

# **Doru Michael Stefanescu**

Research Professor Emeritus (Ohio State Univ.)  
Cudworth Professor of Engineering Emeritus (Univ. of Alabama)  
E-mail: stefanescu.1@osu.edu

## **PROFESSIONAL RESUME**

as of June 2019

### **PERSONAL:**

### **EDUCATION:**

Diploma Engineer, Metallurgical Engineering, University Politehnica Bucharest, Romania, 1965  
Ph.D. (Doctor Eng. in Physical Metallurgy), University Politehnica Bucharest, Romania, 1973

### **ACADEMIC POSITIONS:**

Ashland Designated Research Professor Emeritus, Materials Sci. and Eng., The Ohio State University (2010 - present)  
Cudworth Professor of Engineering Emeritus, The University of Alabama (2005 - present)  
Ashland Designated Research Professor, Materials Science and Engineering, The Ohio State University (2007 - 2010)  
Senior Research Scientist, Foundry Educational Foundation Key Professor, and Adjunct Professor, The Ohio State University (2005 – 2007)  
Cudworth Professor of Engineering, College of Engineering, The University of Alabama (2002 – 2005)  
Distinguished University Research Professor, The University of Alabama (1987 - 2005)  
Director, Solidification Laboratory, The University of Alabama (1987 - 2005)  
Professor of Metallurgical and Materials Eng., The University of Alabama (1984-1987)  
Associate Professor of Metallurgical Engineering, The University of Alabama (1980-1984)  
Visiting Professor, University of Wisconsin Madison (1980)  
Invited Visiting Professor, Institut National Polytechnique de Toulouse (2002)  
Visiting Scholar, Ohio State University (2003)  
Visiting Scholar, École de Mines de Nancy, France (1990)  
Adjunct Professor, Dept. of Materials and Mechanical Engineering, University of Alabama at Birmingham (1990 - 2005)  
Adjunct Associate Professor, University Politehnica Bucharest, Romania (1974-1979)

### **INDUSTRIAL POSITIONS:**

Head of Cast Iron Group, Foundry Division, Institute for Hot Processes, Bucharest, Romania (1972-1980)  
Senior Research Scientist, Institute for Hot Processes, Bucharest, Romania (1970-1972)  
Ford Motor Company (metallurgical training), Dagenham, England (1970)  
Junior Researcher, Institute for Hot Processes, Bucharest, Romania (1968-1970)  
Plant Metallurgist, "Prototip" Foundry, Bucharest, Romania (1965-1968)

### **AWARDS, HONORS, RECOGNITION:**

Hoyt Memorial Lecture, Castexpo & Metalcasting Congress, AFS, Atlanta, April 28, 2019  
Advances in the Science and Engineering of Casting Solidification: An MPMD Symposium Honoring Doru Michael Stefanescu, TMS 2015 114<sup>th</sup> Annual Meeting and Exhibition, March 15-19, 2015, Orlando, Florida, USA

John Campbell Medal, Institute of Cast Metals Engineers, United Kingdom (2012)  
 Doctor Honoris Causa, Jönköping University, Sweden (2012)  
 Best Paper Awards at American Foundry Society National Conventions (1988, 1997, 2001, 2012, 2016)  
 Honorary Member of the Romanian Academy of Technical Sciences (2012)  
 The Joseph Seaman Gold Medal of the American Foundry Society (2011)  
 Special Merit Award, American Foundry Society, Cast Iron Division, Honorary Lecture, 115<sup>th</sup> Metal-casting Congress (2011)  
 Lumley Research Award, College of Engineering, The Ohio State University (2009)  
 Honorary Professor, University Politehnica, Bucharest, Romania (2006)  
 Doctor Honoris Causa, University of Transylvania, Brasov, Romania (2001)  
 Award of Scientific Merit/AFS Alumnus, American Foundrymen's Society (2000)  
 American Foundrymen's Society Director's and Foundry Educational Foundation Award (1999)  
 Doctor Honoris Causa, Technical University of Cluj-Napoca, Romania (1998)  
 The Moody Blackmon Outstanding Professor Award, The University of Alabama (1997)  
 Fellow, American Society for Metals International (1997)  
 The Burnum Distinguished Faculty Award, University of Alabama (1990)  
 NASA Certificate of recognition for the creative development of a technical innovation (three in 1985, 1989)  
 Burlington Northern Foundation Faculty Achievement Award, University of Alabama (1989)  
 Selected by the Honorary Lectures and Paper Committee of AFS to deliver the American Exchange Paper at the International Foundry Congress in New Delhi-India (1987)  
 University Research Fellow, University of Alabama (1984-1986)  
 First prize at the Second Romanian Exhibition for Invention, Bucharest (1980)

## **SERVICE:**

Director, Central Ohio Chapter, American Foundry Soc. (2005-2011)  
 External Advisory Board, Group of Metallic Materials, Univ. of Porto, Portugal (1998-present)  
 Foundry Educational Foundation - Key Professor (1981 - 2012.)  
 Journal of Metals Advisory Committee (1990-1992)  
 Director, Birmingham Chapter, American Foundrymen's Soc. (1986-1987)  
 President Birmingham Chapter, American Society for Metals (1986)  
 VP Birmingham Chapter, American Society for Metals (1985)

## **EDITORIAL REVIEW BOARDS OF INTERNATIONAL ARCHIVAL JOURNALS:**

Metallurgical Transactions Key Reader (1993-2010)  
 International Journal of Cast Metals Research (1996-pres., Chairman 2002-2003, Co-editor 2003-present)  
 International Journal of Metal Casting (2007-present)

## **PUBLICATION SUMMARY**

443 publications including 35 invited papers, 44 books and chapters in books, 105 refereed journal publications, 74 AFS Transactions papers, 83 refereed conference publications, 25 other conference proceedings publications, 65 other technical publications, 12 patents

## INVITED ACTIVITIES

### SEMINARS

Tupy, Mexico (2015)  
Tupy, Brazil (2014)  
Foundry Institute - Aachen Institute of Technology, Germany (1989, 1990, 1993, 1999, 2004, 2005)  
Hokkaido University, Japan (2004)  
Ohio State University (2003)  
Yonsei University, Korea (1995, 2002)  
Institute National Polytechnique de Toulouse (2002)  
National University of Mar del Plata, Argentina (2001)  
Tata Research Center, Pune, India (2001)  
Nagoya University, Japan (1999)  
Indian Inst. of Technology Bombay (1999)  
Vikram Sarabhai Space Center, Trivandrum, India (1999)  
Indian Inst. of Technology Kharagpur, India (1999)  
Institute of Numerical Analysis "Tiberiu Popoviciu", Cluj-Napoca, Romania (1998)  
Georgia Institute of Technology (1998)  
University Politehnica Bucharest, Romania (1990, 1998)  
Technical University of Cluj-Napoca, Romania (1997)  
University of Bologna, Italy (1997)  
Marshall Space Flight Center, Space Sciences Lab., Huntsville, AL (1997)  
Tohoku University, Japan (1995)  
Shandong University of Technology, China (1995)  
Argon National Laboratory (1991, 1994)  
Pechiney, France (1990)  
ALCOA Technical Center, Pittsburgh PA (1990)  
Caterpillar Technical Center, Peoria IL (1989)  
University of Porto, Portugal (1989)  
Defense Metallurgical Research Laboratory, Hyderabad, India (1987)  
General Motors Research Laboratories, Warren, MI (1987, 1988)  
École Polytechnique Federale de Lausanne, Switzerland (1986)  
University of Alabama at Birmingham (1985)  
University of Wisconsin-Madison (1983)

### CONFERENCES:

Conference Co-Chairman, The Carl Loper Cast Iron Symposium, Madison, WI (May 2009)  
Plenary Speaker, The 10<sup>th</sup> Asian Foundry Congress in Nagoya, Japan (May 2008)  
Conference Chairman, 3<sup>rd</sup> International Conference on Solidification Science and Processing, Jaipur, India (Nov. 2006)  
Member of the Scientific Committee and Session Chairman, 8th International Symposium on the Science and Processing of Cast Iron, Beijing, China, (Oct. 2006)  
Plenary Speaker, Matehn06 - 4th International Conference on Materials and Manufacturing Technologies in Cluj-Napoca, Romania (Sept. 2006)  
Conference Chairman, 10th International Conference on Modeling of Casting, Welding and Advanced Solidification Processes, Sandestin, FL (May 2003)  
Member, International Organizing Committee, Seventh International Conference on the Science and Processing of Cast Iron, Barcelona, Spain, (Sept. 2002)  
Member, International Organizing Committee, 5<sup>th</sup> Pacific Rim International Conference on Modeling of Casting & Solidification Processes, Nagoya, Japan (2002)  
Plenary Speaker, SAM-CONAMET 2001, Posadas, Argentina (Sept. 2001)

Conference Chairman and Invited Speaker, World Conference Compacted Graphite Iron, Sweden (June 2001)

Conference Chairman, The Science of Casting and Solidification, Brasov, Romania (May 2001)

Member International Advisory Committee, Session Chairman, and Invited Speaker, 1<sup>st</sup> International Materials Symposium, Coimbra, Portugal (April 2001)

Chairman International Organizing Committee, International Conference on Solidification, Bangalore, India (Feb. 2001)

Member Science Committee and Session Chairman, 9th International Conference on Modeling of Casting, Welding and Advanced Solidification Processes, Aachen, Germany (2000)

Member, International Organizing Committee, 4<sup>th</sup> Pacific Rim International Conference on Modeling of Casting & Solidification Processes, Seoul, Korea (1999)

Conference Chairman, 7th International Symposium on the Science and Processing of Cast Iron, Birmingham, Alabama, (Oct. 1998)

Invited Speaker, "Cooling Curve Analysis, Fundamentals and Applications," 61st Annual Regional Foundry Conference, Milwaukee, WI (1998)

Invited Speaker, "Modeling of Microstructure Evolution," ProCAST Users Conference, Orlando, FL (Jan. 1997)

Invited Speaker, "Computational Modeling of Solidification," SAE Annual Earthmoving Industry Conference and Exposition, Peoria IL (1997)

Member of the International Program Committee and Session Chairman, 3rd Pacific Rim International Conference on Modeling of Casting and Solidification Processes, Beijing, China, (Dec. 1996)

Co-Organizer, Sessions/Topics 20 - Solidification Science and Processing, Japanese Institute of Metals '95 Fall Annual Meeting (117<sup>th</sup>) Hawaii

Member of the Scientific Committee and Session Chairman, 5th International Symposium on The Physical Metallurgy of Cast Iron, Nancy, France, Oct. 1994

Chairman Organizing Committee, 2nd International Symposium on Metal Matrix Composites, Tuscaloosa, Alabama, October 1993

Member of the Scientific Committee and Session Chairman, International Symposium on Metal Matrix Composites, Cairo, Egypt, April 1992

Member, International Scientific Committee, International Conference on Solidification and Microgravity, Miskolc, Hungary, 1991

Chairman Organizing Committee and Session Chairman, "Solidification Processing of Eutectic Alloys" TMS Fall Meeting, Cincinnati, Oh. (1987)

Invited Speaker American Inst. of Chemical Eng., Central Alabama Section, "Low Gravity Solidification of Metals, the Facts and the Hopes", Tuscaloosa, AL (April 1986)

Invited Speaker at the Southeastern Regional Foundry Conference, Birmingham, AL Feb. 1986, "Planning for the Future"

## THESES AND DISSERTATIONS DIRECTED

### M.SC. THESES: 39

1. G. Chen, "Study of the Solidification of Cast Iron by Computer-Aided Differential Thermal Analysis" (1982).
2. F. O. Martinez, "Development of Compacted/Vermicular Graphite Cast Irons in the Fe-C-Al System" (1983).
3. J. C. Hendrix, "Directional Solidification of Flake and Spheroidal Graphite Cast Iron in Low and Normal Gravity Environment" (1983).
4. J. T. Fowler, "Experiments on Producing Compacted/ Vermicular Graphite Cast Iron by the In-Mold Process" (1984).
5. C. S. Kanetkar, "Study of the Influence of Some Individual Rare Earths (Ce, La, Pr, Nd) and Yttrium in Cast Iron" (1985).
6. S. K. Biswal, "Neutralization of Deleterious Effects of Bismuth and Lead in Gray Cast Iron by Lanthanides Additions" (1986).
7. M. R. Fiske, "The Effects of Low Gravity on the Directional Solidification of Some Eutectic and Monotectic Alloys" (1986).
8. A. Aykut, "Study of Grain Refinement and Modification of Hypoeutectic Al-Si Alloys by Computer-Aided Thermal Analysis" (1987).
9. K. Singh, "The Role of Gravity during the Solidification of Miscibility Gap Alloys" (1987).
10. S. Kacar, "Interaction between Silicon Carbide Particles and the Solid-Liquid Interface in Aluminum Based Metal Matrix Composites." (1988).
11. D. K. Bandyopadhyay, "Influence of Variable Gravity Level on the Solidification of In-situ Iron-Vanadium Carbide Composites" (1988).
12. F. Rana, "SiC Particle Dispersion in Aluminum Alloy Metal-Matrix Composites" (1988).
13. Moitra, "Behavior of Source Particulate Metal Matrix Composites during Solidification on Ground and Micro-Gravity Conditions" (1988).
14. S. Sen, "Fabrication of High Temperature Super-conducting Bulk Materials and Wires through a Ceramic/Metal Composite Route" (1989).
15. S. Chang, "Modeling of the Solid State Transformation: the Eutectoid Reaction in Spheroidal Graphite Iron" (1990).
16. Y. Ko, "Processing and Characterization of Aluminum Alloys Reinforced with SiC Particles by Squeeze Casting" (1991).
17. J. M. Frost, "Melt Quality Assessment of Spheroidal Graphite Cast Iron Through Computer - Aided Cooling Curve Analysis" (1992).
18. J. Haftek, "Processing and Characterization of Amorphous Al-Y-Ni Matrix SiC Particulate Composites" (1992).
19. L. Nastac, "Mathematical Modeling of Equiaxed Dendritic Solidification - Second Generation of Computer Models" (1993).
20. S. Visvanathan, "Effect of Processing Parameters on Graphite Structure in Ductile Iron as Revealed by Cooling Curve Analysis" (1993).
21. S. R. Giese, "An Investigation on the Role of Sand-Metal Contact Angle in the Formation of Casting Penetration Defects" (1994).
22. R. V. Phalnikar, "Prediction of Distribution of Inclusions in Steel Castings" (1994).
23. H. Otsubo, "Evaluation and Analysis of Porosity Formation in Cu-Sn-Zn Alloys" (1995).
24. V. Catalina, "Computational Modeling of Room Temperature Microstructure of Cast Iron" (1996).
25. F. R. Juretzko, "Experimental Evaluation of Some Models for Particle Pushing" (1997).
26. M. A. Pershing, "An Assessment of some Models for Micro- and Macro-segregation as applied to Cast Steel" (1997).
27. R. S. Bhamidipati, "Experimental and Numerical Evaluation of Pushing and Engulfment of Particles at the Solidifying Interface" (1997).
28. J. O. Barlow, "Steel Penetration in Sand Molds" (1998).

29. Kevin D. Hayes, "Mechanical and Chemical Penetration of Steel in Sand Molds" (1998)
30. Jose Torres, "Influence of Microgravity on Macro-segregation" (2000)
31. Sundeep Mukherjee, "An Experimental and Theoretical Study of Liquid Convection Effects on Particle Engulfment and Pushing" (2001)
32. Christie Corbitt, "Optimization of Thin Wall Ductile Iron Castings" (2001)
33. John Torrance, "An Investigation on the Effect of Surface Roughness on the Static Mechanical Properties of Thin-Wall Ductile Iron Castings" (2004)
34. Lucas P. Dix, "Processing-Microstructure-Properties Correlation for Lightweight Ductile Iron Castings" (2004)
35. Jonathan Woolley, "The Influence of Process Variables on Microshrinkage Formation in Thin Wall Ductile Iron" (2005)
36. April Pitts (2006)
37. Ramesh Rao, "An Investigation into the Production of Thin Wall Compacted Graphite Cast Iron" (2006)
38. Stephanie Collins, "Study of the Effect of the Casting Skin on the Tensile Properties of Light Weight Ductile Iron Castings" (2007)
39. Evan Standish, "Design of a Molten Materials Handling Device for Support of Molten Regolith Electrolysis" (2010)

#### **PH.D. DISSERTATIONS: 17**

1. C.S. Kanetkar, "Mathematical Modeling of Micro-structural Evolution during Solidification of Cast Irons and Al-Si Alloys" (1988).
2. G.K. Upadhyay, "Mathematical and Physical Modeling of Structural Transitions in Some Metallic Systems" (1991).
3. D.K. Banerjee, "Heat Transfer - Solidification Kinetics Modeling of Some Dendritic and Eutectic Alloys" (1992)
4. H.Tian, "Evaluation of some Material Parameters Associated with Solidification Kinetics of Fe-C-Si Alloys" (1992)
5. S Ahuja, "Theoretical and Experimental Investigations on the Interaction between Solid/Liquid Interfaces and Insoluble Particles" (1992)
6. S. Sen, "Solidification Processing, Interfacial Stability, and Mechanical Properties of Discontinuously Reinforced Ni<sub>3</sub>Al Matrix Composites" (1993)
7. S. Chang, "Numerical Modeling of Micro- and Macro-Segregation in Casting Alloys" (1994)
8. L. Nastac, "Simulation of Microstructure Evolution during Solidification Processes" (1995)
9. J. Haftek, "Simulation of Equiaxed Peritectic Solidification during Continuous Cooling" (1996)
10. S.R. Giese, "An Investigation of Cast Iron Metal Penetration Defects" (1996)
11. X. Guo, "Prediction of Selected Mechanical Properties of Ferrous Alloys Through Computational modeling of Solidification" (1997)
12. A.V. Catalina, "Mathematical Modeling of the Interaction between an Insoluble Solid Particle and a Solidifying Interface" (2000)
13. F.R. Juretzko, "Particle Engulfment and Pushing in Metal-Ceramic and Organic Metal-analogue Systems in Micro-Gravity" (2000)
14. S. Charoenvilai Siri, "Microstructure Control of Compacted Graphite Iron for Thin Wall Iron Castings" (2001)
15. L. Beltran-Sanchez, "Quantitative Micro-modeling of Dendrite Growth Controlled by Solutal Effects in the Low Péclet Regime for Binary Alloys" (2003)
16. Jose Leon-Torres, "Thin-Wall Nodular Cast Iron: Numerical Modeling and Experimental Validation" (2003)
17. Sarum Boonmee, "Ductile and CG Iron Casting Skin – Evaluation, Effect on Fatigue Strength and Elimination" (2013)

## **POST-DOCTORAL FELLOWS AND VISITORS: 25**

Dr. In-Gann Chen (Taiwan), Post Doc. 1986-87  
Prof. Brij K. Dhindaw (India), Visiting Scholar 1986-88, 1991-92, 1995-96  
Prof. Isaac Minkoff (Israel), Visiting Scholar 1989  
Dr. Dongkai Shangguan (China), Post Doc 1989-1990  
Prof. George Kaptay (Hungary), Visiting Scholar 1991  
Prof. Iulian Riposan (Romania), Fulbright Scholar 1991-92  
Dr. Christophe Degand (France), Post Doc. 1994  
Dr. Xinging Guo (China), Visiting Scholar 1994  
Dr. Subhayu Sen (India), Post Doc 1994  
Dr. Sadato Hiratsuka (Japan), Visiting Scholar 1994  
Hanquan Qiu (China), Visiting Scholar 1994  
Dr. Susumu Takamori (Japan), Visiting Scholar 1995-1996  
Prof. Akio Kagava (Japan), Visiting Scholar 1996  
Dr. B.J. Yang (China), Post Doc. 1998-2000  
Dr. Roxana Ruxanda (Romania), NATO Visiting Scholar, 1998-2003  
Dr. I. Pencea (Romania), Visiting Scholar, 1999  
Masami Fukumoto (Japan), Visiting Scholar, 2001-2003  
Dr. Frank Juretzko (Germany), Post Doc. 2001-2004, Research Engineer 2004-2005  
Dr. Marian Liliac (Romania), Post Doc. 2002-2003  
Dr. Kazumi Yamamoto (Japan), Visiting Scholar 2002-2003  
Prof. Roberto Boeri (Argentina), Fulbright Scholar 2003  
Dr. Peter Nikrityuk (Germany), Visiting Scholar, 2005  
Dr. Juan Masone (Argentina), Visiting Scholar, 1999-2000, Fulbright Scholar 2006  
Aitor Loizaga (Spain), Visiting Scholar 2010  
Elhem Moumeni (Denmark), Visiting Scholar 2012

## PUBLICATIONS

### INVITED PAPERS (PUBLISHED): 35

1. D.M. Stefanescu and A.V. Catalina, "The Physics of Microporosity Formation in Casting Alloys – A Sensitivity Analysis", in Proc. 8<sup>th</sup> Pacific Rim Conf. on Modeling of Casting and Solidif. Proc., J.K Choi, H.Y. Hwang and J.T. Kim eds., April 12-15 (2010) 13-20 **key note address**
2. D.M. Stefanescu, "Mold/Metal Interface Phenomena and Control in Cast Ferrous Alloys", Bramat 2009 - Int. Conf. on Mat. Sci. and Eng., Brasov, Book of Abstracts, Romania, Feb 26-28 (2009) **plenary lecture**
3. D.M. Stefanescu, "The Effect of Mould/Metal Interface Phenomena on the Surface Quality of Castings" Proceedings of 10th Asian Foundry Congress (AFC10), Nagoya, Japan, May 21-24 (2008) 23-30 **plenary address**
4. D.M. Stefanescu, "The Multidisciplinary Facets of Particle Engulfment and Pushing" 3<sup>rd</sup> Int. Conf. on Solidification Science and Processing, Jaipur, India (2006), Trans. Indian Inst. Met. **60** (2-3) (2007) 79-86 **key note address**
5. D.M. Stefanescu, "30 Years of Modeling of Microstructure Evolution during Casting Solidification" 4th International Conf. on Materials and Manufacturing Technologies (MATEHN 06), Cluj Napoca, Romania, 2006, Materials and Technologies, Advanced Materials Research, **23** (2007) 9-16
6. D.M. Stefanescu, "State of the Art in Solidification Modeling of Cast Iron", in Science and Processing of Cast Iron VIII, Edited by Li Y.X., Shen Houfa, Xu Q.Y. and Han Z.Q., Tsinghua University Press, Beijing, (2006) 32-41 **key note address**
7. M.F. Zhu, C.P. Hong, D.M. Stefanescu, Y.A. Chang, "Advances in Computational Modeling of Microstructure Evolution in Solidification of Aluminum Alloys", in Simulation of Aluminum Shape Casting Processing: From Alloy Design to Mechanical Properties, Edited by Q. Wang, M.J.M. Krane, and P.D. Lee, CD Proceedings, TMS (The Minerals, Metals & Materials Society), (2006) 13-22
8. D.M. Stefanescu, "Solidification and modeling of cast iron—A short history of the defining moments" International Conference on Advances in Solidification Processes, H. Fredriksson editor, Stockholm Materials Science and Engineering A 413–414 (2005) 322–333 **key note address**
9. D.M. Stefanescu, "Computer Simulation of Shrinkage-Related Defects In Castings – A Review", in Shape Casting: The John Campbell Symposium, Edited by M. Tiryakioglu and P.N. Crepeau, TMS (The Minerals, Metals, & Materials Society), (2005) 295-304
10. D.M. Stefanescu, "Microstructure Evolution during Solidification of Steel", Current Advances in Materials and Processes, Report of the ISIJ Meeting, ISSN 0914-6628, Akita, Japan Vol. 17 (2004) 696-699
11. D.M. Stefanescu, "Computer Simulation of Micro- and Macro-Shrinkage and of Metal Penetration Defects in Metal Casting", Proceedings of the 3<sup>rd</sup> International Conference on Computational Modeling and Simulation of Materials, Acireale, Sicily, CIMTEC, (2004)
12. D.M. Stefanescu, J. Torrance and J. Woolley, "Light Weight Ductile Iron Castings – From Test Plates to Castings" 2<sup>nd</sup> Foundry Technical Symposium, Bilbao, Spain (2004) CD Proceedings
13. D.M. Stefanescu and Roxana Ruxanda, "Lightweight Iron Castings – Can they Replace Aluminum Castings?", in Proceedings of the 65<sup>th</sup> World Foundry Congress, C.P. Hong et al. eds., The Korean Foundrymen's Society, Seoul, Korea (2002) 71-77 **key note address**
14. D.M. Stefanescu, "Computational Modeling of Microstructure Evolution during Casting Solidification – Science and Engineering", in *Proceedings of the 7<sup>th</sup> Asian Foundry Congress*, Y.N. Pan et al. eds., The Chinese Foundrymen's Association, Taipei, Taiwan (2001) 13-24 **key note address**
15. A.V. Catalina and D.M. Stefanescu, "A Numerical Model for the Tracking of Solid/Liquid Interfaces", in *Proceedings of the 4<sup>th</sup> Pacific Rim International Conference on Modeling of Casting & Solidification Processes*, C.P. Hong, J.K. Choi and D.H. Kim editors, CAMP, Seoul, Korea (2000) 3-12 **key note address**



16. D.M. Stefanescu, "Recent Progress in Understanding the Physics of Particle-Solidification Interface Interaction through Computational Modeling", in *Proceedings of the Conference Cutting Edge of Computer Simulation of Solidification and Casting*, Iron and Steel Inst. of Japan, Osaka (1999) 83-96
17. D.M. Stefanescu, T.S. Pivonka, S.R. Giese, K.O. Barlow and K. Hayes, "Penetration of Liquid Iron-base Alloys in Sand Molds", in *Proceedings of the Sixth Asian Foundry Congress*, Calcutta, India, A. K. Chakrabarti et al. editors (1999) 135-144  
**plenary session address**
18. D.M. Stefanescu, "Inoculation of Thin-Wall Castings", in *International Inoculation Conference Proceedings*, American Foundrymen's Soc., Des Plaines, IL. (1998)
19. D.M. Stefanescu, "Methodologies for and Performance of Macro Transport - Transformation Kinetics Modeling of Cast Iron", in *Physical Metallurgy of Cast Iron V*, G. Lesoult and J. Lacaze eds., Scitech Publications, Switzerland (1997) 89-104
20. X. Guo, A. Catalina, D.M. Stefanescu, L. Chuzhoy and M. Pershing, "Simulation of Mechanical Properties of Gray Cast Iron", in *3rd Pacific Rim International Conference on Modeling of Casting and Solidification Processes*, B. Liu and T. Jing eds., International Academic Publishers, Beijing (1996) 25-33  
**key note address**
21. D.M. Stefanescu and T. S. Pivonka, "Promises and Realities of Casting Process Models," in *Applications of Computers, Robotics and Automation to the Foundry Industry*, Proceedings of the Technical Forum, 62nd World Foundry Congress, Philadelphia, PA, CIATF, American Foundrymen's Soc., Inc. (1996) 62-73
22. D.M. Stefanescu and H. Pang, "Stochastic Versus Deterministic Modeling of Solidification", in *Computational Fluid Dynamics and Heat/Mass Transfer Modeling in the Metallurgical Industry*, Proceedings of the International Symposium, S.A. Argyropoulos and F. Mucciardi editors, The Metallurgical Soc. of the Canadian Inst. of Mining, Metallurgy and Petroleum, (Aug. 1996) 164-176
23. D M. Stefanescu, "Fundamentals of Solidification of Iron-Base Alloys and Composites," in *Solidification and Properties of Cast Alloys*, Proceedings of the Technical Forum, 61st World Foundry Congress, CIATF ,Beijing, China, Giesserei-Verlag (1996) 8-27
24. D.M. Stefanescu, "Advances in Metal Casting Processing" in *Advanced Materials and Processing*, Proceedings of the Second Pacific Rim International Conference, Volume 1, K. S. Shin, J. K. Yoon and S. J. Kim eds. (1995) 43-56
25. D. M. Stefanescu, "A Critical Evaluation of Approaches to and Capabilities of Casting Solidification Modeling," U.S.-Japan Cooperative Science Program Seminar on *Solidification Processing for the 21st Century*, July 18-22 (1994) Lenox, Massachusetts, 259-272
26. D. M. Stefanescu, "Critical Review of the Second Generation of Solidification Models for Castings: Macro Transport -- Transformation Kinetics Codes," in *Modeling of Casting and Welding Processes VI*, T. S. Pivonka, V. Voller and L. Katgerman editors, TMS Warrendale. Pa (1993), 3-20.  
**key note address**
27. D. M. Stefanescu, "Issues in Liquid Processing of Particulate Metal Matrix Composites", *Key Engineering Materials*, vol. 79-80 (1993) 75-90
28. L. Nastac, S. Chang, D. M. Stefanescu and L. Hadji, "A Model for Microsegregation in Multicomponent Systems Solidifying with Equiaxed Morphology", in *Microstructural Design by Solidification Processing*, E. J. Lavernia and M.N. Gungor eds., TMS Warrendale. Pa (1992), 57-76
29. D. M. Stefanescu, "The Second Generation of Computer Models for Solidification: Heat Transfer-Solidification Kinetics (HT-SK) Codes", in *Numerical Simulation of Casting Solidification in Automotive Applications*, C. Kim and C.W. Kim editors, TMS Warrendale. Pa (1991) 69-98
30. D. M. Stefanescu and D.K. Bandyopadhyay, "On the Solidification Kinetics of Spheroidal Graphite Cast Iron", in *Physical Metallurgy of Cast Iron IV*, G. Ohira, T. Kusakawa and E. Niyama editors, Mat. Res. Soc. Pittsburgh, Pa. (1990) 15-26

31. A. Hetke, D.M. Stefanescu, "Surface Quality and Dimensional Accuracy in Tomorrow's Automotive Castings", in *Surface and Dimensions*, International Committee of Foundry Technical Associations (CIATF) editor, Giesserei Verlag, Dusseldorf (1989) 83-98
32. D.M. Stefanescu, C.S. Kanetkar, "Modeling of Micro-structural Evolution of Cast Iron and Aluminum-Silicon Alloys", U.S. Exchange Paper, 54th International Foundry Congress, CIATF New Delhi, India, paper 19, (1987)
33. D.M. Stefanescu, S. Craciun, "Abrasion Resistant Cast Iron Alloyed with Chromium and Vanadium", 42nd International Foundry Congress, CIATF Lisbon, Portugal (1975)
34. D.M. Stefanescu, "Study of the Inoculation of SG Iron with Barium and Cerium Containing Alloys" (in French), 38th International Foundry Congress, CIATF Dusseldorf, W. Germany (Oct. 1971)
35. L. Sofroni, D.M. Stefanescu, "Research on the Manufacture and Use of Some Complex Inoculants for High Duty Cast Irons" (in French), 36th International Foundry Congress, CIATF Belgrade, Yugoslavia (Sept. 1969)

Also published in Russian in Express Informatia TOLP, No. 11 (1972)

## **BOOKS, EDITED BOOKS AND CHAPTERS IN BOOKS: 44**

1. D.M. Stefanescu Editor, *ASM Handbook Vol. 1A Cast Iron Science and Technology*, ASM International, Materials Park Ohio (2017)
2. M. Górný, D.M. Stefanescu, Thin-Wall Ductile Iron Castings, in: D.M. Stefanescu Ed., *ASM Handbook Vol. 1A Cast Iron Science and Technology*, ASM International, Materials Park Ohio (2017) 617-628.
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### Abbreviations:

Appl. Phys. Letters – Applied Physics Letters  
 Acta mater. – Acta materialia  
 ISIJ International - Iron and Steel Institute of Japan International  
 Int. J. Cast Iron. Res. – International Journal of Cast Iron Research  
 J. Crystal Growth – Journal of Crystal Growth  
 Mat. Sc. and Eng. – Material Science and Engineering  
 Metall. Mat. Trans. – Metallurgical and Materials Transactions  
 Metall. Trans. - Metallurgical Transactions  
 Modelling Simul. Mater. Sci. Eng. – Modelling and Simulation in Materials Science and Engineering

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