

## Curriculum Vitae



### Dr. Asha Jain

#### Professor in Chemistry

Department of Chemistry,

University of Rajasthan, Jaipur-302004

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#### Current Positions:

- Science Subject Expert, Kota University, Kota (2022)
- Convener, COC in Biochemistry (2020 onwards)
- Member, Steering Committee for UCCS & IT (2017)
- Secretary, Jaipur Indian Society of Chemist and Biologist, Jaipur Chapter (2017)

#### ❖ Professional Experience

- ❖ 2012 Aug.-Contd. Professor, University of Rajasthan, Jaipur
- ❖ 2019 Nov.-2022 Nov. Head, Department of Chemistry, UOR, Jaipur
- ❖ 2006 Aug.-2012 Aug. Associate Professor, University of Rajasthan, Jaipur
- ❖ 1996 Aug.-2006 Aug. Assistant Professor, University of Rajasthan, Jaipur
- ❖ 1994 July-1996 Aug. Research Associate (CSIR-Direct), University of Rajasthan, Jaipur
- ❖ 1992 Jan.-1994 June Senior Research Fellow (CSIR) University of Rajasthan, Jaipur
- ❖ 1988 Nov.-1991 Dec. Junior Research Fellow (SAP) University of Rajasthan, Jaipur

#### Other Positions Held:

- Head, Department of Chemistry, UOR, Jaipur (2019-2022)
- Dy. Director, UCCS & IT, UOR, Jaipur (2017-2022)
- Vice-Principal, University Maharaja College (2018-2019)
- Local Incharge of Chemistry at University Maharaja College (2017-2019)
- Coordinator of Inorganic Branch at Department of Chemistry (2018-2019)
- Coordinator of Project Work for M Sc. IV Semester (2017-18)
- Wardenship at Laxmi Bai Girls Hostel, University of Rajasthan (2007)

#### Awards

- **Best Paper Award- 2021** in International Conference on Smart Innovations for Society organized by Department of Applied Science, Poornima Institute of Engineering & Technology.
- **National Polio Award** (2015-16) from *India National PolioPlus Society of Rotary International*.

#### Academic Qualifications:

- ❖ Ph.D. (1992): University of Rajasthan, Jaipur,
- ❖ The topic of the Thesis "*Synthesis and Structural Studies of Organic Derivatives of Some Fourth Group Elements*"
- ❖ M.Sc. (1988) University of Rajasthan, Jaipur (I Division)
- ❖ B.Sc. (1986) University of Rajasthan, Jaipur (I Division)
- ❖ Higher Secondary (1983) Rajasthan Board (I Division with distinction in **Chemistry & Physics**)
- ❖ Secondary (1982) Rajasthan Board (I Division)

### Research Experience:

- Major Area of Research: *Synthetic Inorganic, Organometallic, and Metallo- Organic Chemistry.*
- Total number of Indexed Research Publications: 50
- Total Research Projects Completed as PI: 02
- No. of Ph.D. Supervised/Co-Supervised: 05
- No. of Ph.D. Students Working: 05 (including 02 teacher quota)
- Dissertation Supervised (M.Sc.): 18
- Scopus: H-Index=9,
- Research gate : H-Index=9,Citations=264,
- Google Scholar: H-Index=10 ,Citations= 316, i10 index= 13

### R & D Projects Completed as PI:

- ❖ Investigation of hybrid organic-inorganic derivatives of some group 13 and group 14 elements sanctioned by UGC, New Delhi(2012-2015)
- ❖ Synthesis structural studies and spectroscopic characterization of organic derivatives of Titanium/Zirconium/Tin/ Lead elements sanctioned by UGC, New Delhi (2005-2006)

### Organized Lectures /Webinar/Seminars/Conferences:

- **National Symposium** on Chemistry for Sustainable Future on 16<sup>th</sup> february,2022 at department of Chemistry,UOR,Jaipur
- **Special Lecture** under *R.C.Mehrotra Memorial Lecture series* on 5<sup>th</sup> October,2021by hybrid mode at Department of Chemistry, UOR, Jaipur
- **Webinar** on “Cancer Prevention and Healthy Life style”jointly organized by Department of Chemistry and Sanjeevani on 6<sup>th</sup> October,2021 on virtual mode.
- **Special Lectures** under *R.C.Mehrotra Memorial Lecture series* on 27<sup>th</sup> July and 20<sup>th</sup> August,10<sup>th</sup> November,2021by virtual mode at Department of Chemistry, UOR, Jaipur.
- **Popular e-Lecture** on the occasion of *35<sup>th</sup> National Science Day* on 1st March,2021at Department of Chemistry, UOR, Jaipur.
- **Anandam day Webinar** on 22<sup>nd</sup> June 2021at Department of Chemistry, UOR, Jaipur
- **Seminar** under *CRSI National week celebration* on 6<sup>th</sup> November 2020 at Department of Chemistry, UOR, Jaipur
- **International e-Conference** on Frontiers at the Chemistry-Allied Science Interface at Department of Chemistry, UOR, Jaipur(e-FCASI-30<sup>th</sup> June 2020)on virtual mode.
- **Popular e-lecture** for M.Sc Students and Research Scholars on 10<sup>th</sup> June 2020 at Department of Chemistry, UOR, Jaipur.

### Extra-Curricular activity:

- ❖ **Poster exhibition on National education day** on 11<sup>th</sup> November,2022 at department of Chemistry,University of Rajasthan,Jaipur
- ❖ **Organised E-Quiz** on National Chemistry week on 22<sup>nd</sup> October,2021 at Department of Chemistry,UOR,Jaipur
- ❖ **Organized Tree Plantation** under *Van Mahotsav Programme* on 2<sup>nd</sup> July 2021 at Department of Chemistry, UOR, Jaipur.
- ❖ **Organized Drawing Competition** under the topic *Bapu Ke Sapno ka Bharat* on 10<sup>th</sup> June 2020 at Department of Chemistry, UOR, Jaipur
- ❖ Related extra-curricular activities carry out as Proctor, Rector, and Vice-Principal at University, Maharaja College such as Drawing competition, plantation, dance competition, seminars on personal growth and development of students, etc.
- ❖ Conducted Student Union Election as Rector at University Maharaja College.
- ❖ Contributed as a volunteer in *11th International Youth Festiwal* ghumar, 2013 held from 18<sup>th</sup> to 20<sup>th</sup> February.

### **Roles in Co-curricular / Extracurricular activities:**

- **Observer** in *National Testing Agency NEET(UG)-2020* ,2021 and some other competition Exams.
- **Subject expert** in the selection committee of *National Institute of Ayurveda*, Jaipur Oct 2020.
- **Course Co-coordinator** of the Refresher Course in *Physical Sciences* Organised by UGC-Academic Staff College, UOR, Jaipur (15.12.2014-03.01.2015)
- **Co-Convener** of International Conference on *Frontiers at the Chemistry-Allied Science Interface* Organised by Department of Chemistry, UOR, Jaipur(FCASI-July,2017; FCASI-December,2018)
- **Joint Organizing Secretary** of International Conference on *Frontiers at the Chemistry-Allied Science Interface* Organised by Department of Chemistry, UOR, Jaipur(FCASI-April,2016)
- **Member** of *National Advisory Committee of National and International Conferences* organized by Colleges and Universities.
- **Evaluator** for *Ph.D.Thesis* in other Universities.
- **Reviewer** of *International Journals* published by Wiley.
- **Judged** at *M.C.B.Parekh Running Trophy Interschool Debate* in February 2016 and other Inter-school Science Competition and various events.

### **Invited Lecture at International/National Conferences, faculty development program:**

- ❖ **Visited abroad as Invited Speaker** at “*World Chemistry Conference and Exhibition* “on September 04-06, 2017 at Rome, Italy Presented Paper on the topic *Recent development in structure-activity relationship of organotin(IV) complexes*.
- ❖ **Invited Lecture** on the topic *Recent Advances .....New perspectives and applications* in Indian Council of Chemists 41<sup>st</sup> Annual Conference 2022(27<sup>th</sup> -29<sup>th</sup> December,2022) organised by Dr.Bhimrao Ambedkar University,Agra
- ❖ **Invited Lecture** on the Topic *Biological and Medicinal aspects of Metals* under Faculty Development Programme on Recent Advancements in chemical sciences and environmental engineering(15<sup>th</sup> -19<sup>th</sup> Feb.2021)Organised by S.S.Jain Subodh P.G.(Autonomous)College, Jaipur
- ❖ **Invited Lecture** on Topic- *Metal Deficiency and Disease* in State level training workshop under subject-specific short term program jointly organized by Commissionerate of College Education, Rajasthan and Samrat Prithviraj Chauhan Government College, Ajmer under Gyan Ganga Programme 2021 on 16<sup>th</sup> January 2021.
- ❖ **Invited Lecture** on Topic-*Recent Advances in Organotin(IV) Chemistry* in National Conference on Novel Advancement in Applied Chemical Science(27<sup>th</sup> -28<sup>th</sup> January, NACS-2020) Organised by S.S.JainSubodhP.G.(Autonomous)College,Jaipur.
- ❖ **Invited Lecture** on the Topic- *Synthesis and Spectroscopic Characterization of Organic-Inorganic Hybrid Complexes of Organotin (IV) Incorporating the Anti Microbial Activity Analysis* at ISCBC-NiPiCON-2020 organized by Nirma University, Ahmedabad, January 2020.
- ❖ **Invited Lecture** on the Topic- *Research Methodology* in the Amity School of Applied Sciences at Amity University on 3<sup>rd</sup> March 2017.
- ❖ **Invited Lecture** on the Topic *Nucleophilic Chemistry* on 14<sup>th</sup> Feb 2014 in Refresher Course conducted by UGC-Academic Staff College, UOR, Jaipur on (Jan.2014-Feb.,2014).
- ❖ **Invited Lecture** in *National Symposium on Recent Advances in Chemical sciences* organized by University of Kota, on January 2011.
- ❖ **Invited lecture** on the Topic “*Nucleophilic Substitution reactions in----complexes*” on 10<sup>th</sup> December 2011 in a Refresher course on “*Ecofriendly Benign Chemistry*” Organised by Academic Staff College, UOR, Jaipur.
- **Welcomed as Resource Person/ Special Guest/Chaired Person:**
- **Chief Guest** at Anuradha Mahilla Shikshak Prashikshan Mahavidyalaya ,Jaipur on 16<sup>th</sup> December,2022.
- **Chaired the two session** in 27<sup>th</sup> ISCB International Conference(ISCBC-2022) held at Department of Chemistry,Birla Institute of Technology,Mesra,Ranchi,Jharkhand,India.
- **Special Guest** *Inter-Collegiate Science Quiz competition* Organised by University Maharani College (UMCCO-19) on 27<sup>th</sup> January 2020.
- **Resource Person** in National Conference on *Novel Advancement in Applied Chemical Science*(January, NACS-2020) Organised by S.S.Jain Subodh P.G.(Autonomous)College, Jaipur.

- International Conference on *Frontiers at the Chemistry-Allied Science Interface* Organised by Department of Chemistry, UOR, Jaipur(e-FCASI-June2020; FCASI-December,2018; FCASI-July,2017; FCASI-April,2016; FCASI-March,2015).
- **Resource Person** for plenary Talk in National Seminar on *Chemistry for Economic Growth and Human Comforts* organized by Department of Chemistry, UOR, Jaipur on August 31st,2013.
- **Resource Person** for *PMT classes from rural and remote areas of Rajasthan under Satellite Communication(SATCOM)Program of Department of Science and Technology, Govt. of Rajasthan, Jaipur(2012-2013).*

#### **Member at University Level Committees :**

- ❖ Member of Unfair means Standing Committee(2013-2014)
- ❖ Member of Flying Squad Committee(2012-13);
- ❖ Member of DSW(2010-2011)
- ❖ Member of International Youth Festival Ghumar (2013)

#### **Contribution to Chemistry Department :**

- Head of Department (2019 to continue);
- Convener/Member Department Research Committee (at present);
- Convener/Member Credit Monitoring Committee;
- Convener Time Table Committee (2012,2017);
- Convener Examination Committee (2013,2017) ;
- Staff Council Secretary (2012);
- Associate Editorial secretary of Chem News letter, published by the Department of Chemistry, UOR(2012)

#### **Functioned in University Maharaja College**

- ❖ As Vice-Principal(2017-2019)
- ❖ Convener Time table Committee (2018,2019);
- ❖ Member Discipline Committee(2019);
- ❖ As Rector (2013-15);
- ❖ As Returning officer(2014),
- ❖ As Proctor (2010-2013);
- ❖ Member of Admission Committee(2009-2013);
- ❖ Anti-ragging Committee (2010-11);
- ❖ NSS Program Officer

#### **Orientation/Refresher Course attended**

- Orientation Course Organised by Academic Staff College UOR, With **A Grade** (Oct.1999)
- Refresher Course Organised by Academic Staff College UOR, With **A Grade** (Sep.2004)
- Refresher Course Organised by Academic Staff College UOR, Jaipur With **A Grade** (Aug.2008)

#### **Membership of Professional Societies**

- ❖ Chemical Research Society of India *IISC*, Bangalore-*LM1802* Life member since 2015
- ❖ The Indian Science Congress Association, Kolkata-*LI2129* Life member since 2007
- ❖ Indian Society of Chemists & Biologists, Lucknow-*LF-754/2016*
- ❖ Society for Material Chemistry, Mumbai-Life Member
- ❖ Rajasthan Science Congress Association-Life Member-146 since 2013

#### **Other Activities :**

- Rotary Club Jaipur Marugandga-*Rotarian since2005(ClubPresident:2015,Club Secretary:2008)*
- Delivered Radio talk on *Child Care* in Akashwani, Jaipur.
- Evaluated the Projects/Presentation of participants who come from different regions of KVS.
- District TRF&Polio Seminar organized by Rotary Club Jaipur Marugandha (Anudaan,13<sup>th</sup> Oct2019).
- Attended Multidistrict PETS-SETS(Sankalp, April 2017).
- Attended Multidistrict President-Elect Training Seminar (Deeksha) at Nirma University, Ahmedabad(April 2015)
- All India Trekking Expedition (Nilgiri Hills-Tamil Nadu) conducted by National Cadet Corps(1987)
- **NCC-C** Certificate(1988)
- **NCC-B** Certificate(1987)

### Some representative Research Papers:

- ❖ Deciphering mechanistic implications of antimicrobial and antioxidant potentials of certain new dibutyltin (IV) formulations as possible therapeutic options based on DFT and hybrid materials paradigm : Komal Soni, Sanjiv Saxena, Asha Jain ;*Journal of Biochemical and Molecular Toxicology*, e23276,2022 (IF: 3.568)
- ❖ Organic-Inorganic Hybrid Complexes of Lead (II) of Sterically Demanding Heterocyclic  $\beta$ -Diketones and Flexible N-Protected Amino Acids; *Indian Journal of Chemistry-Section A(IJC-A)* 60(2), 202-208, 2021(IF: 0.491).
- ❖ New Insights into the Predicament of DFT Assisted Optimized Energy, Stability and Distortions of Optimized Topologies of Some Novel Complexes of Zirconium(IV) and Enhancement of Antimicrobial Potential; *Appl. Organometal. Chem.*, 2019 <https://doi.org/10.1002/aoc.5080> (IF: 3.581).
- ❖ Synergy between DFT calculations and experimental studies on the optimized structures and the antibacterial potential of some novel tetra- and penta coordinated organic-inorganic hybrid complexes of titanium(IV); *Appl. Organometal. Chem.*, 2018 e 4321 DOI:10.1002/aoc. 4321 (IF: 3.581).
- ❖ Generation, spectroscopic characterization and antioxidant activity of tetracoordinate and hexacoordinate complexes of diethylgermanium(IV) of relatively sterically undemanding N-protected amino acids and sterically demanding heterocyclic  $\beta$ -diketones containing radical sensitive Ge-O bond; *Phosphorus, Sulfur, and Silicon*, 192 (2017) 506-512 (IF: 0.70)
- ❖ Effect of fluorinated/ non-fluorinated  $\beta$ -diketones and side-chain branching of N-protected amino acids on the antibacterial potential of new hepta coordinated monobutyltin(IV) complexes; *Appl. Organometal. Chem.*, 31 (2017) DOI:10.1002/aoc. 3628 (IF: 2.452).
- ❖ Investigation of pharmacophore and antipharmacophore features of certain dimethyltin(IV) complexes of flexible N-protected amino acids and fluorinated  $\beta$ -diketone/ $\beta$ -diketones; *Appl. Organometal. Chem.*, 31 (2017) DOI: 10.1002/aoc.3570 (IF: 2.452).
- ❖ Diorganotin(IV) Complexes of Flexible N-Protected Amino Acids and Ketoximes: Preparation and Structure-Antimicrobial Activity Relationship; *Canadian J. Chem.*, 94(2016)1-8 (IF-1.061).
- ❖ The structure-activity relationship of some hexacoordinated dimethyl tin(IV) complexes of fluorinated  $\beta$ -diketone/  $\beta$ -diketones and sterically congested heterocyclic  $\beta$ -diketones; *Appl. Organomet. Chem.*, 29, 499, 2015 (IF-2.248).
- ❖ Facile incorporation of  $\text{Bu}_3\text{Sn(IV)}$  into sterically congested Schiff bases of heterocyclic  $\beta$ -diketones: Synthetic route and structural considerations based upon multinuclear ( $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{119}\text{Sn}$ ) NMR studies ; *Main Group Metal Chemistry*, 33(2010)253-263 (IF-.714)
- ❖ Certain new organic –inorganic hybrid complexes of monobutyl(IV) of  $\beta$ -diketones/fluorinated  $\beta$ -diketone and sterically congested heterocyclic  $\beta$ -diketones: Preparation, structural chemistry and structural elucidation based upon spectroscopic [IR and NMR( $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{119}\text{Sn}$ )] studies; *Main Group Metal Chemistry*, 33(2010)167-181. (IF-.714)
- ❖ Some Zirconium (IV) complexes of sterically constrained sulfur containing Schiff bases of heterocyclic  $\beta$ -diketones: Synthetic strategy and structural investigation based upon spectroscopic studies; *Phosphorus, Sulfur and Silicon*, 184 (2009) 1689-1701 (IF-0.633)
- ❖ Incorporation of titanium(IV) into sterically hindered Schiff bases of heterocyclic  $\beta$ -diketones involving ketooximes and glycol as coligands : Preparation and structural considerations; *Phosphorus, Sulfur and Silicon*, 184 (2009) 1676-1688. (IF-0.633)
- ❖ Assessment of toxicity of some penta and hexa coordinated organotin(IV) and tetracoordinated tin(II) complexes of heterocyclic  $\beta$ -diketones; *Bioinorganic Chem. and Applications* 2006(2006), 60140.(doi.org/10.1155/BCA/2006/60140)(IF-3.273)
- ❖ Toxicity of certain penta-coordinated organotin(IV) and tetra-coordinated tin(II) complexes of heterocyclic  $\beta$ -diketones against the larvae of aedes aegypti (Liston); *Metal Based Drugs*, 6 (1999)183-186.
- ❖ Crystal structure and stereochemical implications of the tin(II) lone pair in a novel sterically demanding heterocyclic  $\beta$ -diketone derivative,  $\text{C}_{25}\text{H}_{26}\text{N}_4\text{O}_5\text{Sn}$ ; *Main Group Met. Chem.*, 18 (1995) 661-667.
- ❖ Structural and stereochemical considerations of bis(4-acetyl-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onato)dimethyl tin(IV) based upon single crystal X-ray analysis; *Main Group Met. Chem.*, 18 (1995) 139.
- ❖ Preparation, spectral (IR,  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{119}\text{Sn}$ ) characterization and structural elucidation of some tin(II)

complexes of 4-acyl-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-ones; *Main Group Met. Chem.*,**14** (1991) 329-339.

#### **Paper Presentation/Participation in International Conferences/ Symposium:**

- International Conference on ***Heterocyclic Chemistry (Anti-cancer, Pharmaceutical & Agrochemical Heterocycles)*** organized by Department of Chemistry, University of Rajasthan, Jaipur 15-18 Dec. 2001.
- International Symposium on the ***Chemistry and Applications of Alkoxy, Aryloxy & Allied Derivatives of elements***, University of Rajasthan, Jaipur (10-13 January 2002).
- International Symposium on ***Interaction of Chemistry Training with Research and Industry***, University of Rajasthan, Jaipur (January 15-17, 2003).
- International conferences on ***Sustainable Development and resources utilization. Current Trends and Perspectives***, University of Rajasthan, Department of Chemistry, Jaipur. (September 23-25, 2005).
- International Conference on ***Heterocyclic Chemistry***, Department of Chemistry, University of Rajasthan, Jaipur. (December 16-19, 2006)
- International Conference & Expo on ***Botanical Products*** Organised by Department of Chemistry, University of Rajasthan, Jaipur 25-27 March 2006.
- International conference on ***heterocyclic Chemistry***, Department of Chemistry, University of Rajasthan, Jaipur (India), December 10- 13, 2011.
- International conference ***the 102nd Indian Science Congress***, by The Indian Science Congress Association, held at University of Mumbai, from 3-5 January 2015, paper presented on the topic *Designing of ....Characterization*.

#### **Paper Presentation /Participation in various National Conferences/ Symposium/ Seminar/ workshops:**

- ❖ National Seminar on ***Role of Science and Technology Rural Development*** Organised by Indian Science Congress Association (ISCA) Jaipur Chapter, UOR (November 2019)
- ❖ Workshop on ***Intellectual Property Rights Awareness and Training Programme (IPRATP)*** February, 2018) Organised by Department of Chemistry, UOR, Jaipur.
- ❖ National Conference on ***New Vistas in Chemical Research*** Organized by The IIS University, Jaipur and presented a paper on the topic " *Generation of some organotin(IV) Complexes of Substituted Pyrazolones and N-Procted Amino acids*" (January 2017)
- ❖ National Conference on ***Frontiers at the Chemistry-Allied Science Interface*** Organised by Department of Chemistry, UOR, Jaipur (FCASI-March, 2015)
- ❖ One-day national seminar on "***Chemistry in our lives***" (***IYC-2011***) Organised by Department of Chemistry, UOR, Jaipur (12<sup>th</sup> Dec 2011).
- ❖ National symposium on ***recent advances in Chemical Sciences*** Organised by the University of Kota, Kota January, 07-08, 2011.
- ❖ National *symposium on New Frontiers in Chemical Sciences (NFCS-10)*, Organised by Centre of Advanced Studies, Department of Chemistry, UOR, Jaipur, India (Feb 25<sup>th</sup>, 2010).
- ❖ National Seminar on ***Water auditing*** Organised by University of Rajasthan, Jaipur, on 18-20 May 2010.
- ❖ National Workshop on ***Opportunities and Challenges in the New Global Era*** Organised by Department of Chemistry and Maharajas College, UOR, Jaipur. ( December 7-9, 2009).
- ❖ National Symposium on ***Emerging Trends in Advanced Chemistry (ETAC-08)*** Organised by Centre for advanced studies (CAS), Department of Chemistry, UOR, Jaipur (March 8-10, 2008).
- ❖ Workshop on ***Green Chemistry Education***, Department of Chemistry, University of Delhi, Delhi. (March 10<sup>th</sup>, 2007)
- ❖ Seminar Cum Expo on Botanical Products in ***New Millennium Developments and Challenge*** Department of Chemistry, UOR, Jaipur. (February 5-7, 2005).
- ❖ National Symposium on ***New Vistas in Organic Synthesis***, International College for Girls, Jaipur. (November 20<sup>th</sup>, 2005).
- ❖ National Symposium on ***Recent Advances in Chemical Research*** organized by Department of Chemistry, UOR, Jaipur 28-29 March 2005.
- ❖ National symposium on ***Science and Technology for desert Development*** Organized by Department of Chemistry, UOR, Jaipur 2-4 Dec. 2004.
- ❖ National Symposium on ***Dynamics & Reaction Mechanism of Electron Transfer Reactions***, University Maharaja College, Jaipur (July 29-31, 2002).

- ❖ National Seminar On *Application of Nuclear Techniques in Science Teaching*, University Maharaja College, Jaipur (September 28, 29, 2002).
- ❖ National Seminar on *Science, Society, and Challenges in New Millennium* organized by Department of Chemistry, UOR, Jaipur on 24<sup>th</sup> March 2000

**Professor Asha Jain**