

Resume

a. Name: Dr. Mani Karthik, Ph.D., FRSC., CChem

b. Qualification: M.Sc., Ph.D.,

c. Designation: Senior Scientist

d. Contact Information:

Centre for Solar Energy Materials (CSEM), ARCI, Hyderabad

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e. Experience:

JANUARY 2024 ONWARDS: Senior Scientist

Centre for Solar Energy Materials, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Balapur, Hyderabad 500005, **INDIA**

SEP. 2016 –DEC.2023: Project Scientist “E”

Centre for Solar Energy Materials and Centre for Nanomaterials, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Balapur, Hyderabad 500005, **INDIA.**

DEC. 2014-August 2016: Associate Researcher (*Permanent Position*)

Thermal Energy Storage (TES) Group, CIC ENERGIGUNE, Alava, **SPAIN**

JAN. 2012 -NOV. 2014: Postdoctoral Researcher

TES Group, CIC ENERGIGUNE, Alava, **SPAIN**

APR. 2010 - FEB.2011: Research Scientist

Univ. Of Torino, Torino, **ITALY**

FEB. 2009 - JULY 2009: Adjunct Assistant Professor

NCTU, Hsinchu, **TAIWAN**

AUG. 2006 - JAN. 2009: Postdoctoral Research Fellow

NCTU, Hsinchu, **TAIWAN**

MAR. 2005 - MAR.2006: Research Scientist

KAIST, Daejeon, **SOUTH KOREA**

JUNE 2000 - FEB. 2005: Research Fellow

Anna Univ., and CLRI, Chennai, **INDIA**

f. Awards and Honours:

- Honoured as Fellow of the Royal Society of Chemistry (FRSC) by The Royal Society of Chemistry, London, United Kingdom.
- Received the Prestigious Award of Chartered Chemist (CChem) by The Royal Society of Chemistry, London, United Kingdom.
- Included in the prestigious list of the World's Top 2% of Scientists, published by Stanford University and Elsevier, 2025.
- Best scientist in Supercapacitor, 2019, Awarded by RULA Award, Powered by World Research Council and United Medical Council.
- Biography selected and published in *Who's Who in the World*, 31st Edition, 2014.
- Research Fellowship received from various research institutions such as Univ. of Torino (Italy), National Science Council (NSC), NCTU (Taiwan), KAIST (South Korea), UGC (India), DAE-BRNS (India).
- Selected as one of the best Indian scientists by Indian Embassy, Seoul, South Korea for scientific interaction with *Honourable Dr. A.P.J. Abdul Kalam, Fr. President of India* during president visit at Seoul (Feb.2006), South Korea.
- Project Assistant Fellowship (Industrial Fellowship) received from Nagarjuna Agrichem Limited, Hyderabad, India.



g. Research Areas of Interest:

- ✧ **Solar Energy Materials - Solar Energy Conversion and Storage**
Main Tasks: To develop solar energy materials for low, medium and high temperatures solar thermal energy storage applications (Sensible & latent heat thermal energy storage and cold thermal energy storage)
- ✧ **Nano Fluids for Solar Thermal Energy Storage Applications**
Main Tasks: To develop nanofluids with high thermal conductivity, high heat capacity, good dispersion of nanoparticles in base fluids, and good stability for solar thermal applications
- ✧ **Materials for Energy Storage: Supercapacitors and Batteries**
Main Tasks: To develop efficient electrode materials for **high performance Supercapacitors and Batteries**. Design and fabrication of nanostructured materials for Supercapacitors Device and Electric Vehicles (EV's) Applications - Demonstration of Supercapacitor Powered Electric-Bike (E-Bike) and various proto-type devices

h. List of Patents:

1. **Mani Karthik, Abdessamad Faik and Stefania Doppiu, "Process for the preparation of hierarchically meso and macroporous structured materials", EP2909134 (A1), Published in 26.08.2015. Patent Granted No. EP2909134 (B1) - 10.05.2017.**
2. **Mani Karthik, "Process for the preparation of flexible meso and macroporous carbon foams, EP2921468 (A1), Published in 23.09.2015.**

3. **Mani Karthik**, Abdessamad Faik and Stefania Doppiu, “Process for the preparation of hierarchically meso and macroporous structured materials”, **WO2014060508 (A1)**, **Published in 24.04.2014.**
4. **Mani Karthik**, Abdessamad Faik and Stefania Doppiu, “Process for the preparation of hierarchically meso and macroporous structured materials”, **US2015284252 (A1)**, **Published in 08.10.2015.**
5. **Mani Karthik**, Abdessamad Faik and Stefania Doppiu, “Process for the preparation of hierarchically meso and macroporous structured materials”, **Granted No. ES2636614T3- 10.05.2017.**
6. **Mani Karthik**, Abdessamad Faik and Stefania Doppiu, “Process for the preparation of hierarchically meso and macroporous structured materials”, **IN4202DEN2015- 17.10.2013.**
7. **Mani Karthik**, Abdessamad Faik and Bruno D’Aguanno, “Heat transfer nanocomposite material”, **European Patent application no. EP16382451.9**, **Published in 30.09.2016.**
8. **Mani Karthik**, Abdessamad Faik and Bruno D’Aguanno, “Heat transfer nanocomposite material”, **International Patent Application No. PCT/EP2017/074843, WO2018060460A1. Published in 05.04.2018.**
 - (1). **MX2019003686A, 29.09.2017**
 - (2). **EP17784589.8A, 29.09.2017**
 - (3). **AU2017336347A, 29.09.2017**
 - (4). **US16/338,254, 29.09.2017**
 - (5). **ZA2019/02692A, 29.04.2019**
9. Shanmugasundaram Sakthivel, **Mani Karthik**, Pillai Sorimuthu Kumar, Karuparthi K Phani Kumar, “Method of producing carbon nanostructure materials for heat transfer, lubrication and energy storage applications” **Indian Patent Application No. 202011017775, Dated. 25.04.2020. Patent Granted No. 404762- 26.08.2022.**
10. **Mani Karthik**, Ravula Vijay, Tata Narasinga Rao, “Method of producing porous particles-fibers carbon composites for supercapacitor applications and the product thereof” **Indian Patent Application No. 202011027265, Dated. 26.06.2020. Patent Granted No. 444960- 14.08.2023.**
11. **Mani Karthik**, Shanmugasundaram Sakthivel, “Method of producing spinel nanostructured materials and Spinel-PCM nanocomposites for thermal energy storage applications” **Indian Patent Application No. 202241064003, Dated. 09.11.2022.**

i. Affiliation to Professional Societies:

Editorial Member and Peer Reviewer for the Journals:

➤ ***International Editorial Board Member:***

1. Journal of Catalyst & Catalysis (<http://stmjournals.com/editorial-team-Journal-of-Catalyst-and-Catalysis.html>)
2. Journal of Environmental Nanotechnology
3. Journal of Engineering and Technology (UPI-JET) (<https://uniquepubinternational.com/upi-journals/upi-journal-of-engineering-and-technology/editorial-board-upi-journal-of-engineering-and-technology/>)
4. American Journal of Nano Research and Applications, <http://www.ajnano.org/editorialboard>

5. Nanomaterial Chemistry and Technology,
<http://edelweisspublications.com/editors/26/Nanomaterial-Chemistry-and-Technology>
 6. Journal of Modern Polymer Chemistry and Materials
<http://www.innovationforever.com/aboutjournal?code=JMPCM&journalcode=JMPCM&journalid=1339748319989231625>
 7. Member of International Scientific Committee of Energy and Environmental Engineering, <https://waset.org/committees/energy-and-environmental-engineering?page=3>
 8. Judge and member of the selection panel for the start-up and innovators selection process in all over India - GYAN 2022 (<https://gyan22.in/judges>)
 9. Journal of Materials Science
(<https://www.scipublications.com/journal/index.php/materials/editors>)
 10. Innovation Discovery
<https://www.innovationforever.com/Journals/ID/EditorialBoard/ManiKarthik>
- **Guest Editor: Journal Materials Focus (Special Issue): Journal of American Scientific Publishers (ASP).**
 - **Guest Editor: Journal Molecules (Special Issue): Thermal Energy Storage Materials and Systems**
 - **Guest Editor: Frontiers in Energy Research (Special Issue): Metal-organic Frameworks and their Carbon Composites as High-Performance Energy Conversion and Storage Electrodes**
 - **Peer Reviewer: More than 30 international high impact factor journals**
 - **Peer Reviewer for Project Proposal: Kerala State Council for Science, Technology and Environmental (KSCSTE)**

j. Invited Talks/Guest Lectures

1. Emerging Materials for Energy Storage Devices and Conversion Technologies, International Conference on Emerging Trends in Materials Chemistry (ICETMC 2025), 3-4 April, 2025, Organized by Department of Chemistry, PSG College of Technology, Coimbatore, Tamilnadu, India.
2. Materials and Technologies for Solar Thermal Energy Storage: Current Trends and Potential Applications, Two Days National Conference on Green Energy Technologies for Sustainability (NCGETS 2025), 20 & 21st March, 2025, organized by Department of Green Energy Technology, Madanjeet School of Green Energy Technologies, Pondicherry Central University, Pondicherry, India.
3. Advanced Materials for Energy Storage Devices and Technologies, International Conference on Advanced Materials for Sustainable Technologies, 23rd & 24th January, 2025 Organized by Centre for Advanced Materials and Technologies (CAMAST), Department of Physics and Chemistry, PSGR Krishnammal College for Women, Coimbatore, Tamilnadu, India.
4. Advanced Materials for Energy Storage Devices and Technologies, 30th November 2024, Organised by Department of Chemistry, PSG College of Technology, Coimbatore, Tamilnadu, India.
5. Development of Advanced Materials and Prototype Systems for Energy Conversion and Storage, 29th July to 2nd August, 2024, Five -day online Faculty Development Programme on “Advancements in Materials Science Research”, Organized by PG & Research Department of Chemistry, PSGR Krishnammal College for Women, Coimbatore, Tamilnadu, India.

6. Advanced Energy Materials and Prototype Systems for Energy Conversion, Storage and Utilization, 2nd May 2024, Organized by Centre for Research and Development, K.S. Rangasamy College of Technology, Tiruchengode, Namakkal, Tamilnadu, India.
7. Synthesis, Characterization and Properties of Storage Materials for Energy Storage Applications, National Seminar on Materials Science and Characterisation Techniques (NSMCT-2024), 6-7 March, 2024, Organised by Department of Physics, Acharya Nagarjuna University, Guntur, Andharapradesh, India.
8. Advanced Materials and Technologies for Solar Thermal Energy Conversion, Storage and Utilization, National Conference on New and Renewable Energy Resources for Sustainable Future (NREERSF-2023), 7-8 December 2023, Organised by Yogi Vemana University, Kadapa, Andhrapradesh, India.
9. Emerging Application of Advanced Materials for Energy Storage and Conversion, 9th November 2023, Department of Mechanical Engineering, V.R. Siddhartha Engineering College (VRSEC), Vijayawada, Andhrapradesh, India.
10. Advanced Materials and Prototype System for Energy Storage and Conversion, 26th August, 2023, Department of Physics, Sri Satya Sai Institute of Higher Learning, Prashanthi Nilayam, Puttaparthi, Andhrapradesh, India.
11. Advanced Materials and Technology for Energy Harvesting, Conversion and Storage, 7th July, 2023, Organised by School of Advanced Sciences, Department of Chemistry, Vellore Institute of Technology (VIT-Vellore) University, Vellore, Tamilnadu, India.
12. Design and Development of Low-Cost Scalable Materials and Prototype System for Solar Thermal Energy Storage Applications, 6th July, 2023, Organised by School of Mechanical Engineering, Vellore Institute of Technology (VIT-Vellore) University, Vellore, Tamilnadu, India.
13. Advanced Materials and Prototype System for Solar Thermal Energy Storage Applications, National Conference on Challenges and Opportunities for Green Hydrogen in India, sponsored by CSIR, 29th June, 2023, Organized by Department of Sciences (Physics), Indian Institute of Information Technology, Design and Manufacturing (IIITDM), Kurnool, Andhrapradesh, India.
14. Differential Scanning Calorimetry (DSC): Basic Principles, Instrumentation and Analysis, Workshop on Advanced Analytical Testing for Materials Characterization, 23rd June, 2023 which jointly organized by National Institute of Technology (NIT) Tiruchirappalli and NIT Warangal sponsored by DST under Synergistic Training Program Utilizing the Scientific and Technological Infrastructure, National Institute of Technology (NIT) Tiruchirappalli, Tamilnadu, India.
15. Energy Storage Materials and Technologies: An Overview, Technical Seminar on Energy Storage for Electrical Vehicles, 4th April, 2023, Organised by Vellore Institute of Technology (VIT-Chennai) University, Chennai, Tamilnadu, India.
16. Advanced Materials for Energy Storage Applications, 3rd April, 2023, Organised by SRM University, Kattankulathur, Chennai, Tamilnadu, India.
17. Advanced Materials and Technologies for Thermal Energy Storage and Conversion, National Conference on Futuristic and Sustainable Energy Materials (FASEM 2023), 21st March, 2023, Organised by Vivekanandha Arts and Science College for Women, Sankagiri, Salem, Tamilnadu, India.
18. Advanced Materials and Technologies for Low, Medium and High Temperature Thermal Energy Storage Applications, UGC-HRDC sponsored short term course on Renewable Energy, March 7-12, 2022, Organised by UGC-HRDC, Osmania University, Hyderabad, India.
19. Emerging Materials and Technology for Energy Harvesting, Energy Conversion and Energy Storage, SERB sponsored short term course on "Introduction to Computational Fluid Dynamics with applications in Energy Research", July 26-31, 2021, Organized by Indian Institute of Technology (IIT Indore), Indore, India.
20. Recent research progress in supercapacitor technology and its potential applications, Five day faculty development programme on energy storage, February 1-5, 2021, Organized by GITAM University, Hyderabad, India.
21. Electrical Energy Storage: Supercapacitor as Next Generation Energy Storage Device, International Virtual Conference on Smart Advanced Material Science & Engineering Applications - 2020 (IVCSAMSEA-2020), 03-05, December 2020, Organised by Koneru Lakshmaiah Education Foundation (K L University), Vijayawada, Andhrapradesh, India.
22. Recent Research and Developments in Supercapacitor Devices, AICTE Funded Short Time Training Program on Nanomaterials for Clean Energy and Environmental Applications, 23-28,

- November, 2020, Organised by Dr. Mahalingam College of Engineering and Technology, Pollachi, Tamilnadu, India.
23. Electrical Energy Storage Materials and Devices for E-Mobility: Current Opportunities and Challenges, ATAL Academy Sponsored Five Days Online FDP on Energy Storage and E Mobility, 24-28, August 2020, Organised by Department of Mechanical Engineering, Syed Ammal Engineering College, Ramanathapuram, Tamilnadu, India.
 24. Technology Challenges and Progresses of Electrical Energy Storage (Webinar), A Five Day National Level E-FDP on Challenges in Chemistry and Its Applications Towards Energy Resources, 3-7 August, 2020, Organised by Department of Chemistry, Dr. M.G.R. Educational and Research Institute, Chennai, Tamilnadu, India.
 25. Design and Development of Supercapacitor for Electrical Energy Storage Applications (Webinar), 31st July 2020, Organised by Department of Instrumentation and Control Engineering, College Of Engineering Pune, Pune, Maharashtra, India.
 26. Advanced Carbon Materials for Energy Storage (Webinar), 25th July 2020, Organised by Chikkanna Government Arts College, Department of Chemistry, Tirupur, Tamilnadu, India.
 27. Advanced Porous Materials for Supercapacitor Applications, Online 5-days Faculty Development Program on Advanced Materials in Energy Storage Applications (Webinar), July 18-22, 2020, Organised by Department of Physics, Velammal Institute of Technology, Chennai, Tamilnadu, India.
 28. Design and Fabrication of Supercapacitor as the Next Generation Energy Storage Device for Electric vehicles: Material Design to Prototype Demonstration (Webinar), 1st June, 2020, Organised by SRM University, Chennai, Tamilnadu, India.
 29. Emerging Materials for Energy Conversion and Storage: Supercapacitor as Next Generation Energy Storage Device, 2nd International Conference on Advanced Materials Chemistry at the interfaces of Energy Environment and Medicine – AMCI 2020, January 30-31, 2020, Organised by Department of Chemistry, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India.
 30. Design and Fabrication of Supercapacitor as Next Generation Energy Storage and Conversion Device, 29th November - 1st December, 2019. 2nd International Conference on Nanoscience and Nanotechnology (ICNAN '19), Organised by Centre for Nanotechnology Research, Vellore Institute of Technology, Vellore, Tamilnadu, India
 31. Opportunities and current challenges of supercapacitor technologies for real-world applications, 8th March, 2019, International Conference on Supercapacitors, Energy Storage and Applications (ICSEA-2019), Organised by Centre for Materials for Electronics Technology (C-MET), Thrissur, Kerala, India.
 32. Design of Nanoporous Materials: Introduction and Overview of Synthesis Methods, 7th February, 2019, Organised by Centre For Nanotechnology Research, VIT University, Vellore, Tamilnadu, India.
 33. Supercapacitor: Basics to Applications, 8th February, 2019, Organised by Centre For Nanotechnology Research, VIT University, Vellore, Tamilnadu, India.
 34. Nano and Nanostructured Materials for Energy Conversion and Storage, 19th April, 2018, Faculty Development Program on “Emerging trends in Nanoscience and Nanotechnology”, April 17-21, 2018, Organised by Adi Shankara Institute of Engineering & Technology, Kalady, Kerala, India.
 35. Nanostructured Materials for Energy Storage and Conversion, 23rd March, 2018, Organised by PSG Collage of Arts and Science, Coimbatore, Tamilnadu, India
 36. Electric Mobility in India: Research and Development Initiative, Keynote speaker at National Conference on Electric Mobility, Opportunities and Challenges, 22nd February, 2018, Organised by SRM Institute of Science and Technology, Chennai, Tamilnadu, India.
 37. Design, development and potential applications of Nano and Nanostructured Materials: Special Focus on Energy Storage and Conversion, 19th February, 2018, Organised by Saveetha University, Chennai, Tamilnadu, India.
 38. Design and Development of Materials for Energy Storage and Conversion, Organised by Institute of Nano Science and Technology (INST), 4th October, 2017, Mohali, Punjab, India.
 39. Opportunities for Better Careers, Gurunanak Institutions Technical Campus, Organised by Civil Engineering Department, 20th December 2017, Hyderabad, India.
 40. Enhancement of Specific Heat Capacity of Alkali Metal Salts by Addition of Nanomaterials for High Temperature Thermal Energy Storage Applications, 1st International Conference on Nanoscience and Nanotechnology (ICNAN-2016), October 19-21, 2016, Organised by Center For Nanotechnology Research, VIT University, Vellore, Tamilnadu, India.

41. Effects of Nanostructured Silicate Based Material on Enhancing the Specific Heat Capacity of Nitrate Salt For Solar Thermal Energy Storage Application, International Conference on Nanomaterials and Nanotechnology, NANO15, 7-10 December, 2015, Organised by KSR Group of Institution, Tiruchengode, Tamilnadu, India.
42. Synthesis and application of nanoporous materials, 8th January 2014, Department of Materials Science & Nanotechnology, Organised by Yogi Vemana University, Kadapa, India.
43. Design of nanoporous materials: synthesis and applications, Workshop: Nanoporous materials: Synthesis, study and applications, 19th March, 2013, Organised by CIC Energigune, Energy Cooperative Research Center, Spain.
44. Synthesis, characterization and applications of nanoporous materials, Organised by The Institute for Environmental Nanotechnology, 1st January 2013, Tamilnadu, India.

k. List of Journal Publications:

Papers Published/Accepted in the Journals

(★-Corresponding author)

S. No.	Journal Papers	Impact Factors (IF)
1.	K.K. Phani Kumar, Naveen Kumar Arkoti, Narendra Chundi, George Elsa, Manavalan Vijayakumar, Mani Karthik* , Shanmugasundaram Sakthivel, Dual functional superhydrophobic and superorganophilic porous graphene carbon nanocomposite electrodes for Unprecedented High-Voltage supercapacitor with superior rate capability, Chemical Engineering Journal , Vol. 513, pp. 162859, 2025	13.40
2.	John Jacob, Ramasamy Santhosh, Nachimuthu Venkatesh, Manavalan Vijayakumar, George Elsa, Pachagounder Sakthivel and Mani Karthik* , Hierarchical Porous Carbon Derived from Strychnos Potatorum Seeds as Biowaste for High-Performance Supercapacitor Electrodes with Enhanced Voltage and Energy Density with Commercial Mass Loading, Journal of Energy Storage , Vol. 113, pp. 115744, 2025	9.80
3.	John Jacob, Kandhasamy Sureshkumar, Abdul Azeez Ashif Mohamed, Nachimuthu Venkatesh, Mani Karthik* and Pachagounder Sakthivel*, Biowaste Derived Porous Carbon from Lagenaria Siceraria for High Performance Supercapacitor Electrodes, Energy Technology , e202501151, 2025.	4.15
4.	Manickavelu Praveen, K.K. Phani Kumar, S. Sarveshvaran, Shanmugasundaram Sakthivel and Mani Karthik* , Synergetic Effect of Spinel Oxide Nanoparticles on Unprecedented Enhancement of Specific Heat Capacity of Molten Salt Based Phase Change Material for Thermal Energy Storage Applications, Materials Today Chemistry , Under Review, 2025.	6.70
5.	John Jacob, Abdul Azeez Ashif Mohamed, Ramasamy Santhosh, Mani Karthik* , Pachagounder Sakthivel, 3D-Printed CDI Cells Utilizing Neltuma Juliflora-Derived Activated Carbon for Enhanced Capacitive Deionisation and Supercapacitor Performance, Journal of Energy Storage , Under Review, 2025.	9.80
6.	Mani Karthik* , Manavalan Vijayakumar, George Elsa and R. Vijay, Phosphorus-Decorated Carbon Textiles as Flexible, Free Standing and Binder Free Supercapacitor Power Packs Via Roll to Roll Fabrication for Next-Generation Energy Storage Device: From Material Design to Prototype Demonstration, Composites Part B: Engineering , Under Review, 2025.	14.20
7.	Navakoteswara Rao V, Lakshmana Reddy N, Preethi V, Karthik Mani , Yeon-Tae Yu, Jun Mo Yang, Mamatha Kumari M, Shankar M.V. A Critical Review on Core/Shell Based Nanostructured Photocatalysts for Improved Hydrogen Generation, International Journal of Hydrogen Energy , 48, pp. 11754-11774, 2023.	8.300
8.	Genta Tsurumaki, Selvan Bellan, Koji Matsubara, Tatsuya Kodama, Mitsuho Nakakura, Nobuyuki Gokon, Hyun Seok Chok, Mani Karthik and Shanmugasundaram Sakthivel, Fluidization behavior of redox metal oxide and spinel particles to develop high-energy-density thermal energy storage system for concentrated solar power applications, Journal of Thermal Science and Technology (Japan Science and Technology Agency (JST)) , Vol. 17 (2), pp.	1.200

- 22-61, 2022.
9. George Elsa, Manavalan Vijayakumar, Rajendran Navaneethan and **Mani Karthik***, Novel insight into the concept of favourable combination of electrodes in high voltage supercapacitors: Towards ultrahigh volumetric energy density and outstanding rate capability, **Global Challenges**, Vol. 6, Issue. 4, 2100139, 2022. **Highlighted and Appeared in the Front Cover Page.** 6.40
 10. V. N. Rao, P. Ravi, M. Sathish, M. Vijayakumar, M. Sakar, **M. Karthik**, S. Balakumar, K. R. Reddy, N. P. Shetti, M. V. Shankar, Tejraj M. Aminabhavi, Metal chalcogenide-based core/shell photocatalysts for solar hydrogen production: Recent advances, properties and technology challenges, **Journal of Hazardous Materials**, Vol. 415, pp. 125588-125609, 2021. 14.224
 11. Manavalan Vijayakumar, George Elsa, Aamani Nirogi, Rajendran Navaneethan, Ammaiappan Bharathi Sankar and **Mani Karthik***, MXenes and Their Composites for Hybrid Capacitors and Supercapacitors: A Critical Review, **Emergent Materials**, Vol. 4, pp. 655-672, 2021. 4.800
 12. Manavalan Vijayakumar, Ammaiappan Bharathi Sankar, Duggirala Sri Rohita, Katchala Nanaji, Tata Narasinga Rao and **Mani Karthik***, Achieving High Voltage and Excellent Rate Capability Supercapacitor Electrodes Derived From Biorenewable and Sustainable Resource, **Chemistry Select**, Vol. 5, pp. 8759 – 8772, 2020. 2.109
 13. Navakanth Vijay Challagulla, Manavalan Vijayakumar, Duggirala Sri Rohita, George Elsa, Ammaiappan Bharathi Sankar, Tata Narasinga Rao and **Mani Karthik***, Hierarchical Activated Carbon Fibres as a Sustainable Electrode and Natural Seawater as a Sustainable Electrolyte for High Performance Supercapacitor, **Energy Technology**, Vol. 8, pp. 2000417, 2020. 4.149
 14. T. Mitravinda, **M. Karthik**, S. Anandan, C.S. Sharma and T.N. Rao, Fabrication of bio-waste derived carbon-carbon based electrodes for high-performance supercapacitor applications, **Indian Journal of Engineering and Materials Sciences**, Vol. 27 (6) SI, ppp 1080-1090, 2020. 0.900
 15. Manavalan Vijayakumar, Ammaiappan Bharathisankar, Duggirala Sri Rohita, Tata Narasinga Rao and **Mani Karthik***, Conversion of Biomass Waste into High Performance Supercapacitor Electrodes for Real-Time Supercapacitor Applications, **ACS Sustainable Chemistry and Engineering**, Vol. 7, pp. 17175-17185, 2019. 9.224
 16. Manavalan Vijayakumar, Duggirala Sri Rohita, Tata Narasinga Rao and **Mani Karthik***, Electrode mass ratio impact on electrochemical capacitor performance, **Electrochimica Acta**, Vol. 298, pp. 347-359, 2019. 7.336
 17. N. Lakshmana Reddy, V.N. Rao, M. Vijayakumar, R. Santhosh, S. Anandan, **M. Karthik***, M.V. Shankar, K.R. Reddy, N.P. Shetti, M.N. Nadagouda, T.M. Aminabhvi, A review on frontiers in plasmonic nano-photocatalysts for hydrogen production, **International Journal of Hydrogen Energy**, Vol. 44, pp. 10453-10472, 2019. 7.200
 18. Manavalan Vijayakumar, Ravichandran Santhosh, Jyothirmayi Adduru, Tata Narasinga Rao, **Mani Karthik***, Activated carbon fibres as high performance supercapacitor electrodes with commercial level mass loading, **Carbon**, Vol. 140, pp. 465-476, 2018. 11.60
 19. Santhosh Ravichandran, S.R. Sita Raman, Sudha Murali Krishna, Syamsai Ravuri, V. Sandhya, Sourav Ghosh, Niroj Kumar Sahu, Sathyanarayanan Punniyakoti, **M. Karthik**, Pratap Kollu, Soon Kwan Jeong, Andrews Nirmala Grace, Heteroatom doped graphene based hybrid electrode materials for supercapacitor applications, **Electrochimica Acta**, Vol. 276, pp. 284-292, 2018. 7.736
 20. B. D'Aguanno, **M. Karthik**, N. Grace, A. Floris, Thermostatic properties of nitrate molten salts and their solar and eutectic mixtures, **Scientific Reports (Open Access, Nature Publishers)**, Vol. 8, pp. 10485, 2018. 4.996
 21. Nagappagari Lakshmana Reddy, Vempuluru Navakoteswara Rao, Murkinati Mamatha Kumari, Raghava Reddy Kakarla, Parnapalle Ravi Marappan Sathish, **Mani Karthik**, Shankar Muthukonda Venkatakrishnan, Inamuddin, Nanostructured semiconducting materials for efficient hydrogen generation, **Environmental Chemistry Letters**, pp. 1-32, 2018. 20.40
 22. Manavalan Vijayakumar, Jyothirmayi Adduru, Tata Narasinga Rao, and **Mani** 6.40

- Karthik***, Conversion of Solar Energy into Electrical Energy Storage: Supercapacitor as an Ultrafast Energy-Storage Device Made from Biodegradable Agar-Agar as a Novel and Low-Cost Carbon Precursor, **Global Challenges**, Vol. 2, Issue. 10, 1800037, **2018. Highlighted and Appeared in the Front Cover Page.**
23. **Mani Karthik***, Abdessamad Faik, and Bruno D'Aguanno, Graphite Foam as Interpenetrating Matrices for Phase Change Paraffin Wax: A Candidate Composite for Low Temperature Thermal Energy Storage, **Solar Energy Materials and Solar Cells**, Vol. 172, pp. 324-334, **2017.** **7.305**
 24. D. Praveen Kumar, V. Durga Kumari, **M. Karthik***, M. Sathish and M.V. Shankar*, Shape dependence structural, optical and photocatalytic properties of TiO₂ nanocrystals for enhanced hydrogen production by photoinduced glycerol reforming, **Solar Energy Materials & Solar Cells**, Vol. 163, pp. 113-119, **2017.** **7.305**
 25. Mery Malandrino, Agnese Giacomini, **Mani Karthik**, Isabella Zelano, Debora Fabbri, Marco Ginepro, Roger Fuoco, Patrizia Bogani, Ornella Abollino, Inorganic markers profiling in wild type and genetically modified plants subjected to abiotic stresses, **Microchemical Journal**, Vol. 134, pp. 87-97, **2017.** **5.304**
 26. N. Lakshmana Reddy, **M. Karthik** and M.V. Shankar, Synthesis of Ag-TiO₂ nanoparticles for improved photocatalytic hydrogen production under solar light irradiation, **Advanced Porous Materials**, Vol. 5, 1-6, **2017.** -
 27. S. Sakthivel, **M. Karthik** and Tata Narasinga Rao, Nanotechnology for Concentrated Solar Thermal Power Applications, **Nanotech Insights: A quarterly newsletter**, Vol. 7, Issue 3 & 4, pp. 44-52, **2016.** -
 28. Iñigo Ortega-Fernández, AbdessamadFaik, **Karthik Mani**, Javier Rodríguez-Aseguinolaza and Bruno D'Aguanno, Experimental investigation of solid by-product as sensible heat storage material: characterization and corrosion study, **AIP Conference Proceedings** 1734, 050036, **2016**, doi: 10.1063/1.4949134 -
 29. D. Praveen Kumar, N. Lakshmana Reddy, **M. Karthik***, B. Neppolian, J. Madhavan, M.V. Shankar, Solar light sensitized p-Ag₂O/n-TiO₂ nanotubes heterojunction photocatalysts for enhanced hydrogen production in aqueous-glycerol solution, **Solar Energy Materials & Solar Cells**, Vol. 154, pp. 78-87, **2016.** **7.305**
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