sarli, A. Di Benedetto, F. S. Marra, *Influence of system parameters on the dynamic behaviour of an LPM combustor: Bifurcation analysis through CFD simulations,* **Combustion Theory and Modeling**, 12, 1109-1124, 2008. (doi: 10.1080/13647830802245870)

D. Menghini, F. S. Marra, C. Allouis, F. Beretta, *Effect of air excess on the optimization of heating appliances for biomass combustion*, **Experimental Thermal and Fluid Science** Journal, 32, 1371–1380, 2008 (doi: 10.1016/j.expthermflusci.2007.11.018)

F. S. Marra, *Analysis of premixed flames propagation in a rotating closed vessel by numerical simulation,* **Combustion Science and Technology**, 180, 743–757, 2008 (doi: 10.1080/00102200801893713)

A. Di Benedetto, F. Donsì, F. S. Marra and G. Russo, *Heat and Mass Fluxes in Presence of Fast Exothermic Superficial Reaction*, **Combustion Theory and Modeling**, 9(3), 463 - 477, 2005 (doi: 10.1080/13647830500255296)

V. Di Sarli, F. S. Marra, A. Di Benedetto, *Spontaneous Oscillations in Lean Premixed Combustors: CFD Simulation*, **Combustion Science and Technology**, 179(11), 2335-2359, 2007 (doi: 10.1080/00102200701484225)

D. Menghini, T. Marchione, G. Martino, F. S. Marra, C. Allouis, F. Beretta, *Numerical and Experimental Investigations to Lower Environmental Impact of an Open Fireplace*, **Experimental Thermal and Fluid Science** Journal, 31(5), 477-482, 2007 (doi: 10.1016/j.expthermflusci.2006.05.012)

F. Orlando, E. Salzano, F. S. Marra, G. Russo, *Vent sizing criteria for partial volume deflagration*, **Process**

Safety and Environmental Protection Journal, 85(b6), 549-558, 2007. (doi: 10.1205/psep05105)

F. Donsì, A. Di Benedetto, F.S. Marra and G. Russo, Effect of the Re Number on Heat and Mass Transport in a Catalytic Monolith, **Catalysis Today**, 117, 498-505, 2006 (doi: 10.1016/j.cattod.2006.06.005)

A. Di Benedetto, F. Donsì, F. S. Marra, G. Russo, *Transport phenomena in a catalytic monolith: 1. Effect of the superficial reaction*, **AIChE Journal**, 52, 911-923, 2006 (doi: 10.1002/aic.10680)

A. Di Benedetto, F. S. Marra, G. Russo, *Heat and mass Fluxes in presence of superficial reaction in a not completely developed laminar flow*, **Chemical Engineering Science**, 58, 1079–1086, 2003 (doi: 10.1016/S0009-2509(02)00650-4)

A. Di Benedetto, F. S. Marra and G. Russo, *Bifurcation analysis of lean premixed combustion of hydrogen-propane mixtures*, **Combustion Science and Technology**, 177(2), 413-434, 2005 (doi: 10.1080/00102200590900534)

F. Donsì, A. Di Benedetto, F. S. Marra and G. Russo, *CFD simulation of heat transfer in a circular channel: effect of the Pe number*. **International Journal of Chemical Reactor Engineering**, 3, A36, 2005 (doi: 10.2202/1542-6580.1222)

E. Salzano, F. S. Marra, G. Russo, J. H. S. Lee, *Numerical simulation of turbulent gas flames in tubes*, **Journal of Hazardous Materials**, A95, 233–247, 2002 (doi: 10.1016/S0304-3894(02)00161-9)

A. Di Benedetto, F. S. Marra and G. Russo, *Spontaneous oscillations in lean premixed combustion*, **Combustion Science and Technologies**, 174(10), 1-18, 2002 (doi: 10.1080/00102200290021344)

G. de Felice, F. S. Marra, G. C. Rufolo, *Solutions for the discrete forms of the div-curl problem in CFD*, **Computing and Visualization in Science**, 4, 175-182, 2002 (doi:10.1007/s007910100069)

A. Pascarelli, F. S. Marra, U. Piomelli, *Large-Eddy Simulation of the Flow over a Wall-Mounted Fence*, presented at Direct and Large-Eddy Simulation Workshop 4, July 18-20, 2001, Enschede, The Netherlands and published in **Direct and Large-Eddy Simulation IV**, pp. 419-426, edited by B.J. Geurts, R. Friedrich and O. Metais, Kluwer Academic Publishers, 2001 (ISBN: 978-90-481-5893-5 (Print) 978-94-017-1263-7 (Online))

F. S. Marra and G. Continillo, *Numerical Study of Laminar Flame Propagation in a Closed Tube with a Full Navier-Stokes Approach*, **Twenty-Sixth Symposium (International) on Combustion**, The Combustion Institute, Pittsburgh, pp. 907-913,1996 (doi: 10.1016/S0082-0784(96)80301-8)

INTERNATIONAL CONFERENCE PROCEEDINGS

F.S. Marra, L. Acampora, Numerical evaluation of finite length tubes effects in Stirling engines heaters, 19th ISEC – International Stirling Engine Conference, 22-23 September, 2021 Rome, Italy.

L. Acampora, F.S. Marra, Methane combustion dynamics in diabatic PSRs with detailed reaction mechanisms at low and high pressures, 27th ICDERS July 28th–August 2nd, 2019 Beijing, China

L. Acampora, F.S. Marra, Entropy and Exergy Analysis of Syngas Premixed Flames with a Detailed Mechanism, Work in Progress Poster, 27th ICDERS July 28th–August 2nd, 2019 Beijing, China

F.S. Marra, Multilevel Modelling of Particles-Wall Interaction in Slagging Coal Gasifiers: Towards Matching of Experimental Evidences, 13th International Conference on Advanced Computational Engineering and Experimenting, ACEX-2019, 1-5 July, Athens

L. Acampora, F.S. Marra, Numerical Algorithms for the Parametric Continuation of Stiff ODEs deriving from the Modeling of Combustion with Detailed Chemical Mechanisms, The 3rd International Conference and Summer School Numerical Computations: Theory and Algorithms NUMTA 2019, Le Castella - Isola Capo Rizzuto, Crotone, Italy June 15-21, 2019, ISBN 9788874581016

F.S. Marra, F. Miccio, M. Urciuolo, L. Acampora, G. Continillo, Cogeneration Plant Based on Stirling Engine and Biofuel Burner, 11th Mediterranean Combustion Symposium, Tenerife, Spain, 16-20 June 2019

L. Acampora, M. Lubrano Lavadera, P. Sabia, R. Ragucci, M. de Joannon, F. S. Marra, Effect of Chemical Kinetics and Heat Transfer in the Dynamics of MILD Hydrogen Combustion, Workshop on MILD combustion: modelling challenges, experimental configurations and diagnostic tool, January 24-25, 2019, Napoli, Italy.

F.S. Marra, Opportunities of the Fluidized Bed Technology in the Development of Stirling Engines, **Keynote Paper** at 18th International Stirling Engine Conference 2018, Tainan, Taiwan.

R. Chirone, F.S. Marra, F. Miccio, M. Miccio, R. Solimene, M. Urciuolo, Integrated fluidized bed combustor and Stirling engine for micro-scale cogeneration, Proceedings (with peer review) of the 23rd Int. Conference of Fluidized Bed Conversion "Innovative Fluidized Bed Conversion Technology for a Sustainable Development", Seoul (South Korea), ISBN 978-89-950005-7-1, pp. 937-947, May 13-17, 2018

L. Acampora, M. Kooshkbaghi, C.E. Frouzakis, F.S. Marra, Skeletal mechanism construction by entropy production analysis: detailed reaction mechanisms with irreversible reactions, 3rd General Meeting and Workshop on SECs in Industry of SMARTCATs Action, Prague 25-27 October, 2017

F.S. Marra, L. Acampora, Combustion dynamics in a diabatic PSR with global, reduced and detailed reaction mechanisms, 3rd General Meeting and Workshop on SECs in Industry of SMARTCATs Action, Prague 25-27 October, 2017

L. Acampora, M. Kooshkbaghi, C. E. Frouzakis and F. S. Marra, Generalized Entropy Production Analysis for Mechanism Reduction, MCS10 - Mediterranean Combustion Symposium, Naples, Italy, 17-21 September, 2017

M. Urciuolo, R. Chirone, F.S. Marra, R. Solimene, Power Generation by Stirling Engine During Fluidized Bed Combustion of Wood Pellets, MCS10 - Mediterranean Combustion Symposium, Naples, Italy, 17-21 September, 2017

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Napoli, August 3, 2021   _____Francesco Saverio Marra_____