

## Prof. Dr. MEHMET KADRİ AYDINOL

### Kişisel Bilgiler

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**Uluslararası Araştırmacı ID'leri**

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Publons / Web Of Science ResearcherID: A-5013-2010

ScopusID: 6603913861

Yoksis Araştırmacı ID: 5170

### Eğitim Bilgileri

1991 - 1994	Doktora, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Y) (Tezli), Türkiye
1989 - 1991	Yüksek Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, Türkiye
1984 - 1989	Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, Türkiye

### Yabancı Diller

İngilizce, C1 İleri

### Araştırma Alanları

Korozyon ve Korozyondan Korunma, Fiziksel Metalurji, Malzeme Karakterizasyonu, Nanomalzemeler

### Akademik Unvanlar / Görevler

2007 - Devam Ediyor	Prof. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü
2001 - 2007	Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü
1998 - 2001	Yrd. Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü

### Akademik İdari Deneyim

2003 - 2012	Bölüm Başkan Yardımcısı, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü
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## Verdiği Dersler

2022 - 2023

Energy Storage Devices, Lisans

## Yönetilen Tezler

- 2022 AYDINOL M. K., Doktora, C.SAVAŞ(Öğrenci), Development and characterization of sulfide based active materials for electrochemical applications
- 2022 AYDINOL M. K., Yüksek Lisans, F.TEKMANLI(Öğrenci), Optimization of nickel, cobalt and lithium recovery processes from spent Li-ion batteries
- 2022 AYDINOL M. K., Yüksek Lisans, D.BAHTİYAR(Öğrenci), Development of borides/borates for energy storage devices
- 2022 AYDINOL M. K., Yüksek Lisans, M.ALP(Öğrenci), Ni-rich  $\text{LiNi}_x\text{MnyCozMvO}_2$  ( $X>0.6$ ) cathode material development for Li-ion batteries
- 2022 AYDINOL M. K., Yüksek Lisans, E.ERKİN(Öğrenci), Development of cathode materials for li-ion batteries by sputter deposition
- 2018 AYDINOL M. K., Yüksek Lisans, E.YILMAZ(Öğrenci), Development and characterization of tin based anode materials for Li-ion batteries
- 2018 AYDINOL M. K., Doktora, B.PİŞKİN(Öğrenci), Development and characterization of new layered cathode materials for lithium ion batteries
- 2017 AYDINOL M. K., Yüksek Lisans, C.Savaş(Öğrenci), Lityum iyon bataryalarında katot malzemesi olarak Li(Ni-Co-Al) oksitin ultrasonik dalga yöntemiyle üretilmesi ve karakterizasyonu.
- 2017 AYDINOL M. K., Yüksek Lisans, C.SAVAŞ(Öğrenci), Ultrasonic sound assisted processing and characterization of Li-(Ni-Co-Al) oxide as cathode active material for Li-ion batteries
- 2017 AYDINOL M. K., Yüksek Lisans, K.ÖZGÜN(Öğrenci), Investigation of structural and electrochemical properties of biomass based activated carbon materials for energy storage applications
- 2017 AYDINOL M. K., PARLAK M., Doktora, B.MİSER(Öğrenci), Production and characterization of carbon-silicon nanocomposite anode materials for secondary lithium batteries
- 2016 AYDINOL M. K., Yüksek Lisans, B.KAYGUSUZ(Öğrenci), Development and characterization of tungstates and molybdates for li-ion batteries
- 2015 EVİS Z., AYDINOL M. K., Doktora, Ş.DOĞU(Öğrenci), Development and characterization of high power density cathode materials for lithium-ion batteries
- 2014 AYDINOL M. K., Yüksek Lisans, E.Camcı(Öğrenci), İkincil lityum bataryalar için  $\text{LiMnPO}_4$  malzemesinin hidrotermal sentezi ve karakterizasyonu.
- 2014 AYDINOL M. K., Yüksek Lisans, E.CAMCI(Öğrenci), Hydrothermal synthesis and characterization of  $\text{LiMnPO}_4$  for secondary lithium batteries
- 2014 AYDINOL M. K., Yüksek Lisans, S.HADDADIAN(Öğrenci), Morphological evolution of strained isotropic thin solid film on rigid substrate
- 2013 AYDINOL M. K., NALBANT ESENTÜRK E., Yüksek Lisans, Ö.ÖYKÜM(Öğrenci), Production and characterization of nano silver oxide for silver zinc batteries
- 2013 AYDINOL M. K., Doktora, A.BÜYÜKBURÇ(Öğrenci), Development and characterization of high energy cathode materials for lithium-ion batteries
- 2012 AYDINOL M. K., Yüksek Lisans, O.Muğan(Öğrenci), Metal hidrür bataryalar için  $\text{CaNi}_{1-x}\text{M}_x$  esaslı bileşiklerin üretimi ve karakterizasyonu.
- 2012 AYDINOL M. K., Yüksek Lisans, B.ÖKSÜZ(Öğrenci), Production and characterization of  $\text{CaNi}$  compounds for metal hydride batteries
- 2012 AYDINOL M. K., Yüksek Lisans, O.MUĞAN(Öğrenci), Ab ? initio development of Ca-Ni based alloys for metal hydride batteries
- 2012 AYDINOL M. K., ERKOÇ Ş., Yüksek Lisans, A.İNCE(Öğrenci), Investigation of the structural properties of silicene nanoribbons by molecular dynamics simulations

2011	AYDINOL M. K., Doktora, A.ÇELİK(Öğrenci), Investigation of electromigration and stress induced surface dynamics on the interconnect by computer simulation
2010	AYDINOL M. K., Doktora, Ö.AKYILDIZ(Öğrenci), Computer simulation of grain boundary grooving by anisotropic surface drift diffusion due to capillary, electromigration and elastostatic forces
2010	AYDINOL M. K., Yüksek Lisans, Ş.HALICI(Öğrenci), Development of lead alloys for valve-regulated lead-acid (VRLA) batteries
2009	AYDINOL M. K., Yüksek Lisans, A.IZANLOU(Öğrenci), FeTi bileşiğinde hidrojen depolama uygulamaları için temel prensipler yöntemiyle yüzey çalışması.
2009	AYDINOL M. K., Yüksek Lisans, A.IZANLOU(Öğrenci), An ab initio surface design of FeTi for hydrogen storage applications
2008	AYDINOL M. K., Yüksek Lisans, D.KEÇİK(Öğrenci), Ab initio design of novel magnesium alloys for hydrogen storage
2007	AYDINOL M. K., Yüksek Lisans, A.KINACI(Öğrenci), First principles investigation of hydrogen storage in intermetallic systems
2006	AYDINOL M. K., Yüksek Lisans, M.TOPÇUOĞLU(Öğrenci), Microstructural and electrochemical characterization of Ti-6Al-4V eli alloy
2006	AYDINOL M. K., Yüksek Lisans, F.GÜRÇAĞ(Öğrenci), Non-equilibrium molecular dynamics of electromigration in aluminum and its alloys
2006	AYDINOL M. K., Yüksek Lisans, M.Topçuoğlu(Öğrenci), Ti-6Al-4V ELI alaşımının iç yapı ve elektrokimyasal karakterizasyonu.
2004	AYDINOL M. K., Yüksek Lisans, G.HAMİDE(Öğrenci), Determination of susceptibility to intergranular corrosion in AISI 304L and 316L type stainless steels by electrochemical reactivation method
2003	AYDINOL M. K., Doktora, A.Davutoğlu(Öğrenci), Alemnium-bakır metalleri ve alaşımlarının yayılım davranışları üzerine moleküler dinamik çalışmaları
2001	AYDINOL M. K., AKDENİZ M. V., Yüksek Lisans, H.BURCU(Öğrenci), Prediction of glass forming ability in TM-based binary alloys
2001	AYDINOL M. K., AKDENİZ M. V., Yüksek Lisans, B.DİLSİZOĞLU(Öğrenci), Prediction of glass forming ability in Zr based binary alloys

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Size and morphology controlled polyol synthesis of LiFePO<sub>4</sub> nanoparticles with addition of organic acid combinations**  
Coşkun E., Kurşun E., YILDIZ B., Aşkar Y., Bahtiyar D., AYDINOL M. K., MAVİŞ B., Çınar-Aygün S.  
Ceramics International, cilt.50, sa.9, ss.15915-15930, 2024 (SCI-Expanded)
- II. **Morphology of Nanostructured Tantalum Oxide Controls Stem Cell Differentiation and Improves Corrosion Behavior**  
Erdogan Y. K., Uslu E., Aydınol M. K., Sağlam A. S. Y., Odabas S., Ercan B.  
ACS BIOMATERIALS SCIENCE & ENGINEERING, cilt.10, sa.1, ss.377-390, 2024 (SCI-Expanded)
- III. **Editorial: Advanced diagnosis and early warning strategies on degradation and safety of lithium-ion batteries**  
AYDINOL M. K., Ulgut B., Oh K., ÖZTÜRK T.  
Frontiers in Energy Research, cilt.12, 2024 (SCI-Expanded)
- IV. **Ionic liquids-assisted electrolytes in aqueous zinc ion batteries**  
Ahmad M. I., Bahtiyar D., Khan H. W., Shah M. U. H., Kiran L., AYDINOL M. K., Yusuf M., Kamyab H., Rezanian S.  
Journal of Energy Storage, cilt.72, 2023 (SCI-Expanded)
- V. **Mesoporous Cr<sub>2</sub>O<sub>3</sub>/MWCNTs/PANI nanocomposite as a high performance anode material for rechargeable lithium ion batteries**  
Kiran L., AYDINOL M. K., Shah S. S., Anwar A., Abbas S. M., Bahtiyar D., Siddiq M., Rehman A., Ouladsmame M.,

Shahzad M. I.

Fuel, cilt.352, 2023 (SCI-Expanded)

- VI. **Flowers Like  $\alpha$ -MoO<sub>3</sub>/CNTs/PANI Nanocomposites as Anode Materials for High-Performance Lithium Storage**  
Kiran L., AYDINOL M. K., Ahmad A., Shah S. S., Bahtiyar D., Shahzad M. I., Eldin S. M., Bahajjaj A. A. A.  
Molecules, cilt.28, sa.8, 2023 (SCI-Expanded)
- VII. **Cr-added nickel sulfides as electrocatalysts for oxygen evolution reaction**  
Uygur C. S., AYDINOL M. K.  
Materials Science and Engineering B: Solid-State Materials for Advanced Technology, cilt.290, 2023 (SCI-Expanded)
- VIII. **Development of activated carbon/bimetallic transition metal phosphide composite materials for electrochemical capacitors and oxygen evolution reaction catalysis**  
Köse K. Ö., Aydınol M. K.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, cilt.46, sa.15, ss.22078-22088, 2022 (SCI-Expanded)
- IX. **Synthesis of Graphene-MoS<sub>2</sub> composite based anode from oxides and their electrochemical behavior**  
Sarwar S., Karamat S., Saleem Bhatti A., Kadri Aydinol M. K., ORAL A., Hassan M. U.  
Chemical Physics Letters, cilt.781, 2021 (SCI-Expanded)
- X. **Effect of calcium or yttrium doping on cation ordering and electrochemical performance of Li(Ni<sub>0.80-x</sub>Co<sub>0.15</sub>Al<sub>0.05</sub>M<sub>x</sub>)O<sub>2</sub> (M = Ca, Y) as a Li-ion battery cathode**  
Uygur C. S., AYDINOL M. K.  
MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, cilt.264, 2021 (SCI-Expanded)
- XI. **Experimental investigation on the electrocatalytic behavior of Ag-based oxides, Ag<sub>2</sub>XO<sub>4</sub> (X= Cr, Mo, W), for the oxygen reduction reaction in alkaline media**  
Hamat B. A., AYDINOL M. K.  
JOURNAL OF SOLID STATE CHEMISTRY, cilt.290, 2020 (SCI-Expanded)
- XII. **Effects of surface pretreatments and coating period on hydroxyapatite coating of Ti<sub>6</sub>Al<sub>4</sub>V alloy**  
HACIOĞLU T., EVİS Z., TEZCANER A., AYDINOL M. K.  
JOURNAL OF THE AUSTRALIAN CERAMIC SOCIETY, cilt.56, sa.2, ss.545-557, 2020 (SCI-Expanded)
- XIII. **Morphology effect on electrochemical properties of doped (W and Mo) 622NMC, 111NMC, and 226NMC cathode materials**  
Pişkin B., Uygur C. S., AYDINOL M. K.  
International Journal of Hydrogen Energy, cilt.45, sa.14, ss.7874-7880, 2020 (SCI-Expanded)
- XIV. **Comparison of the short and long-term degradation behaviors of as-cast pure Mg, AZ91 and WE43 alloys**  
Ocal E. B., Esen Z., Aydınol K., Dericioğlu A. F.  
MATERIALS CHEMISTRY AND PHYSICS, cilt.241, 2020 (SCI-Expanded)
- XV. **Synthesis of Li<sub>x</sub>(Ni<sub>0.80</sub>Co<sub>0.15</sub>Al<sub>0.05</sub>)O<sub>2</sub> cathodes with deficient and excess lithium using an ultrasonic sound-assisted co-precipitation method for Li-ion batteries**  
Uygur C. S., Pişkin B., AYDINOL M. K.  
Bulletin of Materials Science, cilt.42, sa.5, 2019 (SCI-Expanded)
- XVI. **Activation of Manganese Ions in Lithium-ion Battery Anode Materials via Nickel and Cobalt Doping**  
Kunduraci M., Uygur C. S., AYDINOL M. K.  
JOURNAL OF ELECTRONIC MATERIALS, cilt.47, sa.11, ss.6420-6427, 2018 (SCI-Expanded)
- XVII. **Mo doping of layered Li (Ni<sub>x</sub>Mn<sub>y</sub>Co<sub>1-x-y-z</sub>M<sub>z</sub>)O<sub>2</sub> cathode materials for lithium-ion batteries**  
PİŞKİN B., UYGUR C. S., AYDINOL M. K.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, cilt.42, sa.12, ss.3888-3898, 2018 (SCI-Expanded)
- XVIII. **Chemical and structural optimization of ZnCl<sub>2</sub> activated carbons via high temperature CO<sub>2</sub> treatment for EDLC applications**  
KÖSE K. Ö., Pişkin B., AYDINOL M. K.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, cilt.43, sa.40, ss.18607-18616, 2018 (SCI-Expanded)
- XIX. **Preface to the special issue on "1st International Symposium on Materials for Energy Storage and**

**Conversion ((ESC)-E-m-IS 2015)"**

ÖZTÜRK T., Eroglu I., AYDINOL M. K.

INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, cilt.41, sa.23, ss.9719-9722, 2016 (SCI-Expanded)

- XX. **Development and characterization of layered Li(NixMnyCo1-x-y)O-2 cathode materials for lithium ion batteries**  
Piskin B., AYDINOL M. K.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, cilt.41, sa.23, ss.9852-9859, 2016 (SCI-Expanded)
- XXI. **Effect of Cr and Mo doping on the electrochemical properties of freeze-dried LiCoO2**  
Buyukburc A., AYDINOL M. K.  
INTERNATIONAL JOURNAL OF MATERIALS RESEARCH, cilt.105, sa.10, ss.983-991, 2014 (SCI-Expanded)
- XXII. **Direct synthesis of Mg-Ni compounds from their oxides**  
Tan S., Aydinol K., ÖZTÜRK T., KARAKAYA İ.  
JOURNAL OF ALLOYS AND COMPOUNDS, cilt.504, sa.1, ss.134-140, 2010 (SCI-Expanded)
- XXIII. **An ab initio study of dissociative adsorption of H-2 on FeTi surfaces**  
Izanlou A., AYDINOL M. K.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, cilt.35, sa.4, ss.1681-1692, 2010 (SCI-Expanded)
- XXIV. **Synthesis of FeTi from mixed oxide precursors**  
Tan S., Oers T., AYDINOL M. K., ÖZTÜRK T., KARAKAYA İ.  
JOURNAL OF ALLOYS AND COMPOUNDS, cilt.475, ss.368-372, 2009 (SCI-Expanded)
- XXV. **Density functional and dynamics study of the dissociative adsorption of hydrogen on Mg (0001) surface**  
Kecik D., AYDINOL M. K.  
SURFACE SCIENCE, cilt.603, sa.2, ss.304-310, 2009 (SCI-Expanded)
- XXVI. **Atomistic simulation of self-diffusion in Al and Al alloys under electromigration conditions**  
Sen F. G., AYDINOL M. K.  
JOURNAL OF APPLIED PHYSICS, cilt.104, sa.7, 2008 (SCI-Expanded)
- XXVII. **A comparative ab initio study of the ferroelectric behaviour in KN03 and CaCO3**  
AYDINOL M. K., Mantese J. V., Alpay S. P.  
JOURNAL OF PHYSICS-CONDENSED MATTER, cilt.19, sa.49, 2007 (SCI-Expanded)
- XXVIII. **Ab initio investigation of FeTi-H system**  
Kinaci A., Aydinol M. K.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, cilt.32, sa.13, ss.2466-2474, 2007 (SCI-Expanded)
- XXIX. **Determination of susceptibility to intergranular corrosion and electrochemical reactivation behaviour of AISI 316L type stainless steel**  
Aydogdu G. H., Aydinol M. K.  
CORROSION SCIENCE, cilt.48, sa.11, ss.3565-3583, 2006 (SCI-Expanded)
- XXX. **Phase separation tendencies of aluminum-doped transition-metal oxides (LiAl(1-x)M(x)O(2)) in the alpha-NaFeO(2) crystal structure**  
Buta S., Morgan D., VanderVen A., AYDINOL M. K., Ceder G.  
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.146, sa.12, ss.4335-4338, 1999 (SCI-Expanded)
- XXXI. **Lithium-intercalation oxides for rechargeable batteries**  
Ceder G., VanderVen A., AYDINOL M. K.  
JOM-JOURNAL OF THE MINERALS METALS & MATERIALS SOCIETY, cilt.50, sa.9, ss.35-40, 1998 (SCI-Expanded)
- XXXII. **First-principles investigation of phase stability in LixCoO2**  
VanderVen A., AYDINOL M. K., Ceder G., Kresse G., Hafner J.  
PHYSICAL REVIEW B, cilt.58, sa.6, ss.2975-2987, 1998 (SCI-Expanded)
- XXXIII. **The electrochemical stability of lithium metal oxides against metalreduction**  
Ceder G., AYDINOL M. K.  
Solid State Ionics, cilt.109, ss.151-157, 1998 (SCI-Expanded)
- XXXIV. **First-principles evidence for stage ordering in Li(x)CoO(2)**  
VanderVen A., AYDINOL M. K., Ceder G.

- JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.145, sa.6, ss.2149-2155, 1998 (SCI-Expanded)
- XXXV. **Identification of cathode materials for lithium batteries guided by first-principles calculations**  
Ceder G., Chiang Y., Sadoway D., AYDINOL M. K., Jang Y., Huang B.  
NATURE, cilt.392, sa.6677, ss.694-696, 1998 (SCI-Expanded)
- XXXVI. **Thermodynamics of oxides with substitutional disorder A microscopic model and evaluation of important energy contributions**  
Ceder G., Kohan A., AYDINOL M. K., Tepeş P., VanderVen A.  
Journal Of The American Ceramic Society, cilt.81, ss.517-525, 1998 (SCI-Expanded)
- XXXVII. **First-principles prediction of insertion potentials in Li-Mn oxides for secondary Li batteries**  
AYDINOL M. K., Ceder G.  
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.144, sa.11, ss.3832-3835, 1997 (SCI-Expanded)
- XXXVIII. **Ab initio calculation of the intercalation voltage of lithium transition metal oxide electrodes for rechargeable batteries**  
AYDINOL M. K., Kohan A., Ceder G.  
Journal Of Power Sources, cilt.68, ss.664-668, 1997 (SCI-Expanded)
- XXXIX. **Ab initio study of lithium intercalation in metal oxides and metal dichalcogenides**  
AYDINOL M. K., Kohan A., Ceder G., Cho K., Joannopoulos J.  
PHYSICAL REVIEW B, cilt.56, sa.3, ss.1354-1365, 1997 (SCI-Expanded)
- XL. **Application of first principles calculations to the design of rechargeable Li batteries**  
Ceder G., AYDINOL M. K., Kohan A.  
Computational Materials Science, cilt.8, ss.161-169, 1997 (SCI-Expanded)
- XLI. **Coherency strain effects on TEM images of composite precipitates in Al-Li-Zr alloys**  
Aydinol M., Bor A.  
JOURNAL OF MATERIALS SCIENCE, cilt.31, sa.18, ss.4883-4889, 1996 (SCI-Expanded)
- XLII. **TRANSMISSION ELECTRON-MICROSCOPY IMAGE-ANALYSIS OF COMPOSITE PRECIPITATES IN AL-LI-ZR ALLOYS**  
AYDINOL M. K., Bor Ş.  
JOURNAL OF MATERIALS SCIENCE LETTERS, cilt.14, sa.16, ss.1147-1149, 1995 (SCI-Expanded)
- XLIII. **SIMULATION OF ELECTRON-DIFFRACTION PATTERNS OF ALLOYS WITH ORIENTED PRECIPITATES**  
AKBAY T., AYDINOL K., BOR A.  
JOURNAL OF APPLIED CRYSTALLOGRAPHY, cilt.27, ss.379-384, 1994 (SCI-Expanded)
- XLIV. **COARSENING OF DELTA' (AL<sub>3</sub>LI) AND COMPOSITE PRECIPITATES IN AN AL-2.5-PERCENT LI-0.15-PERCENT ZR ALLOY**  
AYDINOL M., BOR A.  
JOURNAL OF MATERIALS SCIENCE, cilt.29, sa.1, ss.15-25, 1994 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **Design of a high temperature erosion apparatus for testing of boiler tubes**  
Ergün H., Aydinol K., ÖZTÜRK T., Doruk M.  
Turkish Journal of Engineering and Environmental Sciences, cilt.37, sa.2, ss.178-185, 2013 (Scopus)
- II. **Non-equilibrium molecular dynamics simulation of electromigration in aluminum-based metallic interconnects**  
Şen F. G., AYDINOL M. K.  
Turkish Journal of Engineering and Environmental Sciences, cilt.30, sa.6, ss.387-394, 2006 (Scopus)

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. **Optimization of Graphene Synthesis by Electrochemical Exfoliation of Graphit**

Kurt V., AYDINOL M. K.

4th International Symposium on Materials for Energy Storage and Conversion, 11 - 13 Eylül 2019

- II. **Novel Zirconium based Active Material Synthesis and Performance as a Li-ion Battery Electrode**  
Savaş Uygur C., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion, 11 - 13 Eylül 2019
- III. **Effect of Ni-Mn-Co Ratio on Structural and Electrochemical Properties of NMC Cathode Materials**  
PİŞKİN B., SAVAS UYGUR C., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion (mESC-IS 2019), 11 - 13 Eylül 2019
- IV. **Ni-Rich LiNixMnyCozO2 (x0.6) Cathode Material Development for Li-Ion Battery via Sol-Gel Method**  
yıldırım m. a., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion, 11 - 13 Eylül 2019
- V. **Topological analysis and large-scale computational screening for solid Li-ion superconductor candidates**  
ÖVÜN M., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion, 11 - 13 Eylül 2019
- VI. **Synthesis and Characterization of Composite Active Cathode Materials for Lithium-Ion Batteries**  
erdoğan e. e., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion, 11 - 13 Eylül 2019
- VII. **Structural and Electrochemical Performance of Mo-Doped Li(Ni0.8-xCo0.15Al0.05)O2 Cathodes for Li-Ion Batteries**  
PİŞKİN B., SAVAS UYGUR C., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion (mESC-IS 2019), 11 - 13 Eylül 2019
- VIII. **Development and Characterization of Activated Carbon / Transition Metal Phosphide Composites for Electrochemical Capacitors**  
KÖSE K. Ö., AYDINOL M. K.  
4th International Symposium on Materials for Energy Storage and Conversion, 11 - 13 Eylül 2019
- IX. **The Improvement in Reversible Capacity by Calcium Doping in Li(Ni1/3Mn1/3Co1/3)O2 Lithium Ion Battery Cathodes**  
PİŞKİN B., SAVAS UYGUR C., AYDINOL M. K.  
3rd International Symposium on Materials for Energy Storage and Conversion, 10 - 12 Eylül 2018
- X. **Morphology Effect on Electrochemical Properties of NMC-622, NMC-111 and NMC-226 Cathode Materials**  
PİŞKİN B., SAVAS UYGUR C., AYDINOL M. K.  
3rd International Symposium on Materials for Energy Storage and Conversion, 10 - 12 Eylül 2018
- XI. **Prospects of Large Scale Energy Storage in Turkey- Pumped Hydro and Electrochemical Energy Storage**  
ÖZTÜRK T., AYDIN İ., AYDINOL M. K., PATAT Ş.  
14TH INTERNATIONAL CONFERENCE ON ENERGY STORAGE, 25 - 28 Nisan 2018
- XII. **Doping of layered Li(NixMnyCo1-x-y-zMz)O2 (z=Ag,Cu) cathode materials for lithium ion batteries**  
PİŞKİN B., SAVAS UYGUR C., AYDINOL M. K.  
2017 MRS Fall Meeting Exhibit, 26 Kasım - 01 Aralık 2017
- XIII. **Ab initio Electronic Structure Calculations of LaBO3 (B= Cr, Mn and Fe) Perovskites**  
AFAL GENİŞ A., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XIV. **Development and Characterization of Tungstates and Molybdates for Li-ion Batteries**  
Kaygusuz B., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XV. **Effect of Different Binders on Cyclic Performance of Si/C Anodes for Secondary Lithium-Ion Batteries**  
Miser B., Livan P., Altınok S., Eyövge c., ÖZTÜRK T., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017

- XVI. **Electrochemical Properties of Surface Processed Silicon Micro Particles for Secondary Lithium-Ion Battery Anodes**  
Miser B., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XVII. **Effect of Physical Activation on the Capacitive Properties of Chemically Activated Carbons**  
KÖSE K. Ö., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XVIII. **Carbon Encapsulation and Encapsulated Si Particles for Energy Storage**  
Livan P., Miser B., Eyövge c., AYDINOL M. K., ÖZTÜRK T.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XIX. **Optimization of Graphene Synthesis by Electrochemical Exfoliation of Graphite**  
Kurt V., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XX. **Production and Characterization of Ag-based Oxide Catalysts for Zinc-Air Batteries**  
ARSLAN B., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XXI. **The effect of lithium amount on electrochemical and structural characteristics of  $\text{Li}_x(\text{Ni}_{0.80}\text{Co}_{0.15}\text{Al}_{0.05})\text{O}_2$  cathode active materials for lithium-ion batteries**  
SAVAS UYGUR C., PİŞKİN B., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XXII. **Doping of layered  $\text{Li}(\text{Ni}_x\text{Mn}_y\text{Co}_{1-x-y-z}\text{M}_z)\text{O}_2$  ( $z=\text{W,Mo}$ ) cathode materials for lithium ion batteries**  
PİŞKİN B., SAVAS UYGUR C., AYDINOL M. K.  
2nd International Symposium on Materials for Energy Storage and Conversion, 26 - 28 Eylül 2017
- XXIII. **Carbon Encapsulated Silicon Nanoparticles as Anodes for Lithium Ion Batteries**  
Livan P., Miser B., Altinok S., Eyovge C., AYDINOL M. K., ÖZTÜRK T.  
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- XXIV. **Development and Characterization of Catalyst Materials of Zinc Air Batteries**  
ARSLAN B., AYDINOL M. K.  
Materials Research Society Fall Meeting, Boston, MA, Amerika Birleşik Devletleri, 27 Kasım - 02 Aralık 2016
- XXV. **Productions and Characterization of Layered Cathode Materials for Lithium ion Batteries**  
PİŞKİN B., AFAL GENİŞ A., AYDINOL M. K.  
Materials Research Society Spring Meeting, Phoenix, AZ, Amerika Birleşik Devletleri, 28 Mart - 01 Nisan 2016
- XXVI. **Ab initio Molecular Dynamics Characterization of La based Perovskite Type Oxides for Metal Air Cell Cathodes**  
AFAL GENİŞ A., AYDINOL M. K.  
Materials Research Society Spring Meeting, Phoenix, AZ, Amerika Birleşik Devletleri, 28 Mart - 01 Nisan 2016
- XXVII. **Production and characterization of silicon particles with nanowired surfaces for secondary Li ion battery anode**  
Kayıplar B., AYDINOL M. K.  
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- XXVIII. **Development and characterization of new layered cathode materials for Li ion batteries**  
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- XXIX. **W doped  $\text{LiCoO}_2$  Effect of different starting chemicals doping contents and additional doping elements**  
Büyükburç A., AYDINOL M. K.  
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- XXX.  **$\text{LiFePO}_4$  C nano plates synthesis via ultrasound assisted precursor precipitation**  
AYDINOL M. K., Doğu Ş.  
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- XXXI. **The electrochemical properties of doped  $\text{LiMnxM 1 x PO}_4$  synthesized by spray pyrolysis**  
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- XXXII. **Ab initio alloying of Mg for hydrogen storage**  
Kecik D., AYDINOL M. K.  
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- XXXIII. **EFFECT OF ALLOYING ELEMENTS ON THE FORMATION OF  $\text{FeTiH}_4$ : AN AB INITIO STUDY**  
Sen F. G., Kinaci A., AYDINOL M. K.  
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## Desteklenen Projeler

2016 - Devam Ediyor	Enerji Depolama Malzemeleri ve Cihazları Araştırma Merkezi, CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi
2022 - 2023	Nikel fosfit katkılı aktif karbon kompozit malzeme geliştirilmesi ve süperkapasitörlerde kullanımı, Yükseköğretim Kurumları Destekli Proje
2015 - 2018	Lityum iyon bataryalar için kalay esas anot malzemesi geliştirilmesi ve üretilmesi, Yükseköğretim Kurumları Destekli Proje
2017 - 2017	ÇİNKO HAVA BATARYALARININ KATALİZÖR MALZEMELERİNİN GELİŞTİRİLMESİ VE KARAKTERİZASYONU, Yükseköğretim Kurumları Destekli Proje
2017 - 2017	GRAFİTİN ELEKTROKİMYASAL EKSFOLİYASYONU İLE GRAFEN ÜRETİMİNİN OPTİMİZASYONU, Yükseköğretim Kurumları Destekli Proje
2017 - 2017	TEMEL PRENSİPLER YÖNTEMİYLE KOMPLEKS OKSİT KATALİSTLERDEKİ OKSİJEN İNDİRGE ME REAKSİYONLARININ KARAKTERİZASYONU, Yükseköğretim Kurumları Destekli Proje
2017 - 2017	ENERJİ DEPOLAMA UYGULAMALARI İÇİN BİYOKÜTLE ESASLI AKTİF KARBON MALZEMELERİNİN YAPISAL VE ELEKTROKİMYASAL ÖZELLİKLERİNİN İNCELENMESİ, Yükseköğretim Kurumları Destekli Proje
2017 - 2017	LİTYUM İYON BATARYALARINDA Lİ(Nİ-CO-AL) OKSİTLERİNİN KATOT MALZEMESİ OLARAK ULTRASONİK SES DALGASI YÖNTEMİYLE ÜRETİLMESİ VE KARAKTERİZASYONU, Yükseköğretim Kurumları Destekli Proje

2014 - 2016	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2016	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2016	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2016	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2016	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2015	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2015	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2014 - 2014	FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, Yükseköğretim Kurumları Destekli Proje
2010 - 2011	Lityum İyon Piller İçin Yüksek Kapasiteli Ve Enerjili Katot Malzemelerinin Geliştirilmesi Üretimi Ve Karakterizasyonu., Yükseköğretim Kurumları Destekli Proje

## Patent

2016	AYDINOL M. K., Yeniden doldurulabilir Lityum iyon bataryalar için W ve M ile alaşımli LiCoO2 ve bunun üretim metodu, Patent, BÖLÜM C Kimya; Metalürji, Standart Tescil, 2016
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## Metrikler

Yayın: 89  
Atıf (WoS): 3322  
Atıf (Scopus): 4305  
H-İndeks (WoS): 17  
H-İndeks (Scopus): 20

## Akademi Dışı Deneyim

1994 - 1998	Massachusetts Institute of Technology
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