Deepti Goyal (Ph.D.) ***Phone: +91-7307779517*** ***E-mail:*** *deeptigoyal@davchd.ac.in*

Education

Ph.D. in Chemistry (2007–2012) 8.84/10 (CPI)
Indian Institute of Technology (IIT) Bombay, Mumbai, India
Thesis title *"Design of New Synthetic Strategies to Modified Amino Acids and Peptides"*
Thesis Supervisor: Prof. Sambasivarao Kotha

M.Sc. (Honours School) Chemistry (2004–2006) 72.7%
Panjab University, Chandigarh, India

B.Sc. (Honours School) Chemistry (2001–2004) 74.1%
(Physics and Mathematics as subsidiary subjects) (**Gold Medalist**)
Panjab University, Chandigarh, India

Teaching and Research Experience

Assistant Professor	DAV College, Sector 10, Chandigarh, India	April 2021–Present
Assistant Professor	Sri Guru Granth Sahib World University, Fatehgarh Sahib, Punjab, India	January 2015–April 2021
Visiting Research Fellow	Department of Chemistry, Michigan Technological University, Michigan, USA	July 2014–October 2014
Assistant Professor	Shoolini University, Bajhol, Solan, HP, India	July 2013–June 2014
Teaching Assistant	Indian Institute of Technology (IIT)-Bombay, Mumbai, India	July 2008–December 2009

Sponsored research projects

A research project entitled '*Design, Synthesis and Evaluation of Modified Short Peptides as Inhibitors of Amyloid-β (Aβ) Peptide Aggregation'* under the **Start-Up Research Grant (Young Scientists) Scheme by the Science and Engineering Research Board (SERB)**, Govt. of India. October 2015–October 2018. (24 Lakhs)

Awards and Honours

1. **Invited talk at 30th ISCB** (Indian Society of Chemists and Biologists) International Conference (ISCBC-2025) at Lucknow University, Lucknow, UP, India, 27th –29th January, **2025**.
2. **Invited talk at 28th ISCB** (Indian Society of Chemists and Biologists) International Conference (ISCBC-2024) at Marwadi University, Rajkot, Gujrat, India, 8th –10th January, **2024**.
3. Recognized as top 3% highly cited authors **2019–2020** from India by **American Chemical Society**.
4. **Invited talk at 26th ISCB (**Indian Society of Chemists and Biologists) International Conference (ISCBC-2020) at Nirma University, Ahmedabad, Gujrat, India, January 22nd–24th, **2020**.
5. Awarded CSIR-SRF direct to three Ph.D. students from our research group under my mentorship in the year **2019** and **2020**.
6. Selected as one of the candidate for attending the 111th Orientation course being organised by Human Resource Development Centre from May 26th –June 22nd, **2016** at Panjab University, Chandigarh.
7. Awarded a **research project entitled** '*Design, Synthesis and Evaluation of Modified Short Peptides as Inhibitors of Amyloid-β (Aβ) Peptide Aggregation'* under the **Start-Up Research Grant (Young Scientists) Scheme by the Science and Engineering Research Board (SERB)**, Govt. of India, **2015**.
8. Awarded Young Scientist Foreign Travel Grant from **DST** and **CSIR** India to present a poster in 242nd **American Chemical Society National Meeting & Exposition**, Denver, Colorado, USA August 28th–September 01st, **2011**.
9. Senior Research Fellow (**SRF**) award through CSIR–UGC, India **January 2009 - December 2011**.
10. Junior research fellow (**JRF**) award through National Eligibility Test (**NET**) conducted by CSIR-UGC, India **January 2007**– **December 2008**.

11. Recipient of Prof. Prem Singh Medal for standing **1st in B.Sc. (Honours School) Chemistry 2004**.
12. Recipient of 1st prize in State Science Exhibition **2000**.
13. Recognized as one of the meritorious candidates by **Government of India, National Scholarships Scheme 1998**.

Publications in Peer-Reviewed Journals

Citations: 1453, **h-index:** 19; **i10-index:** 29

1. Harnessing the Therapeutic Potential of Peptides for Synergistic Treatment of Alzheimer's Disease by Targeting Aβ Aggregation, Metal-Mediated Aβ Aggregation, Cholinesterase, Tau Degradation, and Oxidative Stress. Singh, K.; Kaur, A.; Goyal, B.; Goyal, D. *ACS Chem. Neurosci.* **2024**, *15*, 2545–2564. ***(Impact factor: 5.78)***
2. Exploring the Impact of C-Terminal Based Pentapeptides on the Disassembly of $A\beta_{42}$ Fibrils. Kaur, A.; Mankoo, O. K.; Rani, D.; Priyadarshi, N.; Goyal, D.; Singhal, N. K.; Goyal, B. *ChemMedChem* **2024**, *19*, e202400486. ***(Impact factor: 3.54)***.
3. Insights into the Baicalein-Induced Destabilization of LS-Shaped $A\beta_{42}$ Protofibril Using Computer Simulations. Kaur, G.; Mankoo, O. K.; Kaur, A.; Goyal, D.; Goyal, B. *Phys. Chem. Chem. Phys.* **2024**, 26, 16674–16686. ***(Impact factor: 3.67)***.
4. Unveiling how Hydroxytyrosol Destabilizes α-Syn Oligomers Using Molecular Simulations. Kaur, G.; Mankoo, O. K.; Goyal, D.; Goyal, B. *J. Phys. Chem. B* **2023**, *127*, 5620–5632. ***(Impact factor: 3.46)***
5. Unravelling the Destabilization Potential of Ellagic Acid on α-Synuclein Fibrils Using Molecular Dynamics Simulations. Mankoo, O. K.; Kaur, A.; Goyal, D.; Goyal, B. *Phys. Chem. Chem. Phys.* **2023**, *25*, 8128–8143. ***(Impact factor: 3.67)***
6. Triazole–Peptide Conjugate as Modulator of Aβ–Aggregation, Metal–Mediated Aβ–Aggregation and Cytotoxicity. Mann, S.; Kaur, A.; Kaur, A.; Priyadarshi, N.; Goyal, B.; Singhal, N. K.; Goyal, D. *ACS Chem. Neurosci.* **2023**, *14*, 1631–1645. ***(Impact factor: 5.78)***
7. Mechanistic Insights into the Mitigation of Aβ Aggregation and Protofibril Destabilization by a D–Enantiomeric Decapeptide rk10. Singh, K.; Kaur, A.; Goyal, D.; Goyal, B. *Phys. Chem. Chem. Phys.* **2022**, *24*, 21975– 21994. ***(Impact factor: 3.67)***
8. An α–Helix Mimetic Oligopyridylamide, ADH–31, Modulates $A\beta_{42}$ Monomer Aggregation and Destabilizes Protofibril Structures: Insights from Molecular Dynamics Simulations. Kaur, A.; Goyal, D.; Goyal, B. *Phys. Chem. Chem. Phys.* **2020**, *22*, 28055–28073. ***(Impact factor: 3.67)***
9. Targeting Human Islet Amyloid Polypeptide Aggregation and Toxicity in Type 2 Diabetes: An Overview of Peptide–Based Inhibitors. Saini, R. K.; Goyal, D.; Goyal, B. *Chem. Res. Toxicol.* **2020**, *33*, 2719–2738. ***(Impact factor: 3.74)***
10. Impact of Mutations on the Conformational Transition from α–Helix to β–Sheet Structures in Arctic–Type $A\beta_{40}$: Insights from Molecular Dynamics Simulations. Saini, R. K.; Shuaib, S.; Goyal, D.; Goyal, B. *ACS Omega* **2020**, *5*, 23219–23228. ***(Impact factor: 4.13)***
11. How Does the Mono–triazole Derivative Modulate $A\beta_{42}$ Aggregation and Disrupt a Protofibril Structure: Insights from Molecular Dynamics Simulations. Kaur, A.; Kaur, A.; Goyal, D.; Goyal, B. *ACS Omega* **2020**, *5*, 15606–15619. ***(Impact factor: 4.13)***
12. Targeting the Dimerization of the Main Protease of Coronaviruses: A Potential Broad–Spectrum Therapeutic Strategy. Goyal, B.; Goyal, D. *ACS Comb. Sci.* **2020**, *22*, 297–305. ***(Impact factor: 3.38)***
13. Interactions of a Multifunctional Di–triazole Derivative with Alzheimer's $A\beta_{42}$ Monomer and $A\beta_{42}$ Protofibril: A Systematic Molecular Dynamics Study. Kaur, A.; Shuaib, S.; Goyal, D.; Goyal, B. *Phys. Chem. Chem. Phys.* **2020**, *22*, 1543–1556. ***(Impact factor: 3.67)***
14. In Silico–guided Identification of Potential Inhibitors against β_2m Aggregation in Dialysis–related Amyloidosis. Narang, S. S.; Goyal, D.; Goyal, B. *J. Biomol. Struct. Dyn.* **2020**, *38*, 3927–3941. ***(Impact factor: 4.29)***
15. Impact of K16A and K28A Mutation on the Structure and Dynamics of Amyloid-β_{42} Peptide in Alzheimer's Disease: Key Insights from Molecular Dynamics Simulations. Shuaib, S.; Saini, R. K.; Goyal, D.; Goyal, B. *J. Biomol. Struct. Dyn.* **2020**, *38*, 708–721. ***(Impact factor: 4.29)***
16. Inhibition of Alzheimer's Amyloid–β_{42} Peptide Aggregation by a Bi–Functional Bis–tryptoline Triazole: Key Insights from Molecular Dynamics Simulations. Narang, S. S.; Goyal, D.; Goyal, B. *J. Biomol. Struct. Dyn.* **2020**, *38*, 1598–1611. ***(Impact factor: 4.29)***

17. Molecular Insights into the Inhibitory Mechanism of Bi-Functional Bis–tryptoline Triazole against β-secretase (BACE1) Enzyme. Narang, S. S.; Goyal, D.; Goyal, B. *Amino Acids* **2019**, *51*, 1593–1607. ***(Impact factor: 3.84)***

18. Diversity–Oriented Approaches to Polycycles and Heterocycles via Enyne Metathesis and Diels–Alder Reaction as Key Steps. Kotha, S.; Chavan, A. S.; Goyal, D. *ACS Omega* **2019**, *4*, 22261–22273. ***(Impact factor: 4.13)***

19. Multifunctional Mono–triazole Derivatives Inhibit $A\beta_{42}$ Aggregation and Cu^{2+}–Mediated $A\beta_{42}$ Aggregation and Protect Against $A\beta_{42}$–Induced Cytotoxicity. Kaur, A.; Narang S. S.; Kaur, A.; Mann, S.; Priyadarshi, N.; Goyal, B.; Singhal, N. K.; Goyal, D. *Chem. Res. Toxicol.* **2019**, *32*, 1824–1839. ***(Impact factor: 3.74)***

20. Multi–target–directed Triazole Derivatives as Promising Agents for the Treatment of Alzheimer's Disease. Kaur, A.; Mann, S.; Kaur, A.; Priyadarshi, N.; Goyal, B.; Singhal, N. K.; Goyal, D. *Bioorg. Chem.* **2019,** *87,* 572–584. ***(Impact factor: 5.31)***

21. Computational Design and Evaluation of β-Sheet Breaker Peptides for Destabilizing Alzheimer's Amyloid–β_{42} Protofibrils. Shuaib, S.; Narang, S. S.; Goyal, D.; Goyal, B. *J. Cell. Biochem.* **2019**, *120*, 17935–17950. ***(Impact factor: 4.23)***

22. Insights into the Inhibitory Mechanism of a Resveratrol and Clioquinol Hybrid against $A\beta_{42}$ Aggregation and Protofibril Destabilization: A Molecular Dynamics Simulation Study. Saini, R. K.; Shuaib, S.; Goyal, D.; Goyal, B. *J. Biomol. Struct. Dyn.* **2019**, *37*, 3183–3197. ***(Impact factor: 4.29)***

23. Benzofuran and Indole: A Promising Scaffold for Drug Development in Alzheimer's Disease. Goyal, D.; Kaur, A.; Goyal, B. *ChemMedChem* **2018**, *13*, 1275–1299. ***(Impact factor: 3.54)***

24. Molecular Insights into the Effect L17A/F19A Double Mutation on the Structure and Dynamics of $A\beta_{40}$: A Molecular Dynamics Simulation Study. Saini, R. K.; Shuaib, S.; Goyal, D.; Goyal, B. *J. Cell. Biochem.* **2018**, *119*, 8949–8961. ***(Impact factor: 4.23)***

25. Assessing the Effect of D59P Mutation in the DE Loop Region in Amyloid Aggregation Propensity of β_2–Microglobulin: A Molecular Dynamics Simulation Study. Narang, S. S.; Shuaib, S.; Goyal, D.; Goyal, B. *J. Cell. Biochem.* **2018**, *119*, 782–792. ***(Impact factor: 4.23)***

26. Insights into the Inhibitory Mechanism of Dicyanovinyl–Substituted J147 Derivative against $A\beta_{42}$ Aggregation and Protofibril Destabilization: A Molecular Dynamics Simulation Study. Shuaib, S.; Saini, R. K.; Goyal, D.; Goyal, B. *ChemistrySelect* **2017**, *2*, 1645–1657. *(Impact factor: 2.30)*

27. Rationally Designed Peptides and Peptidomimetics as Inhibitors of Amyloid–β (Aβ) Aggregation: Potential Therapeutics of Alzheimer's Disease. Goyal, D.; Shuaib, S.; Mann, S.; Goyal, B. *ACS Comb. Sci.* **2017**, *19*, 55–80. ***(Impact factor: 3.38)***

28. CuO Nanostructures of Variable Shapes as an Efficient Catalyst for [3+2] Cycloaddition of Azides with Terminal Alkyne. Kaur, A.; Mann, S.; Goyal, B.; Pal, B.; Goyal, D. *RSC Adv.* **2016**, *6*, 102733–102743. ***(Impact factor: 4.03)***

29. Synthesis of Oligodeoxynucleotides Containing Electrophilic Groups. Lin, X.; Chen, J.; Shahsavari, S.; Green, N.; Goyal, D.; Fang, S. *Organic Lett.* **2016**, *18*, 3870–3873. ***(Impact factor: 6.01)***

30. Diversity Oriented Approaches to Polycyclics and Bio–inspired Molecules *via* the Diels–Alder Strategy: Green Chemistry, Synthetic Economy and Beyond. Kotha, S.; Chavan, A. S.; Goyal, D. *ACS Comb. Sci.* **2015**, *17*, 253–302. ***(Impact factor: 3.38)***

31. Synthesis of Indole and its Derivatives in Water. Gupta, N.; Goyal, D. *Chem. Heterocycl. Compd.* **2015**, *51*, 4–16. *(Impact factor: 1.51)*

32. Diversity Oriented Approaches to Unusual Amino Acids and Peptides: Step Economy, Atom Economy, Redox Economy and Beyond. Kotha, S.; Goyal, D.; Chavan, A. S. *J. Org. Chem.* **2013**, *78*, 12288–12313. *(The TOC of the paper is published as a cover-art for JOC)* ***(Impact factor: 4.33)***

33. Diversity Oriented Approach to Triazole Based Peptidomimetics as Mammalian Sterile 20 Kinase Inhibitors. Kotha, S.; Goyal, D.; Bitra, A.; Thota, N.; Kruger, G.; Anand, R. *RSC Adv.* **2013**, *3*, 24447–24454. (*Selected for the Editor's Collection: A Decade of Progress in Click Reactions Based on CuAAC 2022)* ***(Impact factor: 4.03)***

34. A Novel Di-triazole Based Peptide as a Sensitive and Selective Fluorescent Chemosensor for Zn^{2+} ions. Kotha, S.; Goyal *nèe* Bansal, D. Banerjee, S.; Datta, A. *Analyst* **2012**, *137*, 2871–2875. *(During the month of May, 2012 this article was amongst the top ten accessed articles from the online version of Analyst)* ***(Impact factor: 4.61)***

35. Synthesis of Modified Phenylalanine Peptides by Cross Enyne Metathesis and Diels–Alder Reaction as Key Steps. Kotha, S.; Goyal *nèe* Bansal, D.; Thota, N.; Srinivas, V. *Eur. J. Org. Chem.* **2012**, *2012*, 1843–1850. ***(Impact factor: 3.26)***

36. Synthesis of a New Fluorescent Macrocyclic α–Amino Acid Derivative via Tandem Cross-enyne/Ring-closing Metathesis Cascade Catalyzed by Ruthenium Based Catalysts. Kotha, S.; Bansal, D.; Singh, K.; Banerjee, S. *J. Organomet. Chem.* **2011**, *696*, 1856–1860. ***(Impact factor: 2.30)***
37. Synthesis of Symmetrical and Unsymmetrical Trisubstituted Benzene Derivatives through Ring–Closing Alkyne Metathesis Strategy and Depropargylation with Various Catalysts. Kotha, S.; Bansal, D.; Kumar, R. V. *Indian J. Chem. B.* **2009**, *48B*, 225–230. *(Impact factor: 0.38)*

Book chapters written

1. Computational Modeling of MAO Inhibitors as Anti-Alzheimer Agents, Kaur, G.; Goyal, D.; Goyal, B. Book: Computational Modeling of Drugs Against Alzheimer's Disease Edition 2, SPRINGER NEUROMETHODS **2023**
2. Solid Phase Peptide Synthesis, Goyal, D.; Goyal, B. Book: De Novo Peptide Design: Principles and Applications Edition 1, Elsvier, **2023**

Details of Ph. D./ M.Phil./ M.Sc. students enrolled/ completed

Ph.D.– 2 (enrolled), 4 (completed); **M.Phil.**– 3 (completed); **M.Sc.**– 13 (completed)

Conferences and workshops

- **30th ISCB International Conference (ISCBC-2025)** from 27th –29th January, **2025** at Lucknow University, Lucknow, UP, India. *Invited talk*
- **28th ISCB International Conference (ISCBC-2024)** from 8th –10th January, **2024** at Marwadi University, Rajkot, Gujrat, India. *Invited talk*
- **Prof. Ram Chand Paul National Symposium** from 21st–22nd February, **2023** at Panjab University, Chandigarh. *Attended*
- **Theoretical Chemistry and Biology Symposium** on 15th October, **2022** at IISER, Mohali, Punjab, India. *Attended*
- Two days workshop entitled "**Science and Engineering Research Board, scientific social responsibility workshop**" from 25th–26th April, **2022** at National Agri–Food Biotechnology Institute (NABI), Mohali, Punjab, India. *Attended*
- One day workshop on HPLC on 11th April, **2022** at Central Instrumentation Laboratory, DAV College, Sector 10, Chandigarh, India. *Attended*
- **26th ISCB International Conference (ISCBC-2020)** from 22nd –24th January, **2020** at Nirma University, Ahmedabad, India. *Invited talk*
- **88th Annual Meeting of the SBCI-2019 and Conference on Advances at the Interface of Biology and Chemistry** from 1st –3rd November, **2019** at BARC, Mumbai, India. *Poster presentation*
- **10th National Conference on Recent Advances in Chemical and Environmental Sciences 2019** from 11th –12th April, 2019 at Multani Mal Modi College, Patiala, India. *Poster presentation*
- **11th Chandigarh Science Congress (CHASCON) 2017** from 9th–11th March, 2017 at Panjab University, Chandigarh, India. *Attended*
- **World Congress on Drug Discovery & Development 2016** from 23rd–25th November, 2016 at Indian Institute of Science, Bengaluru, India. *Poster presentation*
- **National Conference on Recent Advances in Chemical Science 2016** from 11th–12th November, 2016 at Maharishi Markandeshwar University, Mullana, Haryana, India. *Oral presentation*
- **5th National Symposium on Advances in Chemical Sciences 2016** from 2nd–3rd February, 2016 at Guru Nanak Dev University, Amritsar, India. *Attended*
- **7th National Conference on Recent Advances in Chemical, Biological and Environmental Sciences 2015** from 30th - 31st January, 2015 at Multani Mal Modi College, Patiala, India. *Attended*
- **Emerging Horizons in Science and Technology 2014** from 17th–18th January, 2014 at Sri Guru Granth Sahib World University, Fatehgarh Sahib, Punjab, India. *Oral presentation*
- **3rd Indo-German Symposium on Frontiers of Chemistry 2011** from 27th–28th September, 2011 at IIT Bombay, Mumbai, India. *Poster presentation.*

- **242nd ACS 2011** from 28th August–1st September, 2011 in Denver, Colorado, USA. *Poster presentation*
- **Research Scholar Meet 2011** from 25th–26th February, 2011 at N. G. Acharya & D. K. Marathe College, Mumbai, India. *Oral presentation*
- **Indo-US Symposium on Modern Trends in Molecular Structures 2011** from 21st–24th February, 2011 at IIT Bombay, Mumbai, India. *Poster presentation*
- **6th J-NOST 2011** from 28th–31st January, 2011 at University of Hyderabad, Hyderabad, India. *Poster Presentation*
- **In-House Symposium 2010** on 27th February, 2010 at IIT Bombay, Mumbai, India. *Poster presentation*
- **Symposium on Recent Trends in Biophysics 2010** from 13th–15th February 2010 at Banaras Hindu University, Varanasi, India. *Poster presentation*

Memberships of Professional Bodies

1. Life member of Society of Biological Chemists, India
2. Life member of Indian Peptide Society
3. Life member of Indian Biophysical Society
4. Life member of Chemical Research Society of India
5. Life member of IIT Bombay Alumni Association
6. Life member of Chemical Society, Department of Chemistry, Panjab University
7. Ex-student Member of American Chemical Society

Other Responsibilities

Designation	Nature of responsibility	Period
Extra-curricular Activity In-charge	Coordinating seminars, Departmental events and trips for the students	01-07-2015 to 30-06-2017
Member of Research and Development Committee of the Dept.	To evaluate the research progress of the students of Dept.	01-07-2016 to 30-06-2017 01-09-2018 to 31-08-2020
Member of Board of Studies of the Dept.	To upgrade the course curriculum for various courses of Dept.	01-07-2016 to 30-06-2017
Ph.D. Coordinator	To take care of issues related to Ph.D. students	01-07-2017 to 30-06-2018
Member of Research and Innovation Cell	To attract research funding from Government agencies	07-02-2020 to 08-02-2021
Member of Fine Arts Cub of DAV-10 college	To arrange related events	01-01-2022 to 31-6-2024
Member of Equal Opportunity Cell of College	To help students with special needs	01-08-2024 to present

Orientation, Refresher and Faculty development courses attended

- 111th **Orientation course** at Human Resource Development Centre, Panjab University, Chandigarh, 26th May–22nd June, 2016.
- **Refresher course** in Engineering, Physical Sciences & Management organised by Bharati Vidyapeeth Institute of Computer Applications and Management (BVICAM), New Delhi in collaboration with AICET, New Delhi, India. 22nd June–4th July, 2020.
- International e-Conference & e-**Faculty Development Program** TPDTP-2020 themed Trends in Pharma Development, Technology & Practices organised by Chitkara College of Pharmacy, Chitkara University, Punjab, India. 17th–22nd August, 2020.
- **Refresher course** in Advanced Research Methodology organised by Teaching Learning Center, Ramanujan College, University of Delhi, Delhi, India under the aegis of Ministry of Education, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching. 21st November–5th December, 2023.