




Gargi College

(University of Delhi)

Curriculum – vitae of Dr. B. Vaijyanthi, Department of Chemistry

| Title | Dr. | First Name | Vaijyanthi | Last Name | B | Photograph |
|--|--|------------|-------------------|-----------|----------|---|
| Designation | Associate Professor | | | | |  |
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| Web-Page | | | | | | |
| Educational Qualifications | | | | | | |
| Degree | Institution | | | Year | | |
| B.Sc (Hons.) Chemistry | Miranda House (University of Delhi) | | | 1985 | | |
| M.Sc Chemistry | IIT (Delhi) | | | 1987 | | |
| Ph.D in Chemistry | University of Delhi | | | 1992 | | |
| Diploma in French | Delhi Univ. | | | 1990 | | |
| Career Profile | | | | | | |
| <p>Teaching Experience : 30 years Worked as lecturer in chemistry (temporary) in Maitreyi college from August 1992 to March 1995 . Joined Gargi college in March 1995 as lecturer and continuing as Associate Professor.</p> | | | | | | |
| Administrative Assignments | | | | | | |
| <ul style="list-style-type: none"> • <i>Deputy superintendent</i> of examination in theory papers in 1998. • <i>Superintendent of Chemistry Practical</i> examination in 2001-02 and 2004-05, 2020-21 • <i>Member</i> of the committee of restructured courses during 2005-06. • <i>Convenor/member</i> of computer lab committee from April, 2005 till date. • As convenor of the computer lab committee, set up a central computer facility (with other committee members) in the college consisting of 21 computers in 2005. • Was instrumental (with other committee members) in setting up a second computer lab in 2007 for the computers provided by the University of Delhi. | | | | | | |

- Coordinated in finalization of the **Annual report** of the college, which involved tasks like compilation of the matter given by various departments to close supervision of the printing work.
- Prepared the *annual report* of the college for five successive academic years 2006-07, 07-08, 08-09, 09-10 and 10-11. Also assisted in the preparation of the power point presentation of the Annual report for those four years.
- *Convenor* of the prospectus committee during the year 2008-09; *Coordinated* the production of the prospectus for the year 2009-10.
- *Member* of the “*notebook purchase committee*” which purchased notebooks (laptops) for issuing to teachers during 2010-11.
- *Member* of the pathfinder award committee (science) in 2011-12 and convenor in 2012-13.
- *Member* of the *star college committee* from 2009 -2013, 2014-till date.
- *Member* of committee for preparation of self-study report for NAAC accreditation.(2014-15)
- *Proctor* (2015-17).
- *Member* of IQAC since 2016
- *Convenor Admissions* (Science) and Nodal officer , 2021.

Participation at the University level

- *Member, Committee of Courses* for Undergraduate Studies (2020 – 22), Department of Chemistry, University of Delhi.

Corporate Participation at the Departmental Level:

- Teacher – in – charge of the department of Chemistry, Gargi college (2001 and 2005)
- *Staff advisor* of Chemical society at Gargi College – 1998-2000; 2009-10, 2014-15, 2016-17.
- Assisted in the publication of magazine *Amalgam* in 2009, 2017.
- *Convenor* of the Science festival *Scintillations* in the year 2014-15.
- *Member* of various committees at the departmental level and performed various duties as and when assigned.

Areas of Interest / Specialization

Specialization: Physical Chemistry

Areas of interest: Instrumental methods of analysis – in particular , spectroscopic studies of biomolecules, Computational Chemistry.

Subjects Taught

Physical chemistry
 Analytical chemistry
 Application of computers to chemistry
 Computational Chemistry/Molecular modeling

Student Projects

1. **Analysis of Chemical Compound in Soil** by Aapeksha, Heena Madan, Sangeeta Sewda and Simranjit Kaur, B.Sc. (Hons.) Chemistry III yr (Guided by Dr.B.Vaijyanthi, Dr.Minakshi Sharma and Dr.Keya Banerjee) (star college scheme) 2011-12.
2. **Application of a syllabus based experiment to evaluate selected biomolecules using a novel approach** by Preeti Barnwal and Zakia Bano, B.Sc(Hons.) Chemistry III yr (Guided by Dr. S. Bhanumati, Dr. B. Vaijyanthi, Dr. Anita Chugh, Dr. Minakshi Sharma, Dr. Keya Banerjee) 2009-10.
3. **A Greener approach for synthesis of Metal complexes of Acetylacetonone for their use as efficient catalyst**, Aditi Vashistha¹, Rohima Sharma², Sakshi Dewasthale³, Gunjan Dhawan⁴, B.Sc(Hons) Microbiology and B.Sc(Prog.) P.Sc students of Gargi College, Dr. B. Vaijyanthi, Dr. Indu Tucker Sidhwani, 2017.
4. **The kinetics of the reaction between ferric nitrate and sodium thiosulphate by colorimetry** by Ramya Vishwanath B.Sc(Hons) Chemistry II yr (Guided by Dr. Keya Banerjee and Dr. B. Vaijyanthi) 2019-20.
5. **Binding of Benzamidine and its derivatives to beta-trypsin – a molecular docking study** by Priyanka and Anshika of B.Sc. (Hons.) Chemistry III yr, 2021-22. (Dr. B. Vaijyanthi and Dr. Neha Sharma).

Publications

1. Vaijyanthi, B., Atreyi, M., Rao, M.V.R., Schwaller, M.A., Aubard, J. & Dodin, G., *Indian Journal of Chemistry*, 30B, 153-157 (1991); ISSN : 0376-4699.
2. B. Vaijyanthi, P. Kumar, P.K. Ghosh & K.C. Gupta, Recent Advances in Oligonucleotide Synthesis and their applications, *Ind. J. Biochem. Biophys.* Vol. 40, 377-391 (2003); ISSN: 0301-1208.
3. Jyoti Choitani, B. Vaijyanthi, Pradeep Kumar, K.C. Gupta, Construction of Oligonucleotide Microarrays (Biochip) using heterobifunctional Reagents, *Methods Mol. Biol.* (2007) 381, 133-164. ISSN: 1064-3745.
4. B. Vaijyanthi, S. Mahajan, G. Rembhotkar, K.C. Gupta, P. Kumar, Choice of Polymer Matrix, its Functionalization and Estimation of Functional Group Density for Preparation of Biochips, *Methods Mol Biol.* (2007) 381, 165-88. ISSN:1064-3745.
5. P. Kumar, B. Vaijyanthi and K.C. Gupta, Strategies for development of Universal polymer supports for oligonucleotide syntheses in **Heterocyclic Chem.**; Chapter 3, , Ed. D.C. Gautam, RBSA Publishers, Jaipur, pp 26-54, 2004. ISBN 13: 9788176112116.
6. V.K.Ahluwalia, Sushmita Chowdhury, B. Vaijyanthi (2008) Basic chemistry for class 11, Bharati Bhawan Publishers and Distributors. ISBN-13: 9788177098518

7. N. Ojha, Sushmita Chowdhury, B. Vaijayanthi (2011) Basic chemistry for class 12, Bharati Bhawan Publishers and Distributors. ISBN 13:9789350270226
8. Neha Sharma, Bharti Badhani, Bhashyam Vaijayanthi, Priyanka Aggarwal and Anshika Gupta, *Conceptualizing the Essence of Protein-Ligand interaction at Undergraduate Level: Reinforcing Computational Skills*, *J. Chem. Educ.* 2023, 100, 7, 2746–2754; <https://doi.org/10.1021/acs.jchemed.3c00137>.

Conference Organization/ Presentations/Participated

1. Participated in the workshop on “*How to attract and retain meritorious students in Maths and Science*” organized by National Knowledge Commission on 10th September, 2007.
2. Participated in the workshop on “*Development of Web based Value Addition Material in Inorganic Chemistry for B.Sc. Programme I yr*” at ILL, University of Delhi, held on 2nd and 3rd May, 2009.
3. Attended a workshop on “*Developing Champions for ICT Capacity Building in DU*” held by ILL in collaboration with Microsoft, from 10th to 28th August, 2009.
4. Gave a talk on “*Formalising the non formal*” at the Delhi University ACADEMIC CONGRESS titled “Enabling the Young: Rethinking Education”, 6 & 7th September 2012.
5. One of the *coordinators* for the Summer workshop on “Recent trends in Scientific Research” held under the star college scheme of Gargi College from 15th to 30th June, 2009. Also *resource person* for the session on “**Computers in Chemistry**”
6. *Member of the organizing committee* for a one day Seminar on “Criminology and Forensic Science” held at Gargi College in 1998.
7. *Member of the organizing committee* for a seminar on “Chemistry, Environment and You (Challenges for future)” held on 26th and 27th Sept., 2007.
8. *Coordinator* of WikiEducator Gargi 2009 workshop on open educational resources held on 12th, 13th and 15th Jan., 09.
9. One of the coordinators for the Summer workshop on “Recent trends in Scientific Research” held under the star college scheme of Gargi College from 15th to 30th June, 2009. Also resource person for the session on “Computers in Chemistry”
10. Member of organising committee of Summer Workshop under Star College Scheme from 6th to 9th July, 2010.
11. *Member of organizing committee* for a one day seminar on “New Frontiers in Biotechnology” held on 2nd December, 2009 under the Star College Scheme at Gargi College.
12. *Member of the organizing committee* for an add on course in “Advances in Forensic Science” being conducted in collaboration with Directorate of Forensic Science, Ministry of Home Affairs; 2010-11

13. Member of the committee which organised “*International Year of Chemistry*” with the theme “Chemistry in our lives”; held by Chemistry department, Gargi College, 18th and 19th October, 2011.
14. Member of *organising committee* for the seminar on “Role of e-technology in academic research and teaching-learning interactions”, 8-9 Dec., 2011.
15. Gave a talk on “*Formalising the non formal*” at the Delhi University ACADEMIC CONGRESS titled “Enabling the Young: Rethinking Education”, 6 & 7th September 2012.
16. Member of *organising committee* for the Technical session “Commerce and Value Building” in the conference “*Convergence in Higher Education: Building Holistic Perceptions*” held on 7th and 8th Nov., 2012 at Gargi College.
17. Resource person for the *Inter-college Chemistry Workshop for Laboratory Staff*, held on 15, 16th July, 2016.
18. Member of organizing committee for “*Environmental Health Sensitization Workshop*” held for students of Gargi college, on 22 March, 2017, by The Centre for Environmental Health, Public Health Foundation of India (PHFI) with support from the Wellcom Trust/DBT India Alliance.
19. Convenor, organizing committee for “*Environmental Health Sensitization Workshop*” held for students of Gargi college, on 22 March, 2017, by The Centre for Environmental Health, Public Health Foundation of India (PHFI) with support from the Wellcom Trust/DBT India Alliance.
20. Summer workshop for students on *Chemistry in Day to Day Life* organised by the Department of Chemistry on 17-18 July, 2018. Students from B.Sc (Hons) Chemistry, B.Sc (Prog.) courses attended it. Resource person and Organising committee member.
21. Member, organizing committee, National Multidisciplinary Conference on “Emerging trends in tertiary education: assessing challenges and possibilities, March, 29 & 30 2019.
22. Member, organizing committee (IQAC) Exchanging Ideas (lecture series) by Gargi College in association with Govt. Model Degree College, Zanskar (Univ of Ladakh) 16-6-22, 7-7-22, 14-7-22.
23. Convenor, Organising committee for *Hands-on workshop on Python programming for beginners* (16 hours duration) for students of Gargi College, during July 2022 to November 2022.
24. Attended Conference “NeuroEunoia 2022: Brain Awareness Programme” organised by Gargi College, 7th to 10th October, 2022.
25. Participation and Oral presentation on **[6]-Gingerol as a potential therapeutic agent against SARS Cov-2** at the “*2nd International Conference on Natural Products and Human Health*” organized by Deshbandhu College (University of Delhi) from 4 November, 2022 to 6 November 2022.

26. Attended Conference *Revisiting Well being - Perspectives, Challenges and the road ahead* Feb 1-2, 2023, at Gargi College.

Webinars attended during COVID-19 pandemic

1. *NAAC RAF Criterion II*, D.R.M. Science College, A.V. Kamalamma College for women, Bapuji B-Schools, 11-05-20.(National)
2. *Role of Non-teaching staff in Accreditation and Quality Enhancement of Higher Education Institutions* organised by IQAC Cluster India and Whitecode technology solutions pvt Ltd. From 20-05-20 to 23-05-20 (National)
3. *Open Educational Resources* organised by Department of Chemistry, Gargi college on 21-05-20
4. *Staying Nourished with correct nutrition* organised by Gargi college on 29-05-20
5. *Preparation of SOPs and Policy Documents for NAAC Accreditation* organised by Bharat College of Arts and Commerce, Badlapur(W) and IQAC Cluster India on 15-06-20 (National)
6. 2 day training programme on *Institutional Quality Measures for Administration* organised by Gargi College, IQAC on 17-06-20 and 18-06-20.
7. One week online certificate course on *Digital teaching Techniques* organised by ICT academy from 29-06-20 to 04-07-20. (National)
8. *NeuroEunoia 2020: A Neuroscience Affair* on 16-10-20 and 17-10-20 organised by Gargi College.
9. Two months course on *Effective Documentation for Accreditation* organised by IQAC Cluster India and Whitecode from 15-09-20 to 10-11-20. (National)
10. *ICT enabled Teaching Learning* organised by PMMMMNMTT Teaching learning Centre, Ramanujan College and Janki devi Memorial College, from 7-9-2020 to 13-09-2020.
11. *Enhancing mathematical and computational skills using spreadsheets* organized by Physics Department, Gargi College under the aegis of IQAC (organizing member from IQAC) 21-27 Feb., 2021.
12. FDP on *Introduction to Python Programming* (online Live FDP) conducted by ICT academy on 26-4-21 to 30-4-21.
13. Webinar on *Feedback, SSS, Best and distinctive practices* (Webinar) PGK Mandal's Haribhai.V.Desai Arts, Science and Commerce College, Pune, Maharashtra in association with IQAC cluster India and Whitecode on 19-05-21 to 21-05-21.
14. A workshop on *Read & Publish* and Author's Publishing Journey by Cambridge University Press, on 8-7-21.
15. Webinar on *Ouriginal (Urkund)* by Team eGalactic on 28-1-22.

Staff training programmes attended/conducted

1. Attended a workshop on “*Developing Champions for ICT Capacity Building in DU*” held by ILLL in collaboration with Microsoft, from 17th to 28th August, 2009.
2. In continuation to the above workshop, ILLL organised workshops for the Gargi faculty from March 9th to 16th and April 12th to 16th, 2010; was member of the organising committee within the college, *coordinator* for one batch and *resource person* for all the batches.
3. Attended a workshop on *Computer Aided Molecular Modeling and Drug Discovery* organized by Department of Chemistry, St. Stephen’s College and Schrodinger GmbH, Bangalore, India, on July 25-26, 2016. Learnt the use of a molecular modelling software, Schrodinger.
4. Resource person at the *Inter-college Chemistry Workshop for Laboratory Staff*, held on July 15-16, 2016, at Gargi College.
5. Organised a workshop on *Green Chemistry* for teachers, of various Colleges of University of Delhi on August 13, 2016.
6. National Conference on *Combating Industrial Pollution for Sustainable Environment – A Fusion of Industrial and Scientific Efforts (CIPSE – 2016)* organized by Department of Chemistry, Gargi College, Sept. 22-23, 2016.
7. Organised the workshop *Train the Trainer*, a *Yusuf Hameid Inspirational chemistry programme* of Royal Society of Chemistry, London, for teachers of various schools on 24, 25 October 2016 at Gargi college. _
8. National Seminar on *Mentoring the Teacher Mentors – Capacity Building Programme* organised by IQAC, Gargi College, Jan 19-20, 2018.
9. Attended a one day workshop for teachers on *Molecular modelling and Drug Design* held at ARSD college on 23 Jan, 2018.
10. Resource person at the *Inter-college workshop for Laboratory Staff* conducted by Department of Chemistry, Gargi College, 13-15 July, 2022.
11. Participated in “2nd Faculty Development Program (FDP) on Computational Chemistry of Materials : Molecules, Solids, Nanoparticles and Biological Activity (CCM -2022)” organized by Centre for Advanced Computational Chemistry Studies, Delhi, held from 25th -31st July, 2022 via online mode.
12. Delivered an online lecture on *Equilibrium* for the teachers of the Delhi Public Schools teaching classes 9 to 12 on 11th November, 2022, 2:30 to 4:30 pm; Organised by The Delhi Public School Society HRDC.

13. Participated and completed an Online FDP on *Development of MOOCs and e-content* organised by PMMMNTT and GAD-TLC, SGTB Khalsa College, University of Delhi from 25 May to 31 May 2023.

Participation in Curriculum Restructuring :

- Reviewing of syllabus for FYUP and CBCS.
- Participated in curriculum restructuring under the LOCF – Undergraduate curriculum revision 2019.
- NEP syllabus deliberations as member of committee of courses for undergraduate curriculum , May 2022.

Other Activities

Accompanied the students of Gargi college in the **Gyanodaya express** journey organized by DU from 8th July 2012 to 19th July 2012.

Accompanied students for educational trips to various places such as UFlex,Noida, Patanjali, Haridwar, Yakult factory, CFSL Chandigarh, Inter University Accelerator Centre, Delhi, in the year 2018-23.

Assistant Coordinator of IGNOU study centre and also counsellor at Gargi College (since August, 2017)