

## **Profile Page**



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### **Research Interests :**

Smart Wettability, Smart Surfaces and their applications, Oil-Water/Emulsion Separation, Ionic Liquids, Solution Chemistry

### **Other Profile Links :**

#### **Google Scholar Link :**

Dr Vickramjeet Singh [Click Here](#)

#### **Personal Web Link :**

Dr. Vickramjeet Singh [Click Here](#)

Loop (Frontiers) [Click Here](#)

### **Journal Publications :**

Year	Journal	Publication
2023	Chemical Papers	Madhu Bala, Vickramjeet Singh, Facile fabrication of robust self-cleaning fluorine-free reduced graphene oxide based superhydrophobic surfaces
2023	Journal of Molecular Liquids	Khajuria Deepika Amirchand, Tarlok S Banipal, Yan-Ling Yang, Vickramjeet Singh, Volumetric, UV-Visible, and Computational Analysis of Molecular Interactions Between Ascorbic Acid and L-Histidine in Aqueous Solutions

2023	Journal of Molecular Liquids	Madhu Bala, Vickramjeet Singh, Surface Tension Gradient Driven Autonomous Fatty Acid-Tetrahydrofuran Liquid Moving Drops: Spreading to Pinning
2022	Molecules	Revisiting the Physicochemical Properties and Applications of Deep Eutectic Solvents, Sushma P. Ijardar, Vickramjeet Singh, Ramesh L Gardas
2022	Journal of the Taiwan Institute of Chemical Engineers	Ionic liquid-nanoparticle based hybrid systems for energy conversion and energy storage applications, Vickramjeet Singh, Khajuria Deepika Amirchand, Ramesh L.Gardas
2022	Journal of Molecular Liquids	Self-Moving blooming drops of dimethyl sulfoxide containing benzyne intermediate for solutal transport, Madhu Bala, Vickramjeet Singh
2021	Journal of Molecular Liquids	KD Amirchand, S Kaur, TS Banipal, V Singh, Volumetric and <sup>1</sup> H NMR spectroscopic studies of saccharides-calcium lactate interactions in aqueous solutions
2020	Journal of Molecular Liquids	S Panda, K Das, V Singh, N Deenadayalu, RL Gardas, Volumetric and compressibility studies of monosaccharides in aqueous cholinium propanoate [Chl][Pro] solutions at different temperatures
2020	Journal of the Taiwan Institute of Chemical Engineers	SW Hu, V Singh, YJ Sheng, HK Tsao, Facilely-fabricated smart hydroxyl-surfaces with rapidly switchable wettability for water and oil: Reversibility between superoleophilicity and near superoleophobicity
2020	International journal of pharmaceuticals	S Indoria, V Singh, MF Hsieh, Recent advances in theranostic polymeric nanoparticles for cancer treatment: A review
2019	Journal of the Taiwan Institute of Chemical Engineers	V Singh, YJ Sheng, HK Tsao, Self-healing atypical liquid-infused surfaces: Superhydrophobicity and superoleophobicity in submerged conditions
2018	J. Taiwan Inst. Chem. Eng., 87, 150-157	V. Singh, Y.-J. Sheng, H.-K. Tsao, "Facile fabrication of superhydrophobic copper mesh for oil/water separation and theoretical principle for separation design"
2018	J. Mat. Chem. A, 6,2279-2288	V. Singh, C.-J. Huang, Y.-J. Sheng, H.-K. Tsao, "Smart ZwitterionicSulfobetaineSilane Surfaces with Switchable Wettability for Aqueous/Nonaqueous Drops"
2018	J. Mol. Liq., 259, 124-133	S. Panda, V. Singh, N. Islam, R. L. Gardas, "Molecular interactions of choline based ionic liquids with water at different temperatures: An experimental study."
2017	Langmuir, 33, 7569–7574	C.-J. Wu, V. Singh, Y.-J. Sheng, H.-K. Tsao, "Forced Spreading of Aqueous Solutions on ZwitterionicSulfobetaine Surfaces for Rapid Evaporation and Solute Separation."
2017	Langmuir, 33,6182–6191	V. Singh, C.-J. Wu, Y.-J. Sheng, H.-K. Tsao, "Self-Propulsion and Shape Restoration of Aqueous Drops on Sulfobetaine Silane Surfaces."
2017	Fluid Phase Equil, 445,35-44	S. Panda, V. Singh, N. Islam, R. L. Gardas, "Understanding ion-ion and ion-solvent interactions in aqueous solutions of NMP based protic ionic liquids through partial molar properties and DFT calculations."
2017	Proc. Nat. Acad. Sci. Sec. A: Phys. Sci., 1-12.	P. K. Banipal, V. Singh, M. Kaur, N. Kaur, R. Sharma, S. Thakur, T. S. Banipal, "Physico-chemical Studies on Binary Mixtures of 1,4-Dioxane and Alkan-1-ols at 298.15 K."
2017	J. Chem. Thermodyn, 103,7-16	V. Singh, P. K. Chhotaray, N. Islam, R. L. Gardas, "Implicit and explicit solvent models to understand the d (+)-glucose solvation in aqueous protic ionic liquid solution: Volumetric and computational approach"
2016	J. Mol. Liq, 223, 54-59	V. Singh, P. K. Banipal, R. L. Gardas, T. S. Banipal, "Speed of sound and apparent molar isentropic compression of 1-butyl-3-methylimidazolium bromide in aqueous monosaccharide solutions."

2016	Fluid Phase Equilibria, 421, 24-32	V Singh, S Panda, H Kaur, P. K. Banipal, R. L. Gardas, T. S. Banipal, "Solvation behavior of monosaccharides in aqueous protic ionic liquid solutions: Volumetric, calorimetric and NMR spectroscopic studies"
2016	J. Mol. Liq, 220, 150-154	V. Singh, P. K. Chhotaray, R. L. Gardas, "Modulation of volumetric properties of D(+)-glucose in aqueous 3- hydroxypropylammonium acetate solutions."
2016	RSC Advances, 6, 623-631	D. Singh, V. Singh, N. Islam, R. L. Gardas, "Elucidation of molecular interactions between DBU based protic ionic liquid and organic solvents: Thermophysical and computational studies"
2015	J. Mol. Liq., 209, 352-357	V. Singh, P. K. Banipal, T. S. Banipal, R. L. Gardas, "Volumetric properties of 1-butyl-3-methylimidazolium bromide in aqueous solutions of D(?) -ribose and D(?) -arabinose at different temperatures"
2015	PLoS ONE, 10, 0126091	V. Singh, G. Sharma, R. L. Gardas, "Thermodynamic and ultrasonic properties of ascorbic acid in aqueous protic ionic liquid solutions"
2015	J. Chem. Eng. Data, 60, 1764-1775	V. Singh, P. K. Banipal, T. S. Banipal, R. L. Gardas, "Volumetric properties of disaccharides in aqueous solutions of benzyldimethylammonium acetate as a function of temperature"
2015	Thermochimica Acta, 610, 69-77	V. Singh, P. K. Chhotaray, R. L. Gardas, "Effect of protic ionic liquid on the volumetric properties of ribose in aqueous solutions"
2015	Fluid Phase Equilibria, 385, 258-274	V. Singh, P. K. Chhotaray, P. K. Banipal, T. S. Banipal, R.L. Gardas, "Volumetric properties of amino acids in aqueous solutions of ammonium based protic ionic liquids."
2015	Ind. Eng. Chem. Res, 54, 2237-2245	V. Singh, D. Singh, R. L. Gardas, "Effect of DBU (1,8-diazobicyclo[5.4.0]undec-7-ene) based protic ionic liquid on the volumetric and ultrasonic properties of ascorbic acid in aqueous solution."
2015	J. Chem. Thermodyn, 89, 60-68	V. Singh, P. K. Chhotaray, R. L. Gardas, "Volumetric and ultrasonic properties of ternary (sucrose+ water+ protic ionic liquid) solutions"
2015	Fluid Phase Equilibria, 385, 92-104	D. Keshapolla, V. Singh, A. Gupta, R. L. Gardas, "Apparent molar properties of benzyldimethylammonium based protic ionic liquids in water and ethanol at different temperatures."
2015	IONICS, 21, 1959-1965	G. Sharma, V. Singh, R. L. Gardas, "Apparent molar properties of aqueous protic ionic liquid solutions at T = (293.15 to 328.15) K."
2015	J. Sol. Chem, 44, 634-651	D. Singh, V. Singh, R. L. Gardas, "Volumetric and acoustic properties of DBU (1,8-diazobicyclo[5.4.0]undec-7-ene) based protic ionic liquid in water at T = (293.15 to 328.15) K"
2015	Food Chem, 169, 478-483	V. Singh, P. K. Chhotaray, R. L. Gardas, "Effect of protic ionic liquid on volumetric properties and taste behaviour of sucrose"
2015	Food Chem, 168, 142-150	P. K. Banipal, V. Singh, T. S. Banipal, "Hydration behavior of some mono-, di-, and tri-saccharides in aqueous sodium gluconate solutions at (288.15, 298.15, 308.15 and 318.15) K: Volumetric and rheological approach"
2014	J. Mol. Liq, 199, 330-338	D. Keshapolla, V. Singh, R. L. Gardas, "Volumetric, acoustic and transport properties of binary mixtures of benzyldimethylammonium based ionic liquids with N,N-Dimethylformamide at temperature from (293.15 to 328.15) K"
2014	J. Chem. Thermodyn, 71, 37-49	V. Singh, P. K. Chhotaray, R. L. Gardas, "Solvation behaviour and partial molar properties of monosaccharides in aqueous protic ionic liquid solutions"

## Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISS N No.	Year
International	Nanoemulsions	Springer, Singapore.	Shikha Indoria, Madhu Bala & Vickramjeet Singh*	978-981-16-7483-9	2022
International	Structure and Solubility of Polysaccharides	John Wiley & Sons	Vickramjeet Singh, Shikha Indoria, KJ Jisha, Ramesh L Gardas	9781119711414	2021

### Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Supervisor	SERB	"Nature-Inspired Smart Surfaces with Extreme Wettability for Separation and Solute Transport"	SERB-DST	15-11-2019		25 lacs	completed	

### PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Kiranpreet Kaur	Facile Fabrication of Fluorine Free Aqueous Deep Eutectic Solvent Repellent Superhydrophobic Surface	Completed	2022	
Nitika Laller	Contact Angle Hysteresis (CAH) Free Surfaces for Transport of Dissolved Solutes	Completed	2022	
Ekta Sharma	Wettability Modulation for Suppression of Coffee Ring Effect	Completed	2021	
Sadhana	Interfacial Properties of Aqueous Solutions Containing Deep Eutectic Solvents	Completed	2021	
Rohit	Slippery Liquid Infused Surfaces: Low Hysteresis for Drop Motility	Completed	2021	
PINKY YAMBEM	Volumetric Properties of Vitamin C in Aqueous Amino Acid Solutions	Completed	2020	
Sandeep Kaur	Solvation Behaviour and NMR Spectroscopic Studies of Saccharides in Aqueous Calcium Lactate Solutions	Completed	2020	