



Profile of the Faculty

1. General Information:

Name of the Faculty	:	Prof. (Dr.) Balasaheb Dagadu Aghav
Name of the Department	:	Chemistry
Educational Qualifications	:	M.Sc., Ph.D., SET
Present Designation	:	Professor
Address for Correspondence	:	Department of Chemistry, Changu Kana Thakur Arts, Commerce and Science College, New Panvel (Autonomous), Plot-No.01, Sector- 11, Khanda Colony, New Panvel (W), Dist. Raigad, Maharashtra, India-410206
E-mail	:	balasahebaghav@ckthakurcollege.net , balasahebaghav1977@gmail.com
Contact Number	:	(022) 27464193, (022) 27455760
Specialization	:	Organic Chemistry
Total teaching experience	:	24 Years
Courses taught	:	UG- Organic Chemistry PG- Natural Products, Heterocyclic Chemistry, Synthetic Organic Chemistry, Spectroscopy
Research experience	:	14 Years
Number of students registered for Ph.D. degree	:	04
Number of students awarded Ph.D. degree	:	01
Number of students registered for P.G degree by research	:	00
Number of students awarded P.G degree by research	:	00

2. Publication of Research Papers:

Peer reviewed journals	:	19
Non-peer reviewed journals	:	02
Conference proceedings	:	01

List of Publication of Research Papers:

1. CoCeO₂ Nanoparticles: Green Synthesis, Characterization, Photocatalytic Degradation of Organic Pollutants, Catalytic Reduction of 4-Nitrophenol, and Antimicrobial Activity, Patil, P.A., **Shaikh, S.A.**, & Aghav, B.D. (2026), *ChemistrySelect*, 11(1), e06086.
2. Green synthesis of CuCeO₂ nanoparticles using Averrhoa carambola fruit extract for its photocatalytic application and antimicrobial activity, Patil, P.A., **Shaikh, S.A.**, & Aghav, B.D. (2026), *Current organocatalysis* (Accepted).
3. Discovery of novel benzoxazole analogues as potential anticancer agent selectively targeting aromatase, Sandip Gadakh, **Balasaheb Aghav***, Nishith Teraiya, Dhaval Prajapati, Jignesh H. Kamdar, Bhumika Patel, Ruchi Yadav, *Bioorganic & Medicinal Chemistry*, 122 (2025) 118142.
4. CuCeO₂ NPs: An efficient catalyst for the synthesis of 1,4-dihydropyridine derivatives, Shaheen A. Shaikh, Vishal S. Kamble, Priya A. Patil, **Balasaheb D. Aghav***, *Journal of Porous Materials*, 1-15, 2025.
5. Synthesis, biological evaluation and molecular docking study of novel 5-substituted 1,2,4-oxadiazole-3-yl benzoxazole derivatives as potential antimicrobial agents, Sandip Gadakh, Dhaval Prajapati, **Balasaheb Aghav***, *ChemistrySelect*, 9 (42), e202404051,2024.
6. Simple co-precipitation synthesis of aluminum-decorated zinc oxide nanorods for noxious NO₂ gas detection at low ppm concentrations, Vijay N. Pawar, Vishal S. Kamble**, Kaustubh A. Mundhe, **Balasaheb D. Aghav**, Suresh T. Salunkhe, Abhijit N. Kadam, Satyajit S. Kamble*, *Vacuum*, 227 (2024) 113373.
7. A green and one-pot synthesis of 6-amino-1,4-dihydropyrano[2,3-*c*]-pyrazole-5-carbonitrile derivatives using CoCeO₂ nanoparticles as an efficient, reusable and heterogeneous catalyst, Shaheen A. Shaikh, Vishal S. Kamble, Rohan K. Zemase, Sanjay K. Patil, **Balasaheb D. Aghav***, *Research on Chemical Intermediates*, 49 (12), (2023), 5255-5272.

8. Versatile applications of transition metal incorporating quinoline Schiff base metal complexes: An overview, Harshad R. Sonawane , Baliram T. Vibhute , **Balasaheb D. Aghav** , Jaydeep V. Deore , Sanjay K. Patil*, *European Journal of Medicinal Chemistry*, Volume 258, (2023), 115549.
9. Bimetallic CoCeO₂ oxide nanoparticles: An efficient and reusable heterogeneous catalyst for the preparation of 2-amino-3-cyano-4H-pyran derivatives, S.A. Shaikh, V.S. Kamble, R.H. Gupta, A.G. Awale, S.T. Salunkhe, **B.D. Aghav***, *Journal of Heterocyclic Chemistry*, 60(6), (2023) 1004-1013.
10. Efficient Synthesis of Xanthenediones Using CuCeO₂ Nanoparticle Catalyst in Aqueous Medium, S.A. Shaikh, V.S. Kamble, S.T. Salunkhe, S.K. Patil, and **B.D. Aghav***, *Organic Preparations and Procedures International*, Vol. 55, No. 5, (2023), 393-403.
11. Improved toxic NO₂ gas sensing response of Cu-doped ZnO thin-film sensors derived by simple co-precipitation route, V.S. Kamble, R.K. Zemase, R.H. Gupta, **B.D. Aghav**, S.A. Shaikh, J.M. Pawara, S.K. Patil, S.T. Salunkhe*, *Optical Materials*, 131 (2022), 112706.
12. X-Ray Diffraction Studies for the Determination of Crystallite Size of ZnO Nanoparticles: Scherrer Formula and Williamson-Hall Plot Approach, **B.D. Aghav**, V.S. Kamble, S.A. Shaikh, J.M. Pawara and S.T. Salunkhe*, *Indian Journal of Natural Sciences*, Vol.13, Issue 73, (2022), 46466-46470.
13. Antimicrobial, Cytotoxicity and Molecular Docking Study of New Quinoline Schiff Base and its Metal Complexes, B.T. Vibhute, **B.D. Aghav**, B.P. More, R.O. Bellamkonda and S.K. Patil*, *Asian Journal of Chemistry*, Vol. 34, No. 3 (2022), 685-694.
14. A green and efficient one-Pot Synthesis of Polyhydroquinoline Derivatives Catalyzed By Ammonium Chloride Under Aqueous Media, **B.D. Aghav**, S.A. Shaikh, N. Roy and K.N. Vidhate, *Vidyabharati International Interdisciplinary Research Journal*, Special Issue of National E-Conference on Role of Nanotechnology for Sustainable Future, 2021 p. 1-6.
15. Liquid-Liquid Extraction and Separation of Osmium(VIII) with 4-(4-Methoxybenzylideneimino)-5-methyl-4H-1,2,4-triazole-3-thiol in Organic Acid Medium, K.N. Vidhate and **B.D. Aghav**, *Journal of Applicable Chemistry*, 2021, 10 (4): 455-459.

16. Facile synthesis of 2,4,5-triaryl-1H-imidazoles catalyzed by Mixed Nanoparticle, Patil Vishvanath. D., **B. D. Aghav**, Salve Amruta M. *International Journal of All Research Education and Scientific Methods (IJARESM)*, 2021, 9 (9): 2047-2052.
17. Study of the ternary complexes of lanthanum with 2, 3-dimethyl-1-phenyl-4-salicylidene-3-pyrazolin-5-one and some Amino Acids, **B. D. Aghav** and R. S. Lokhande, *J. Chem. Pharm. Res.*, 2016, 8(6):380-386.
18. Synthesis, characterization and antibacterial properties of the ternary complexes of cerium with Schiff base derived from 4-aminoantipyrine and some amino acids, **B. D. Aghav**, S.K. Patil and R. S. Lokhande, *Adv. Appl. Sci. Res.*, 2015, 6(12):37-43.
19. Study of the Ternary Complexes of Rare Earth with Schiff Base Derived from 4-Aminoantipyrine and some Amino Acids, **B.D. Aghav**, *SHODHANKAN*, Special Issue-III, January 2017, Page No. 61-71. (ISSN Number-2250-0383)
20. Biodiesel Production from Cooking Oil and Waste Cooking Oil and Comparative Study of their biofuel Properties, **B.D. Aghav**, *ANUGOONJ*, Issue-3, 2013-2014, Page No. 12-15. (ISSN 2348-9731)
21. Physico-Chemical Analysis of Groundwater Samples of Panvel Area in Raigad District, Maharashtra, India, **B.D. Aghav**, *ANUGOONJ*, Issue No. 04, 2014-2015, Page No. 11-15. (ISSN Number 2348-9731)
22. Impact of Heavy Metals on Environmental Pollution and Living Organism, **B.D. Aghav**, Conference Proceeding: Environmental Hazards and Problems: Issues and Solutions, 2016, Page No. 103- 106 (ISBN Number 978-93-83342-26-6)

3. Books Authored

International Publisher	:	00
National Publisher	:	03
Chapters in Edited Books	:	00

4. Minor Research Project Completed:

Title of the project	Date of sanction	Duration	Grant received	Funding agency
Synthesis, Characterization and Biological Studies on Mixed Ligand Co (II) Complexes of Some Amino Acids	Date of Submission: 27-04-2010	01 year	Rs. 30,000/-	University of Mumbai

Synthesis, Spectral characterization and Antimicrobial Studies of some ternary Cobalt (II) and Cerium (III) complexes with novel Schiff Base containing NOS donor and N/O donor ligands	Date of Sanction: 22/02/2012 Date of Submission: 30/12/14	02 years	Rs. 1,45,000/-	University Grants Commission
Preparation, characterization and use of metal doped ceria and ceria nanoparticles in the synthesis of heterocyclic compounds	Completed Date of Submission: 10-02-2023	02 years	Rs. 1,00,000/-	RUSA

Patents:

Status	Number/s
Granted	03
Published	00
Filled	00

List of patents:

Sr. No.	Patent Name	Title of Invention	Patent Number	Date & Year of Publication	Date & Year of Grant of Patent
01	U.S. Patent	Process for the preparation of 2-amino-4, 5, 6, 7 tetrahydro-6-aminobenzothiazoles from cyclohexanes and cyclohexanones as intermediates.	US 7868029 B2	18-05-2006	11-01-2011
02	Canadian Patent		CA 2498945 C	14-03-2005	8-11-2011
03	European Patent		EP 1542981 B1	22-07-2009	22-07-2009

5. Membership/s:

- Life Member of Indian Science Congress Association (ISCA) Membership No L26597

- Life Member of Association of Chemistry Teachers (ACT) Membership No. 2063 with effect from 22/12/2017

6. Faculty Development programmes like Orientation/Refresher courses/ Short term courses etc. attended:

Name of the Course	Place	Duration	Sponsoring Agency
Orientation Course	Academic Staff College, University of Mumbai, Mumbai	02/02/2007 to 03/03/2007	University Grants Commission (UGC)
Refresher Course	Academic Staff College, University of Mumbai, Mumbai	06/10/2008 to 25/10/2008	University Grants Commission (UGC)
Refresher Course	Academic Staff College, University of Mumbai, Mumbai	04/10/2010 to 23/10/2010	University Grants Commission (UGC)
Short Term Course	Academic Staff College, University of Mumbai, Mumbai	09/03/2015 to 14/03/2015	University Grants Commission (UGC)

7. Participation in conferences, symposia, seminars and workshops:

Level	Presented paper	Only attended
International	01	01
National	09	14
State	01	14
University	01	02

8. Conferences, symposia, seminars and workshops organized as convener/co-convener:

Level	Convener	Co-convener
National	----	02

College	02	----
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9. Experience on the various committees at the college

- Member, Finance Committee (2019-20 to 2022-23)
- Member, College Development Committee (2019-20 to till date)
- Invitee, Governing Body (2019-20 to till date)
- Member, Planning and Evaluation Committee (2019-20 to till date)
- Member, Library Committee (2012-13 to till date)
- Member, Prospectus Committee (2017-18 to till date)
- N.S.S. Programme Officer- 05 Years (Chief Programme Officer- 03 years & As a Member- 02 Years)
- Examination – 02 years as a member
- In-charge, Students' Council & Students' Welfare – 09 years
- Member, Standing Committee- 03 years
- Member, Unfair Means Inquiry Committee- 01 year

10. Experience on the NAAC/ IQAC of the college

- Coordinator, IQAC (2019-2020 to till date)
- Coordinator, Academic Audit Committee IQAC (2019-2020 to till date)
- Member, IQAC (2012 to 2019)
- Chairperson, Criterion II-Teaching Learning and Evaluation (2013-2019)

11. Experience on the Various Committees at the University of Mumbai / Government

- N.S.S. Area coordinator of University of Mumbai for Raigad District for the year 2008-2009 & 2009-2010
- NAAC Taluka Coordinator for Panvel of Higher and Technical Education, Konkan Region, Government of Maharashtra- 2019-20

12. Awards/recognitions received:

Level	Title	Year	Awarding agency
University	The President Dr. Shankar Dayal Sharma Gold Medal	1998	University of Pune
	Best N.S.S. Programme Officer Award	2006-07 & 2007-08	University of Mumbai
	Recognized as a teacher for the M.Sc. Degree in Organic Chemistry (by Papers)	2008	University of Mumbai
	N.S.S. Area Coordinator	2008-09 &	University of Mumbai

		2009- 10	
	Recognized as a teacher for the M.Sc. Degree (By Research) in Organic Chemistry	2014	University of Mumbai
	Recognized Guide by University of Mumbai for Ph.D. in the Science in the subject of Chemistry	2017	University of Mumbai