Bio-Data

Dr. RAMANAND RAI
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Educational Achievements

- **Professor:** Department of Chemistry, Faculty of Science, Banaras Hindu University, Varanasi, India, (Dec. 2011 onwards continued)
- **Associate Professor:** Department of Chemistry, Faculty of Science, Banaras Hindu University, Varanasi, India, (Dec. 2008 to Dec. 2011)
- **Reader:** Department of Chemistry, Faculty of Science, Banaras Hindu University, Varanasi, India, (Dec. 2005 to Dec.2008)
- **Assistant Professor:** Department of Chemistry, Birla Institute of Science and Technology, Pilani, Rajasthan, India, (Feb. 2005 to Dec. 2005)
- **Lecturer:** Department of Chemistry, Birla Institute of Science and Technology, Pilani, Rajasthan, India, (Aug. 2002 to Jan. 2005)
- **Visiting Scientist:** Centre of Advanced Technology, Department of Atomic Energy, Indore, India, (May 2002 July 2002)
  "Synthesis and Crystal Growth of Organic and Inorganic NLO Materials and its Device Fabrication."
- **Post-Doc:** National Taiwan University, Taiwan, ROC (Sept. 2000 to April 2002).
  "Synthesis and Crystal Growth of Binary Organic NLO Materials."
- **Post-Doc:** Indian Institute of Science, Bangalore, India. (March 1999 to Sept. 2000).
  "Synthesis and Characterization of Crystalline Binary Organic Nonlinear Optical Materials."
- **Ph. D.:** Awarded in Chemistry, Department of Chemistry, B.H.U., INDIA (1997)

"Some Physicochemical Studies on Organic Eutectics, Monotectics and Addition Compounds."

- **H- Index: 16**

Research Experience

- **Twenty two years** Research experience **excluding** Ph.D. duration, and
- **Eighteen years** Teaching + Research experience.

Research Interest

- **Synthesis and Physicochemical Characterization of Binary Organic Materials**
- **Synthesis, Crystal Growth and Characterization of Organic-, Inorganic-, and Binary Organic Nonlinear, Electro-optic Materials and Fluorescence Materials**.

Academic Participation

Editor/Membership and Professional Assignments

- **Editor-** Emerging Materials Research, USA
- **Member-** Board of Studies, VBS Purvanchal University, Jaunpur
- **Life Member-** Chemical Research Society of India (CRSI)
- **Life Member-** Laser and Spectroscopy Society of India (LASSI)
- **Life Member-** The Indian Science Congress Association, India
- **Life Member-** Indian Association of Crystal Growth (IACG)
- **Member-** DRC member of Department of Chemistry and VBS Purvanchal University, Jaunpur.
- **Instructors In-charge:** BITS, Pilani, Rajasthan, 3 years **(**12 parallel sections)
- **Warden of Hostel-** 2 Years, BITS, Pilani, Rajasthan
  2 Years, BHU, Varanasi
- **Chairman-** Executive Committee of Recreation, BITS, Pilani, Raj., one year
- **Chairman-** Export Board, (Kabaddi), BHU, Varanasi, 2019 onwards
- **Reviewers:** Permanent reviewers of various leading journals like, Journal of Crystal Growth and Design, J. Molecular Structute, J. Thermochimica Acta, J. of Fluorescence, J. Thermal Analysis and Calorimetry, etc.

Projects in Hand/ Handled

- **Title-** "Single crystal and crystal cored fibre growth of unary and binary organic NLO and electro-optic materials".
  Department of Science and Technology, New Delhi (2002) [Project 10.0 lakes]

- **Title- "**Synthesis and Crystal Growth of Organic Nonlinear Optical Materials".
  Board of Research in Nuclear Sciences, Department of Atomic Energy, Mumbai (2007) [~32 Lacks]

- **Title- "**Synthesis and Crystal Growth of Highly Required Nonlinear and Electro-optic Materials DAST". (2010)
  Defence Research and Development Organization, New Delhi [25 Lakhs]

Students guided for Ph. D.

Students Awarded	: **8**
Thesis Submitted	: **1**
Working Students	: **3**

Workshop Organized

- **Interactive Workshop on Researches of Mutual Interest of DRDO and Academia,** 18-19 November **2011**, at B.H.U., Varanasi. (Convener)

- **Indo– US Workshop on Spectroscopy : Application to National Security (IUWSANS-2013)** January 18 – 20, **2013**, at B.H.U., Varanasi. (Co-convener)

- **DST. INSPIRE INTERNSHIP PROGRAMME- 2015** (Co-convener)

- **DST. INSPIRE INTERNSHIP PROGRAMME- 2016** (Co-convener)

- **Indo-US International Conference "Nanotechnology: Science and Application in Advanced Materials and Beyond" (NSAAMB-2016),** Dec. 19-22, **2016** at BHU, Varanasi (Convener)

Publications in International Journals

1.	Synthesis, spectroscopic, crystal structure, thermal and optical studies of novel proton transfer complex: 2-methyl-8-hydroxyquinoliniumpicrate Umesh Neupane, Manjeet Singh, Priyanka Pandey and **R. N. Rai**, *Journal of Molecular Structure* 1195 **(2019)** 131-139.
2.	Green Synthesis, Characterization and Optical Properties of Eutectics and 1:1 Intermolecular compounds; N,N-dimethylamino Benzaldehyde- anthranillic acid and2-(4-(Dimethylamino)benzylidneamino)benzoic acid- p- nitroaniline systems. U. S. Rai, M. Singh, **R. N. Rai** *Bull. Mater. Sci.*, 42 (2) (**2019**) 42-67.

3.	Solvent free synthesis of a novel intermolecular compound and its crystal structure thermal and optical studies. Umesh Neupane and **R. N. Rai**, *Journal of Solid State Chemistry* 265 **(2018)** 1-11**.**
4.	Crystal Growth and Some Physicochemical Studies on an Organic Inter-molecular Compound of Amthranillic acid and N,N- dimethylamino Benzaldehyde, U. S. Rai, M. Singh, **R. N. Rai**, *Eur. J. Chem*, 9 (4) (**2018**) 303-310.
5.	Green Synthesis, Crystal Growth and Some Physicochemical Studies on an Inter-molecular Compound of Anthranilic Acid and m-Nitro-Benzoic Acid System U.S. Rai, Manjeet Singh and **R. N. Rai**, *J. Therm. Anal. Calorimetry,* 134 (2) (**2018)** 1001-1009.
6.	Solid State Synthesis of Novel Charge Transfer Complex and Studies of its Crystal Structure and Optical Properties. Umesh Neupane and **R. N. Rai**, *Journal of Solid State Chemistry* 268 **(2018)** 67-74**.**
7.	Synthesis and studies on structural, optical and nonlinear optical properties of novel organic inter-molecular compounds: 4-chloro-3-nitroaniline− 3-hydroxy benzaldehyde and urea− 4-dimethylaminopyridine. Priyanka Pandey and **R. N. Rai**, *Journal of Molecular Structure* 1160 **(2018)** 189-197.
8.	Thermal, physicochemical and spectroscopic studies on some novel organic complexes obtained by green synthesis. Umesh Neupane, U. S. Rai, and **R. N. Rai**. *Journal of Thermal Analysis and Calorimetry*, 132 (3) **(2017)** 1741-1752.
9.	Green synthesis, characterization and some physico-chemical studies on co-crystal; 2-(4-(Dimethylamino)benzylidneamino)benzoic acid and p- Nitroaniline System. U. S. Rai, M. Singh, **R. N. Rai**, *Mater. Sci. Eng. B,* 224 (**2017)** 78-87.
10.	Synthesis, Spectral Characterization, Thermal and Optical Studies of Novel Complexes: 4-(Dimethylamino) benzylidene-4-acetamideaniline and 4-(Dimethylamino) benzylidene-4-nitroaniline. Umesh Neupane and **R. N. Rai**, *Journal of Fluorescence*, 27 (6) **(2017)** 2263-2277.
11.	Solid state synthesis, structural, physicochemical and optical properties of an inter-molecular compound: 2-hydroxy-1, 2-diphenylethanone-4-nitro-ophenylenediamine system. U.S. Rai, Manjeet Singh and **R.N. Rai**, *Journal of Solid State Chemistry***,** 253 **(2017)** 63–72.
12.	Green synthesis, characterization and some physico-chemical studies on a novel intermolecular compound; 4-nitro-ophenylenediamine –N, N-dimethylaminobenzaldehyde system. U.S. Rai, Manjeet Singh and **R. N. Rai**, *Journal of Molecular Structure***,** 1144 **(2017)** 41-48.
13.	Some physicochemical studies on organic eutectics and intermolecular compounds U.S. Rai, Manjeet Singh and **R. N. Rai**, *J. Therm. Anal. Calorimetry*, 130 (2) (**2017**) 967-974.
14.	Remarkable dielectric properties of 1:2 inter-molecular compound of 2-(4-(Dimethylamino) benzylideneamino) benzoic acid and urea due to the excited-state intramolecular proton transfer. U.S. Rai, Manjeet Singh and **R. N. Rai**, *RSC Adv*., 7 (55) **(2017)** 34382-34391.

15.	Solid state synthesis, crystal growth and optical properties of urea and p-chloronitrobenzene solid solution. **R.N. Rai**, ShivaKant, R.S.B.Reddi, S.Ganesamoorthy, P.K.Gupta, *Journal of Solid State Chemistry*, 233 **(2016)** 244–251.
16.	Phase diagram and thermal properties of organic analogues of nonmetal-nonmetal systems. **R.N. Rai**, Priyanka Pandey, U.S. Rai, *J. Thermal Analysis and Calorimetry*, 124 (1) **(2016)** 35-42.
17.	Some Physicochemical studies on Organic Eutectics and Molecular Complexes; 3,5-dinitrobenzoic acid and Salicylamide. Manjeet Singh, **R.N. Rai** and U.S. Rai, *Journal of Crystal Growth*, 419 **(2015)** 114-122.
18.	Developments and future directions of phase diagram, physicochemical and optical studies of binary organic complexes. **R.N. Rai**, R.S.B. Reddi, U.S. Rai, *Progress in Crystal Growth and Characterization of Materials*, 59 (2) **(2013)** 73–111 (**Review**).
19.	Solid state synthesis, crystal growth, atomic packing and physicochemical studies of (E)-2-cyano-3-(3-hydroxyphenyl)acrylamide. V.K. Gupta, **R.N. Rai**, S.S.R. Inbanathan, M. Fleck, *J. of Crystal Growth*, 364 **(2013):** 1–6.
20.	Solid–liquid equilibrium, thermal, and physicochemical studies on salicylamide–4-nitrophenol and 2-cyanoacetamide–4-aminoacetophenone organic eutectic systems Manjeet Singh, Priyanka Pandey, **R.N. Rai** and U.S. Rai, *J. Therm. Anal. Calorim.* 113 (2) **(2013)**: 977-983.
21.	Thermal and physico-chemical studies on binary organic eutectic systems: 4-aminoacetophenone with benzoin and 4-nitrophenol. Shiva Kant, U.S. Rai and **R.N. Rai**, *J Therm Anal Calorim.* 110 (2) **(2012)** 551-557.
22.	Synthesis, crystal growth, structural and physicochemical studies of novel binary organic complex: 4-chloroaniline-3-hydroxy-4-methoxybenzaldehyde; K.P. Sharma, R.S.B. Reddi, S. Bhattacharya and **R. N. Rai**, *J. Solid State Chemistry* 190 **(2012)** 226-232.
23.	Solid–liquid equilibria, thermochemical and microstructural studies of binary organic monotectic and eutectic alloy K.P. Sharma, R.S.B. Reddi and **R.N. Rai**, *J. Therm Anal Calorim.* 110 (2) **(2012)** 545–550.
24.	Synthesis and characterization of novel binary organic monotectic and eutectic alloys K.P. Sharma and **R.N. Rai**, *Thermochimica Acta,* 535 **(2012)** 66-70.
25.	Phase Equilibria,Crystallization, Thermal and Microstructural Studies of Monotectic Organic Analog of Nonmetal-Nonmetal System; urea-4- bromo2-nitroaniline R.S.B. Reddi, S. Ganesamoorthy, P.K. Gupta, **R.N. Rai**, *Fluid Phase Equilibria* 313 **(2012)** 121-126.
26.	Thermal and optical properties of Er3+/Yb3+codopedoxyhalidetellurite glass, glass ceramic and ceramic C. Joshi, **R.N. Rai** and S.B. Rai; Structural, *J. Quantitative Spectroscopic & Radiative Transfer* 113 (6) **(2012)** 397-404.
27.	Solid-Liquid equilibrium, Thermal and Physicochemical Studies of Organic Eutectics R. S. B. Reddi, V. S. A. Kumar Satuluri, **R. N. Rai**, *J.Therm Anal Calorim.* 107(1)

	(2012) 183-188.
28.	Modification in hygroscopic nature of urea via formation of solid solution, and its particle size and second harmonic generation study Rajasekhar Bhimireddi and **RamaNand Rai**, *Advanced Materials Research* 584 **(2012)** 107-111.
29.	Thermal,physicochemical and microstructural studies of binary organic eutectic systems R. S. B. Reddi, V. S. A. Kumar Satuluri, U.S. Rai, **R. N. Rai**, *J Therm Anal Calorim*. 107 (1) **(2012)** 377-385.
30.	Synthesis, Characterization, and Drug Release Properties of Poly(N-Isopropylacrylamide) Gels Prepared in Methanol-Water Cononsolvent Medium Chandrasekar Biswas, Vijaykumar Patel, Niraj Kumar Viswakarma, Avinish Mishra, Rjasekhar Bhimireddi, **RamaNand Rai**, Biswajit Ray, *J. Applied Polymer Science* 125 (3) **(2012)** 2000-2009.
31.	Some physicochemical and thermal studies on organic analog of a nonmetal-nonmetal monotectic alloy; 2-cyanoacetamide-4- chloronitrobenzene system Manjeet Singh, **R.N. Rai**, U.S. Rai, *American J. Analytical Chemistry* 2 (8) **(2011)** 953-961.
32.	Synthesis, Physicochemical and Optical Characterization of Novel Fluorescing Complex: o-Phenylenediamine-Benzoin; Y. Dwivedi, Shiva Kant, S. B. Rai, **R. N. Rai**, *J Fluorescence* 21 (3) **(2011)** 1255-1263. (***Highlight of paper was re-published in Vertical News Paper, USA)***
33.	Solid-liquid equilibrium and thermochemical studies of organic analogue of metal-nonmetal system: succinonitrile-pentachloronitrobenzene Shiva Kant and **R.N. Rai**, *J. Thermochimica. Acta* 512 (1-2) **(2011)** 49-54.(***Highlight of paper was re-published in Vertical News Paper, USA)***
34.	Crystal growth and nonlinear optical studies of m. Dinitrobenzene doped urea organic material **R.N. Rai**, R. Madunri, R.S.B. Reddi, V.S.A. Kumar Satuluri, S. Ganesamoorthy, P.K. Gupta, *J. Crystal Growth* 321 (1) **(2011)** 72-77.
35.	Novel organic monotectic alloy and its thermal, physicochemical and microstructural studies K. P. Sharma and **R. N. Rai**, *J. Materials Science* 46 (5) **(2011)** 1551-1556.
36.	Thermal, physicochemical and microstructural studies of organic analog of nonmetal- nonmetal monotectic alloys K. P. Sharma, R.S.B. Reddi, Shiva Kant, **R.N. Rai**, *J. Thermochimica Acta* 498 (1-2) **(2010)** 112-116.
37.	Synthesis, crystallization, thermal, solid-liquid equilibrium, and microstructural studies of organic analogue monotectic alloy: 1, 4-diiodobenzene – succinonitrile. Shiva Kant, R. S. B. Reddi, **R. N. Rai**, *Fluid Phase Equilibria* 291 (1) **(2010)** 71-75.
38.	Efficient white light generation from 2, 3-Diphenyl –1, 2-dihydro- quinoxaline complex Y. Dwivedi, Shiva Kant, **R. N. Rai**, S. B. Rai, *Appl. Phys. B; Laser & Optics*, 101 (3) **(2010)** 639-642.
39.	One and two photon pumped luminescence studies on DAST and UDAST K. Kumar, S.B. Rai, **R.N. Rai**, *Appl. Phys. B; Laser & Optics*, 96 (1) **(2009)** 85-94.

	(***Highlight of paper was re-published in Vertical News Paper, USA)***
40.	Crystallization, thermal, phase diagram and microstructural studies of organic analog of metal-nonmetal monotectic alloy: 4-bromochlorobenzene – succinonitrile R. S. B. Reddi, Shiva Kant, U. S. Rai, **R. N. Rai**, *J. Crystal Growth* 312 (1) **(2009)** 95-99.
41.	Thermal, solid-liquid equilibrium, crystallization, and microstructural studies of organic monotectic alloy: 4, 4′-dibromobiphenyl – succinonitrile **R. N. Rai**, R. S. B. Reddi, *J. Thermochimica. Acta*, 496 (1-2) **(2009)** 13-17.
42.	Growth and characterization of single crystal of pentachloropyridine **R.N. Rai** and K. B. R. Varma, *J. Cryst. Growth* 285 (1-2) **(2005)** 111-116.
43.	Phase diagram, optical, nonlinear optical and physicochemical studies of organic monotectic system: pentachloropyridine-succinonitrile. **R.N. Rai**, *J. Mater. Res.* 19 (5) **(2004)** 1348-1355.
44.	Morphology, Solubility, and Nonlinear Optical Properties of DAST Grown from Mixed Solvents **R.N. Rai**, J.M. Jeng, C.Y Tai and C.W. Lan, *J.Chin. Inst. Chem. Engrs* 33 (5) **(2002)** 461-468.
45.	Synthesis and crystal growth of binary organic NLO material UNBA **R.N. Rai**, P. Ramasamy and C.W. Lan, *J. Cryst. Growth* 235 (1-4) **(2002)** 499-504.
46.	Physical chemistry of binary organic eutectic and monotectic alloys; 1,2,4,5-tetrachlorobengene and resorcinol system U.S. Rai, Pinky Padey and **R.N. Rai**, *Materials Letters* 53 (1-2) **(2002)** 83-90.
47.	The crystal structure and properties of a new organic nonlinear optical materials **R.N. Rai** and C.W. Lan, *J. Mater. Res.* 17(7) **(2002)** 1588-1591.
48.	Thermal, miscibility gap and microstructural studies of organic analog of metal-nonmetalsystem: p-dibromobenzene – succinonitrile **R.N. Rai**, U.S. Rai and K. B. R. Varma, *Thermochim Acta* 387 (2) **(2002)** 101-107.
49.	Microstructural and dielectric properties of hot pressed organic composite; benzil-4-aminobenzophenone. **R.N. Rai**, T.S. Panchapagesan and K. B. R. Varma, *Materials Science: Materials in Electronics* 12 (9) **(2001)** 505-509.
50.	Thermal and dielectric studies on binary organic system: benzil- m-nitroaniline **R.N. Rai** and K. B. R. Varma, *Materials Letters* 48 (6) **(2001)** 356-361.
51.	Solid-liquid equilibrium diagram and thermochemical properties of organic eutectic in a monotectic system. **R.N. Rai** and U. S. Rai, *Thermochim Acta* 363 (1-2) **(2000)** 23-28.
52.	Phase diagram and dielectric properties of binary organic materials **R.N. Rai** and K. B. R. Varma, *Materials Letters* 44 (5) **(2000)** 284-293.
53.	Physical chemistry of binary organic eutectic and monotectic alloys; 1,2,4,5-tetrachlorobengene- β- naphthol and 1,2,4,5-tetramethylbenzene - succinonitrile system U.S. Rai, Pinky Padey and **R.N. Rai**, *J. Cryst. Growth*, 220 (4) **(2000)** 610-618.
54.	Physical chemistry of organic eutectic and monotectic; Hexamethylbenzene-Succinonitrile. U.S. Rai and **R.N. Rai**, *Chem. Mate*. (**JACS**) 11 (11) **(1999)** 3031-3036.

55.	Some physicochemical studies on organic eutectics and molecular complex; urea-p-nitrophenol system U.S. Rai and **R.N. Rai**, *J. Mater. Res.* 14 (4) **(1999)** 1299-1305.
56.	Physical chemistry of organic eutectics U.S. Rai and **R.N. Rai**, *J. Thermal Analysis* 53 (3) **(1998)** 883-893.
57.	Physical chemistry of organic analog of metal-metal eutectic and monotectic alloys U.S. Rai and **R.N. Rai**, *J. Crystal Growth* 191 (1-2) **(1998)** 234-242.
58.	Studies on physicochemical properties of the organic eutectics and 1:1 molecular complex of urea-resorcinol system U.S. Rai and **R.N. Rai**, *Molecular Materials* 9 **(1998)** 235-250.
59.	Chemistry and characterization of binary organic eutectics and molecular complexes the urea- m.nitrobenzoic acid system U.S. Rai and **R.N. Rai**, *Materials letters* (Cover picture) 34 (1-2) **(1998)** 67-75.
60.	Phase diagram and thermochemical properties of organic eutectic in a monotectic system U.S. Rai and **R.N. Rai**, *Bull. Mater. Sci.* 21(3) **(1998)** 203-206.
61.	Some physicochemical studies on organic analog of metal-nonmetal eutectics U.S. Rai and **R.N. Rai**, *Cryst. Res. Techn.* 32 (6) **(1997)** 821-829.
62.	Solidification behaviour of binary organic eutectics U.S. Rai and **R.N. Rai**, *Polish Journal of Applied Chemistry* 40 **(1996)** 281-287.
63.	Studies on physicochemical properties of the eutectic and monotectic in the urea-p-chloronitrobenzene system U.S. Rai and **R.N. Rai**, *J. Cryst. Growth* 169 (3) **(1996)** 563-569.
64.	Some physicochemical studies on binary organic eutectic and 1:1 addition compounds; urea-p.nitrophenol and urea-m-nitrobenzoic acid systems U.S. Rai and **R.N. Rai**, *ACH-Models in Chemistry* 133(4) **(1996)** 341-349.
65.	Solidification behaviour of binary organic monotectic alloys U.S. Rai and **R.N. Rai**, *Thermochim Acta* 277 **(1996)** 209-217.

Invited Talks

66.	Materials for Defence Applications; Detection and Generation of Terahertz Wave, "*International Conference on Ultrasonics and Materials Science for Advanced Technology(ICUMSAT- 2019)* Nov. 16-18, 2019, Department of Physics, Prof. Rajendra Singh (Rajju Bhaiya) Institute of Physical Sciences for Study and Research, Veer Bahadar Singh Purvanchal University, Jaunpur-222003,U.P., India
67.	Synthesis and Crystal Growth of Organic Materials for Nonlinear Optical and Generation of Terahertz Wave, *"23rd National Seminar on Crystal Growth and Applications (NSCGA-2019)"*, Jan. 28-30, 2019, Department of Physics, Bharathiar University, Coimbatore, Tamil Nadu, India.
68.	Synthesis and Optical Studies on Binary Organic Materials, *International Conference,* "*Materials Science and Technology 2017 (MS&T-2017)*", October 08-12, 2017, 78, Pittsburgh, Pennsylvania, USA.
69.	Synthesis, Crystal Growth and Optical Characterization of Novel Organic Complexes, *International Conference on Materials and Characterization Techniques 10-12 March 2014 ICMCT 2014, VIT***,** Vellore Tamil Nadu, India.

70.	Organic electronic materials, green synthesis for utmost utilization of starting materials and their significant applications, *International Workshop on Electronic materials Technology (MARCH 13 - 15, 2014)*, Crystal Growth Centre, Anna University, Chennai-600 025, India.
71.	Engineering of Talented Organic Materials for Laser Applications & their Crystal Growth, *Resource person- Lecture series under Associate Program of CGC:UGC-AU FacultySeminar,* March 17, **2014**.
72.	Solid-State Reaction and its Role in Synthesis of promising Organic Materials *Resource person- Lecture series under Associate Program of CGC:UGC-AU Faculty Seminar,* March 18, **2014**
73.	Role of Spectroscopic Studies in Identification of Organic Molecular Complex and their Studies, *International Workshop organized by U.P. Autonomous College*, at Udappa Auditorium, IMS, BHU, Feb. 7-10, 2012.
74.	Silent Features of Physical Chemistry in Crystal Growth Technology, Collaborative *2012 Collaborative Conference on Crystal Growth (3CG)* Doubletree by Hilton, Orlando, Florida, USA, Dec. 11-14, 2012.
75.	Aspects of Organic Materials in Advancing Laser Technology, *National Conference on Advances in Laser and Spectroscopy (ALS-2012)*, Department of Applied Physics, Indian School of Mines, Dhanbad, Jharkhand, November, 01-03, **2012**.
76.	Future directions of solvent free synthesis and phase diagram study to develop the novel organic materials, *International Conference on Recent Trends in Advanced Materials ICRAM-2012,* School of Advanced Sciences, VIT University, Vellore, Feb. 20-22, **2012**
77.	Role of Spectroscopic Studies in Identification of Organic Molecular Complex and their Studies, *Rajarshi Udai Pratap Singh Memorial 2nd International Workshop on Spectroscopic Signatures of Molecular Complexs/Ions In Our Atmosphere And Beyond,* Udai Pratap Autonomous College and Department of Applied Physics, Banaras Hindu University, Varanasi, India, Feb. 7-10, **2012**
78.	Thermal Analysis and Material Science, *11th National Convection of Chemistry Teachers (NCCT-2011)And National Seminar on "Emerging Trends in Green Chemistry"*, Department of Chemistry, A.N. College, Patna, Oct. 15-17, **2011.**
79.	Solvent free synthesis, crystal growth and fluorescence study of novel binary organic complex, *National Conference on Futuristic Materials*, Sharda University, Greater Noida, Sep. 15-17, **2011**
80.	Recent Trends in Synthesis of Organic Materials and their Devices, *Recent Trends in Materials and Device (RTMD-2011)*, Amity Institute of Applied Sciences and Amity School of Engineering and Technology, Noida, Uttar Pradesh, May19-20, **2011**
81.	Laser Materials and Worthy of Physical Chemistry, *National Seminar on Advances in Laser, Spectroscopy & Nanomaterials*, Department of Physics, Nehru Gram Bharati University, Allahabad, March, 5-7, **2011**
82.	Role of Organic Materials in Advancement of Science, *National Conference on Current Concepts and Frontier Advances in Science Educational Research,* T.D. Postgraduate College, Jaunpur, U.P., March 5-6, **2011**
83.	Nonlinear Optical Crystal for Detection and Generation of Terahertz Wave and Applications, *Meghnad Saha Memorial International Symposium-cum-Workshop on Laser Induced Breakdown Spectroscopy MMISLIBS-2010*, Department of Physics,

	University of Allahabad, Allahabad, Dec. 21-23, **2010**
84.	Engineering of Organic NLO Materials and Crystal Growth for Laser Applications *National Conference on Laser and Optical Science*, Department of Physics, D.H.S.K. College, Dibrugarh, Assam, October 11-13, **2010**
85.	Synthesis of Novel Organic Optical Material & Role of Temperature Gradient and Growth Rate on Crystal quality, *14th National Seminar on Crystal Growth, NSCG-XIV,* VIT University, Tamilnadu, Mar 10-12, **2010**
86.	Application of Nonlinear Optical Crystal in service of Society, *National Conference on Application of Material Science in Service of the Society-second series,* Department of Chemistry, C.M.P. Degree College, Allahabad, Sep, 12-13, **2010**
87.	New Trends in Synthesis of Organic NLO Laser Materials and their Crystal Growth *Meghnad Saha Memorial Symposium on Emerging trend in Laser and Spectroscopy and Application,* Department of Physics, Allahabad University, March, 23-25, **2009**
88.	Atomic packing and Crystal Defects, 11th Refresher course in Chemistry, BRBA, Bihar University, Muzaffarpur, April 6-7, **2009**
89.	Physical Chemistry and Electronic Materials, *11th Refresher course in Chemistry,* BRBA, Bihar University, Muzaffarpur, April 6-7, **2009**
90.	Role of physical chemistry in crystal growth, *Twelfth National Seminar on Crystal Growth,* SSN, College of Engineering, Tamilnadu, Dec. 21- 23, **2007**
91.	Organic NLO materials and crystal growth, *Tenth National Seminar on Crystal Growth*, (With **International Participation**) Kongu Engg. College, Perundurai, Erode, Jan. 27-29, **2005**
92.	Crystal growth of binary organic compounds, *Ninth National Seminar on Crystal Growth,* Crystal growth Centre Anna University Chennai, Feb. 24-26, **2003**

Papers in Conferences

93.	Physicochemical studies of solid-state synthesized novel organic compound; N-N, dimethylaminobenzaldehyde-2 Chloro-4-nitrobenzoic acid Sumit Chaudhary and **R. N. Rai**, National Symposium on Contemporary Trends and Future Prospects of Functional Materials (CTFM-2019) Nov. 29-30, 2019, Banaras Hindu University, Varanasi, India.
94.	Studies of Phase diagram, Crystal Growth, Crystal Structure and Optical Property of Novel Organic Charge Transfer Complex. Umesh Neupane, Sumit Chaudhary and **R. N. Rai**, *23rd National Seminar on Crystal Growth and Applications (NSCGA-2019)*, January 28-30, 2019, Bharathiar University, Coimbatore, India
95.	Synthesis, Crystal Structure, Optical and Nonlinear Optical Studies of a Novel Organic NLO Material. Priyanka Pandey, Umesh Neupane, Sumit Chaudhary and **R. N. Rai**, *23rd National Seminar on Crystal Growth and Applications (NSCGA-2019)*, January 28-30, 2019, Bharathiar University, Coimbatore, India
96.	Significant Fluorescent Emmission from the Solid State Synthesized Novel Organic Complex, Sumit Chaudhary and **R.N. Rai**, "*National Symposium on Emerging Trends in*

	Chemical Sciences, November 17-18, 2018, Banaras Hindu University, Varanasi, India
97.	Green Synthesis and Studies of Thermal and Crystal Structure of Novel Organic Charge Transfer Complex. Umesh Neupane and **R. N. Rai**, *National Symposium on Emerging Trends in Chemical Sciences, November 17-18, 2018*, BHU, India, Page-105
98.	Solid State Synthesis of Novel Organic Complexes and their Physico-chemical and Fluorescence Studies (Contributed talk) Umesh Neupane and **R. N. Rai**, *International Conference, "Materials Science and Technology 2017 (MS&T-2017), Oct. 08-12, 2017*, P-42, Pittsburgh, Pennsylvania, USA.
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