

## Profile of Dr. Gajanan Rashinkar



### 1) Personal Details:

**Full Name** : Dr. Rashinkar Gajanan Shankarrao

**Current Designation** : Assistant Professor in Organic Chemistry

**Subject Specialization** : Organic chemistry

**Date of Birth** : 15<sup>th</sup> October, 1975

**Nationality** : Indian

**Sex** : Male

**Present Address** : Dr. Rashinkar Gajanan Shankarrao

Department of Chemistry,

Shivaji University, Kolhapur-416 004.

**Residential Address** : Dr. Rashinkar Gajanan Shankarrao

Plot No. B-33, Dhanwantari Nagar, Behind MHADA Colony,

Morewadi, Kolhapur-415013 (MS)

Mobile: 9823113269

Email: gsr\_chem@unishivaji.ac.in

## 2) Academic Qualification

Sr. No.	Examination Passed	Year of Passing	Name of Board/ university	Subjects Taken	Percentage of Marks Obtained	Grade
1	M. Sc.	<b>1998</b>	Shivaji University, Kolhapur	Organic Chemistry	64 %	<b>I</b>
2	Ph.D.	<b>2010</b>	Shivaji University, Kolhapur	Organometallic Chemistry	-----	-----
3	SET	<b>1990</b>	University of Pune	Chemistry	----	----
4.	NET (JRF)	<b>2000</b>	CSIR, New Delhi	Chemical Sciences	-----	----
<b>3</b>	<b>Title of Ph.D. thesis</b>	<b>“Synthetic Studies in Some Biologically Active and Ferrocene Based compounds”</b>				

## 3) Research Specialization:

- Supported Ionic Liquid Phase (SILP) Catalysis
- Functionalization of Cucurbiturils
- Ferrocene Labeled molecules
- Bioactive heterocycles as anticancer agents
- Organic synthesis using green chemistry principles
- Ionic liquids as contrast reagents for early detection of cancer

## 4) Teaching experience: 18 years

### a) UG Teaching: 05 years

1. Lecturer in New College Paranda ( 1998-1999)
2. Lecturer in Chemistry at “D. B. F. Dayanand College of Arts and Science, Solapur, Maharashtra (1999-2001).
3. Lecturer in Chemistry at “Y.C College of Science, Karad, Maharashtra (2003-2004).

**b) PG Teaching: 13 years**

1. Worked as a Lecturer in Chemistry at “P. G. Centre Shivaji University, Kegaon” Solapur (2001-2002).
2. Worked as a Lecturer in Chemistry at Department of Chemistry, Shivaji University, Kolhapur (2002-2003).
3. Working as a Assistant Professor in Organic Chemistry at Department of Chemistry, Shivaji University, Kolhapur Since 2004 till date.

**5) Research Guidance:**

1. No. of M. Phil awarded : **00**
2. No. of Ph. D. awarded : **02**
- 3 No. of Ph. D. working : **06**
4. No. of M. Sc. Projects completed : **54**

<b>Name of Student</b>	<b>Title of Thesis</b>	<b>Registration</b>
Mr. Rajanikant Kurane	Development of Novel Supported Ionic Liquid Phase Catalysts for Efficient Organic Transformations	2011 (Declared)
Mr. Jagnath Jadhav	Synthetic Studies in Azaheterocyclic Compounds	2011 (Declared)
Mr. Vipul Gaikawad	Synthesis and Applications of Ferrocene Functionalized Compounds	2011
Mr. Sharanabasappa Khanapure	Synthetic Studies in Metallocenes	2012
Miss. Megha Jagdale	Synthetic studies using green chemistry principles	2012
Mr. Altaf Hussain Naikwade	Designing Magnetic Nanoparticle Supported Ionic Liquid Phases (MNPSILPs) For Catalytic Applications	2015

Mr. Shivanand Gajare	Functionalized Magnetic Nanoparticles and graphene for catalytic and medicinal applications	2015
Mr. Arvind Pawar	Synthetic studies in multicomponent heterocyclization reactions	2015

## **6) Research Publication: 41**

**International: 39      National: 02**

### **Details of Publications**

- 1) Intermolecular C-O Coupling Using Hemicucurbituril Supported Ionic Liquid Phase catalyst, R. Kurane, P. Bansode, S. Khanapure, D. Kale, R. Salunkhe, G. Rashinkar\*, **Catal. Lett.**, 2016, DOI 10.1007/s10562-016-1871-x (Article in Press).
- 2) Potentially antibreast cancer enamidines–alkyne–amine coupling and their molecular docking studies, P. Bansode, J. Jadhav, R. Kurane, P. Choudhari, M. Bhatia, S. Khanapure, R. Salunkhe, G. Rashinkar\*, **RSC Adv.**, 2016, 6, 90597-90606.
- 3) Cellulose-supported N-heterocyclic carbene silver complex with pendant ferrocenyl group for diaryl ether synthesis, M. Jagadale, R. Salunkhe, A. Kumbhar, S. Gajare, M. Rajmane, G. Rashinkar\*, **Appl. Organometal. Chem.**, 2016, 1-7. DOI 10.1002/aoc.3576.
- 4) Selective oxidation of alcohols using ferrocene-labeled Merrifield resin-supported ionic liquid phase catalysts, R. Kurane, P. Bansode, S. Khanapure, R. Salunkhe, G. Rashinkar\*, **Res Chem Intermed**, 2016, 1-15. DOI: 10.1007/s11164-016-2563-2.
- 5) Zirconocene catalyzed synthesis of 2-substituted benzimidazole derivatives, S. Karhale, K. Patil, C. Bhenki, G. Rashinkar, V. Helavi\*, **Res Chem Intermed**, 2016, 1-12. DOI:10.1007/s11164-016-2534-7.
- 6) Zirconocene dichloride catalyzed multi-component synthesis of 1-amidoalkyl-2-naphthols at ambient temperature, S. Khanapure, M. Jagadale, R. Salunkhe, G. Rashinkar, Zirconocene dichloride catalyzed multi-component synthesis of 1-amidoalkyl-2-naphthols at ambient temperature, S. Khanapure, M. Jagadale, R. Salunkhe, G. Rashinkar\*, **Res Chem Intermed**, 2016, DOI 10.1007/s11164-015-2136-9.
- 7) Sustainable synthesis of sulfonamides using supported ionic liquid phase catalyst containing Keggin-type anion, M. Jagadale, S. Khanapure, R. Salunkhe, M. Rajmane, G. Rashinkar\*, **Applied Organometallic Chemistry**, 2016, 30(3), 125-131.

- 8) A modular approach for multicomponent synthesis of amidines using modified Scolecite, M. Jagadale, P. Bhange, R. Salunkhe, D. Bhange, M. Rajmane, G. Rashinkar\*, **Applied Catalysis A: General**, 2016, 511(5), 95-105.
- 9) An expedient synthesis of oxazolones using a cellulose supported ionic liquid phase catalyst, R. Kurane, S. Khanapure, D. Kale, R. Salunkhe and G. Rashinkar\*, **RSC Adv.**, 2016,6, 44135-44144.
- 10) Application of novel multi-cationic ionic liquids in microwave assisted 2-amino-4*H*-chromene synthesis, A. Kumbhar, S. Jadhav, R. Shejwal, G. Rashinkar and Rajshri Salunkhe\*, **RSC Adv.**, 2016,6, 19612-19619.
- 11) Aqueous hydrotrope: an efficient and reusable medium for a green one-pot, diversity-oriented synthesis of quinazolinone derivatives, A. Patil, M. Barge, G. Rashinkar, R. Salunkhe\*, **Mol. Divers.**, 2015, 19(3), 435-445.
- 12) Crystal structure of *N*-(2-hydroxynaphthalen-1-yl)(4-methylphenyl)methyl]acetamide, S. Khanapure, G. Rashinkar, T. Chhowala, S. Anthal and R. Kant, **Acta Cryst.**, 2015, E71, o235.
- 13) Facile access to 3-cyano-4-azaindoles via Modified Madelung synthesis, Jagannath Jadhav, Sharanabasappa Khanapure, Rajanikant Kurane, Rajashri Salunkhe, Gajanan Rashinkar\*, **Tetrahedron Letters**, 2013, 54, 6858–6863.
- 14) Synergistic catalysis by an aerogel supported ionic liquid phase (ASILP) in the synthesis of 1,5-benzodiazepines, Rajanikant Kurane, Jagannath Jadhav, Sharanabasappa Khanapure, Rajashri Salunkhe, Gajanan Rashinkar\*, **Green Chemistry**, 2013, 15, 1849–1856.
- 15) Remarkable anti-breast cancer activity of ferrocene tagged multi-functionalized 1,4-dihydropyrimidines, Jagannath Jadhav, Aarti Juvekar, Rajanikant Kurane, Sharanabasappa Khanapure, Rajashri Salunkhe, Gajanan Rashinkar\*, **European Journal of Medicinal Chemistry**, 2013, 65, 232-239.
- 16) Organocatalytic synthesis of 2-substituted quinoxalin-4(3*H*)-ones using dual activation strategy, Jagannath Jadhav, Sharanabasappa Khanapure, Rajashri Salunkhe, Gajanan Rashinkar\*, **Applied Organometallic Chemistry**, 2013, 27, 486-488.
- 17) A viable synthesis of Ferrocene tethered NHC-Pd Complex via supported ionic liquid phase catalyst and its Suzuki-Coupling activity, V. Gaikwad, R. Kurane, J. Jadhav, R. Salunkhe, G. Rashinkar\*, **Journal of Applied Catalysis A: General**, 2013, 451, 243-250.
- 18) Intramolecular O-arylation route to 2-substituted benzoxazoles mediated by ferrocene tethered polymer supported ionic liquid phase catalyst, Jagannath Jadhav, Vipul Gaikwad, Rajanikant Kurane, Rajashri Salunkhe, Gajanan Rashinkar\*, **Tetrahedron**, 2013, 69, 2920-2926.
- 19) Palladium supported hybrid cellulose–aluminum oxide composite for Suzuki–Miyaura cross coupling reaction, Arjun Kumbhar, Sanjay Jadhav, Santosh Kamble, Gajanan Rashinkar, Rajashri Salunkhe\*, **Tetrahedron Letters**, 2013, 54, 1331–1337.

- 20) Hydrotrope: Green and rapid approach for the catalyst-free synthesis of pyrazole derivatives, M. S. Barge, S. B. Kamble, A. S. Kumbhar, G. S. Rashinkar, R. S. Salunkhe\*, **Monatshefte fur Chemie**, 2013, 144, 1213-1218.
- 21) DABCO entrapped in agar-agar: A heterogeneous gelly catalyst for multi component synthesis of 2-amino-4H-chromenes, Shital Shinde, Gajanan Rashinkar, Rajashri Salunkhe\*, **Journal of Molecular Liquids**, 2013, 178, 122-126.
- 22) Pd-Catalyzed Cascade Reaction for the Synthesis of 2-Substituted Indoles. Jagannath Jadhav, Vipul Gaikwad, Rajanikant Kurane, Rajashri Salunkhe, Gajanan Rashinkar\* **Synlett**, 2012, 23, 2511-2515.
- 23) Ultrasound promoted efficient and green synthesis of  $\beta$ -amino carbonyl compounds in aqueous hydrotropic medium. Santosh Kamble, Gajanan Rashinkar, Arjun Kumbhar, Madhuri Barge and Rajashri Salunkhe\*, **Ultrasonics Sonochemistry**, 2012, 19, 812–815.
- 24) Ferrocene tagged functional polymer: A robust solid-phase reagent for O-demethylation. Rajanikant Kurane, Vipul Gaikwad, Jagannath Jadhav, Rajashri Salunkhe, Gajanan Rashinkar\*, **Tetrahedron Letters**, 2012, 53, 6361–6366.
- 25) Brønsted Acid Hydrotrope Combined Catalyst for Environmentally Benign Synthesis of Quinoxalines and Pyrido[2,3-b]pyrazines in Aqueous Medium. Arjun Kumbhar, Santosh Kamble, Madhuri Barge, Gajanan Rashinkar, Rajashri Salunkhe\*, **Tetrahedron Letters**, 2012, 53, 2756-2760.
- 26) Silica Tethered Pd-DABCO Complex: An Efficient and Reusable Catalyst for Suzuki–Miyaura Reaction, Arjun Kumbhar, Santosh Kamble, Gajanan Rashinkar, Rajashri Salunkhe\*, **Catalysis Letters**, 2012, 142, 1388-1396.
- 27) Hydrotrope Induced Catalysis in Water: A Clean and Green Approach for the Synthesis of Medicinally Relevant Bis(indolyl)methanes and 2-Aryl benzimidazoles, Santosh Kamble, Gajanan Rashinkar, Arjun Kumbhar, Kavita Mote and Rajashri Salunkhe\*, **Synthetic Communications**, 2012, 42, 756-766.
- 28) Hydrotrope Induced Efficient Synthesis of 1, 8-Dioxo-Octahydroxanthene in Aqueous Medium, Santosh Kamble, Gajanan Rashinkar, Arjun Kumbhar, Santoshkumar Pore and Rajashri Salunkhe\*, **Green Chemistry Letters and Reviews**, 2012, 5, 101-107.
- 29) An expeditious synthesis of homoallylic alcohols using bronsted acidic supported ionic liquid phase catalyst with pendant ferrocenyl group, G.S.Rashinkar, S.B.Kamble, A.S.Kumbhar and R.S. Salunkhe\*, **Catalysis Communication**, 2011, 12, 1442-1447.
- 30) Facial Knoevenagel and domino Knoevenagel/Michael reaction using Gel Entrapped Base Catalysis. Shital Shinde, Gajanan Rashinkar, Arjun Kumbhar, Santosh Kamble and R. S. Salunkhe\*, **Helvetica Chimica Acta**, 2011, 94, 1943-1957.

- 31) Ferrocene Labelled Supported Ionic Liquid Phase (SILP) containing organocatalytic Anion for Multi-component synthesis, Gajanan Rashinkar, Rajashri Salunkhe, **Journal of Molecular Catalysis A: Chemical**, 2010, 316, 146-152.
- 32) Facile Synthesis of Ferrocenylamines in aqueous hydrotropic solution using microwaves, G. S. Rashinkar, S. B. Kamble, A. S. Kumbhar, R. S. Salunkhe\*, **Transition Metal Chemistry**, 2010, 35, 185-190.
- 33) Aqueous Extract of pericarp of Sapindus trifoliatus fruit: A novel green catalyst for aldimine synthesis, S. B. Pore, G. S. Rashinkar, K. B. Mote, R. S. Salunkhe, **Chemistry and Biodiversity**, 2010, 7, 1796-1800.
- 34) Amine Exchange Reactions in Ionic Liquid, G. S. Rashinkar, S. B. Pore & R. S. Salunkhe, **Phosphorus, Sulfur and Silicon**, 2009, 184, 1750-1758.
- 35) An efficient synthesis of novel 2-amino-4-aryl-6-ferrocenyl pyrimidines, G. S. Rashinkar, S. B. Pore, K. B. Mote, R. S. Salunkhe, **Indian J. Chem. Section B**, 48B, 2009, 606-610.
- 36) Enantioselective Synthesis of Diarylmethanols using Microbial Transformation, P. R. Salokhe, G. S. Rashinkar & R. S. Salunkhe, **Indian J. Chem. Section B**, 49, 2009, 199-202.
- 37) The task-specific ionic liquid-promoted reaction: An expeditious synthesis of privileged 1, 8-dioxo-octahydroxanthene, A Kumbhar, S Kamble, G Rashinkar, K Mote, R Salunkhe, **Arch. Appl. Sci. Res.**, 2, 2010, 235-239.
- 38) Acacia concinna pods: as a green catalyst for highly efficient synthesis of acylation of amines, **Arch. Appl. Sci. Res.**, 2, 2010, 74-80.
- 39) Green chemistry approach for synthesis of 5-arylidine barbituric acid derivatives by hydrotrope induced Knoevenagel condensation in aqueous medium, **Arch. Appl. Sci. Res.**, 2, 2010, 217-222.
- 40) Ultrasound promoted synthesis of 1, 2-disubstituted benzimidazoles using aqueous hydrotropic solution, A Patil, S Kamble, G Rashinkar, R Salunkhe, **Chemical Science Review and Letters**, 2014, 3 (10), 214-220.

## 7) Conferences Attended:

Name of Author/s	Year	Title of Paper	Name of symposia / conference	Sponsoring agency
G. S. Rashinkar, B. A. Shelar, M. A. Shelar, P. Gaikwad, N. P. Hilage, A. R. Shelar	23-25 Jan. 2003	Alkaline hydrolysis of a new cephalosporin derivative: A HPLC and proton NMR study	International Symposium on Drug Delivery and Process Research	Shivaji University, Kolhapur
G. S. Rashinkar	5,6 Sept. 2003	Attended	Training Workshop in Chemistry for College Teachers	Shivaji University, Kolhapur
G. S. Rashinkar	23-25 Jan.	Attended	National Seminar on Advanced	Shivaji University,

	2006		Technologies (NASMAT-2006)	Kolhapur
<b>G. S. Rashinkar</b>	11, 12 March, 2006	Attended	Workshop on Atomic Structure and Chemical Bonding	Shivaji University, Kolhapur
<b>G. S. Rashinkar</b>	22 <sup>nd</sup> Sept. 2006	Attended	A work shop on “ Green Chemistry”	M. S. University, Baroda, India
<b>G. S. Rashinkar, R.S. Salunkhe</b>	6,7 Sept. 2006	Synthesis of Fullerene based $\beta$ - aminopropiohenone	Campaign on University Research And training Court- 2006	Shivaji University, Kolhapur.
<b>G. S. Rashinkar, B.V. Tamhankar, A. S. Sawant, R. S. Salunkhe</b>	3-5 Oct. 2008	Amine exchange reactions ionic liquid	Recent Advances in Chemical Sciences	Govt. Dungal College, Bikaner.
<b>G. S. Rashinkar, S. B. Pore, K. B. Mote, R. S. Salunkhe</b>	1 – 2 Feb. 2008	Amine exchange reaction liquid	National seminar on “ Synthesis of new materials for industrial applications	Dept. of Chem. Shivaji University, Kolhapur.
<b>G. S. Rashinkar, S. B. Pore, K. B. Mote, R. S. Salunkhe</b>	9-11 Dec. 2008	An efficient synthesis of novel 2-amino-4- aryl-6-ferrocenyl pyrimidines	International Conference on Nanomaterials and Applications-2008	Dept. of Chem. Shivaji University, Kolhapur.
<b>G.S. Rashinkar, S. B. Pore, K. B. Mote, A. S. Kumbhar, S. B. Kamble, S. R. Shinde, R. S. Salunkhe</b>	23 - 24 Dec. 2009	Ferrocene labeled supported ionic liquid phase (SILP) catalyst for multi-component synthesis	National Seminar on Advanced Synthetic Methodologies and Functional Materials	Dept. of Chem. Shivaji University, Kolhapur.
<b>G. S. Rashinkar, S. B. Kamble, A. S. Kumbhar, R. S. Salunkhe</b>	17-18 Aug. 2010	Characterization of immobilized ionic liquid like units in supported ionic liquid phase (SILP) catalysts by Raman spectroscopy	National Seminar on Advances in Coordination Chemistry	Rajashri Chatrapati Shahu College, Kolhapur
<b>G. S. Rashinkar, S. B. Kamble, A. S. Kumbhar, R. S. Salunkhe</b>	14-15 Oct. 2010	Ferrocene tethered Bronsted supported ionic liquid phase catalyst for synthesis of homoallylic alcohols	National Conference on Recent Trends in Chemistry	YCIS, Satara
<b>G. S. Rashinkar, S.</b>	9-10	New Task Specific	National conference	Dr. Babasaheb



B. Kamble, A. S. Kumbhar, R. S. Salunkhe	January, 2012	Supported Ionic Liquid Phase Catalyst For O-Demthylation	on Sustainable Chemistry: Challenges and Opportunities	Ambedkar Marathwada University, Sub-campus Osmanabad, Shivaji University, Kolhapur
Shital Shinde, Prabha Salokhe, Madhuri Barge, Gajanan Rashinkar & <b>R.S.Salunkhe</b>	21-22 Jan. 2012	A heterogeneous gelly catalyst for multi- component synthesis of 2-amino-4-H chromenes	National seminar on recent advances in synthetic chemistry and nanomaterials	Shivaji University, Kolhapur
Gajanan Rashinkar & R.S.Salunkhe	29-31 Oct. 2012	A viable synthesis of ferrocene tethered NHC-Pd complex via supported ionic liquid phase catalyst and its Suzuki coupling activity	International Indo German Symposium on Green Chemistry and Catalysis for Sustainable Development	ICT, Mumbai
Gajanan Rashinkar, Jagannath Jadhav, Rajashri Salunkhe	17-18 Jan. 2014	New Task Specific Supported Ionic Liquid Phase Catalyst for Synthesis of Bioactive Heterocycles	Current Trends in Chemical Sciences and Nano Sciences	Shivaji University, Kolhapur
Megha Jagadale, Rajashri Salunkhe, Gajanan Rashinkar	22-23 April, 2015	Synthesis of bioactive molecules using modified zeolite	International Conference on Contemporary Research in Chemical and Life Sciences	S.G.M. Karad
Megha Jagadale, Rajashri Salunkhe, Gajanan Rashinkar	10 March, 2015	Green methodology for synthesis of azalactones using gel entrapped ionic liquid	International Conference on Emerging Trends in Basic and Applied Sciences	Karmaveer Hire Arts, Science, Commerce and Education College, Gargoti
Jagannath Jadhav, Gajanan Rashinkar, Rajashri Salunkhe	22-24 Jan. 2015	Pd Catalyzed cascade reaction for the synthesis of 2- substituted indoles	International Conference on Green Chemistry: Catalysis, Energy and Environment	Goa University
Jagannath Jadhav, Gajanan Rashinkar, Rajashri Salunkhe	30 June, 2014	Remarkable antibreast cancer activity of ferrocene tagged multi-functionalized 1,4-dihydropyrimidines	National Conference "Frontiers in Chemical Sciences"	Solapur University,
Sharanbasappa Khanapure, Gajanan Rashinkar, Rajashri Salunkhe	16-17 Jan. 2015	An Efficient Synthesis of 1-amidoalkyl-2- naphthols mediated by Zirconocene dichloride	National Conference on Frontiers in Chemical & Material Sciences	Shivaji University, Kolhapur

Megha Jagadale, Rajashri Salunkhe, Gajanan Rashinkar	25- 26 Sept., 2015	Synthesis of bioactive molecules using modified zeolite	Triggering Discovery and Process Research	Drug Process	Bharati Vidyapeeth College of Pharmacy, Kolhapur
--	--------------------------	---	---	-----------------	--

### 8) Research Projects: Three (Two completed, one ongoing)

Title of Project / Scheme	Funding Agency	Funds received (Rs)	Date of starting	Date of ending
▶ Extractive column chromatographic method for the determination of toxic metals	UGC	50000/-	April 2004	March 2006
▶ Development of Novel Supported Ionic Liquid Phase (SILP) Catalysts for Efficient Organic Transformations	UGC	789000/-	July 2011	June 2014
▶ Designing Magnetic Nanoparticle Supported Ionic Liquid Phases (MNPSILPs) With Pendant Ferrocenyl Group For Catalytic Applications	DST (SERB)	24,60,000/-	Dec. 2015	Dec. 2018

### 9) Honors and rewards:

- 1 “Young Scientist Award” at National Conference on Recent Advances in Chemical Sciences held at Dungar College, Bikaner (2008).
- 2 “Shiv Adarsh Puraskar” by Shivaji University Aaji-Maji Vidyarthi Sanghatana (2014).
3. “Bharat Vikas Award” by ISR, Bhubaneshwar (2016).
4. “Best poster presentation Award” at International conference on Green Chemistry: Catalysis, Energy and Environment held at Department of Chemistry, Goa University
5. “Best Poster presentation award” at National Conference on Recent Trends in Chemistry held at YCIS, Satara (2010).