

CURRICULUM VITAE

Rajiv Kumar, Ph.D.

(Associate Professor)

Department of Physics,

Goswami Ganesh Dutt S.D. College, Haryana



PERSONAL DETAILS:

Date of Birth: March 17, 1975

Father's Name: Sh. Madan Lal

Mother's Name: Smt. Urmila Rani

Nationality: Indian

Marital Status: Married

Permanent Address: 117, Parashar Niwas, Street No. 7, Shiv-Shakti Nagar, Behind Sadhu Ashram, Una Road, Hoshiarpur – 146001 Punjab

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rajiv_parashar17@gdsdcollegeharyana.org

ACADEMIC RECORD

- **Ph. D., Physics (Materials Science)**, 2007-2011, Guru Nanak Dev University, Amritsar, Punjab, India
Thesis title: *“Study of Ion Transport Properties of Some Triflate Based Proton conducting Polymer Gel Electrolytes”*
Supervisor: Professor S. S. Sekhon
- **M. Sc., Physics (Specialization in Solid State Physics)**, 1996-1998, Himachal Pradesh University, Shimla, Himachal Pradesh, India with First Division (61.80%)
- **B. Sc., (Non-Medical)**, 1993 – 1996, Himachal Pradesh University, Shimla, Himachal Pradesh, India with First Division (73.80%)
- **C.S.I.R. - National Eligibility Test (N.E.T.) Qualified in 2000**

TEACHING AND RESEARCH EXPERIENCE

1998-2002

Lecturer, D.A.V. College, Daulatpur Chowk, Una, Himachal Pradesh

- Taught B.Sc. I, II, III classes

2002 – 2003

Junior Research Fellow (JRF), Department of Applied Physics, Guru Nanak Dev University, Amritsar, Punjab, India

Supervisor: Professor S. S. Sekhon

Topic: Development of new proton conducting polymer gel electrolytes for future high-energy storage batteries.

2003-2004

Lecturer, Department of Physics, Guru Nanak Dev University, Amritsar, Punjab, India

- Taught M. Sc. II year class
- Taught B. Sc. Physics (Hons.), B. Sc. Chemistry (Hons.), B. Sc. Microbiology (Hons.), B. Sc. Human Genetics (Hons.)

2004 – till date

Assistant Professor (2004 – 2018); Associate Professor (2018 - till date)

Goswami Ganesh Dutt Sanatan Dharam (G.G.D.S.D.) College, Haryana, Hoshiarpur, Punjab

- Teaching B.Sc. I, II, III classes

FIELD OF RESEARCH

- Materials Science –Solid State Ionics (Polymer electrolytes, Nano-composite Polymer electrolytes, Natural Gum Based Gels)

RESEARCH TRAINING

- Synthesis and characterization of synthetic and natural polymeric materials in gel as well as film form for their use in various electrochemical devices viz. high energy density batteries, fuel cell, electrochromic windows, solar cell, supercapacitors, sensors etc.
- Investigating properties of electrolytes using impedance spectroscopy, FTIR Spectroscopy, Thermal Studies (DSC/TGA), XRD Studies and Rheological Properties/Dynamic Mechanical Analysis (DMA) studies

RESEARCH PROJECTS UNDERTAKEN:

1. Minor Research Project (Completed):

Title: Nano dispersed polymer gel electrolytes

Grant worth Rs. 1,75,000/- sanctioned by University Grants Commission, New Delhi

Period: March 2011 – September 2012

RESEARCH SUPERVISOR

- Mr. Viney Sharma, registered for Ph.D. on the topic of “Transport and spectroscopic studies of natural and synthetic polymer based nano-composite electrolytes”, Department of Physics, Panjab University, Chandigarh in February 2017
- Ms. Simranpreet Kaur, enrolled for Ph.D., Department of Physics, Sant Baba Bhag Singh University, Jalandhar in August 2017
- Ms. Harkawal Singh, Research Assistant on the topic “Fabrication and characterization of different materials for photovoltaics and gas sensing applications” from April 2019-February 2020

AWARDS/RECOGNITION

- “Publons Peer Review Award 2018” for placing in the Top 1% of reviewers in Assorted* (9th position) on September 12, 2018 for review reports performed during the 2017-2018 award year.
- “Publons Peer Review Award 2017” for placing 8th position in Top Reviewers for India in September 12, 2017 for review reports performed during the 2016-2017 award year
- “*Bharat Rattan Mahamana Madan Mohan Malviya Memorial Award*” on June 10th, 2017 for all-round achievements in Academics, Research and other co-curricular/Extension Activities by Sanatan Dharam Education Board (Regd.) under Shree Sanatan Dharm Pratinidhi Sabha (Punjab), New Delhi, India
- Biography included in The Marquis Who's Who in the World® 2016 and 2018, published by Marquis Publications, Berkeley Heights, NJ 07922 (USA)
- Award of Honor by “Seva Sarthi Cheritable Trust”, New Delhi on 30th November 2019
- Award of Honor by Guru Nanak College of Engineering and Technology, Dalewal (Hoshiarpur) on Teacher's Day (5th September 2019).

MEMBER, EDITORIAL BOARD

- International journal “Current Materials Science” published by Bentham Science Publishers, UAE (2019-2020) - SCOPUS indexed Journal
- International journal “Current Smart Materials” published by Bentham Science Publishers, UAE (2019-2020) - ICI indexed Journal
- Editor in Chief of an International Journal “Journal on Physical Sciences” published by i-Manager's Publications (2019-2020)
- International journal “Journal on Material Science” published by i-Manager's Publications (2017-2018) and (2018-2019) – ICI indexed Journal
- International journal “Journal on Future Engineering and Technology” published by i-Manager's Publications (2018-2019) - ICI indexed Journal

MEMBER, BOARD OF STUDIES

- Elected Member, Physics (UG), Panjab University, Chandigarh for the term 2-years i.e. 01-04-2019 to 31-03-2021

- Elected Member, Medical Physics (UG), Panjab University, Chandigarh for the term 2-years i.e. 01-04-2019 to 31-03-2021
- Elected Member, Physics (UG), Panjab University, Chandigarh for the term 2-years i.e. 01-04-2017 to 31-03-2019
- Physics (UG and PG), Sant Baba Bhag Singh University, Jalandhar for two sessions 2018-2019 and 2019-2020

MEMBER, MANAGING COMMITTEE

- G.G.D.S.D. College, Haryana, Hoshiarpur (Staff Representative) for 3-years i.e. 20-11-2018 to 19-11-2021
- S.D. Co-educational Sen. Sec. School, Sham Chaurasi (Hoshiarpur) for 3-years i.e. 20-11-2018 to 19-11-2021
- G.G.D.S.D. Sen. Sec. School, Haryana (Hoshiarpur) for 3-years i.e. 20-11-2018 to 19-11-2021
- L.S.D. High School, Bassi Daulat Khan, Hoshiarpur for 3-years i.e. 20-11-2018 to 19-11-2021
- Dewan Chaman Lal Katyal S.D. Playway School, Haryana (Hoshiarpur) for 3-years i.e. 20-11-2018 to 19-11-2021

CHAIRPERSON/SUBJECT EXPERT

- Act as Chairperson in National Seminar on “Recent Trends in Science and Technology” (Technical Session) on March 7th, 2018 organised by Science and Computer Science Departments, Guru Teg Bahadur Khalsa College for Women, Dasuya, Hoshiarpur, Punjab sponsored by College Development Council, Panjab University, Chandigarh, India
- Act as Subject Expert for the selection of Assistant Professor in Physics on June 6th, 2018 at GTB Khalsa College, Dasuya
- Act as Subject Expert for the selection of Lecturer in Physics in June 2018, 2019 at Cambridge International School, Nawan Shahr (Shaheed Bhagat Singh Nagar)
- Act as Judge for “Science Project Making Competition” in DIPS Haryana on August 9th, 2018

REFRESHER/ORIENTATION/SHORT TERM COURSES

- Attended General Orientation Course (GOC-65) at Academic Staff College, Guru Nanak Dev University, Amritsar, Punjab from 03-06-2005 to 30-06-2005 (4-weeks)
- Attended Refresher Course in Physics at Academic Staff College, University of Jammu from 01-02-2010 to 22-02-2010 (3-weeks)
- Attended Refresher Course in Pure Sciences (Physics, Chemistry & Mathematics) at Academic Staff College, Guru Nanak Dev University, Amritsar, Punjab from 15-05-2014 to 04-06-2014 (3-weeks)
- Attended Refresher Course in Environmental Studies at Human Resource Development Centre, Panjab University, Chandigarh, Punjab from 27-06-2015 to 17-07-2015 (3-weeks)
- Attended Short Term Course in Research Methodology at Human Resource Development Centre, Guru Nanak Dev University, Amritsar, Punjab from 27-05-2017 to 02-06-2017 (1-week)

MEMBERSHIPS

- Lifetime Membership – Microscopy, Electrochemistry, Solid State Electrochemistry, Materials Today, Reinforced Plastics

LIST OF PUBLICATIONS

(In SCI Journals):

1. Effect of heat treatment on thermal and mechanical stability of NaOH-doped xanthan gum-based hydrogels
Viney Sharma, **Rajiv Kumar**, Narinder Arora, Simranjit Singh, Navjeet Sharma, Amit Anand, Subheet Kumar Jain, Shuchi Sharma
Journal of Solid State Electrochemistry **24 (2020) 1337-1347** (WOS/SCOPUS Cited Publication)
Published by Springer, 233 Spring ST, New York, USA, NY, 10013 (Impact Factor = 2.646)
2. Study of PVA-based nanocomposite polymer gels containing weak aliphatic dicarboxylic acids
Rajiv Kumar, Simranpreet Kaur, Navneet Singh, Honey Sharma, Shuchi Sharma
Surface Innovations **Vol. 8 (2020) 182-189** (WoS/SCOPUS indexed)
Published by ICE Publishing, England (Impact Factor = 2.845)

3. FTIR, thermal and ionic conductivity studies of nanocomposite polymer electrolytes
Shuchi Sharma, Dinesh Pathak, Naresh Dhiman, **Rajiv Kumar**, Manoj Kumar
Surface Innovations Vol. 7 (2019) 51-58 (WoS/SCOPUS indexed)
Published by ICE Publishing, England (Impact Factor = 2.845)
4. Ionic Conductivity, SEM, TGA and Rheological studies of Nano-dispersed silica based polymer gel electrolytes containing LiBF₄
Narinder Arora, Simranjit Singh, **Rajiv Kumar**, Rajesh Kumar, Anita Kumari
Solid State Ionics 317 (2018) 175-182 (SCI/WoS/SCOPUS indexed)
(Elsevier Science BV, Netherlands, ISSN [0167-2738](#), IF (JCR) = 3.107)
5. FTIR Studies of PMMA based Nanodispersed Gel Polymer Electrolytes incorporated with LiBF₄ and SiO₂ for Electrochemical Devices
Simranjit Singh, Narinder Arora, Kamaldeep Paul, **Rajiv Kumar**, Rajesh Kumar,
Ionics (2019) 25 1495-1503 (SCI/WoS/SCOPUS indexed)
(Springer Verlag, Germany, ISSN 0947-7047, IF (JCR) = 2.394)
6. Ionic conductivity, FTIR and thermal studies of nano-composite plasticized proton conducting polymer electrolytes
Rajiv Kumar, Shuchi Sharma, Dinesh Pathak, Naresh Dhiman, Narinder Arora
Solid State Ionics Vol. 305 (2017) pp. 57-62 (SCI/WoS/SCOPUS indexed)
published by Elsevier Science BV, Netherlands (Impact Factor (JCR) = 3.107)
7. Characterization of PVdF-HFP based nano-composite plasticized polymer electrolytes
Shuchi Sharma, Dinesh Pathak, Naresh Dhiman, **Rajiv Kumar**
Surface Innovations Vol.5 (4) (2017) pp. 251-256 (SCI/WoS/SCOPUS indexed)
Published by ICE Publishing, England (Impact Factor = 2.845)
8. Conductivity modification of gum acacia based gel electrolytes
Narinder Arora, Viney Sharma, Rajesh Kumar, **Rajiv Kumar**
Emerging Materials Research 7 (2018) 89-94 (SCI/WoS/SCOPUS Cited)
published by ICE publishing, England (Impact Factor = 0.413, ISSN 2046-0147)
9. Electrical characterization of nano-composite polymer gel electrolytes containing NH₄BF₄ and SiO₂:
Role of donor number of solvent and fumed silica
Rajiv Kumar, Narinder Arora, Shuchi Sharma, Naresh Dhiman, Dinesh Pathak
Ionics 23 (2017) 2761-2766. (SCI/WOS/SCOPUS Cited Publication)
Published by Springer Heidelberg Tiergartenstrasse 17, Heidelberg Germany, D-69121
(Impact Factor = 2.394; ISSN = 0947-7047)
10. Effect of nano-size fumed silica on ionic conductivity of PVdF-HFP based plasticized nano-composite polymer electrolytes
Shuchi Sharma, Naresh Dhiman, Dinesh Pathak and **Rajiv Kumar**
Ionics 22 (2016) 1865-1872 (SCI/SCOPUS Cited Publication)
Published by Springer Heidelberg Tiergartenstrasse 17, Heidelberg Germany, D-69121
(**Impact Factor = 2.394**; ISSN = 0947-7047)
Published by Oriental Scientific Publishing Company, Bhopal, India (ISSN = 0973-3469)
11. Nano-composite polymer gel electrolytes containing ortho-nitro benzoic acid: Role of dielectric constant of solvent and fumed silica
Rajiv Kumar
Indian Journal of Physics 89(2015)pp.241-248 (SCI/SCOPUS Cited Publication)
Published by Springer Heidelberg Tiergartenstrasse 17, Heidelberg Germany, D-69121
(**Impact Factor = 1.407**; ISSN = 0973-1458)
12. Conductivity, FTIR studies and thermal behavior of PMMA-based proton conducting polymer gel electrolytes containing triflic acid
Rajiv Kumar and S.S. Sekhon
Ionics 19 (2013) pp. 1627-1635 (SCI/SCOPUS Cited Publication)
Published by Springer Heidelberg Tiergartenstrasse 17, Heidelberg Germany, D-69121
(**Impact Factor = 2.394**; ISSN = 0947-7047)

13. Conductivity modification of proton conducting polymer gel electrolytes containing a weak acid (ortho-hydroxy benzoic acid) with the addition of PMMA and fumed silica
Rajiv Kumar and S.S. Sekhon
Journal of Applied Electrochemistry **39** (2009) pp. 439-445 (SCI/SCOPUS Cited Publication)
Published by Springer Van Godewijkstraat 30, Dordrecht, Netherlands, (**Impact Factor = 2.384**)
14. Effect of molecular weight of PMMA on the conductivity and viscosity behaviour of polymer gel electrolytes containing $\text{NH}_4\text{CF}_3\text{SO}_3$
Rajiv Kumar and S.S. Sekhon
Ionics **14** (2008) pp. 509-514 (SCI/SCOPUS Cited Publication)
Published by Springer Heidelberg Tiergartenstrasse 17, Heidelberg Germany, D-69121 (**Impact Factor = 2.394**; ISSN = 0947-7047)
15. FTIR study of ion dissociation in PMMA based gel electrolytes containing ammonium triflate: Role of dielectric constant of solvent
Rajiv Kumar, Jitender Paul Sharma, S.S. Sekhon
European Polymer Journal **41** (2005) pp. 2718-2725 (SCI/SCOPUS Cited Publication)
Published by Pergamon-Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford, England OX5 1GB (**Impact Factor = 3.862**; ISSN = 0014-3057)
16. Effect of dielectric constant of solvent on the conductivity behaviour of polymer gel electrolytes
Rajiv Kumar, Boor Singh and S.S. Sekhon
Journal of Materials Science Letters **40** (2005) pp. 1273-1275 (SCI/SCOPUS Cited Publication)
Springer, 233 Spring St., New York, USA, NY 10013 (**Impact Factor = 3.553**; ISSN = 1573-4811)
17. Conductivity and viscosity behaviour of PMMA based gels and nano dispersed gels: Role of dielectric constant of solvent
Boor Singh, **Rajiv Kumar** and S.S. Sekhon
Solid State Ionics **176** (2005) pp. 1577-1583 (SCI/SCOPUS Cited Publication)
Published by Elsevier Science B.V., PO Box 211, Amsterdam, Netherlands, 1000 AE (**Impact Factor = 3.107**; ISSN = 0167-2738)
18. Correlation between ionic conductivity and fluidity of polymer gel electrolytes containing $\text{NH}_4\text{CF}_3\text{SO}_3$.
Harinder Pal Singh, **Rajiv Kumar** and S.S. Sekhon
Bulletin of Materials Science **28** (2005) pp. 467-472 (SCI/SCOPUS Cited Publication)
Published by Springer Science and Business Media Inc. – Verlag, Germany (**Impact Factor = 1.392**; ISSN = 0250-4707)
19. Evidence of ion pair breaking by dispersed polymer in polymer gel electrolytes
Rajiv Kumar and S.S. Sekhon
Ionics **10** (2004) pp. 436-442/10-16 (SCI/SCOPUS Cited Publication)
Published by Springer Heidelberg Tiergartenstrasse 17, Heidelberg Germany, D-69121 (**Impact Factor = 2.394**; ISSN = 0947-7047)

In Non-SCI Journals or ICI Journals)

1. Ion conducting polymer electrolytes – A Review
Vishal Sharma, **Rajiv Kumar**
Pramana Research Journal **9** (2019) 348-355 (ICI Cited Publication)
Published by Acharya Academy, Rohtak, India
2. Electrical characterization of PVdF based proton conducting polymer gel electrolytes
Rajiv Kumar
Current Smart Materials **1** (1) (2016) 63-67 (ICI Cited Publication)
Published by Bentham Science Publishers, U.A.E. (ISSN 2405-4658)
3. Effect of donor number of plasticizers on conductivity of polymer electrolytes containing NH_4F
Shuchi Sharma, Naresh Dhiman, Dinesh Pathak and **Rajiv Kumar**
Journal on Material Science **3** (4) (2016) pp. 28-34 (ICI Cited Publication)
i-Manager's Publications, Kanyakumari, Tamilnadu, India. (ISSN = 2347-2235)

4. Role of polymer in enhancement of conductivity of proton and lithium conducting polymer gel electrolytes
Rajiv Kumar, Shuchi Sharma, Naresh Dhiman and Dinesh Pathak
Journal on Material Science 4 (2) (2016) pp. 1-8 (ICI Cited Publication)
i-Manager's Publications, Kanyakumari, Tamilnadu, India. (ISSN = 2347-2235)
5. Study of proton conducting PVdF based plasticized polymer electrolytes containing ammonium fluoride
Rajiv Kumar, Shuchi Sharma, Naresh Dhiman and Dinesh Pathak
Material Science Research India 13 (1) 2016 pp. 21-27
6. Electrical properties of nanocomposite polymer gels based on PMMA-DMA/DMC-LiClO₄-SiO₂
Rajiv Kumar
Journal on Materials Science 3 (2) (2015) pp. 21-27 (ICI Cited Publication)
Published by i-Manager's Publications, Kanyakumari, Tamil Nadu, India (ISSN = 2347-2235)
7. Characterization of proton conducting polymer electrolytes based on 2,3-dimethyl-1-octylimidazolium triflate (DMOImTf) ionic liquid
International Journal of Science, Technology and Management 4(1) (2015) pp.433-441
Published by A.R. Publications, New Delhi, India (ISSN = 2394-1537)
8. Effect of donor number of solvent and nano-filler on electrical behaviour of composite gel electrolytes
Rajiv Kumar
Insight 1 (1) (2014) pp. 1-6
Published by DAV College, Hoshiarpur, Punjab (ISSN = 2394-0360)
9. Enhancement in electrical properties of PEO based nano-composite gel electrolytes
Rajiv Kumar
Journal on Materials Science 2 (3) (2014) pp. 12-17 (ICI Cited Publication)
Published by i-Manager's Publications, Kanyakumari, Tamil Nadu, India (ISSN = 2347-2235)
10. Comparison of composite proton conducting polymer gel electrolytes containing weak aromatic acids
Rajiv Kumar
Journal on Materials Science 2 (2) (2014) pp. 23-34 (ICI Cited Publication)
Published by i-Manager's Publications, Kanyakumari, Tamil Nadu, India (ISSN = 2347-2235)

(In Conference Proceedings)

1. Conductivity enhancement with polymer addition in non aqueous polymer gel electrolytes
S.S. Sekhon, **Rajiv Kumar** and Boor Singh
Proceedings of 9th Asian Conference on Solid State Ionics: Science and Technology of Ions in Motion, in Jeju Island, South Korea, from 6-11 June 2004, Chowdari, B.V.R., Yoo, H. -I., Choi, G.M. and Lee, I.-H. (Eds.), World Scientific, Singapore, with ISBN: 978-981-238-932-9 (hardcover) and 978-981-270-258-6 (ebook) pp. 911-922. (*NON-SCOPUS Cited Publication*)
Available online at www.worldscibooks.com/engineering/5599.html
2. Role of Physics in sports
Shuchi Sharma and **Rajiv Kumar**
Proceedings of National Seminar on Physical Education: A Holistic Approach of Success, at GGSDS College, Haryana, Hoshiarpur, Punjab on February 4, 2012, Sharma, G.K., Kaur, H. and Kaushal, M.L. (Eds.), Takkar Printing Press, Jalandhar, with ISBN: 978-81-9212-383-7 pp. 225-237.
3. Electrical, Thermal and FTIR studies of nano-dispersed polymer gel electrolytes
Rajiv Kumar
Proceedings of an International Conference on Frontiers in Nano Science and Technology and their Applications, Emerging Paradigms in Nanotechnology, at Punjab University, Chandigarh, India from February 16-18, 2012, Sobti, R.C., Kaushik, A., Singh. B. and Tripathi, S.K. Sharma, A. (Eds.), Dorling Kindersley, New Delhi, India, licencees of Pearson Education in South Asia with ISBN: 978-81-317-8991-9 pp. 677-685.

4. Quality management in Higher Education: A Multidimensional concept
Rajiv Kumar
Proceedings of National Seminar on Changing Paradigm of Higher Education in Punjab, at Guru Nanak College, Killianwali, Muktsar, Punjab on March 10, 2011, Arora, M. and Bhushan, B. (Eds.), Lokgeet Parkashan, Sec. 34-A, Chandigarh with ISBN: 978-93-5017-909-3 pp. 100-110.
5. PMMA based Nano dispersed polymer gel electrolytes containing triflic acid for device applications
Rajiv Kumar
Proceedings of DAV National Congress of Science and Technology at DAV Institute of Engineering and Technology, Jalandhar, on May 30-31, 2013, Sangal, A.L., Singh, J., Saini, S. and Goel, S. (Eds.), Excel India Publishers, New Delhi with ISBN: 978-93-82062-38-7 pp. 2039-2049.
6. PEO based nano-composite proton conducting polymer gel electrolytes containing ammonium salt
Rajiv Kumar
Proceedings of National Seminar on Chemistry for a Better Tomorrow: Current Trends and Challenges at Mata Gujri College, Sri Fatehgarh Sahib, Punjab on March 8, 2014, Sidhu, J. S., and Kaur, K. (Eds.), Shaheed-E-Azam Printing Press Pvt. Ltd. Patiala with ISBN: 978-93-82815-09-9 pp. 83-93.
7. Comparison of composite proton conducting polymer gel electrolytes containing weak aromatic acids
Rajiv Kumar
Proceedings of National Conference on Advances in Material Sciences at Amritsar College of Engineering and Technology, Amritsar, Punjab on April 4-5, 2014, Sareen, A. (Ed.), with ISBN: 978-81-924867-2-7 pp. 228-236.
8. PEO based nano-composite gels with enhanced electrical and thermal properties
Rajiv Kumar
Proceedings of National Conference on Mechanical Engineering at PU SSG Regional Centre, Hoshiarpur, Punjab on November 7-8, 2014, Singh, H. P., Singh, J. and Dogra, M. (Eds.), with ISBN: 978-81-930353-0-6 pp. 169-173.

Seminar Organized:

- As Organizing Secretary in UGC sponsored National Seminar on “Economic Development in North-West Region of India: Challenges and Possibilities” held on February 9, 2013
- As Organizing Secretary in One Day State Level Seminar on “Autonomy in Education” organized by the College in collaboration with Shiksha Sanskriti Utthan Nyas, Punjab held on November 5, 2014
- As Coordinator in ICSSR sponsored National Seminar on “Sikh Theology & Dalit Identity in Punjab” held on March 7, 2015
- As Co-Convener in ICSSR sponsored One Day National Seminar on “Sustainable Rural Livelihood – Opportunities and Challenges” held on March 7, 2020

Research papers presented in Conferences/Seminars/Symposia etc.

S.N	Title of the paper presented	Title of Conference /Seminar etc.	Date(s) of the event	Organised by	Whether International/ National/State/Regional/ or College Level
1.	Effect of solvent on the conductivity behaviour of polymer gel electrolytes containing ammonium triflate	Modern Trends in Chemical Science and Technology (MTCST-2005)	15-17 October 2005	PG Department of Chemistry, D.A.V. College, Jalandhar, Punjab	National Level

2.	Fuel Cells: A New hope for the Millenium	Environmental Imbalances- Causes and Cure	8 th December 2007	Arya Kanya Mahavidyalya, Shahabad, Markanda, Haryana	Regional Level
3.	Electrochemical Characterization of Nano dispersed polymer gel electrolytes	International Seminar on Nano Materials (ISNM-2009)	28-29 October 2009	Department of Physics, KMV Jalandhar	International Level
4.	A Novel proton conducting polymer gel electrolytes for applications in fuel cells	International Conference on Environmental Challenges: A Global Concern (ICEC-2010)	15-16 October 2010	Faculty of Sciences, KMV Jalandhar	International Level
5.	Synthesis of thin films: Liquid Shampoo	National Conference on Materials Science Technology (NCMST-2010)	23 rd October, 2010	PG Department of Physics D.A.V. College, Jalandhar, Punjab	National Level
6.	Not an Inconvenient truth but an epic challenge	Global Warming and Biodiversity Conservation	27-28 January 2011	PG Department of Zoology, JC DAV College, Dasuya, Hoshiarpur, Punjab	State Level
7.	Nano-dispersed lithium conducting gel electrolytes for device applications	International Conference on Emerging Trends in Chemistry	11-12 February 2011	Department of Chemistry, Panjab University, Chandigarh	International Level
8.	Impact of Science on Social Life of Per-Independent India from 1900 to 1950 A.D.	National Seminar on the History of Social Change in India from 1900 to 1950 A.D.	3 rd March 2011	Department of History, G.G.D.S.D. College, Haryana, Hoshiarpur, Punjab	National Level
9.	Ionic liquid based polymer electrolytes for electrochemical devices	International Conference on Innovations in Chemistry for Sustainable Development (ICSD-11)	1-3 December 2011	Department of Chemistry, Panjab University, Chandigarh & Indian Chemical Society	International Level
10.	Role of Physics in Sports	National Level Seminar on Physical Education: A Holistic Approach of Sccess	4 February 2012	Department of Physical Education, G.G.D.S.D. College, Haryana, Hoshiarpur, Punjab	National Level
11.	Electrical, thermal and FTIR studies of nano-dispersed polymer gel electrolytes	International Conference on Frontiers in Nano Science, Nanotechnology and their Applications (NanoSciTech-2012)	16-18 Feb. 2012	University Institute of Chemical Engineering and Technology (UICET), Panjab University, Chandigarh	International Level
12.	Nanosized filler induced changes in electrical and stability properties of polymer electrolyte containing ionic liquid (DMOImTf)	National Level Seminar on "The Use of Ionic Liquids in Chemistry"	25 th Feb. 2012	Department of Chemistry, S.G.G.S. Khalsa College, Mahilpur, Hoshiarpur	National Level
13.	Effect of SiO ₂ on conductivity performance of nano-dispersed polymer gel electrolytes for proton batteries	National Conference on Materials Science: Applications in Energy & Environment (NCMS-2012)	2-3 March 2012	Post-Graduate Departments of Physics & Chemistry, (DST-FIST supported Departments) D.A.V. College, Jalandhar	National Level
14.	Introduction of Physics	College Level Seminar on Introduction of Physics	22 March 2012	G.G.D.S.D. College, Haryana, Hoshiarpur, Punjab	College Level
15.	Effect of nano particles (SiO ₂) on conductivity and mechanical properties of polymer gel	National Symposium on Nanobiotechnology (NSNT-2012)	1-2 June 2012	Indian Institute of Technology (IIT), Mandi, Himachal Pradesh	National Level

	electrolytes containing LiCF_3SO_3				
16.	Nano-filler Al_2O_3 doped polymer gel electrolytes containing triflic acid for device applications	International Conference “Chemical Constellation Cheminar – 2012” on the theme of Chemistry for Sustainable Development and Innovations (CCC-2012)	10-12 September 2012	National Institute of Technology (NIT), Jalandhar (Punjab)	International Level
17.	Study of ion conducting behaviour of PVdF-HFP based plasticized nanocomposite polymer electrolytes containing HCF_3SO_3	Polymers on the Frontiers of Science and Technology (APA-2013)	21-23 February 2013	Asian Polymer Association, European Polymer Federation and UICET, Panjab University, Chandigarh	International Level
18.	PMMA based nano dispersed polymer gel electrolytes containing triflic acid	National Congress on Science and Technology	30-31 May 2013	D.A.V. Institute of Engineering and Technology, Jalandhar, Punjab	National Level
19.	Effect of nano particles (SiO_2) on conductivity and mechanical properties of polymer gel electrolytes containing LiCF_3SO_3	National Seminar on Innovative and Sustainable Engineering	11 November 2013	UICET, Panjab University, Chandigarh	National Level
20.	PEO based nano-composite proton conducting polymer gel electrolytes containing ammonium salt	National Seminar on Chemistry for a Better Tomorrow: Current Trends and Challenges	8 March 2014	Mata Gujri College Sri Fatehgarh Sahib, Punjab	National Level
21.	Comparison of composite proton conducting polymer gel electrolytes containing weak aromatic acids	National Conference on Advances in Material Sciences	4-5 April 2014	Amritsar College of Engineering & Technology, Anritsar	National Level
22.	PEO based nano-composite gels with enhanced electrical and thermal properties	National Conference on Mechanical Engineering	7-8 November 2014	PU SSG Regional Centre Hoshiarpur, Punjab	National Level
23.	Study of electrical and thermal properties of alumina based nano-composite gels for fuel cell applications	New Vistas in Chemical Sciences	15 th November 2014	DAV College, Hoshiarpur Punjab	National Level
24.	Enhanced dissociation by dispersing nano-particles in proton conducting polymer gel electrolytes	National Conference on Emerging Challenges in Physics and Nano-Science	4 th March 2015	JC DAV College Dasuya, Punjab	National Level
25.	Characterization of proton conducting polymer electrolytes based on 2,3-dimethyl-1-octylimidazolium triflate (DMOImTf) ionic liquid	International Conference on Science, Technology and Management	27 th September 2015	Delhi University, New Delhi	International Level
26.	Nanotechnology: Emerging carrier in drug delivery system	National Conference on Emerging Trends in Life Sciences	12 th March 2016	JC DAV College, Dasuya, Hoshiarpur, Punjab	National Level
27.	Study of alumina doped PEO based nano-composite polymer gel electrolytes	2 nd International Conference on Harnessing Engineering, Technology & Innovation for sustainable Growth (HETIS 2016)”	30 th Sept. – 1 st Oct. 2016	Dr. S.S. Bhatnagar University Institute of Chemical Engineering & Technology, Panjab University, Chandigarh	International Level
28.	Electrical	National Conference on	25-26	S.G.G.S. Khalsa College,	National Level

	Characterization of PMMA based nano-composite polymer gel electrolytes	Research Trends in Physics and Electronics (NPE-2016)	November 2016	Mahilpur, Punjab in collaboration with Indian Society for Radiation Physics & Nuclear Track Society of India	
29.	Conductivity, pH, viscosity and thermal studies of nano-composite polymer gel electrolytes containing triflic acid	National Conference on Recent Trends in Experimental and Theoretical Research	23-24 November 2017	Sri Sai University, Palampur (H.P.) sponsored by Council of Scientific and Industrial Research (CSIR), New Delhi	National Level
30.	Conductivity, thermal and Rheological studies of polymer electrolytes	National Conference on Emerging Trends in Scientific Techniques	15 th February 2018	DAV College, Hoshiarpur sponsored by College Development Council, Panjab University, Chandigarh	National Level
31.	Electrical and rheological studies of nano-dispersed gel polymer electrolytes	National Seminar on Interface between Basic Science Research, Modern Technology and Environmental Sustainability	3 rd May 2019	Sai School of Applied Sciences, Sri Sai University, Palampur	National Level
32.	FTIR, thermal and rheological studies of xanthan gum based gel electrolytes: Effect of heat treatment on stability of gel electrolytes	22 nd International Conference on Solid State Ionics (SSI-22)	16-21 June 2019	Alpensia Resort, PyeongChang, South Korea	International Level

Participation in Conferences/Seminars/Workshops/Symposia/Webinars:

S.N.	Title of Conference /Seminar etc.	Date(s) of the event	Place of Event	Organised by	Sponsored by	Whether International/ National/State/Regional/ or College Level
1.	XII National Symposium on Ultrasonics (NSU)	3-5 Nov. 2003 (3-days)	Amritsar	Department of Applied Physics, Guru Nanak Dev University, Amritsar	Guru Nanak Dev University, Amritsar	National Level
2.	51 st BRNS-IANCAS National workshop on Radiochemistry and Applications of Radioisotopes	10-17 November 2003 (8-days)	Amritsar	Department of Physics, GNDU, Amritsar & Indian Association of Nuclear Chemists and Allied Scientists (IANCAS)	Board of Research in Nuclear Sciences and Department of Atomic Energy, Govt. of India (BRNS, DAE)	National Level
3.	International Conference on Electroactive Polymers: Materials and Devices (ICEP-2004)	1-5 November, 2004 (5-days)	Dalhousie (H.P)	Materials Research Society of India (MRSI)	Materials Research Society of India (MRSI)	International Level
4.	49 th DAE Solid State Physics Symposium	26-30 Dec. 2004 (5-days)	Amritsar	Department of Physics, Guru Nanak Dev University, Amritsar	Board of Research in Nuclear Sciences and DAE, Govt. of India	National Level
5.	National Conference	23-24	Jalandh	Hans Raj Mahila	National Assessment and	National Level

	on Total Quality Management in Higher Education – A Journey Towards Excellence	December 2005 (2-days)	ar	Maha Vidyalaya, Jalandhar, Punjab	Accreditation Council (NAAC), Bangalore	
6.	“Punjabi Sabhyachar De Badalde Pripekh”	7 th March 2011 (1-day)	Haryana (Hoshiarpur)	P.G. Department of Punjabi, G.G.D.S.D. College, Haryana (Hoshiarpur)	University Grants Commission, New Delhi	State Level
7.	Economic Development in North-West Region of India: Challenges and Possibilities	9 February 2013 (1-day)	Haryana (Hoshiarpur)	Department of Economics, G.G.D.S.D. College, Haryana (Hoshiarpur)	University Grants Commission, New Delhi	National Level
8.	Punjabi Novel: Dasha Te Disha	18 February 2013	Haryana (Hoshiarpur)	P.G. Department of Punjabi, G.G.D.S.D. College, Haryana (Hoshiarpur)	College Development Council, Panjab University, Chandigarh	State Level
9.	State Level Seminar on Autonomy in Education	5 November 2014	Haryana (Hoshiarpur)	GGDSD College, Haryana, Hoshiarpur, Punjab	Shiksha Sanskriti Uthhan Nyas, Punjab	State Level
10.	National Level Workshop on Autonomy in Education	20-21 August 2016	Haryana (Hoshiarpur)	GGDSD College, Haryana, Hoshiarpur, Punjab	Shiksha Sanskriti Uthhan Nyas, Punjab	National Level
11.	NAAC sponsored National Level Seminar on Academic & Administrative Audit: A Pre-Requisite for Quality Enhancement	30-31 March 2017	Hoshiarpur	D.A.V. College, Hoshiarpur, Punjab	IQAC, DAV College, Haryana, Hoshiarpur	National Level
12.	One-day workshop on the Role of Local Chapters (National Programme on Technology Enhanced Learning)	18 January 2018	Dasuya	JC DAV College, Dasuya	Indian Institute of Technology, Kanpur	National Level
13.	One-day National Seminar on Drug Eradication and Role of Police	25 January 2018	Haryana	GGDSD College, Haryana (Hsp.)	GGDSD College, Haryana (Hsp.)	National Level
14.	Science Academies’ Lecture Workshop on “Quantum Chemistry and Spectroscopy”	September 28-29, 2018	Mahilpur	PG Department of Chemistry, SGGS Khalsa College, Mahilpur, Punjab	Indian Academy of Science (IAS), Bangalore, Indian National Science Academy (INSA), New Delhi and The National Academy of Sciences (NAS), Allahabad.	National Level
15.	National Workshop on “Radiation Detection and Measurement” (RDM-2019)	March 12-13, 2019	Hamirpur	School of Basic and Applied Sciences, Career Point University, Hamirpur	Department of Atomic Energy – Board of Research in Nuclear Sciences (DAE – BRNS) Indian Association of Nuclear Chemists and Allied Scientists (IANCAS)	National Level

16.	National Webinar on “Materials Science, Technology and Society” (MSTS-2020)	May 8-9, 2020	New Delhi	Jawahar Lal Nehru University, New Delhi	School of Physical Sciences	National Level
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REVIEWER

Papers Reviewed (Publons) = 385

- Journal of Electroanalytical Chemistry (Elsevier Science BV)
- Solid State Ionics (Elsevier Science BV)
- Ionics (Springer)
- Journal of Applied Polymer Science (Wiley VCH)
- Advances in Polymer Technology (Wiley VCH)
- Journal of Polymer Engineering (De Gruyter)
- Journal of Thermoplastic Composite Materials (Sage)
- Polymer Engineering and Science (Wiley)
- Phase Transitions (Taylor & Francis)
- Suranaree Journal of Science and Technology
- Surface Innovations (ICE Publishers)
- Engineering and Applied Science Research (Khon Kaen University Thailand),
- Polymer Composites Reinforced with Natural Fibers: Recent Advances
- Current Smart Materials (Bentham Science)
- Journal on Materials Science (i-Manager’s Publications)
- Journal on Future Engineering and Technology (i-Manager’s Publications)
- Material Science Research India (Oriental Scientific Publishing Company)
- International Journal of Engineering, Science and Technology (African Journal)
- IOP Proceedings (Web of Science, Scopus indexed) of an International Conference on New Energy and Future Energy System, Energy Engineering and Environment Protection etc.

MEMBER, TECHNICAL PROGRAMME COMMITTEES

- 8th Spring World Conference on Engineering and Technology (SCET 2019) on 22-24 April 2019:
[Spring International Conference on Chemical Engineering \(CEN-S\)](#)
[Spring International Conference on Material Sciences and Technology \(MST-S\)](#)
- 3rd International Conference on Applied Mechanics, Electronic and Mechatronics Engineering (AMEME 2018) on November 25-26, 2018
- International Conference on Computer, Electronic and Mechanical Engineering (CEME 2018) on July 22-23, 2018
- 4th International Conference on Green Materials, and Environmental Engineering (GMEE 2018) on October 28-29, 2018
- 6th International Conference on Metallurgy, Technology and Materials (ICMTM 2018) on May 30-31, 2018
- International Conference on Novel Functional Materials (ICNFM 2018) on September 16-18, 2018
- International Conference on Electrical, Control and Mechanical Engineering (ICECME 2018) to be held on April 22-23, 2018
- 7th Global Conference on Materials Science and Engineering (ICMSE 2018) on November 1-4, 2018
- 5th International Conference on Machine Design and Manufacturing Engineering (ICDME 2018) on January 22-23, 2018
- International Conference on Mechanical Engineering and Materials (ICMEM 2018) on June 22-24, 2018
- 6th Annual International Conference on Material Science and Engineering (ICMSE 2018) on June 22-24, 2018

- International Conference on Power, Energy and Environmental Engineering (ICPEEE 2018)
- 4th Annual International Workshop on Materials Science and Engineering (IWMSE 2018) on May 18-20, 2018
- 7th Spring World Conference on Engineering and Technology (SCET 2018) on 23-25 April 2018:
[Spring International Conference on Chemical Engineering \(CEN-S\)](#)
[Spring International Conference on Material Sciences and Technology \(MST-S\)](#)
- 2nd International Conference on Innovative Material Science and Technology (IMST 2017) on October 20-22, 2017
- 5th Annual International Conference on Material Science and Engineering (ICMSE 2017) on October 20-22, 2017
- 5th Annual International Conference on Material Science and Environmental Engineering (ICMSEE 2017) December 15-17, 2017
- International Conference on Energy Engineering and Environmental Protection (ICEEEP 2017) December 15-17, 2017

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Researcher ID: <http://www.researcherid.com/rid/B-6563-2016>

SCOPUS ID: <http://www.scopus.com/authid/detail.url?authorId=57018404000>

Poblons ID: <https://publons.com/author/528427/dr-rajiv-kumar#profile>

Google Scholar: <https://scholar.google.co.in/citations?hl=en&user=PbYzSooAAAAJ>

RESEARCH CREDENTIALS

Citation Index in International Databases:

In Web of Science = 310

In Scopus = 314

In Google Scholar = 497

h-Index in International Databases:

In Web of Science = 10

In Scopus = 10

In Google Scholar = 12

i10-Index in International Databases:

In Web of Science = 10

In Scopus = 10

In Google Scholar = 15