




Title	Prof./Dr./Mr.	First Name	Rama	Last Name	Kant	Photograph
Designation		Professor				
Address		Department of Chemistry, University of Delhi, Delhi-110007				
Phone No Office		27666646 x 188				
Residence		A-4/202, Kingsbury Tower, TDI city, Nangal Kalan, Sonipat, Haryana-131030				
Mobile		-				
Email		rkant@chemistry.du.ac.in				
Web-Page		http://people.du.ac.in/~rkant				
Educational Qualifications						
Degree		Institution			Year	
Ph.D.		Indian Institute of Science, Bangalore			1993	
M.Phil. / M.Tech.		-			-	
PG		M.Sc. (Chemistry), University of Delhi			1986	
UG		B.Sc. (Chemistry Hons), University of Delhi			1983	
Any other qualification		-			-	
Career Profile						
University of Delhi		Professor		2009	Teaching & Research	
University of Delhi		Associate Professor/Reader		2003-2009	Teaching & Research	
Isermann Department of Chemical and Biological Engineering, Rensselaer Polytechnic Institute, Troy, U.S.A		Post-doctoral Fellow		2002-2003	Research in Materials Science group of <i>Prof. Sanat Kumar</i>	
Dept. of Materials Science and Engineering, Pennsylvania State University, U.S.A.		Post-doctoral Fellow		2001-2002	Research in Penn State Polymer Physics Group of <i>Prof. Sanat Kumar</i> and <i>Prof. Ralph H. Colby</i>	
Theoretical Polymer Physics, Albert-Ludwigs University, Freiburg, Germany.		Post-doctoral Fellow		1999 . 2001	Research in Theoretical Polymer Physics Group of <i>Prof. Dr. Alexander Blumen</i>	
IRC in Polymer Science & Technology, University of Leeds, Leeds.		Post-doctoral Fellow		1997 - 1998	Research in Group of Prof. T. C. B. McLeish (FRS)	
College de France, Physique de la Matiere Condensee, Paris.		Post-doctoral Fellow		1995 - 1996	Research in Group of Prof. P. -G. de Gennes (Nobel Laureate)	
Administrative Assignments						
<p>Member of Selection Committee for the Faculty Positions in Various Universities and Institutions Member of Various Selection Committees of CSIR Member of Sectional Committee (Chemistry) of Indian Academy of Sciences, Bengaluru Member Governing Body and Treasurer of Kalindi College, 2017-18, University of Delhi Member of Various Committees of the Department of Chemistry, University of Delhi Coordinator of KVPY interviews 2012-2020</p>						

Areas of Interest / Specialization
<ul style="list-style-type: none">• Theoretical, Computational and Experimental Physical Chemistry• Complex Systems in Electrochemistry and Materials : Fundamentals and Applied Aspects• Fundamental Electrochemistry of Disordered Systems: Rough, Porous and Heterogeneous Electrodes• Dynamics of Macromolecules with Complex Topologies and tethered nanoparticles• Electrochemical Sensors - Chiral Selective Molecularly Imprinted Electrodes• Phenomenological Simulations of Li ion Batteries, Supercapacitors and Electrochemical Sensors• Nanoelectrochemistry, Fractals and Wetting
Subjects Taught
<p>M.Sc.: Statistical Mechanics & Thermodynamics (203A and 203B) Quantum Chemistry & Mathematical Methods for Chemistry(103A) Advanced Electrochemistry (4302A and 4302B) Nonequilibrium Thermodynamics (304A and 304B) Experimental Physical Chemistry and Projects</p> <p>Ph.D. and M.Phil.: Contemporary Electrochemistry</p>
Research Guidance
<p><i>Supervision of awarded Doctoral Thesis</i></p> <p>Rajiv Kumar Singh, 2008, Synthesis, Characterization and Charge Transport of Poly(3-hexylthiophene) and its Composites with Functionalized Single Walled Carbon Nanotubes for Photovoltaic Application, University of Delhi.</p> <p>Shailendra Kumar Jha, 2009, Mathematical and Numerical Modeling of Redox Reaction and Fractally Rough Electrode, University of Delhi.</p> <p>Shweta Bhandari, 2010, Electrochromic Poly-3,4-(ethylenedioxythiophene) Thin Films: Syntheses and Characterization, University of Delhi.</p> <p>Rajesh Kumar, 2011, Theoretical Models for Diffusion, Reaction, Adsorption Impedance of Rough Electrodes, University of Delhi.</p> <p>Md. Merajul Islam, 2012, Theoretical Models for Absorbance Spectroelectrochemistry of the Rough Electrode/Electrolyte Interfaces, University of Delhi.</p> <p>Maibam Birla Singh, 2013, Mathematical Modeling of Electric Double Layer Phenomena in Nanostructured and Rough Interfaces, University of Delhi.</p> <p>Shruti Srivastav, 2014, Modeling for Chronoamperometry, Chronocoulometry, Potential and Light Modulated Admittance for Stochastically Rough Electrode in Moderately Supported Conditions, University of Delhi.</p>

M. Sarathbabu, 2016

Electrochemical Studies on Rough Glassy Carbon Electrodes in Room Temperature Ionic Liquids: Experimental Validation of Theories

Shweta Dhillon, 2016

Spatially Resolved Electrochemical Impedance Spectroscopy and Chronoamperometry on Disordered Electrodes: Theory, Experiment and CV - SEM Method

Parveen, 2017

Theories of Pulse Voltammetries on Rough Electrodes: Reversible Charge Transfers and Coupled Catalytic Reaction

Ratnesh Kumar, 2018

Electrochemical Investigation of Power Spectrum Based Theories on Rough Pt Electrodes: E, EC', EE and EDL Response

Divya Ghai, 2018

Theoretical Models for the Dynamics of Star, Dendrimer and Comb-of-Comb Polymers in Random and Shear Flows

Niladri Roy Chowdhury, 2018

Roughness Power Spectrum Based Theories for Chronopotentiometry, Impedance and Intensity Modulated Photocurrent Spectroscopy: E, EC and E_{ad}

Jasmin Kaur, 2019

Theoretical Models for Curved Metal Nanoelectrochemical Systems

Supervision of Doctoral Thesis, under progress

Neha Goswami, Theories for Electrochemical Response on Heterogeneous Electrodes
(Registration- February, 2015)

Neha Kamboj

Theoretical Models for Transport in Soft Materials
(Registration- January, 2016)

Manish Kumar Yadav

Theoretical Models for Dynamically Rough and Heterogeneous Electrodes
(Registration - December 2016)

Gaurav Kumar Mishra

Theoretical Models for Deadsorption Dynamics of Branched Polymers
(Registration - December 2016)

Himanshi Goel

Theoretical Models for Semiconductor/Electrolyte Interfaces
(Registration: November 2017)

Purna

Electrochemical Impedance Spectroscopy of Molecularly Imprinted Enantioselective Electrodes
(Registration: March 2020)

Research Associates

Dr. Chanchal Gupta (Oct 2018-Sept 2021), DSK Fellowship
Dr. Neetu Sharma (March 2014-Sept 2016), DST SERB
Dr. Indu Panday (April 2014- March 2015), DSK Fellowship
Dr. Maibam Birla Singh (Oct 2013- Jan 2014), DST SERB

Supervision of Awarded M.Phil Dissertations

Vivek Kumar Yadav, 2005, Role of Self-affine Fractal Roughness in Reversible Charge Transfer Admittance, University of Delhi.

Abhishek Sangal, 2007, Diffusion Limited Current Density Distribution on Weierstrass-Mandelbrot Random Surface, University of Delhi.

Short-term Projects(2016-19)

Swareema Jain (01/05/2019-31/05/2019)
Summer Research Intern

Rishu Chhabra (01/06/2017-26/07/2017)
IASc-INSA-NASI Summer Research Fellow

Manisha Jain (07/06/2017-22/07/2017)
Summer Research Intern

Ritika Kuba
IASc-INSA-NASI Summer Research Fellow

Publications Profile (up to June 2017)

h-index 30, Total citations > 2400

R. Kant, J. Kaur and G. K. Mishra, **2020**, Theory for Influence of Metal Electrolyte Interface on Heterogeneous Electron Transfer Rate Constant: Fractional Electron Transferred Transition State Approach, *J. Phys. Chem. C*, *124*, 2273-2288 (+Supporting Information). (IF: 4.309, Citations 0)

Neha, P. Biswas and **R. Kant**, **2019**, Theory for the Dynamics of Polymer Grafted Nanoparticle in Solution, *J. Phys. Chem. C*, *123*, 30657-30665. (IF: 4.309, Citations 0)

M. Kumar, G. K. Mishra and **R. Kant**, **2019**, Theory for Admittance Voltammetry of Reversible Two Step Electron Transfer Process with DC Bias at Rough and Fractal Electrode, *Electrochimica Acta*, *327*, 135024. (IF: 5.383, Citations 0)

Neha, D. Katyal and **R. Kant**, **2019**, Anomalous Stretching Dynamics of Tagged Monomer of Branched Polymer in Layered Random Flows, *J. Stat. Phys., Journal of Statistical Physics* *177*, 936-959. (IF: 1.202, Citations 0)

S. Dhillon, N. Goswami and **R. Kant**, **2019**, Theory for local EIS at rough electrode under diffusion controlled charge transfer: Onset of whiskers and dendrites, *J. Electroanalytical Chemistry*, *840*, 193-207. (IF: 3.012, Citations 0)

A. Kumari, A. Banerjee, S. Saxena, S. A. Khan, I. Sulaniya, V. R. Satsangi, R. Shrivastava, **R. Kant** and S. Dass, **2019**, Morphological influence of electrode/electrolyte interface towards augmenting the efficiency of photoelectrochemical water splitting - A case study on ZnO, *J. Power Sources*, *432*, 38-47.

(IF: 7.467, Citations 0)

R. Kant, N. R. Chowdhury and S. Srivastav, **2019**, Theory for IMPS on Rough and Finite Fractal Dye Sensitized Solar Cell, *J. Electrochem. Soc.*, 5, H3047-H3064.

(IF: 3.662, Citations 1)

N. Goswami and **R. Kant**, **2019**, Theory for impedance response of grain and grain boundary in solid state electrolyte, *J. Electroanalytical Chemistry*, 835, 227-238.

(IF: 3.012, Citations 2)

N. R. Chowdhury and **R. Kant**, **2018**, Theory of Generalized Gerischer Impedance for Quasi-reversible Charge Transfer at Rough and Finite Fractal Electrodes, *Electrochimica Acta*, 281, 445-458..

(IF: 5.383, Citations 2)

J. Kaur and **R. Kant**, **2018**, Model of Local Work Function and PZC for Molecular Self Assembly over Nanostructured Metal Electrode. *J. Physical Chemistry C*, 122, 911-918.

(IF: 4.309, Citations 1)

J. Kaur and **R. Kant**, **2017**, Theory of Work Function and Potential of Zero Charge for Metal Nanostructured and Rough Electrodes. *J. Physical Chemistry C*, 121, 13059-13069. DOI: 10.1021/acs.jpcc.7b03595.

(IF: 4.309, Citations 4)

R. Kant and M. B. Singh, **2017**, Theory of the Electrochemical Impedance of Mesostructured Electrodes Embedded with Heterogeneous Micropores, *J. Physical Chemistry C*, 121, 7164-7174.

(IF: 4.309, Citations 14)

N. Sharma, N. Goswami, **R. Kant**, **2017**, Experimental Corroboration of the Theory of Chronoamperometry at High Roughness Electrode for Reversible Charge Transfer, *J. Electroanalytical Chemistry*, 788, 83-90.

(IF: 3.012, Citations 4)

Komal Saksena, A. Shrivastava and **R. Kant**, **2017**, Chiral Analysis of Ascorbic Acid in Bovine Serum using Ultrathin Molecular Imprinted Polyaniline/Graphite Electrode, *J. Electroanalytical Chemistry*, 795, 103-109.

(IF: 3.012, Citations 11)

D. Katyal and **R. Kant**, **2017**, Dynamics of Branched Polymers in Random Layered Flows with Intramolecular Hydrodynamic Coupling: Star and Dendrimer, *Macromolecular Theory and Simulations*, 1700009(1-15).

(IF: 2.294, Citations 1)

S. Dhillon and **R. Kant**, **2017**, Theory for Electrochemical Impedance Spectroscopy of Heterogeneous Electrode with Distributed Capacitance and Charge Transfer Resistance, *J. Chemical Science*, 129, 1277-1292.

(IF: 1.235, Citations 16)

I. Pandey and **R. Kant**, **2016**, Electrochemical impedance based chiral analysis of anti-ascorbic drug: L-ascorbic acid and D-ascorbic acid using C-dots decorated conductive polymer nano-composite electrode, *Biosensors and Bioelectronics*, 77, 715-724.

(IF 9.518, Citations 37)

Parveen and **R. Kant**, **2016**, General Theory for Pulse Voltammetric Techniques at Rough Electrodes: Multistep Reversible Charge Transfer Mechanism, *Electrochimica Acta*, 220, 475-485.

(IF: 5.383, Citations 2)

Parveen and **R. Kant**, **2016**, General Theory for Pulse Voltammetric Techniques on Rough and Finite Fractal Electrodes for Reversible Redox System with Unequal Diffusivities, *Electrochimica Acta* 194, 283-

291. (IF 5.383, Citations 9)

Parveen and **R. Kant**, 2016, Theory for Cyclic Staircase Voltammetry of Two Step Charge Transfer Mechanism at Rough Electrodes, *J. Physical Chemistry C*, 120, 4306-4321.
(IF 4.309, Citations 9)

R. Kumar, S. Dhillon and **R. Kant**, 2016, Influence of viscosity on chronoamperometry of reversible redox system on rough and nanoparticles deposited Pt electrode: Aqueous/glycerol and RTIL medium, *J. Electroanalytical Chemistry*, 780, 337-354.
(IF: 3.012, Citations 11)

D. Katyal and **R. Kant**, 2016, Dynamics of Comb-of-Comb Network Polymers in Random Layered Flows, *Physical Review E*, 94, 062503.
(IF: 2.366, Citations 3)

R. Kant, S. Dhillon and J. Kaur, 2016, Electrode Disorder, Electrochemical Processes and Governing Length Scales (Invited Review), *J. Indian Institute of Science*, 96, 365-382. (Special issue on Materials Electrochemistry, Electrochemical Processes and Systems)
(IF: 0.857, Citations 5)

J. Kaur and **R. Kant**, 2015, Curvature-Induced Anomalous Enhancement in the Work Function of Nanostructures, *J. Physical Chemistry Letter*, 6, 2870-2874.
(IF 8.709, Citations 9)

R. Kant and M. B. Singh, 2015, Generalization of Randles-Ershler Admittance for Arbitrary Topography Electrode: Application to Random Finite Fractal Roughness, *Electrochimica Acta*, 163, 310-322.
(IF 5.116, Citations 18)

S. Srivastav and **R. Kant**, 2015, Influence of uncompensated solution resistance on diffusion limited chronocoulometric response at rough electrode, *Electrochimica Acta*, 180, 208-217.
(IF 5.383, Citations 9)

R. Kant, S. Dhillon and R. Kumar, 2015, Anomalous Localization of Electrochemical Activity in Reversible Charge Transfer at Weierstrass Fractal Electrode: Local Electrochemical Impedance Spectroscopy, *J. Physical Chemistry B*, ASAP (Biman Bagchi Festschrift)
(IF 3.146, Citations 12)

D. Katyal and **R. Kant**, 2015, Dynamics of Generalized Gaussian Polymeric Structures in Random Layered Flows, *Physical Review E*, 91, 042602 (13 pages).
(IF 2.366, Citations 7)

S. Dhillon and **R. Kant**, 2014, Theory of Double Potential Step Chronoamperometry at Rough Electrodes: Reversible Redox Reaction and Ohmic Effects, *Electrochimica Acta*, 129, 245-258.
(IF 5.116, Citations 19)

M. B. Singh and **R. Kant**, 2014, Theory of Anomalous Dynamics of Electric Double Layer at Heterogeneous and Rough Electrodes, *J. Physical Chemistry C*, 118, 5122-5133.
(IF 4.309, Citations 26)

M. B. Singh and **R. Kant**, 2014, Theory of Anomalous Electric Double Layer Dynamics in Ionic Liquids, *J. Physical Chemistry C*, 118, 8766-8774.
(IF 4.309, Citations 23)

Parveen and **R. Kant**, 2014, Theory for Anomalous Response in Cyclic Staircase Voltammetry: Electrode Roughness and Unequal Diffusivities, *J. Physical Chemistry C*, 118, 26599-26612.
(IF 4.309, Citations 18)

Md. M. Islam and **R. Kant, 2014**, Theory of single potential step absorbance transient at an optically transparent rough and finite fractal electrode: EC' mechanism, *J. Electroanalytical Chemistry*, 713, 82-90.
(IF 3.012, Citations 9)

S. Dhillon and **R. Kant, 2014**, Experimental Validation of Theory of Chronoamperometry on Nanoparticles Deposited Gold Electrodes: Topography Characterization through Hybrid CV and SEM method, *Electroanalysis*, 26, 2350-2357.
(IF 2.851, Citations 12)

R. Kant and M. B. Singh, **2014**, Anomalous response of nanostructured electrochemical capacitors: Theoretical aspects, in **conference proceeding** of *Eleventh ISEAC International Discussion Meet on Electrochemistry and its Applications*, Eds. S.K.Aggarwal et al; *ISEAC-2014*, pp 3-6.

S. Dhillon and **R. Kant, 2014**, Experimental validation of theory of chronoamperometry on rough gold electrodes: Topography characterization through hybrid electrochemical and SEM methods, in **conference proceeding** of *Eleventh ISEAC International Discussion Meet on Electrochemistry and its Applications*, Eds.S.K.Aggarwal et al; *ISEAC-2014*, pp 91-92.

N. R. Chowdhury, S. Dhillon and **R. Kant, 2014**, Influence of electrode roughness on electroanalysis with single current step chronopotentiometry, in **conference proceeding** of *Eleventh ISEAC International Discussion Meet on Electrochemistry and its Applications*, Eds. S.K.Aggarwal et al; *ISEAC-2014*, pp 117-118.

Parveen and **R. Kant, 2013**, Theory for Staircase Voltammetry and Linear Scan Voltammetry on Fractal Electrodes: Emergence of Anomalous Randles- Sevcik Behavior, *Electrochimica Acta*, 111, 223-233.
(IF 5.383, Citations 21)

Rajesh Kumar and **R. Kant, 2013**, Admittance of Diffusion Limited Adsorption Coupled to Reversible Charge Transfer on Rough and Finite Fractal Electrodes, *Electrochimica Acta*, 95, 275-287.
(IF 5.383, Citations 22)

R. Kant, M. Sarathbabu and S. Srivastav, **2013**, Effect of Uncompensated Solution Resistance on Quasireversible Charge Transfer at Rough and Finite Fractal Electrode, *Electrochimica Acta*, 95, 237-245.
(IF 5.383, Citations 19)

S. Srivastav, S. Dhillon, R. Kumar, **R. Kant, 2013**, Experimental Validation of Roughness Power Spectrum Based Theory of Anomalous Cottrell Response, *J. Physical Chemistry C*, 117, 8594-8603.
(IF 4.309, Citations 24)

S. Dhillon and **R. Kant, 2013**, Quantitative roughness characterization and 3D reconstruction of electrode surface using Cyclic Voltammetry and SEM image, *Applied Surface Science*, (2013), 282, 105-114.
(IF 4.439, Citations 39)

M. Birla Singh and **R. Kant, 2013**, Debye-Falkenhagen Dynamics of Electric Double Layer in Presence of Electrode Heterogeneities, *J. Electroanalytical Chemistry*, 704, 197-207.
(IF 3.012, Citations 31)

M. Birla Singh and **R. Kant, 2013**, Shape and Size Dependent Electronic Capacitance in Nanostructured Materials, *Proceedings of the Royal Society A*, 469, 20130163. doi:10.1098/rspa.2013.0163.
(IF 2.192, Citations 14)

R. Kant and M. Birla Singh, **2013**, Generalization of Gouy-Chapman-Stern model of electric double layer for a morphologically complex electrode: Deterministic and stochastic morphology, *Physical Review E*, 88,

052303 (1-16).

(IF 2.366, Citations 30)

R. Kant, J. Kaur and M. B. Singh, **2013**, Nanoelectrochemistry in India, Chapter 10 in **Specialist Periodical Reports: Electrochemistry**, 12, 336-378, Royal Society of Chemistry, Jay D Wadhawan (Editor), Richard G. Compton (Editor) DOI: 10.1039/9781849737333-00336

R. Kant and R. Kumar **2013**, EIS of Disordered Electrodes: Theoretical Aspects, in *Proceeding of Fifth ISEAC Triennial International Conference on Advances and Recent Trends in Electrochemistry*, Eds. S.K.Aggarwal et al; *ELAC-2013*, pp 118-123, *Ramoji Film City, Hyderabad*, Jan 16-20, 2013.

S. Dhillon and **R. Kant**, **2013**, *Theory of double potential step chronoamperometry at rough and finite fractal electrode*, in *Proceeding of Fifth ISEAC Triennial International Conference on Advances and Recent Trends in Electrochemistry*, Eds. S.K.Aggarwal et al; *ELAC-2013*, pp 321-324, *Ramoji Film City, Hyderabad*, Jan 16-20, 2013.

S. Srivastav, **R. Kant**, **2013**, *Theory of potential dependant EIS in moderately supported medium at rough and finite fractal electrode*, in *Proceeding of Fifth ISEAC Triennial International Conference on Advances and Recent Trends in Electrochemistry*, Eds. S.K.Aggarwal et al; *ELAC-2013*, pp 325-328, *Ramoji Film City, Hyderabad*, Jan 16-20, 2013.

R. Kumar, **R. Kant**, **2011**, Theory of Quasi-Reversible Charge Transfer Admittance on Finite Self-Affine Fractal Electrode, *Electrochimica Acta*, 56, 7112-7123.

(IF 5.383, Citations 18)

Md. M. Islam, **R. Kant**, **2011**, Generalization of the Anson Equation for Fractal and Nonfractal Rough Electrodes, *Electrochimica Acta*, 56, 4467- 4474.

(IF 5.383, Citations 30)

S. Srivastav, **R. Kant**, **2011**, Anomalous Warburg Impedance: Influence of Uncompensated Solution Resistance, *J. Physical Chemistry C*, 115, 12232-12242.

(IF 4.309, Citations 43)

S. Bhandari, M. Deepa, S. Pahal, A. G. Joshi, A. K. Srivastava, **R. Kant**, **2010**, A Dual Electrochrome of Poly-(3,4-Ethylenedioxythiophene) Doped by N,N'-Bis(3-sulfonatopropyl)-4-4'-bipyridinium-Redox Chemistry and Electrochromism in Flexible Devices, *ChemSusChem*, 3, 97-105.

(IF 7.411, Citations 34)

R. K. Singh, J. Kumar, A. Kumar, V. Kumar, **R. Kant**, R. Singh, **2010**, Poly(3-hexylthiophene): Functionalized single walled carbon nanotubes: (6,6)-phenyl-C₆₁-butyric acid methyl ester composites for photovoltaic cell at ambient condition, *Solar Energy Materials and Solar Cells*, 94, 2386- 2394.

(IF 4.784, Citations 35)

S. K. Jha, **R. Kant**, **2010**, Theory of Potentiostatic Current Transients for Coupled Catalytic Reaction at Random Corrugated Fractal Electrode, *Electrochimica Acta*, 55, 7266-7275.

(IF 5.383, Citations 13)

R. Kant, Md. M. Islam, **2010**, Theory of Absorbance Transients of an Optically Transparent Rough Electrode, *J. Physical Chemistry C*, 114, 19357-19364.

(IF 4.309, Citations 25)

R. Kant, **2010**, General Theory of Arbitrary Potential Sweep Methods on an Arbitrary Topography Electrode and Its Application to Random Surface Roughness, *J. Physical Chemistry C*, 114, 10894-10900.

(IF 4.309, Citations 34)

S. Srivastav, **R. Kant**, 2010, Theory of Generalized Cottrellian Current at Rough Electrode with Solution Resistance Effects, *J. Physical Chemistry C*, 114, 10066-10076.

(IF 4.309, Citations 30)

S. Bhandari, M. Deepa, S. N. Sharma, A. G. Joshi, A. K. Srivastava, **R. Kant**, 2010, Charge Transport and Electrochromism in Novel Nanocomposite Films of Poly(3,4-Ethylenedioxythiophene)-Au Nanoparticles-Cd-Se Quantum Dots, *J. Physical Chemistry C*, 114, 14606-14613.

(IF 4.309, Citations 33)

R. Singh, R. K. Singh, J. Kumar, **R. Kant** and V. Kumar, 2010, The Origin of DC Electrical Conduction and Dielectric Relaxation in Pristine and Doped Poly(3-hexylthiophene) Films, *J. Polymer Science Part B: Polymer Physics*, 2010, 48, 1047-1053.

(IF 2.838, Citations 15)

S. K. Jha, **R. Kant**, 2010, Theory of partial diffusion-limited interfacial transfer/reaction on realistic fractals, *J. Electroanalytical Chemistry* 641, 78-82.

(IF 3.012, Citations 22)

S. Bhandari, M. Deepa, A. K. Srivastava, **R. Kant**, 2009, Post-polymerization functionalization of poly (3,4-ethylenedioxythiophene) films by 1-fluoro-2-nitro-4-azidobenzene: electrochromism and redox behavior, *J. Material Chemistry*, 19, 2336-2348.

(IF 6.626, Citations 18)

M. Deepa, S. Bhandari, **R. Kant**, 2009, A comparison of charge transport behavior in functionalized and non-functionalized poly 3,4-(ethylenedioxythiophene) films, *Electrochimica Acta*, 54, 1292-1303.

(IF 5.383, Citations 21)

R. Kumar, **R. Kant**, 2009, Theory of Generalized Gerischer Admittance of Realistic Fractal Electrode, *J. Physical Chemistry C*, 113, 19558-19567.

(IF 4.309, Citations 43)

S. Bhandari, M. Deepa, A. K. Srivastava, A. G. Joshi and **R. Kant**, 2009, Poly(3,4-ethylenedioxythiophene)-Multiwalled Carbon Nanotube Composite Films: Structure-Directed Amplified Electrochromic Response and Improved Redox Activity, *J. Physical Chemistry B*, 113, 9416-9428.

(IF 3.146, Citations 102)

S. Bhandari, M. Deepa, A.K. Srivastava, S.T. Lakshmikummar, **R. Kant**, 2009, Electrochromic response, structure optimization and ion transfer behavior in viologen adsorbed titanium oxide films, *Solid State Ionics*, 180, 41-49.

(IF 2.354, Citations 15)

R. Kumar, **R. Kant**, 2009, Generalized Warburg impedance on realistic self-affine fractals: Comparative study of statistically corrugated and isotropic roughness, *J. Chemical Science*, 121, 579-588.

(IF 1.298, Citations 29)

S. Bhandari, M. Deepa, S. Singh, G. Gupta, **R. Kant**, 2008, Redox behavior and optical response of nanostructured poly(3,4-ethylenedioxythiophene) films grown in a camphorsulfonic acid based micellar solution, *Electrochimica Acta*, 53, 3189- 3199.

(IF 5.383, Citations 40)

S. Bhandari, M. Deepa, A. K. Srivastava, C. Lal, **R. Kant**, 2008, Poly(3,4-ethylenedioxythiophene) (PEDOT)-Coated MWCNTs Tethered to Conducting Substrates: Facile Electrochemistry and Enhanced Coloring Efficiency, *Macromolecular Rapid Communications* 29, 1959. 1964.

(IF 4.265, Citations 55)

R. Kant, R. Kumar and V. K. Yadav, **2008**, Theory of Anomalous Diffusion Impedance on Realistic Fractal Electrodes. *J. Physical Chemistry C (Letters)*, *112*, 4019-4023.
(IF 4.309, Citations 44)

R. Kant, S. K. Jha, **2007**, Theory of anomalous diffusive reaction rates on realistic self-affine fractals, *J. Physical Chemistry C (Letters)*, *111*, 14040-14044.
(IF 4.309, Citations 38)

S. K. Jha, A. Sangal, **R. Kant**, **2008**, Diffusion Controlled Potentiostatic Current Transients on Realistic Fractal Electrodes. *J. Electroanalytical Chemistry*, *615*, 180- 190.
(IF 3.012, Citations 40)

M. Deepa, S. Bhandari, M. Arora, **R. Kant**, **2008**, Electrochromic response of nanostructured poly (3,4-ethylenedioxythiophene) films grown in an aqueous micellar solution, *Macromolecular Chemistry and Physics*, *209*, 137-149.
(IF 2.616, Citations 29)

S. Bhandari, M. Deepa, A.K. Srivastava, S.T. Lakshmikumar, **R. Kant**, **2008**, Electrochromic Contrast Enhancement of Nanostructured Poly(3,4-ethylenedioxythiophene)-Polystyrene Sulfonate Films by Composition/Morphology Control, *J. NanoScience and Nanotechnology* *9*, 3052-3061.
(IF 1.354, Citations 8)

S. Shenogin, **R. Kant**, R. C. Colby and S. K. Kumar, **2007**, Dynamics of Miscible Polymer Blends: Predicting the Dielectric Response. *Macromolecules*, *40*, 5767-5775
(IF 5.941, Citations 54)

R. K. Singh, J. Kumar, R. Singh, **R. Kant**, S. Chanda and V. Kumar, **2007**, Micromorphology, photophysical and electrical properties of pristine and ferric chloride doped poly(3-hexylthiophene) films, *Materials Chemistry and Physics*, *104*, 390-396.
(IF 2.084, Citations 46)

R. K. Singh, J. Kumar, R. Singh, **R. Kant**, R. C. Rastogi, S. Chand and V. Kumar, **2006**, Structure-conductivity correlation in ferric chloride-doped poly(3-hexylthiophene), *New Journal of Physics*, *8*, 112-132.
(IF 3.57, Citations 52)

R. Kant and S. K. Rangarajan, **2003**, Effect of Surface Roughness on Interfacial Reaction-Diffusion Admittance, *J. Electroanalytical Chemistry*, *552*, 141-151.
(IF 3.012, Citations 54)

R. Kant, S. K. Kumar and R. H. Colby, **2003**, What Length Scales Control the Dynamics of Miscible Polymer Blends? *Macromolecules*, *36*, 10087-10094.
(IF 5.941, Citations 105)

S. Salaniwal, **R. Kant**, R. H. Colby and S. K. Kumar, **2002** Computer Simulations of Local Concentration Variations in Miscible Polymer Blends, *Macromolecules*, *35*, 9211-9218.
(IF 5.941, Citations 50)

P. Biswas, **R. Kant** and A. Blumen, **2001**, Stretch Dynamics of Flexible Dendritic Polymers in Solution, *J. Chemical Physics*, *114*, 2430-2441.
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R. Kant and S. K. Rangarajan, **1995** Diffusion to Rough Interfaces: Finite Charge Transfer Rates *J. Electroanalytical Chemistry*, **396**, 285-301.

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R. Kant, 1993, Can Current Transients be affected by the Morphology of the Nonfractal Electrode? *Physical Review Letter*, 70, 4094-4097.

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R. Kant and S. K. Rangarajan, **1990**, Padé Approach to Potential Transients: Part I. Electron Transfer Without and With Coupling to First-Order Homogeneous Reactions at Planar Electrodes *J. Electroanalytical Chemistry*, 277, 19-42.

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R. Kant and S. K. Rangarajan, **1989**, Chronopotentiometry with Power-Law Perturbation Functions at an Expanding Plane Electrode with and without a Preceding Blank Period For Systems with a Coupled First-Order Homogeneous Chemical Reaction. *J. Electroanalytical Chemistry*, 265, 39-65.

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Conference Organization/ Presentations (in the last three years)

R. Kant, Electronic and Electrochemical Properties of Curved Nanostructured Metal Electrodes: Theoretical Aspects (Plenary Lecture), 22-25 February, 2020, International Conference on Smart Materials for Sustainable Technology (SMST-2020), organized by Society for Interdisciplinary Research in Materials and Biology (SIRMB), IIT (BHU), IIT (Delhi), IIT (Goa) and SINP Kolkata, at Bogmallo Beach Resort, Goa .

R. Kant, Theory for Heterogeneous Electron Transfer Rate Constant. (Plenary Lecture), 15-16 February, 2020, International Conference on Emerging Trends in Chemical Sciences, Department of Chemistry, Aligarh Muslim University, Aligarh.

G. K. Mishra, J. Kaur, R. Kant, Molecular Self Assembly and Nano-Structuring Induced Tuning of Work Function and Potential of Zero Charge on Electrode. (Poster), 1st February, National Workshop Nano Road Show-2020, Miranda House, University of Delhi.

(*Awarded Best Poster Award of the Symposium*)

Neha, R. Kant, Dynamics of Linear and Star Polymer Grafted Nanoparticles in Solution. (Poster), 1st February, National Workshop Nano Road Show-2020, Miranda House, University of Delhi.

H. Goel, R. Kumar, R. Kant, Single Potential Step Chronoamperometry for EC' Reaction at Rough Electrodes: Theory and Experiment. (Poster), 30-31st January, 21st National Convention of Electrochemists, VIT Chennai. (*Awarded Best Poster Award of the Symposium*)

M. Kumar, R. Kant, Theory for Admittance Voltammetry of Reversible Electron Transfer at Rough and Fractal Electrodes. (Poster), 21-25th January, Indian Society for Electroanalytical Chemistry, EIHE-2020, DAE Convention Center, BARC, Mumbai.

N. Goswami, R. Kant, Modular Theory for Electrochemical Impedance Response of Solid State Lithium Ion cell. (Poster), 27-28 December, National Conference on Advanced Lithium Ion Batteries: Science and Technology, Indian Institute of Science, Bengaluru- 560 012.

Neha, R. Kant, Viscoelastic Dynamics of Linear and Star Polymer Grafted Nanoparticle in Solution. (Poster), 20-21 November, NCAFM Jamia Millia Islamia University, New Delhi.

M. Kumar, R. Kant, Theory for Reversible Two Step Electron Transfer Process with DC Bias Admittance at Fractal Electrodes. (Oral Presentation). 16 November. 13th Dynamics Day, IIT Delhi.

N. Goswami, R. Kant, Theory for Electrochemical Impedance Response of Solid State Electrolyte in Lithium Ion Batteries. (Poster), 19-21 July, 25th CRSI National Symposium in Chemistry, IIT Kanpur.

R. Kant, Complexities in Modelling of Electrochemical Processes. (Keynote Talk), 13-16 February 2019, 16th Theoretical Chemistry Symposium, BITS Pilani.

M. Kumar, R. Kant, Theory for Impedance of Two Step Electron Transfer Process at Rough and Fractal Electrodes. (Poster), 13-16 February, 16th Theoretical Chemistry Symposium, BITS Pilani. (***Awarded Best Poster Award of the Symposium***)

Neha, R. Kant, Dynamics of Generalised Gaussian Polymeric Structure with Nanoparticles in External Fields. (Poster), 13-16 February, 16th Theoretical Chemistry Symposium, BITS Pilani.

R. Kant, Multiscale Modeling of Electrochemical Systems: Disordered and Nanostructured Electrodes, (Invited Talk), 8-10 January, 2019, Twelfth International Symposium on Advances in Electrochemical Science and technology (iSAEST-12), Hotel Trident, Chennai, India.

G. K. Mishra, R. Kant, Phenomenological Theory for Dynamic Energy Density and Power Density for Supercapacitors (Poster), 8-10 January Twelfth International Symposium on Advances In Electrochemical Science and technology (iSAEST-12), Hotel Trident, Chennai, India. (***Awarded Best Poster Award of the Symposium***)

R.Kant, Modelling of EIS Response of Supercapacitor. (Invited Lecture), 28-29th September 2018, National Symposium on Electrochemistry in Materials and Devices, Bhavnagar.

Neha, R. Kant, Dynamics of Star Polymer Nanoparticle in External Fields. (Poster), 13-15 July, 23 CRSI National Symposium in Chemistry, IISER Bhopal.

R.Kant, Modelling Fundamental Electrochemistry and Devices. (Invited Lecture), 7-8 June, Twentieth National Convention of Electrochemists, VIT Vellore.

M. Kumar, S. Srivastav, R. Kant, Influence of Uncompensated Solution Resistance on Diffusion Limited Adsorption at Rough Electrode (Poster), 7-8 June, Twentieth National Convention of Electrochemists, VIT Vellore.

G. K. Mishra, R. Kant, Phenomenological Theory of EIS Response for Supercapacitors (Poster), 7-8 June, Twentieth National Convention of Electrochemists, VIT Vellore.

M. Kumar, S. Srivastav, R. Kant, **2018**, EIS with DC bias at Rough Electrodes: Quasireversibility and Uncompensated Resistance (Poster), 22-23rd February, Prof. R. C. Paul National Symposium, Panjab University, Chandigarh. (***Awarded Best Poster Award of the Symposium***)

J. Kaur, R. Kant, **2018**, Theory for Potential of Zero Charge of Self Assembled Monolayer over Curved Metal Electrode (Poster), 5th February. ACS on Campus India Roadshow, University of Delhi. (***Awarded Best Poster Award of the Symposium***)

K. Saksena, A. Shrivastava and R. Kant, **2018**, Chiral analysis of ascorbic acid in bovine serum using ultrathin molecular imprinted polyaniline/graphite electrode (Poster), Emerging Trends in Drugs Development and Natural Products, 12th -14th January, Department of Chemistry, Delhi University, Delhi.

N.R. Chowdhury, R. Kant, **2018**, Intensity Modulated Photocurrent Spectroscopy at Illuminated Rough Semiconductor Electrodes (Poster), 5th February. ACS on Campus India Roadshow, University of Delhi.

N. Goswami, R. Kant, **2018**, Theory for Electrochemical Impedance Response of Solid State Electrolyte (Poster), 5th February. ACS on Campus India Roadshow, University of Delhi, India.

Neha, R. Kant, **2018**, Influence of Excluded Volume Interactions (EVI) on Dynamics of Dendrimer and Sierpinski Fractal Polymers in Random Flow (Poster), 1-4th Feb, 22nd CRSI National Symposium in Chemistry and 12th CRSI-RSC Symposium in Chemistry, School of Studies in Chemistry, Pt. Ravishankar

Shukla University, Raipur (Chhattisgarh)

R. Kant, **2017**, Electrochemical Impedance Spectroscopy of Rough and Porous Electrodes, Acharya J. C. Ghosh Memorial Medal Lecture, 23rd -25th December, 54th Annual Convention of Chemists (ICS-2017), Department of Chemistry, Uka Tarsadia University, Bardoli, Surat, Gujrat.

J.Kaur, R. Kant, **2017**, Theory for Potential of Zero Charge of Self Assembled Monolayer over Curved Metal Electrode (Poster), 23-25th December, 54th Annual Convention of Chemists (ICS-2017), Department of Chemistry, Uka Tarsadia University, Bardoli, Surat, Gujrat.
(*Professor S. T. Nandibewoor Award for Best Poster*)

N.R. Chowdhury, R. Kant, **2017**, Theory for Intensity Modulated Photocurrent Spectroscopy on Rough and Finite Fractal Dye Sensitized Solar Cell (Oral Presentation), Dynamic Day-XII, 25th November 2017, Ashoka University, Sonapat Haryana-131029.

R.Kant, **2017**, Phenomenological Theories for Modelling of Solid State Li-ion Batteries (Invited lecture), 6-9 September, 1st World Conference on Solid Electrolytes for Advanced Applications: Garnet & Competitors, Department of Physics, Pondicherry University, India.

N. Goswami and R. Kant, **2017**, Theory for Electrochemical Impedance Response of Solid State Electrolyte (Poster), 6-9 September, 1st World Conference on Solid Electrolytes for Advanced Applications: Garnet & Competitors, Department of Physics, Pondicherry University, India.

R.Kant, **2017**, Contemporary Electrochemical Energy Systems (Popular Science Lecture), 5 September, Karunya University, Coimbatore, Tamilnadu.

R.Kant, **2017**, Anomalies in Electric Double Layer Response on Rough and Porous Electrodes (Keynote lecture), 10-12 August, Second International Conference on Electrochemical Science and Technology, Indian Institute of Science, Bengaluru- 560 012.

M. Kumar, S. Srivastav, R.Kant, **2017**, Theory for EIS of Quasi reversible Charge Transfer in Presence of Uncompensated Solution Resistance (Oral Presentation), 10-12 August, Second International Conference on Electrochemical Science and Technology, Indian Institute of Science, Bengaluru- 560 012.

R.Kant, **2017**, Electrochemistry at Rough and Porous Electrodes (invited lecture), 27th March, Chemical Sciences: Emerging Trends and Opportunities, UGC SAP Sponsored Seminar, Dayalbagh Educational Institute (Deemed Univ.), Dayalbagh, Agra-282 005.

R.Kant, **2017**, Impedance Spectroscopy of Rough and Porous Electrodes: Theoretical Aspects (invited lecture), 23rd January, CSIR-CECRI, Karaikudi, Tamilnadu.

R.Kant, **2017**, Electrochemistry at Fractal Electrodes: Mathematical Concepts in Chemistry (Popular lecture), 9th January, Jawaharlal Nehru University, Delhi.

R.Kant, **2016**, Influence of Electrode Roughness on Pulse Voltammetries: Theoretical Aspects (invited lecture), 7-8th December, 12th ISEAC-DM-2016, Chembur, Mumbai.

R.Kant, **2016**, Theories of Pulse Voltammetries on Rough Electrode (invited lecture), 8-10th December, ISAEST, Chennai.

N. R. Chowdhury, R. Kant, **2016**, Intensity Modulated Photocurrent Spectroscopy at Illuminated Rough Semiconductor Electrodes (Poster), 14-17th December, TCS, Hyderabad.

J.Kaur, R. Kant, **2016**, Theory for Absolute/Standard Potential of Curved Metal Nanostructures (Poster), 14-17th December, TCS, Hyderabad.

N. Goswami, R.Kant, **2016**, Theory of Single and Double Potential Step Chronoamperometry at Mesoporous Electrodes: Application to (Fc/Fc+) |Gold in RTIL Medium (oral), 7-8th December, 12th ISEAC-DM-2016, Chembur, Mumbai.

J. Kaur, R. Kant, **2016**, Theory of Work Function of Curved Metal Nanostructures (poster), RSC-NPL Symposium, 7-th Oct. 2016, National Physical Laboratory, Delhi.

R. Kant, **2016**, Disordered Electrodes, Governing Length Scales and Electrochemical Processes (invited lecture), 16 th Sept. 2016, Department of Chemistry, Indian Institute of Technology, Chennai.

R. Kant, **2016**, Electrochemical Processes on Disordered Electrodes and their Governing Length Scales (invited lecture), 12 th Sept. 2016, Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore.

R. Kant, **2016**, Curvature Induced Anomalies in Electrochemical Potentials, Recent Advances in Theoretical Chemistry (RATC2016), 7-8 July, 2016, Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore.

R. Kant, **2016**, Diffusion Kinetics at Fractal Electrodes, Science Academies Lecture workshop for College Teachers & Students on Emerging Technologies based on Nanoscience, 22-23 April, Organized by Department of Chemistry, Mody University of Science and Technology, Sikar, Rajasthan-332311; Sponsored by Indian Academy of Science, Bangalore; Indian National Science Academy, New Delhi; The National Academy of Sciences, Allahabad.

R. Kant, **2016**, Nanokinetics in Electrochemistry, Science Academies Lecture workshop for College Teachers & Students on Emerging Technologies based on Nanoscience, 22-23 April, Organized by Department of Chemistry, Mody University of Science and Technology, Sikar, Rajasthan-332311; Sponsored by Indian Academy of Science, Bangalore; Indian National Science Academy, New Delhi; The National Academy of Sciences, Allahabad.

R. Kant, **2016**, Theories for Super-Kinetics and Super-Capacitance (invited lecture), 2nd National Conference on Materials for Energy Conversion and Storage (MECS-2016), 11-13 March, Department of Physics, Pondicherry University and Energy Science Society of India (ESSI).

R. Jaswal, M. B. Singh and R. Kant, **2016**, Electric Double Layer Dynamics in Arbitrary Mesoporous Electrodes Embedded with Heterogeneous Micropores(Poster), 2nd National Conference on Materials for Energy Conversion and Storage (MECS-2016), 11-13 March, Department of Physics, Pondicherry University and Energy Science Society of India (ESSI). **Awarded Best Poster Award of the Symposium**

K. Saksena, A. Shrivastava and R. Kant, **2016**, Electrochemical sensor for chiral analysis of ascorbic acid using molecular imprinting method(Poster), International Conference on material science and technology (ICMTech-2016), 1-4 March, Department of Chemistry, University of Delhi, Delhi.

R. Kant, **2016**, Understanding Electrochemistry of Anomalous Responses in Disordered Metal and Semiconductor Electrodes (invited lecture), 29th Jan 2016, Department of Chemistry, Dayalbagh Educational Institutions, Agra.

J. Kaur, R. Kant, **2016**, Tuning Charge Transfer Kinetics Through Electrode Nano-structuring (poster), CRSI 2016, 5-7 February, 2016, Punjab University, Chandigarh. **Awarded J. Chem. Sci. Best Poster Award of the Symposium**

R. Kant, **2015**, Tuning Surface Work Function and Kinetics Through Electrode Surface Morphological

Anisotropies, Invited Lecture, PBCTE, 4-6th December, IIT, Bombay.

D. Ghai, R. Kant, **2015**, Anomalous Stretching Dynamics of Flexible Branched Polymers in Random Flow (poster), 4-6th December, IIT, Bombay.

N. R. Chowdhury, R. Kant, **2015**, Galvanostatic Potential Transients for Coupled Catalytic Reaction at Rough and Finite Fractal Surface (poster), 4-6th December, IIT, Bombay.

S. Dhillon, R. Kant, **2015**, Simulation of Local Impedance Spectroscopy Using Finite Fractal Weierstrass Function and SEM Micrographs (poster), 4-6th December, IIT, Bombay.

Parveen, R. Kant, **2015**, Theory of Pulse Voltammeteries for Multistep Charge Transfer Mechanism at Rough Electrodes (poster), 4-6th December, IIT, Bombay.

R. Kant, **2015**, Tuning Surface Work Function and Kinetics Through Electrode Nano-structuring, Invited Lecture, 6-th MRS Trilateral Symposium, 23-25 Nov. 2015, IISER, Mohali.

R. Kumar, R. Kant, **2015**, Understanding Anomalous Response of Pt Nanoparticles Deposited Rough Electrode, Poster, 6-th MRS Trilateral Symposium, 23-25 Nov. 2015, IISER, Mohali.

N. Sharma, R. Kant, **2015**, SEM, Chronoamperometry and Asymptotic Theory for Gold Nanoparticles Deposited High Roughness Electrodes, Poster, 6-th MRS Trilateral Symposium, 23-25 Nov. 2015, IISER, Mohali.

R. Kant, **2015**, Theories for Anomalous Responses in Disordered Electrodes, Invited Lecture by Fellows, 6-8 Nov. 2015, 81st Annual Meeting of Indian Academy of Sciences, IISER, Pune and CSIR - NCL.

R. Kant, **2015**, Does Electrode Disorder Matter?, Keynote Talk, Electrochem2015, Durham University, 13-15 September, U.K.

S. Srivastav and R. Kant, **2015**, Electrochemical Impedance Spectroscopy with Bias at Rough Electrodes: Quasireversibility and Ohmic Effects (poster), Electrochem2015, Durham University, 13th-15 September, U.K.

S. Dhillon and R. Kant, **2015**, Local Electrochemical Impedance Spectroscopy at Rough Electrode: Reversible Charge Transfer (oral), Electrochem2015, Durham University, 13th-15 September, U.K.

J. Kaur, S. Dhillon and R. Kant, **2015**, Tuning Exchange Current Density Through Electrode Nano-structuring (poster), Electrochem2015, Durham University, 13th-15 September, U.K.

R. Kant, **2015**, Does Nanoscopic Electrode Disorder Matter in Electrochemical Processes ? (Invited Talk), 19 Aug. 2015, IISER, Mohali

R. Kant, **2015**, Influence of Nanoscopic Disorder in Electrochemical Processes (*Invited Talk*), 6 July, 2015, S. N. Bose Institute for Basic Sciences, Kolkata, India.

R. Kant, **2015**, Theory for Anomalous Response in Cyclic Voltammetry (*Invited Talk*), 2 July, 2015, at Department of Inorganic & Physical Chemistry, Indian Institute of Science, Bangalore, India.

Parveen and R. Kant, **2015**, Theory for cyclic voltammetry of multielectron transfer mechanisms at rough electrodes: An insight into solution electrochemistry of supramolecules containing multiple interacting redox sites (poster), abstract in *2nd Indo-German Workshop on Supramolecular Chemistry*, 30 March 2015, Department of Chemistry, University of Delhi, Delhi.

Parveen and R. Kant, **2015**, Theory for Differential Staircase Voltammetry at Rough Electrodes (poster), abstract *9th National Conference on Solid State Chemistry and Allied Areas (ISCAS- 2015)*, 8-10th May

2015, Bhaskaracharya College of Applied Sciences University of Delhi, Delhi.

D. Ghai and R. Kant, **2015**, Dynamics of Flexible Dendrimers in Random Flow (poster), abstract in *2nd Indo-German Workshop on Supramolecular Chemistry*, 30 March 2015, Department of Chemistry, University of Delhi, Delhi.

I. Pandey and R. Kant, **2015**, Carbon Nanodots@graphite Composites Emerging Smart Nanomaterials: A Promising Platform for Direct Electrochemistry and Bioelectrocatalysis (poster), abstract in *2nd Indo-German Workshop on Supramolecular Chemistry*, 30 March 2015, Department of Chemistry, University of Delhi, Delhi.

R. Kant, **2015**, *Anomalous Dynamic Response of Rough electrodes, Invited talk in UGC-DSA Sponsored National Seminar on Advancement in Materials & Coordinator Chemistry*, 25 March 2015, Utkal University, Bhubaneswar.

R. Kant, **2015**, *Complex Dynamic Response of Rough electrodes: Role of Length & Time scales, Invited talk in Professor Ram Chand Paul National Symposium in Chemical Sciences*, 20-21 March 2015, Punjab University, Chandigarh.

I. Pandey and R. Kant, **2015**, *Electrochemical Sensor for Dopamine and Uric acid Based On Carbon Dots@Graphite Composites, Oral Presentation in 2nd International Symposium on Physics and Technology of Sensors-2015, (ISPTS-2015) March 8-10, 2015, YASHADHA Auditorium, Aundh, Pune.*

R. Kant, **2015**, *Theories for Molecular Walks through a Rough Electrode Terrain, Bronze Medal talk in 17th National Symposium in Chemistry, Chemical Research Society of India (CRSI-NSC-17)*, 6-8 Feb 2015, CSIR-NCL, Pune and IISER, Pune and S.P. Pune University.

R. Kumar and R. Kant, **2015**, Experimental validation of theory for EC' reaction on the rough platinum electrode, Poster in *17th National Symposium in Chemistry, Chemical Research Society of India (CRSI-NSC-17)*, 6-8 Feb 2015, CSIR-NCL, Pune and IISER, Pune and S.P. Pune University.

R. Kant, **2015**, *Random Molecular Flights in Energetically and Topographically Rough Terrains, talk in ChemFest-2015*, Jan 13, 2014, Department of Chemistry, University of Delhi.

R. Kant, **2015**, *Fractional Dimension in Chemistry, talk in An Interdisciplinary Science Seminar*, Jan 28, 2015, organized by Kirori Mal College Student Union, Kirori Mal College, University of Delhi.

Research Projects (Major Grants/Research Collaboration)

DHI-AEI & Applied Materials Project, Solid State Batteries for Consumer Electronics, /CSIR-CECRI/PU/DU (2015-2017)/ Modeling of Solid State Li-ion Battery(DU) (Total outlay: Rs10.41 Cr)

DST-SERB Project, 2013-2016; SB/S1/PC-021/2013 (~ Rs. 40 Lakhs); Project title- 3D Simulation of Local Electrochemical Impedance Spectroscopy and Reconstruction of Surface Morphology from SEM Micrographs.

DST-SERB Project, 2017-2020; EMR/2016/007779 (Rs. 40 Lakhs); Project title- Electrochemical Impedance at Rough and Porous Electrodes: Theory and Experimental Corroboration.

DU-DST PURSE GRANT, 2010-13 (Rs. 10 Lakhs)

DU-DST PURSE GRANT, 2016- CD/2016/1761 (Rs. 2.48 Lakhs)

DU-DST PURSE GRANT 3rd Installment, 2018- CD/2018/ (Rs. 1.5 Lakhs)

University Annual Grant under "Scheme to strengthen doctoral research program"

2015-16; Ref.: RC/2014/9677 (Rs. 2.8 Lakhs)
2014-15; Ref.: RC/2014/6820 (Rs. 2.8 Lakhs)
2013-14; Ref.: DRCH/R&D/2013-14/4155 (Rs. 2.8 Lakhs)
2012-13; Ref.: Dean(R)/R&D/2013/917 (Rs. 2.5 Lakhs)
2011-12; Ref.: Dean(R)/R&D/2011/423 (Rs. 2.3 Lakhs)
2010-11; Ref.: Dean(R)/R&D/2010/1311 (Rs. 2.5 Lakhs)
2009-10; Ref.: Dean(R)/R&D/2009/487 (Rs. 2 Lakhs)
2008-09; Ref.: Dean (R)/R&D/2008/230 (Rs. 2.5 Lakhs)

Honours/Awards and Distinctions

- **Elected Fellow of the Indian Academy of Sciences (2015).**
- CRSI Bronze Medal in recognition of contributions to research in chemistry (CRSI Awards 2015).
- Acharya J. C. Ghosh Memorial Medal (2016) of Indian Chemical Society.
- Elected Member of CRSI Council (2017-2020).
- Elected Vice President (OS) of Indian Society for Electro Analytical Chemistry (2014).
- Best Thesis Award: Dr. Srinivasa Rao Krishnamurty Medal, Electrochemistry and Electrochemical Engineering, IISc, Bangalore.

FELLOWSHIPS:

EPSRC Fellowship, U.K.
Ministry of Foreign Affairs (France) Fellowship, Paris.
University of Freiburg Fellowship, Germany.
J. N. Centre for Advanced Scientific Research Fellowship, Bangalore.
Indian Institute of Science Fellowship.

Association With Professional Bodies

Reviewer:

Journal of Physical Chemistry,
Physical Chemistry Chemical Physics,
Langmuir,
Electrochimica Acta,
Journal of Electroanalytical Chemistry,
Applied Surface Science,
Current Science,
Proceedings of the Indian National Science Academy,
Indian Journal of Physics,
Indian Journal of Chemistry,
Reports in Electrochemistry,
Chaos, Solitons & Fractals,
ACS Omega,
Journal of Chemical Science
Process Biochemistry
Electroanalysis
ChemPhysChem
Process Biochemistry
ACS Applied Materials and Interfaces
Bulletin of Material Science
Nature Materials

Memberships (current or past)

Society for Advancement of Electrochemistry Science and Technology(SAEST-Life Member)
Indian Society for Electroanalytical Chemistry (ISEAC-Life Member)

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Energy Science Society of India (ESSI-Life Member) American Chemical Society American Physical Society
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Other Activities

Member, Organizing Committee, National and International Conferences and Symposia, Department of Chemistry, University of Delhi. Short terms training for M.Sc. students for research methodology projects

Signature of Faculty Member