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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAH-1396-2019

ScopusID: 24330097300

Yoksis Researcher ID: 44888

Education Information

Doctorate, Iowa State University, College of Engineering, Materials Science and Engineering, United States Of America
2005 - 2009

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, Turkey 2000 - 2004

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Pattern Selection Dynamics in Rod Eutectics, Iowa State University of Science and Technology, College of Engineering, Materials Science and Engineering, 2009

Research Areas

Intermetallics, Physical Metallurgy, Thermal Treatment, Material Characterization, Metallic Materials, Non-Ferrous Alloy Production, Principles of Foundry Technology, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Equations of State, Phase Equilibria, and Phase Transitions, Structure of Liquids and Solids; Crystallography, Surfaces, Interfaces, Thin Films and Nanosystems

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, 2021 - Continues

Associate Professor, Koc University, Faculty Of Engineering, Department Of Mechanical Engineering, 2021 - 2021
Assistant Professor, Koc University, Faculty Of Engineering, Department Of Mechanical Engineering, 2012 - 2021
Research Assistant PhD, Université Pierre-et-Marie-Curie: Paris VI, CNRS, Paris Nanoscience Institute, 2009 - 2011
Research Assistant, Iowa State University of Science and Technology, College of Engineering, Materials Science and Engineering, 2005 - 2009

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **On the Effect of Interphase Boundary Energy Anisotropy on Morphologies: A New Type of Eutectic Grain Observed in a Three-Phase Eutectic System**
Mohagheghi S., ŞEREFÖĞLU KAYA M.
Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, vol.55, no.7, pp.2230-2243, 2024 (SCI-Expanded)
- II. **Pinning/depinning dynamics of trijunction lines during faceted/nonfaceted eutectic growth**
Mohagheghi S., ŞEREFÖĞLU KAYA M., Akamatsu S., Bottin-Rousseau S.
Journal of Crystal Growth, vol.636, 2024 (SCI-Expanded)
- III. **Microgravity studies of solidification patterns in model transparent alloys onboard the International Space Station**
Akamatsu S., Bottin-Rousseau S., Witusiewicz V., Hecht U., Plapp M., Ludwig A., Mogeritsch J., ŞEREFÖĞLU KAYA M., Bergeon N., Mota F., et al.
npj Microgravity, vol.9, no.1, 2023 (SCI-Expanded)
- IV. **In situ experiments in microgravity and phase-field simulations of the lamellar-to-rod transition during eutectic growth**
Akamatsu S., Bottin-Rousseau S., ŞEREFÖĞLU KAYA M., Witusiewicz V. T., Hecht U., Plapp M.
Comptes Rendus - Mecanique, vol.351, 2023 (SCI-Expanded)
- V. **Lamella-rod pattern transition and confinement effects during eutectic growth**
Şerefoğlu M., Bottin-Rousseau S., Akamatsu S.
Acta Materialia, vol.242, 2023 (SCI-Expanded)
- VI. **Microstructure and Crystallographic Texture in Twin-Roll Casting of AA1050 Aluminum Alloy: Simulation and Industrial Validation**
Dantzig J., Meydanoglu O., Kazazi A., Altuner H. M., Isiksacan C., ŞEREFÖĞLU KAYA M.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, vol.53, no.12, pp.4168-4187, 2022 (SCI-Expanded)
- VII. **Decoupled versus coupled growth dynamics of an irregular eutectic alloy**
Mohagheghi S., Bottin-Rousseau S., Akamatsu S., Serefoglu M.
SCRIPTA MATERIALIA, vol.189, pp.11-15, 2020 (SCI-Expanded)
- VIII. **On the Growth Dynamics of Nearly-Locked Grain in the Three-Phase In-Bi-Sn Eutectic System**
Mohagheghi S., Serefoglu M.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, vol.50A, no.11, pp.5221-5233, 2019 (SCI-Expanded)
- IX. **Crystal orientation relationships in ternary eutectic Al-Al₂Cu-Ag2Al**
Steinmetz P., Dennstedt A., Serefoglu M., Sargin I., Genau A., Hecht U.
ACTA MATERIALIA, vol.157, pp.96-105, 2018 (SCI-Expanded)
- X. **Quasi-isotropic and locked grain growth dynamics in a three-phase eutectic system**
Mohagheghi S., Serefoglu M.
ACTA MATERIALIA, vol.151, pp.432-442, 2018 (SCI-Expanded)
- XI. **Dynamics of spacing adjustment and recovery mechanisms of ABAC-type growth pattern in ternary eutectic systems**
Mohagheghi S., Serefoglu M.
JOURNAL OF CRYSTAL GROWTH, vol.470, pp.66-74, 2017 (SCI-Expanded)

- XII. **Stability of three-phase ternary-eutectic growth patterns in thin sample**
Bottin-Rousseau S., ŞEREFÖĞLU KAYA M., Yuceturk S., Faivre G., Akamatsu S.
ACTA MATERIALIA, vol.109, pp.259-266, 2016 (SCI-Expanded)
- XIII. **A theory of thin lamellar eutectic growth with anisotropic interphase boundaries**
Akamatsu S., Bottin-Rousseau S., ŞEREFÖĞLU KAYA M., Faivre G.
ACTA MATERIALIA, vol.60, no.6-7, pp.3199-3205, 2012 (SCI-Expanded)
- XIV. **Lamellar eutectic growth with anisotropic interphase boundaries: Experimental study using the rotating directional solidification method**
Akamatsu S., Bottin-Rousseau S., ŞEREFÖĞLU KAYA M., Faivre G.
ACTA MATERIALIA, vol.60, no.6-7, pp.3206-3214, 2012 (SCI-Expanded)
- XV. **Control and Interpretation of Finite-Size Effects and Initial Morphology in Directional Solidification of a Rod-Type Eutectic Transparent Metal-Analog**
Napolitano R. E., ŞEREFÖĞLU KAYA M.
JOM, vol.64, no.1, pp.68-75, 2012 (SCI-Expanded)
- XVI. **Phase-field investigation of rod eutectic morphologies under geometrical confinement**
ŞEREFÖĞLU KAYA M., Napolitano R. E., Plapp M.
PHYSICAL REVIEW E, vol.84, no.1, 2011 (SCI-Expanded)
- XVII. **On the role of initial conditions in the selection of eutectic onset mechanisms in directional growth**
ŞEREFÖĞLU KAYA M., Napolitano R. E.
ACTA MATERIALIA, vol.59, no.3, pp.1048-1057, 2011 (SCI-Expanded)
- XVIII. **Onset of rod eutectic morphology in directional solidification**
ŞEREFÖĞLU KAYA M., Napolitano R. E.
INTERNATIONAL JOURNAL OF CAST METALS RESEARCH, vol.22, no.1-4, pp.228-231, 2009 (SCI-Expanded)
- XIX. **On the selection of rod-type eutectic morphologies: Geometrical constraint and array orientation**
ŞEREFÖĞLU KAYA M., Napolitano R. E.
ACTA MATERIALIA, vol.56, no.15, pp.3862-3873, 2008 (SCI-Expanded)

Articles Published in Other Journals

- I. **In-situ investigation of the solidification dynamics in an irregular eutectic alloy**
Mohagheghi S., Bottin Rousseau S., Şerefoğlu Kaya M.
IOP CONFERENCE SERIES: MATERIALS SCIENCE AND ENGINEERING, vol.1274, 2023 (Peer-Reviewed Journal)
- II. **DIRECTIONAL SOLIDIFICATION EXPERIMENTS IN MATERIALS SCIENCE LABORATORY OF THE INTERNATIONAL SPACE STATION**
ŞEREFÖĞLU M.
Havacılık ve Uzay Teknolojileri Dergisi, vol.11, no.1, pp.7-15, 2018 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Investigation of directionally solidified copper-boron irregular eutectic alloy**
MOHAGHEGHI S., ŞEREFÖĞLU KAYA M.
Directionally Solidified Eutectics Conference – VII, İstanbul, Turkey, 25 - 27 May 2023
- II. **In situ observation of irregular eutectic growth in AMPD-SCN transparent alloy**
MOHAGHEGHI S., Bottin Rousseau S., Bottin Rousseau S., Akamatsu S., ŞEREFÖĞLU KAYA M.
Directionally Solidified Eutectics Conference – VII, İstanbul, Turkey, 25 - 27 May 2023
- III. **Microstructure and crystallographic texture in twin-roll casting of AA1050: Simulation and industrial validation**
ŞEREFÖĞLU KAYA M., MEYDANOĞLU O., MOLLAOĞLU ALTUNER H., Işıksaçan C., Dantzig J., Dünder M.
TMS Annual Meeting 2023, San Diego, United States Of America, 19 - 23 March 2023

- IV. **Microstructure evolution of the three-phase Al-Al₂Cu- Ag₂Al eutectic system upon directional solidification**
Kevkir M., Kazazi A., Mohagheghi S., ŞEREFÖĞLU KAYA M.
21. Uluslararası Metalurji ve Malzeme Kongresi, İstanbul, Turkey, 6 - 08 October 2022
- V. **Understanding the Solidification Dynamics of Aluminium Alloys Produced by Twin-Roll Casting**
Kazazi A., MEYDANOĞLU O., Işıksaçan C., MOLLAOĞLU ALTUNER H., ŞEREFÖĞLU KAYA M.
21. Uluslararası Metalurji ve Malzeme Kongresi, İstanbul, Turkey, 06 October 2022
- VI. **Directional Solidification of Commercial 1050 Aluminum Alloys**
Kazazi A., MEYDANOĞLU O., Işıksaçan C., MOLLAOĞLU ALTUNER H., ŞEREFÖĞLU KAYA M.
ICASP 6 - 6th International Conference on Advances in Solidification Processes, Le Bischenberg, France, 20 - 24 June 2022
- VII. **In-situ investigation of the solidification dynamics in an irregular eutectic alloy**
Mohagheghi S., Bottin Rousseau S., Akamatsu S., ŞEREFÖĞLU KAYA M.
ICASP 6 - 6th International Conference on Advances in Solidification Processes, Le Bischenberg, France, 20 - 24 June 2022
- VIII. **Lamellar-to-rod transition and vice versa during eutectic growth**
Akamatsu S., Bottin Rousseau S., ŞEREFÖĞLU KAYA M., Witusiewicz V., Hecht U.
ICASP 6 - 6th International Conference on Advances in Solidification Processes, Le Bischenberg, France, 20 June 2022
- IX. **The role of the interphase boundary anisotropy on the microstructure selection in a three-phase eutectic system**
Mohagheghi S., ŞEREFÖĞLU KAYA M.
ICASP 6 - 6th International Conference on Advances in Solidification Processes, Le Bischenberg, France, 20 - 24 June 2022
- X. **Irregular Eutectic Solidification: Coupled or Uncoupled Growth?**
Mohagheghi S., CHATROUDI S. F., Bottin Rousseau S., Akamatsu S., ŞEREFÖĞLU KAYA M.
20. Uluslararası Metalurji ve Malzeme Kongresi, Pandemiden dolayı online yapılmıştır., Turkey, 10 June 2021
- XI. **Microstructural and Morphological Characterization of Directionally Solidified Copper-Boron Eutectic System**
Mohagheghi S., CHATROUDI S. F., ŞEREFÖĞLU KAYA M.
20. Uluslararası Metalurji ve Malzeme Kongresi, Pandemiden dolayı online yapılmıştır., Turkey, 10 June 2021
- XII. **Coupled and Decoupled Eutectic Growth in a Transparent Irregular Eutectic Alloy**
ŞEREFÖĞLU KAYA M., Bottin Rousseau S., Mohagheghi S., Akamatsu S.
TMS 2021, Pandemiden dolayı online yapılmıştır., United States Of America, 15 March 2021
- XIII. **Effects of interphase boundary anisotropy on the three-phase growth dynamics in the beta(In) - In₂Bi - gamma(Sn) ternary-eutectic system**
Mohagheghi S., Hecht U., Bottin-Rousseau S., Akamatsu S., Faivre G., Serefoglu M.
Joint Conference of 5th International Conference on Advances in Solidification Processes (ICASP) and 5th International Symposium on Cutting Edge of Computer Simulation of Solidification, Casting and Refining (CSSCR), Salzburg, Austria, 17 - 21 June 2019, vol.529
- XIV. **Effect of interphase boundary anisotropy on three-phase eutectic microstructures**
Mohagheghi S., ŞEREFÖĞLU M.
TMS 2018, 11 - 15 March 2018
- XV. **Microstructure selection in In-Bi-Sn ternary eutectic system during directional solidification**
Mohagheghi S., ŞEREFÖĞLU M.
EUROMAT 2017, 17 - 22 September 2017
- XVI. **Characterization of Three-Phase Eutectic Microstructure in Al-Cu-Ag System**
Çetinkaya M. E., ŞEREFÖĞLU M.
EUROMAT 2017, 17 - 22 September 2017
- XVII. **Pattern formation dynamics in a three-phase eutectic system**
Mohagheghi S., ŞEREFÖĞLU M.

6th Decennial International Conference on Solidification Processing, 25 - 28 July 2017

- XVIII. **Real-time study on microstructure evolution of a three-phase eutectic system in quasi-2D samples**
Mohagheghi S., ŞEREFÖĞLU M.
TMS 2017, 26 February - 02 March 2017
- XIX. **Dynamic stability of three-phased eutectic patterns during thin-sample directional solidification**
Yüçtürk S., ŞEREFÖĞLU M., Bottin Rousseau S., Akamatsu S., Faivre G.
TMS 2015, 15 - 19 March 2015
- XX. **Phase-field investigation of rod eutectic morphologies under geometrical confinement**
ŞEREFÖĞLU M., Napolitano R. E., Plapp M.
EUROMAT 2013, 8 - 13 September 2013
- XXI. **The surface tension force of anisotropic interphase boundaries is perpendicular to the solidification front during eutectic growth**
Bottin-Rousseau S., ŞEREFÖĞLU KAYA M., Akamatsu S., Faivre G.
3rd International Conference on Advances in Solidification Processes, Netherlands, 7 - 10 June 2011, vol.27
- XXII. **Dynamics of rod eutectic growth patterns in confined geometry**
ŞEREFÖĞLU KAYA M., Bottin-Rousseau S., Akamatsu S., Faivre G.
3rd International Conference on Advances in Solidification Processes, Netherlands, 7 - 10 June 2011, vol.27
- XXIII. **In-situ study of interfacial anisotropy effects on eutectic grains**
ŞEREFÖĞLU M., Akamatsu S., Bottin Rousseau S., Faivre G.
TMS 2011, 27 February - 03 March 2011
- XXIV. **Early stage dynamics in eutectic solidification**
ŞEREFÖĞLU M., Napolitano R. E.
TMS 2009, 15 - 19 March 2009
- XXV. **On the selection of rod-type eutectic morphologies: Geometrical constraint and array orientation**
ŞEREFÖĞLU M., Napolitano R. E.
TMS 2008, 9 - 13 March 2008
- XXVI. **Limits of stability and spacing adjustment mechanisms in regular eutectic growth**
ŞEREFÖĞLU M., Napolitano R. E.
TMS 2007, 25 February - 01 March 2007

Supported Projects

Şerefoğlu Kaya M., Other International Funding Programs, Microstructure Evolution in Peritectic Systems, 2024 - 2027

Tünçay M. M., Şerefoğlu Kaya M., TUBITAK Project, Çok Fazlı Erime Dinamikleri, 2023 - 2026

Şerefoğlu Kaya M., TUBITAK Project, İkiz Merdane Sürekli Döküm Tekniği ile Üretilen 1050 Alüminyum Alaşımlarında Katılaşma Dinamiklerinin Anlaşılması ve Döküm Verimliliği için Uygun Kompozisyonun Belirlenmesi, 2021 - 2023

Şerefoğlu Kaya M., TUBITAK Project, Tek yönlü katılaşma yöntemi ile üç boyutlu tek kristalli malzeme üretimi, 2019 - 2023

Şerefoğlu Kaya M., TÜBİTAK International Bilateral Joint Cooperation Program Project, Investigation of irregular eutectic growth dynamics with metallic and organic systems, 2018 - 2021

Şerefoğlu Kaya M., Other International Funding Programs, Solidification along a Eutectic path in Ternary Alloys (SETA) of Al-Cu-Ag system along univariant and nonvariant compositions, 2015 - 2019

Şerefoğlu Kaya M., TUBITAK Project, Interface Anisotropy in Multiphase Periodic Structures, 2015 - 2018

Şerefoğlu Kaya M., FP7 Project, Real time study of pattern formation dynamics in nonvariant eutectic solidification microstructures, 2013 - 2017

Şerefoğlu Kaya M., TUBITAK Project, Üç fazlı ötektik mikroyapılarının gerçek zamanlı deneysel incelenmesi, 2013 - 2016

Metrics

Publication: 48

Citation (WoS): 278

Citation (Scopus): 312

H-Index (WoS): 9

H-Index (Scopus): 10

Scholarships

Post-doctoral fellowship, Other International Organizations, 2009 - 2011