

## Personal Information

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## Education Information

Doctorate, Iowa State University, Materials Science, United States Of America 2004 - 2009  
Post Graduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Metalurji Ve Malzeme Mühendisliği (YI) (Tezli), Turkey 2001 - 2003  
Under Graduate, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey 1997 - 2001

## Research Areas

Metallurgical and Materials Engineering, Engineering and Technology

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, 2020 - Continues  
Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, 2015 - 2020  
Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 2011 - 2015  
Lecturer PhD, Ames Laboratory Doe, 2009 - 2010  
Research Assistant, Iowa State University Of Science And Technology, 2004 - 2009  
Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 2001 - 2004

## Academic and Administrative Experience

Director of the Center, Middle East Technical University, Presidency Office, Toplum Bilim ve Bilim Uygulama ve Araştırma Merkezi, 2018 - Continues  
Director of the Center, Middle East Technical University, Presidency Office, Kariyer Planlama Uygulama ve Araştırma Merkezi, 2018 - Continues  
Middle East Technical University, Presidency Office, 2016 - Continues  
Middle East Technical University, Bilim, Teknoloji, Mühendislik Ve Matematik Eğitimi Uygulama Ve Araştırma Merkezi, 2015 - Continues  
Deputy Head of Department, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 2015 - 2016

## Advising Theses

Akın T., Kalay Y. E., DESIGN AND DEVELOPMENT OF WAFER LEVEL HERMETIC ENCAPSULATION METHOD FOR MEMS CAPACITIVE SENSORS INCLUDING SELF-COOLING SYSTEMS, Doctorate, G.DEMİRHAN(Student), Continues  
KALAY Y. E., Development of high strength lightweight high entropy alloys (LWHEAs), Doctorate, G.Polat(Student), 2020  
KALAY Y. E., Structural and mechanical characterization of scale-up FeCoCrNi, FeCoCrNiCu, AND FeCoCrNiAlx high entropy alloys (HEAs), Post Graduate, Z.Anil(Student), 2020  
Kalay Y. E., Özeriç S., Micromechanical characterization of metallic glass — crystalline nanocomposite coatings, Post Graduate, M.ABBOUD(Student), 2018  
Kalay Y. E., Özeriç S., Experimental investigation of the mechanical properties of nanolayered metals, Post Graduate, A.TUNCAY(Student), 2018  
KALAY Y. E., ÖZTÜRK T., Combinatorial development of LSC-113/LSC-214 cathode materials for intermediate temperature solid oxide fuel cells, Post Graduate, D.SARI(Student), 2017  
KALAY Y. E., ÖZTÜRK T., Utilization of (La,Sr)CoO<sub>3</sub>/(La,Sr)<sub>2</sub>CoO<sub>4</sub> heterostructures as cathode for it-SOFCs, Post Graduate, Z.ÇAĞRI(Student), 2017  
Kalay Y. E., Akdeniz M. V., Development of rare-earth free permanent magnets, Doctorate, A.MERVE(Student), 2017  
KALAY Y. E., Production and characterization of CuZr-RE based bulk amorphous/nanocrystal composite, Post Graduate, F.SIKAN(Student), 2017  
ÖZTÜRK T., KALAY Y. E., Utilization of (La<sub>1-x</sub>Sr<sub>x</sub>)CoO<sub>3-δ</sub>/(La<sub>1-y</sub>Sr<sub>y</sub>)<sub>2</sub>CoO<sub>4±δ</sub> heterostructures as cathode for it-SOFCs, Post Graduate, Z.ÇAĞRI(Student), 2017  
KALAY Y. E., AKIN T., BONDING MATERIAL DEVELOPMENT AT WAFER LEVEL VACUUM PACKAGING FOR MEMS DEVICES BY TRANSIENT LIQUID PHASE (TLP) METHOD, Post Graduate, E.CAN(Student), 2016  
KALAY Y. E., Production and characterization of aluminum-rare earth based bulk amorphous/nanocrystalline composite, Post Graduate, M.KUTSAL(Student), 2016  
KALAY Y. E., Investigations of solid state phase transformations in manganese-aluminum alloys, Post Graduate, Ö.ACAR(Student), 2016  
KALAY Y. E., Local atomic structure in Al-RE marginal metallic glasses, Post Graduate, M.ÖVÜN(Student), 2016  
KALAY Y. E., Production and characterization of aluminum-rare earth based bulk amorphous/nanocrystalline composite, Post Graduate, M.Kutsal(Student), 2016  
KALAY Y. E., Characterization of Cd<sub>1-x</sub>Zn<sub>x</sub>Te single crystals, Post Graduate, B.YAŞAR(Student), 2016  
KALAY Y. E., Kalay Y., Investigation of solid state phase transformations in manganese-aluminum alloys, Post Graduate, Ö.Acar(Student), 2016  
KALAY Y. E., The Mechanism of brittle fracture in CN3MN grade superaustenitic stainless steel /, Post Graduate, M.Başkan(Student), 2015  
KALAY Y. E., TURAN R., Investigation of extended defects in cadmium zinc telluride crystals grown by Vertical Gradient Freeze (VGF) technique, Post Graduate, Ç.DOĞRU(Student), 2015  
KALAY Y. E., The mechanism of brittle fracture in CN3MN grade superaustenitic stainless steel, Post Graduate, M.BAŞKAN(Student), 2015  
KALAY Y. E., GÜR C. H., Investigation of microstructural homogeneity and thermal stability of equal channel angular pressed and aged 2024 Al alloy, Doctorate, G.KOTAN(Student), 2014  
KALAY Y. E., Nanocrystallization in marginal glass forming alloys, Post Graduate, T.DEMİRTAŞ(Student), 2013  
KALAY Y. E., Structural and dynamical evolution of nanocrystals, Post Graduate, C.YILDIRIM(Student), 2013  
KALAY Y. E., Development of new lead-free solders for electronics industry, Post Graduate, A.KANTARCIÖĞLU(Student), 2012

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- Wafer-Level Low-Temperature Solid-Liquid Inter-Diffusion Bonding With Thin Au-Sn Layers for MEMS Encapsulation**  
Temel O, KALAY Y. E., AKIN T.  
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.30, no.1, pp.64-71, 2021 (Journal Indexed in SCI)
- Design of Novel Non-equiatom Cu-Ni-Al-Ti Composite Medium-Entropy Alloys**  
POLAT G., Erdal Z. A., KALAY Y. E.  
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.29, no.5, pp.2898-2908, 2020 (Journal Indexed in SCI)
- Effect of Sm on Crystallization Kinetics of Cu-Zr-Al Metallic Glasses**  
Sikan F., Polat G., Kalay I., KALAY Y. E.

- Thermochimica Acta, vol.683, 2020 (Journal Indexed in SCI)
- IV. **Investigation of phase selection hierarchy in Mn–Al alloys**  
Genc A. M. , Acar O., Turan S., Kalay I., Savacı U., KALAY Y. E.  
Intermetallics, vol.115, 2019 (Journal Indexed in SCI)
- V. **Effect of Sm on thermal and mechanical properties of Cu-Zr-Al bulk metallic glasses**  
Sikan F., Atabay S. E. , Motallebzadeh A., Özerinç S., Kalay I., Kalay Y. E.  
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.743, pp.168-174, 2019 (Journal Indexed in SCI)
- VI. **Segregation resistant nanocrystalline/amorphous (La, Sr) CoO<sub>3</sub>-(La,Sr)2CoO<sub>4</sub> composite cathodes for IT-SOFCs**  
Sari D., Yaşar B., Pişkin F., KALAY Y. E. , ÖZTÜRK T.  
Journal of the Electrochemical Society, vol.166, no.15, 2019 (Journal Indexed in SCI)
- VII. **Combinatorial development of nanocrystalline/amorphous (La,Sr)CoO<sub>3</sub>-(La,Sr)2CoO<sub>4</sub> composite cathodes for IT-SOFCs**  
Sari D., Piskin F., Torunoglu Z. C. , Yasar B., Kalay Y. E. , Öztürk T.  
Solid State Ionics, vol.326, pp.124-130, 2018 (Journal Indexed in SCI)
- VIII. **One pot synthesis of (La,Sr)CoO<sub>3</sub>/(La,Sr)2CoO<sub>4</sub> for IT-SOFCs cathodes**  
Torunoglu Z. Ç. , Sari D., Demircan O., Kalay Y. E. , Öztürk T., Kuru Y.  
International Journal of Hydrogen Energy, vol.43, pp.18642-18649, 2018 (Journal Indexed in SCI)
- IX. **Stress evolution of Ge nanocrystals in dielectric matrices**  
Baharishuchi R., Raciti R., KASAPOGLU A. E. , GÜR E., Sezen M., Kalay E., MIRABELLA S., AYDINLI A.  
NANOTECHNOLOGY, vol.29, no.18, 2018 (Journal Indexed in SCI)
- X. **Microstructure effects on process outputs in micro scale milling of heat treated Ti6Al4V titanium alloys**  
Ahmadi M., Karpas Y., ACAR O., KALAY Y. E.  
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.252, pp.333-347, 2018 (Journal Indexed in SCI)
- XI. **HRTEM Analysis of Crystallographic Defects in CdZnTe Single Crystal**  
Yasar B., ERGUNT Y., KABUKCUOGLU M. P. , PARLAK M., TURAN R., KALAY Y. E.  
JOURNAL OF ELECTRONIC MATERIALS, vol.47, no.1, pp.778-784, 2018 (Journal Indexed in SCI)
- XII. **Preparation of La<sub>0.8</sub>Sr<sub>0.2</sub>CoO<sub>3-delta</sub> sputtering targets using a deformable compaction die**  
Sari D., TORUNOGLU Z. C. , KALAY Y. E. , Öztürk T.  
CERAMICS INTERNATIONAL, vol.43, no.17, pp.15185-15188, 2017 (Journal Indexed in SCI)
- XIII. **Preface**  
Ikhmayies S., Li B., Carpenter J. S. , Li J., Hwang J., Monteiro S. N. , Firrao D., Zhang M., Peng Z., Escobedo-Diaz J. P. , et al.  
Minerals, Metals and Materials Series, pp.3-9, 2017 (Journal Indexed in SCI)
- XIV. **The role of amorphous precursor in phase selection hierarchy in marginal metallic glasses**  
YILDIRIM C., KUTSAL M., OTT R. T. , BESSER M. F. , KRAMER M. J. , KALAY Y. E.  
MATERIALS & DESIGN, vol.112, pp.479-484, 2016 (Journal Indexed in SCI)
- XV. **Long-term thermal stability of Equal Channel Angular Pressed 2024 aluminum alloy**  
TAN G., KALAY Y. E. , GÜR C. H.  
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.677, pp.307-315, 2016 (Journal Indexed in SCI)
- XVI. **Synthesis of AlNiCo core/shell nanopowders**  
Genc A. M. , Akdeniz M. V. , Öztürk T., Kalay Y. E.  
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.417, pp.112-116, 2016 (Journal Indexed in SCI)
- XVII. **Flexible, silver nanowire network nickel hydroxide core-shell electrodes for supercapacitors**  
YUKSEL R., Coskun S., KALAY Y. E. , ÜNALAN H. E.  
JOURNAL OF POWER SOURCES, vol.328, pp.167-173, 2016 (Journal Indexed in SCI)
- XVIII. **Synthesis and characterization of hydrothermally grown potassium titanate nanowires**  
KAPUSUZ D., KALAY Y. E. , Park J., ÖZTÜRK A.  
JOURNAL OF CERAMIC PROCESSING RESEARCH, vol.16, no.3, pp.291-297, 2015 (Journal Indexed in SCI)
- XIX. **Kinetics and Mechanisms of Isothermal Devitrification in Amorphous Cu<sub>50</sub>Zr<sub>50</sub>**  
Cullinan T., Kalay I., KALAY Y. E. , Kramer M., Napolitano R.  
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, no.2, pp.600-613, 2015 (Journal Indexed in SCI)
- XX. **Structural modeling of liquid and amorphous Al<sub>91</sub>Tb<sub>9</sub> by Monte Carlo simulations**  
ÖVÜN M., KRAMER M. J. , KALAY Y. E.  
JOURNAL OF NON-CRYSTALLINE SOLIDS, vol.405, pp.27-32, 2014 (Journal Indexed in SCI)
- XXI. **Palladium doped perovskite-based NO oxidation catalysts: The role of Pd and B-sites for NOx adsorption behavior via in-situ spectroscopy**  
Say Z., Dogac M., Vovk E. I. , KALAY Y. E. , KIM C. H. , LI W., Ozensoy E.  
APPLIED CATALYSIS B-ENVIRONMENTAL, vol.154, pp.51-61, 2014 (Journal Indexed in SCI)
- XXII. **Embrittlement in CN3MN Grade Superaustenitic Stainless Steels**  
BASKAN M., Chumbley S. L. , KALAY Y. E.  
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, no.5, pp.2405-2411, 2014 (Journal Indexed in SCI)
- XXIII. **Germanium nanowire synthesis using solid precursors**  
AKSOY B., KALAY Y. E. , ÜNALAN H. E.  
JOURNAL OF CRYSTAL GROWTH, vol.392, pp.20-29, 2014 (Journal Indexed in SCI)
- XXIV. **Effects of Al and Fe additions on microstructure and mechanical properties of SnAgCu eutectic lead-free solders**  
KANTARCIOGLU A., KALAY Y. E.  
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.593, pp.79-84, 2014 (Journal Indexed in SCI)
- XXV. **Kinetics of fcc-Al nanocrystallization in Al<sub>90</sub>Tb<sub>10</sub> metallic glass**  
DEMIRTAS T., KALAY Y. E.  
JOURNAL OF NON-CRYSTALLINE SOLIDS, vol.378, pp.71-78, 2013 (Journal Indexed in SCI)
- XXVI. **Homogenization of ECAPed Al 2024 alloy through age-hardening**  
KOTAN G., TAN E., KALAY Y. E. , GÜR C. H.  
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.559, pp.601-606, 2013 (Journal Indexed in SCI)
- XXVII. **Effect of silver encapsulation on the local structure of titanosilicate ETS-10**  
GALIOGLU S., ZAHMAKIRAN M., KALAY Y. E. , OZKAR S., Akata B.  
MICROPOROUS AND MESOPOROUS MATERIALS, vol.159, pp.1-8, 2012 (Journal Indexed in SCI)
- XXVIII. **Hydrothermal zinc oxide nanowire growth using zinc acetate dihydrate salt**  
AKGUN M. C. , KALAY Y. E. , ÜNALAN H. E.  
JOURNAL OF MATERIALS RESEARCH, vol.27, no.11, pp.1445-1451, 2012 (Journal Indexed in SCI)
- XXIX. **Nanoscale Structure and Structural Relaxation in Zr<sub>50</sub>Cu<sub>45</sub>Al<sub>5</sub> Bulk Metallic Glass**  
HWANG J., MELGAREJO Z. H. , Kalay Y. E. , KALAY I., KRAMER M. J. , STONE D. S. , VOYLES P. M.  
PHYSICAL REVIEW LETTERS, vol.108, no.19, 2012 (Journal Indexed in SCI)
- XXX. **Local chemical and topological order in Al-Tb and its role in controlling nanocrystal formation**  
KALAY Y. E. , Kalay I., HWANG J., VOYLES P. M. , KRAMER M. J.



- 2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 September 2017
- XV. **Preparation of La<sub>0.8</sub>Sr<sub>0.2</sub>CoO<sub>3-δ</sub> / (La<sub>0.5</sub>Sr<sub>0.5</sub>)<sub>2</sub>CoO<sub>4</sub> Sputtering Targets Using Deformable Compaction Die**  
SARI D., Torunoğlu Z. Ç., KALAY Y. E., ÖZTÜRK T.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 September 2017
- XVI. **Characterization of cation segregation in La<sub>0.8</sub>Sr<sub>0.2</sub>CoO<sub>3-δ</sub> / (La<sub>0.5</sub>Sr<sub>0.5</sub>)<sub>2</sub>CoO<sub>4</sub> heterostructure**  
YAŞAR B., SARI D., KALAY Y. E., ÖZTÜRK T.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 September 2017
- XVII. **One pot Pechini synthesis of (La,Sr)CoO<sub>3</sub> / (La,Sr)<sub>2</sub>CoO<sub>4</sub> for Cathodes of ITSOFCs**  
Torunoğlu Z. Ç., SARI D., DEMİRCAN O., KALAY Y. E., ÖZTÜRK T., KURU Y.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 September 2017
- XVIII. **Developing Al-Sm Alloys for Structural Applications**  
POLAT G., KALAY Y. E.  
TMS 2017 146th Annual Meeting and Exhibition, 26 February - 02 March 2017
- XIX. **Effect of Sm Micro-alloying on the mechanical behavior and crystallization kinetics of Cu-Zr-Al BMGs**  
Sikan F., Kalay İ., Özerinç S., Kalay Y. E.  
TMS Annual Meeting & Exhibition, California, United States Of America, 26 February - 02 March 2017, pp.1
- XX. **Investigation of Defects in CZT Single Crystals**  
YAŞAR B., KABUKÇUOĞLU M., ERGUNT Y., PARLAK M., TURAN R., KALAY Y. E.  
TMS 2017, 26 February - 02 March 2017
- XXI. **The Effects of ECAP on the Precipitation Behavior of Al 2024**  
TAN G., KALAY Y. E., GÜR C. H.  
TMS 2017 146th Annual Meeting and Exhibition, 26 February - 02 March 2017
- XXII. **Effect of Metalloid Addition on Anomalous Primary Crystallization of Al-RE Metallic Glasses**  
KUTSAL M., Çam B., KALAY Y. E.  
TMS 2017, 26 February 2017
- XXIII. **Investigation Phase Transformation Route in Mn-Al Alloys**  
ACAR Ö., GENÇ A. M., KALAY İ., KALAY Y. E.  
TMS 2017, 26 February 2017
- XXIV. **Structural Characterization of LaxSr<sub>1-x</sub>CoO<sub>3</sub> (LSC 113) / (LaxSr<sub>1-x</sub>)<sub>2</sub>CoO<sub>4</sub> (LSC 214) Hetero-Interface Cathode for Intermediate Temperature Solid Oxide Fuel Cells**  
SARI D., KALAY Y. E., ÖZTÜRK T.  
TMS 2017 146th Annual Meeting and Exhibition, 26 February - 02 March 2017
- XXV. **Microstructural Characterization of Magnetic MnAl Alloys**  
GENÇ A. M., ACAR Ö., KALAY İ., KALAY Y. E.  
TMS 2017, 26 February - 02 March 2017
- XXVI. **Medium-Range Correlations and Its Impact on Properties in Al-RE Marginal Glass Forming Alloys**  
KUTSAL M., KALAY Y. E.  
TMS 2017, 26 February 2017
- XXVII. **Nanocrystallization in Cu-Zr-Al-Sm Metallic Glasses**  
SIKAN F., KALAY İ., KALAY Y. E.  
TMS 2017, 26 February 2017
- XXVIII. **Synthesis of AlNiCo Core Shell Nanopowders by Hydrogen Plasma Reaction**  
GENÇ A. M., AKDENİZ M. V., ÖZTÜRK T., KALAY Y. E.  
MRS Fall Meeting 2016, 27 November - 02 December 2016
- XXIX. **In situ Characterization of Binary Marginal Glass Forming Alloys during Isochronal Crystallization**  
KALAY Y. E., KUTSAL M.  
MS&T 2016, United States Of America, 23 - 27 October 2016
- XXX. **The Surface and Bulk Kinetics of Oxygen Transport in Solid Oxide Fuel Cell Cathodes**  
SARI D., torunoğlu z., PIŞKİN F., KURU Y., KALAY Y. E., ÖZTÜRK T.  
IMMC 2016, Turkey, 29 September - 01 October 2016
- XXXI. **Sm Microalloyed Cu Zr Al Bulk Metallic Glasses**  
SIKAN F., KALAY İ., KALAY Y. E.  
IMMC 2016, Turkey, 26 September - 01 October 2016
- XXXII. **Local Ordering in Molten State and Its Legacy on Abnormal Primary Crystallization in Al RE Metallic Glasses**  
KUTSAL M., KALAY Y. E.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXIII. **Epsilon to Tau Phase Transformation in MnAl Alloy Systems**  
GENÇ A. M., ACAR Ö., KALAY Y. E.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXIV. **Characterization of Glassy and Partially Crystalline Cu Zr Al Sm Metallic Glasses**  
SIKAN F., KALAY İ., KALAY Y. E.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXV. **Combinatorial Development of Metal Hydrides for Thermal Coupling of Solid Oxide Fuel Cells**  
SARI D., PIŞKİN F., Volodymyr Y., KURU Y., KALAY Y. E., ÖZTÜRK T.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXVI. **Effect of Cooling Rate on Mechanical Properties of MnAlFeNiCoHEAs**  
Ulucan T., Koylan S., Koc S., KALAY Y. E.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXVII. **Wafer Level Au Sn TLP Bonding from Eutectic Composition**  
YILMAZ S., DEMİR E. C., Temel O., AKIN T., KALAY Y. E.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXVIII. **Investigation of Medium Range Correlations in Marginal Glass Forming Alloys**  
KUTSAL M., Ott R., Kramer M., KALAY Y. E.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XXXIX. **HRTEM Analysis of Crystallographic Defects in Cd Zn Te Single Crystals**  
KALAY Y. E., Erkunt Y., Kabukçuoğlu M., PARLAK M., TURAN R., YAŞAR B.  
TMS 2016, United States Of America, 14 - 18 February 2016
- XL. **Local Order Inheritance from Molten State in Marginal Glass Forming Alloys**  
KUTSAL M., Ovuun M., Kramer M., KALAY Y. E.  
MRS 2015 FALL, 29 November - 04 December 2015
- XLI. **Development of AlNiCo Nanopowders with Improved Coercivity**  
Genc M., AKDENİZ M. V., ÖZTÜRK T., KALAY Y. E.

- MRS 2015 FALL, 29 November - 04 December 2015
- XLII. **Characterization of Amorphous and Partially Crystalline Cu Zr Al Sm Metallic Glass**  
Sikan F., KALAY İ., KALAY Y. E.  
Elektron Mikroskopi Kongresi, Turkey, 2 - 04 September 2015
- XLIII. **Development of Wafer Level Au Sn Eutectic Bonding Techniques for MEMS Applications**  
YILMAZ S., Demir E. C. , Temel O., AKIN T., KALAY Y. E.  
Elektron Mikroskopi Kongresi, Turkey, 2 - 04 September 2015
- XLIV. **Development Of Rare Earth Free Magnetic Mn Al Alloys**  
Genc M., Acar O., KALAY Y. E.  
Elektron Mikroskopi Kongresi, Turkey, 2 - 04 September 2015
- XLV. **Probing the Local Structures in Metallic Glasses Using HRTEM and APT**  
KUTSAL M., Ovun M., Yasar B., KALAY Y. E.  
Elektron Mikroskopi Kongresi, Turkey, 2 - 04 September 2015
- XLVI. **Synthesis and Characterization of Al RE TM Nanocrystal Amorphous Nanocomposites**  
KALAY Y. E. , KUTSAL M.  
ISMAMAM 2015, 13 July - 17 December 2015
- XLVII. **Investigation of Prenucleation Clustering in Al RE Marginal Glass Forming Alloys**  
Ovun M., KUTSAL M., Kramer M., KALAY Y. E.  
ISMAMAM 2015, 13 July - 17 December 2015
- XLVIII. **Optimization of AuSn Eutectic Bonding Using Thermal Evaporation Process**  
Demir E., Donmez I., Torunbalci M., Akin T., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- XLIX. **Anomalous Nanocrystallization Behavior in Marginal Glass Forming Alloys**  
KUTSAL M., Sikan F., Ovun M., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- L. **Production and Characterization of AlNiCo Nanopowders**  
Genc M., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- LI. **Development of Cu Zr Al RE Rare Earth Bulk Metallic Glasses**  
Kalay İ., Sikan F., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- LII. **Characterization of MnAl Magnetic Alloys**  
Acar O., Genc M., Kalay İ., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- LIII. **The Al RE TM Nanocrystal Amorphous Nanocomposites**  
KUTSAL M., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- LIV. **Phase Selection In Cu Zr Metallic Glass**  
Kalay İ., KALAY Y. E. , Kramer M.  
TMS 2015, 15 - 19 March 2015
- LV. **Investigation of Crystallographic Defects in CN3MN Grade CastSuperaustenitic Steels**  
Baskan M., Chumbley S., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- LVI. **Prenucleation Clustering in Supercooled Liquid and Amorphous Marginal Metallic Glasses**  
Ovun M., Kutsal M., KALAY Y. E.  
TMS 2015, 15 - 19 March 2015
- LVII. **Effect of Cu addition on the microstructural constituents and mechanical properties of twin roll cast AlFeMnSi alloys**  
Meydanoglu O., Birbaşar O., Ulus A., Beyhan B., Kalay E.  
Light Metals 2015 - TMS 2015 Annual Meeting and Exhibition, Florida, United States Of America, 15 - 19 March 2015, pp.1249-1254
- LVIII. **Fabrication and Characterization of Gold-Tin Eutectic Bonding for Hermetic Packaging of MEMS Devices**  
DEMİR E. C. , TORUNBALCI M. M. , DONMEZ İ., KALAY Y. E. , AKIN T.  
IEEE 16th Electronics Packaging Technology Conference (EPTC), Marina Bay Sands, Singapore, 3 - 05 December 2014, pp.241-245
- LIX. **Variation of hardness and modulus across the thickness of Zr-Cu-Al metallic glass ribbons**  
Melgarejo Z. H. , Jakes J., Hwang J., Kalay Y. E. , Kramer M., Voyles P., Stone D.  
2012 MRS Fall Meeting, Boston, MA, United States Of America, 25 - 30 November 2012, vol.1520, pp.7-12
- LX. **Microstructure hierarchy - Mechanical property relationship for hypereutectic Al-Si alloy powders solidified far from equilibrium**  
Kalay Y. E. , Anderson I., Chumbley L.  
2006 International Conference on Powder Metallurgy and Particulate Materials, PowderMet 2006, San Diego, CA, United States Of America, 18 - 21 June 2006, pp.1095-10105

## Supported Projects

- KALAY Y. E. , Other Supported Projects, The Local Structure and Chemistry in Marginal Glass Forming Alloys, 2017 - 2020
- ÖZERİNÇ S., KALAY Y. E. , Abboud M., Project Supported by Higher Education Institutions, Zr-Cu-Al Metalik Camlarının Mekanik Özelliklerinin İncelenmesi, 2017 - 2019
- Kalay Y. E. , Özenbaş A. M. , TUBİTAK Project, Mikrobiyometre Tipi Soğutmasız Kızılötesi Dedektör Dizinlerine Uygun Silisyum Disk Seviyesinde Vakum Paketleme Yöntemlerinin Geliştirilmesi , 2016 - 2019
- KALAY Y. E. , POLAT G. , Project Supported by Higher Education Institutions, Demir İçerikli, Hafif ve Yüksek Mukavemetli Yüksek Entropi Alaşımları (YEA) Tasarımı ve Üretimi, 2017 - 2017
- KALAY Y. E. , Project Supported by Higher Education Institutions, AL-NTE METALİK CAM ALAŞIMLARINDA KISA VE ORTA ERİM DÜZENİNİN İNCELENMESİ, 2017 - 2017
- KALAY Y. E. , Project Supported by Higher Education Institutions, CUZR-NTE BAZLI HACİMLİ AMORF/NANOKRİSTAL KOMPOZİT YAPILARIN KARAKTERİZASYONU, 2017 - 2017
- KALAY Y. E. , Project Supported by Higher Education Institutions, KATI HAL FAZ DÖNÜŞÜMLERİNİN MANGAN-ALÜMİNYUM ALAŞIMLARININ ÖZELLİKLERİ ÜZERİNDEKİ ETKİSİ, 2017 - 2017
- KALAY Y. E. , Project Supported by Higher Education Institutions, Hızlı Katılma Tekniği İle Demir Bazlı Yüksek Mukavemetli ve Sünek Amorf-Nanokristal Kompozit Çelik Üretimi, 2016 - 2016
- ÇAKIROĞLU E., KALAY Y. E. , ÖZTÜRK G., BARAN JOVANOVIĆ E., Project Supported by Higher Education Institutions, Stem Eğitimi Uygulamaları: Örnek Video Geliştirme Projesi, 2016 - 2016
- KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- VOLKAN M., KALAY Y. E. , Project Supported by Higher Education Institutions, Fotovoltaik Güneş Gözlemlerinin Üretimine Yönelik Pirit Nanokristal Sentezi ve Karakterizasyonu, 2015 - 2015
- KALAY Y. E. , Project Supported by Higher Education Institutions, NADİR TOPRAK ELEMENTİ İÇERMEYEN MANYETİK NANOTOZLARDAN 3-BOYUTLU YAZICI İLE POLİMER MATRİSLİ MİKNATIS ÜRETİMİ, 2015 - 2015
- KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015
- KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015
- KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014  
KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014  
KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014  
KALAY Y. E. , Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014  
KALAY Y. E. , Project Supported by Higher Education Institutions, ALNICO 5-7 ALAŞIMININ MİKRON ve NANOBOYUTLARDAKİ TOZ OLARAK ÜRETİLMESİ VE KARAKTERİZASYONU, 2013 - 2014  
KALAY Y. E. , YILMAZ S., Project Supported by Higher Education Institutions, KURŞUNSUZ LEHİM GELİŞTİRİLMESİ, 2013 - 2013  
KALAY Y. E. , YILDIRIM C., Project Supported by Higher Education Institutions, METALİK CAMLARDA LOKAL DÜZENLİ YAPILARIN NANOKRİSTAL OLUŞUMUNA ETKİLERİ, 2013 - 2013  
KALAY Y. E. , GENÇ A. M. , Project Supported by Higher Education Institutions, ALNICO 5-7 ALAŞIMININ MİKRO VE NANOBOYUTLARDAKİ TOZ OLARAK ÜRETİLMESİ VE KARAKTERİZASYONU, 2013 - 2013  
KALAY Y. E. , Başkan M., PARLAK M., TURAN R., Project Supported by Higher Education Institutions, ALTTAŞ OLARAK KULLANILACAK Cd<sub>1-x</sub>Zn<sub>x</sub>Te (CZT) TEK KRİSTALLERİNİN MİKROYAPISAL KARAKTERİZASYONU, 2013 - 2013  
KALAY Y. E. , Project Supported by Higher Education Institutions, Marjinal Camsı Metallerde Nanokristal Oluşumu, 2011 - 2013  
KALAY Y. E. , Project Supported by Higher Education Institutions, Elektronik Sanayii Alanında Kullanılmak Üzere Kurşunsuz Lehim Geliştirilmesi, 2012 - 2012

### Tasks In Event Organizations

Kalay Y. E. , Li,Li,Li B., Li J., Ikhmayies,Ikhmayies S., Zhang,Zhang,Zhang M., Carpenter,Carpenter,Carpenter,Carpenter J. , , , , , Hwang , Monteiro,Monteiro,Monteiro S., Firrao,Firrao D. , , , Brown,Brown A. , , et al., TMS 2018 Characterization of Minerals, Metals, and Materials, Scientific Congress, Arizona, United States Of America, Mart 2018

### Citations

Total Citations (WOS):596

h-index (WOS):15

### Awards

Kalay Y. E. , 2019 EPD Materials Characterization Best Poster Award, Tms, March 2018