

## Dr.Öğr.Üyesi MEHMET KARAKAYA

### Kişisel Bilgiler

E-posta: mehmetkarakaya@gazi.edu.tr

Web: <https://avesis.gazi.edu.tr/mehmetkarakaya>

### Eğitim Bilgileri

Doktora, Clemson University, Fizik, Amerika Birleşik Devletleri 2011 - 2015

Lisans, Selçuk Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Bölümü, Türkiye 2000 - 2004

### Yabancı Diller

İngilizce, C1 İleri

### Yaptığı Tezler

Doktora, Scalable synthesis and energy applications of defect engineered nano materials, Clemson University, Fizik, 2015

### Akademik Unvanlar / Görevler

Yrd.Doç.Dr., Gazi Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2017 - Devam Ediyor

Araştırma Görevlisi, Gazi Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2016 - 2017

### Yönetilen Tezler

TAPLAMACIOĞLU M. C. , KARAKAYA M., Yenilenebilir ve nükleer enerji santrallerinin frekans kontrolüne etkisinin çok bölgesel model üzerinde incelenmesi, Yüksek Lisans, M.FURKAN(Öğrenci), 2019

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

- I. **Improved transport properties of MgB<sub>2</sub> superconducting round wires via minute addition of gold nanoparticles**  
ÜLGEN A. T. , KARABOĞA F., KARAKAYA M., Podila R., Rao A. M. , BELENLİ İ.  
CERAMICS INTERNATIONAL, cilt.45, sa.1, ss.1031-1036, 2019 (SCI İndekslerine Giren Dergi)
- II. **Optimizing thermal conduction in bulk polycrystalline SrTiO<sub>3</sub>- ceramics via oxygen non-stoichiometry**  
Dehkordi A. M. , Bhattacharya S., Darroudi T., KARAKAYA M., Kucera C., Ballato J., Adebisi R., Gladden J. R. , Podila R., Rao A. M. , et al.  
MRS COMMUNICATIONS, cilt.8, sa.4, ss.1470-1476, 2018 (SCI İndekslerine Giren Dergi)
- III. **Polymer-Derived Silicon Oxycarbide Ceramics as Promising Next-Generation Sustainable Thermoelectrics**  
Kousaalya A. B. , Zeng X., KARAKAYA M., Trit T., Pilla S., Rao A. M.

ACS APPLIED MATERIALS & INTERFACES, cilt.10, sa.3, ss.2236-2241, 2018 (SCI İndekslerine Giren Dergi)

- IV. **A micro-Raman study of exfoliated few-layered n-type Bi-2 Te<sub>2.7</sub>Se<sub>0.3</sub>**  
Liu F., Hu L., KARAKAYA M., Puneet P., Rao R., Podila R., Bhattacharya S., Rao A. M.  
SCIENTIFIC REPORTS, cilt.7, 2017 (SCI İndekslerine Giren Dergi)
- V. **Impact absorption properties of carbon fiber reinforced bucky sponges**  
Thevamaran R., Saini D., KARAKAYA M., Zhu J., Podila R., Rao A. M., Daraio C.  
NANOTECHNOLOGY, cilt.28, sa.18, 2017 (SCI İndekslerine Giren Dergi)
- VI. **Defect-Engineered Graphene for High-Energy- and High-Power-Density Supercapacitor Devices**  
Zhu J., Childress A. S., KARAKAYA M., Dandeliya S., Srivastava A., Lin Y., Rao A. M., Podila R.  
ADVANCED MATERIALS, cilt.28, sa.33, ss.7185-7193, 2016 (SCI İndekslerine Giren Dergi)
- VII. **A facile and scalable approach to fabricating free-standing polymer-Carbon nanotube composite electrodes**  
Arcila-Velez M. R., Emmett R. K., KARAKAYA M., Podila R., Diaz-Orellana K. P., Rao A. M., Roberts M. E.  
SYNTHETIC METALS, cilt.215, ss.35-40, 2016 (SCI İndekslerine Giren Dergi)
- VIII. **Tuning the electronic structure of graphene through nitrogen doping: experiment and theory**  
Ketabi N., de Boer T., KARAKAYA M., Zhu J., Podila R., Rao A. M., Kurmaev E. Z., Moewes A.  
RSC ADVANCES, cilt.6, sa.61, ss.56721-56727, 2016 (SCI İndekslerine Giren Dergi)
- IX. **Enhancing Thermoelectric Properties of Si<sub>80</sub>Ge<sub>20</sub> Alloys Utilizing the Decomposition of NaBH<sub>4</sub> in the Spark Plasma Sintering Process**  
Lahwal A., Zeng X., Bhattacharya S., Zhou M., Hitchcock D., KARAKAYA M., He J., Rao A. M., Tritt T. M.  
ENERGIES, cilt.8, sa.10, ss.10958-10970, 2015 (SCI İndekslerine Giren Dergi)
- X. **Self-Assembled Recyclable Hierarchical Bucky Aerogels**  
KARAKAYA M., Saini D., Podila R., Skove M. J., Rao A. M., Thevamaran R., Daraio C.  
ADVANCED ENGINEERING MATERIALS, cilt.17, sa.7, ss.990-994, 2015 (SCI İndekslerine Giren Dergi)
- XI. **Modulation of the Electrostatic and Quantum Capacitances of Few Layered Graphenes through Plasma Processing**  
Narayanan R., Yamada H., KARAKAYA M., Podila R., Rao A. M., Bandaru P. R.  
NANO LETTERS, cilt.15, sa.5, ss.3067-3072, 2015 (SCI İndekslerine Giren Dergi)
- XII. **Dopant-configuration controlled carrier scattering in graphene**  
Anand B., KARAKAYA M., Prakash G., Sai S. S. S., Philip R., Ayala P., Srivastava A., Sood A. K., Rao A. M., Podila R.  
RSC ADVANCES, cilt.5, sa.73, ss.59556-59563, 2015 (SCI İndekslerine Giren Dergi)
- XIII. **Influence of carbon nanomaterial defects on the formation of protein corona**  
Sengupta B., Gregory W. E., Zhu J., Dasetty S., KARAKAYA M., Brown J. M., Rao A. M., Barrows J. K., Sarupria S., Podila R.  
RSC ADVANCES, cilt.5, sa.100, ss.82395-82402, 2015 (SCI İndekslerine Giren Dergi)
- XIV. **Anomalous impact and strain responses in helical carbon nanotube foams**  
Thevamaran R., KARAKAYA M., Meshot E. R., Fischer A., Podila R., Rao A. M., Daraio C.  
RSC ADVANCES, cilt.5, sa.37, ss.29306-29311, 2015 (SCI İndekslerine Giren Dergi)
- XV. **Roll-to-roll production of spray coated N-doped carbon nanotube electrodes for supercapacitors**  
KARAKAYA M., Zhu J., Raghavendra A. J., Podila R., Parler S. G., Kaplan J. P., Rao A. M.  
APPLIED PHYSICS LETTERS, cilt.105, sa.26, 2014 (SCI İndekslerine Giren Dergi)
- XVI. **Can Faradaic Processes in Residual Iron Catalyst Help Overcome Intrinsic EDLC Limits of Carbon Nanotubes?**  
Emmett R. K., KARAKAYA M., Podila R., Arcila-Velez M. R., Zhu J., Rao A. M., Roberts M. E.  
JOURNAL OF PHYSICAL CHEMISTRY C, cilt.118, sa.46, ss.26498-26503, 2014 (SCI İndekslerine Giren Dergi)
- XVII. **Roll-to-roll synthesis of vertically aligned carbon nanotube electrodes for electrical double layer capacitors**  
Arcila-Velez M. R., Zhu J., Childress A., KARAKAYA M., Podila R., Rao A. M., Roberts M. E.  
NANO ENERGY, cilt.8, ss.9-16, 2014 (SCI İndekslerine Giren Dergi)
- XVIII. **Preferential Scattering by Interfacial Charged Defects for Enhanced Thermoelectric Performance in Few-layered n-type Bi<sub>2</sub>Te<sub>3</sub>**

## Kitap & Kitap Bölümleri

### I. Carbon Nanotube Materials to Realize High-Performance Supercapacitors

Childress A., Zhu J., Saini D., KARAKAYA M., podila R., Rao A. M.

Nanotechnology for Energy Sustainability, Prof. Baldev Raj, Prof. Marcel Van de Voorde and Dr. Yashwant Mahajan, Editör, Wiley-VCH Verlag GmbH Co. KGaA, ss.377-390, 2017

## Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. **Modelling of automatic generation control for multi-area integrated power system equipment including renewable energy systems**  
YILMAZ M. F. , GÖZDE H., KARAKAYA M., TAPLAMACIOĞLU M. C.  
Renewable Energy Sources - Research and Business (RESRB) 2019 Conference, 8 - 09 Temmuz 2019
- II. **Biomolecular interactions of emerging two dimensional materials with aromatic amino acids**  
MALLINENI S. S. K. , KARAKAYA M., PODILA R., RAO A.  
American Physical Society (APS) March Meeting, BALTIMORE, Amerika Birleşik Devletleri, 14 - 18 Mart 2016
- III. **Raman spectroscopy of exfoliated few layered n type Bi<sub>2</sub> Te<sub>3</sub>**  
LIU F., KARAKAYA M., PUNEET P., PODILA R., BHATTACHARYA S., RAO A.  
American Physical Society (APS) March Meeting, BALTIMORE, Amerika Birleşik Devletleri, 14 - 18 Mart 2016
- IV. **Defect induced multiphoton absorption and photoluminescence in BN for bio imaging**  
DONG Y., KARAKAYA M., PODILA R., RAO A.  
American Physical Society (APS) March Meeting, BALTIMORE, Amerika Birleşik Devletleri, 14 - 18 Mart 2016
- V. **One pot electrochemical synthesis of polymer CNT metal nanoparticles for fuel cell applications**  
VENTRAPRAGADA L., ZHU J., KARAKAYA M., PODILA R., RAO A.  
American Physical Society (APS) March Meeting, BALTIMORE, Amerika Birleşik Devletleri, 14 - 18 Mart 2016
- VI. **Roll to Roll Production of Spray Coated N doped Carbon Nanotube Electrodes for Supercapacitors**  
KARAKAYA M., ZHU J., RAGHAVENDRA A., PODILA R., PARLER S., KAPLAN J., RAO A.  
American Physical Society (APS) March Meeting, San-Antonio, Kuzey Mariana Adaları, 2 - 06 Mart 2015
- VII. **Study of quantum capacitance in N doped few layer graphene**  
KARAKAYA M., ZHU J., PODILA R., SRIVASTAVA A., RAO A.  
American Physical Society (APS) March Meeting, 2 - 06 Mart 2015
- VIII. **Origin of the 2450 cm<sup>-1</sup> peak G band in the Raman spectrum of graphene**  
PODILA R., RAO R., KARAKAYA M., ZHU J., RAO A.  
American Physical Society (APS) March Meeting, San-Antonio, Kuzey Mariana Adaları, 2 - 06 Mart 2015
- IX. **Roll-to-roll synthesis of vertically aligned carbon nanotube electrodes for electrical double layer capacitors**  
Arcila-Velez M. R. , Zhu J., Childress A., KARAKAYA M., Podila R., Rao A. M. , Roberts M. E.  
248th National Meeting of the American-Chemical-Society (ACS), San-Francisco, Kostarika, 10 - 14 Ağustos 2014, cilt.248
- X. **Fe catalyzed carbon nanotubes for high energy density carbon based supercapacitors**  
EMMETT R., KARAKAYA M., ROBERTS M., Arcilla Velez M., PODILA R., RAO A.  
American Physical Society (APS) March Meeting, DENVER, Amerika Birleşik Devletleri, 3 - 07 Mart 2014
- XI. **Static and dynamic response of bucky sponges**  
RAMATHASAN T., KARAKAYA M., PODILA R., DARAIO C., RAO A.  
American Physical Society (APS) March Meeting, DENVER, Amerika Birleşik Devletleri, 3 - 07 Mart 2014
- XII. **Electrochemical characterization of chemical vapor deposition grown few layer graphene**

NARAYAN R., KARAKAYA M., PODILA R., BANDARU P., RAO A.

American Physical Society (APS) March Meeting, DENVER, 3 - 07 Mart 2014

XIII. **Biopolymer nanocarbon composite electrodes for use as high energy high power density electrodes**

KARAKAYA M., ROBERTS M., ARCILLA VELEZ M., ZHU J., PODILA R., RAO A.

American Physical Society (APS) March Meeting, DENVER, Amerika Birleşik Devletleri, 3 - 07 Mart 2014

XIV. **Impact response of helically coiled carbon nanotube foams**

DARAI C., KARAKAYA M., RAMATHASAN T., RAO A.

American Physical Society (APS) March Meeting, DENVER, Amerika Birleşik Devletleri, 3 - 07 Mart 2014

XV. **Roll to Roll production of carbon nanotubes based supercapacitors**

ZHU J., CHILDRESS A., KARAKAYA M., ROBERTS M., PODILA R., RAO A.

American Physical Society (APS) March Meeting, 3 - 07 Mart 2014

XVI. **Electron diffraction studies on CVD grown bi layered graphene**

Lingam K., KARAKAYA M., Podila R., Quin H., Rao A.

American Physical Society (APS) March Meeting, Baltimore, Amerika Birleşik Devletleri, 18 - 22 Mart 2013

XVII. **Thermoelectric performance of chemically exfoliated n Bi<sub>2</sub>Te<sub>3</sub>**

Puneet P., KARAKAYA M., PODILA R., ZHU S., HE J., TRITT T., SKOVE M., RAO A.

American Physical Society (APS) March Meeting, BALTIMORE, Amerika Birleşik Devletleri, 18 - 22 Mart 2013

XVIII. **Redox electrodes comprised of polymer modified carbon nanomaterials**

Roberts M., Emmett R., KARAKAYA M., Podila R., Rao A.

American Physical Society (APS), 18 - 22 Mart 2013

XIX. **Recyclable Buckysponges for De emulsification and Oil spill cleaning**

KARAKAYA M., Saini D., Podila R., Rao A.

American Physical Society (APS) March Meeting, 18 - 22 Mart 2013

## Atıflar

Toplam Atıf Sayısı (WOS):436

h-indeksi (WOS):10