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Personal Information

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Education Information

Doctorate, Clemson University, Fizik, United States Of America 2011 - 2015

Under Graduate, Selcuk University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 2000 - 2004

Foreign Languages

English, C1 Advanced

Dissertations

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

Academic Titles / Tasks

Assistant Professor, Gazi University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2017 - Continues

Research Assistant, Gazi University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2016 - 2017

Advising Theses

TAPLAMACIOĞLU M. C. , KARAKAYA M., Investigation Of The Effect Of Renewable And Nuclear Power Plants On Frequency Control On A Multi-Area Model, Post Graduate, M.FURKAN(Student), 2019

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

- I. **Improved transport properties of MgB₂ 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, vol.45, no.1, pp.1031-1036, 2019 (Journal Indexed in SCI)
- II. **Optimizing thermal conduction in bulk polycrystalline SrTiO₃- 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, vol.8, no.4, pp.1470-1476, 2018 (Journal Indexed in SCI)
- 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, vol.10, no.3, pp.2236-2241, 2018 (Journal Indexed in SCI)
- IV. **A micro-Raman study of exfoliated few-layered n-type Bi-2 Te_{2.7}Se_{0.3}**
Liu F, Hu L, KARAKAYA M., Puneet P, Rao R, Podila R, Bhattacharya S, Rao A. M.
SCIENTIFIC REPORTS, vol.7, 2017 (Journal Indexed in SCI)
- 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, vol.28, no.18, 2017 (Journal Indexed in SCI)
- 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, vol.28, no.33, pp.7185-7193, 2016 (Journal Indexed in SCI)
- 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, vol.215, pp.35-40, 2016 (Journal Indexed in SCI)
- 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, vol.6, no.61, pp.56721-56727, 2016 (Journal Indexed in SCI)
- IX. **Enhancing Thermoelectric Properties of Si₈₀Ge₂₀ Alloys Utilizing the Decomposition of NaBH₄ in the Spark Plasma Sintering Process**
Lahwal A, Zeng X, Bhattacharya S, Zhou M, Hitchcock D, KARAKAYA M, He J, Rao A. M., Trit T. M.
ENERGIES, vol.8, no.10, pp.10958-10970, 2015 (Journal Indexed in SCI)
- 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, vol.17, no.7, pp.990-994, 2015 (Journal Indexed in SCI)
- 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, vol.15, no.5, pp.3067-3072, 2015 (Journal Indexed in SCI)
- 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, vol.5, no.73, pp.59556-59563, 2015 (Journal Indexed in SCI)
- 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, vol.5, no.100, pp.82395-82402, 2015 (Journal Indexed in SCI)
- 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, vol.5, no.37, pp.29306-29311, 2015 (Journal Indexed in SCI)
- 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, vol.105, no.26, 2014 (Journal Indexed in SCI)
- 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, vol.118, no.46, pp.26498-26503, 2014 (Journal Indexed in SCI)
- 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, vol.8, pp.9-16, 2014 (Journal Indexed in SCI)
- XVIII. **Preferential Scattering by Interfacial Charged Defects for Enhanced Thermoelectric Performance in**

Few-layered n-type Bi₂Te₃

Puneet P., Podila R., KARAKAYA M., Zhu S., He J., Tritt T. M., Dresselhaus M. S., Rao A. M.
SCIENTIFIC REPORTS, vol.3, 2013 (Journal Indexed in SCI)

Books & Book Chapters

I. Carbon Nanotube Materials to Realize High-Performance Supercapacitors

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

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

Refereed Congress / Symposium Publications in Proceedings

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 July 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, United States Of America, 14 - 18 March 2016

III. Raman spectroscopy of exfoliated few layered n type Bi₂ Te₃

LIU F., KARAKAYA M., PUNEET P., PODILA R., BHATTACHARYA S., RAO A.

American Physical Society (APS) March Meeting, BALTIMORE, United States Of America, 14 - 18 March 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, United States Of America, 14 - 18 March 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, United States Of America, 14 - 18 March 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, Northern Mariana Islands, 2 - 06 March 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 March 2015

VIII. Origin of the 2450 cm⁻¹ 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, Northern Mariana Islands, 2 - 06 March 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, Costa Rica, 10 - 14 August 2014, vol.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, United States Of America, 3 - 07 March 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, United States Of America, 3 - 07 March 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 March 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, United States Of America, 3 - 07 March 2014
- XIV. **Impact response of helically coiled carbon nanotube foams**
DARAI O C., KARAKAYA M., RAMATHASAN T., RAO A.
American Physical Society (APS) March Meeting, DENVER, United States Of America, 3 - 07 March 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 March 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, United States Of America, 18 - 22 March 2013
- XVII. **Thermoelectric performance of chemically exfoliated n Bi₂Te₃**
Puneet P., KARAKAYA M., PODILA R., ZHU S., HE J., TRITT T., SKOVE M., RAO A.
American Physical Society (APS) March Meeting, BALTIMORE, United States Of America, 18 - 22 March 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 March 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 March 2013

Citations

Total Citations (WOS):436

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