

NABAB KHAN**B.Pharm, M.Pharm, IGSTC PIEF Fellow**

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**Educational Qualifications**

Course	School/college/ Institute	Board/University	Completion year	CGPA/%
PhD	CSIR – Institute of Himalayan Bioresource Technology (IHBT), Palampur (H.P), India	Academy of Scientific and Innovative Research (AcSIR) Ghaziabad (U.P), India	Pursuing (Joined in January -2021)	-
Masters in Pharmaceutical sciences	VNS, Faculty of Pharmacy, Bhopal (M.P), India	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P), India	2018	8.86/10
Bachelor of Pharmacy (B. Pharma)	Rewa College of Pharmacy, Rewa (M.P), India	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P), India	2016	8.35/10
Higher Secondary Education	Kendriya Vidyalaya No.1, Rewa (M.P), India	Central Board of Secondary Education (CBSE), New Delhi, India	2012	6.60/10
Matriculation	Kendriya Vidyalaya No.2, Rewa (M.P), India	Central Board of Secondary Education (CBSE), New Delhi, India	2010	7.20/10

Awards

- Awarded as **IGSTC – PhD Industrial Exposure Fellowship – 2023** from Indo-German science and Technology Centre, New Delhi – 110016, India worked at **LIONEX GmbH, Braunschweig, Germany** [from 1st September 2023 – 28th February 2024]
- Awarded as **CSIR – GATE/GPAT SRF** Senior Research Fellowship – 2023 from CSIR-HRDG, New Delhi-110012, India
- Awarded as **CSIR – GATEGPAT JRF** Junior Research Fellowship - 2021 from CSIR-HRDG, New Delhi-110012, India
- Selected as **ICMR – Project JRF** Junior research fellow – 2019, ICMR – National Institute for Research in Environmental Health, Bhopal, India
- Qualified two times **All India Graduate Pharmacy Aptitude Test (GPAT)** in year 2019 & 2020.

Publications

- Ruchika, **Khan. N**, Saneja. A*. **(2024)** The Dawning Era of Oral Thin Films for Nutraceutical Delivery: From Laboratory to Clinic, **Biotechnology Advances**, 73, 108362, <https://doi.org/10.1016/j.biotechadv.2024.108362> (IF: 12.10)
- **Khan. N**, Slathia. G, Saneja. A. * **(2023)**. Unveiling the complexation mechanism of phloretin with Sulfobutylether- β -cyclodextrin (Captisol®) and its impact on anticancer activity, **Journal of Molecular Liquids**, 391 (part B), 123348. <https://doi.org/10.1016/j.molliq.2023.123348> (IF: 5.30)
- **Khan. N**, Slathia. G, Kaliya. K, Saneja. A*. **(2023)**. Recent progress in covalent organic frameworks for cancer therapy, **Drug Discovery Today**, 28, 103602, <https://doi.org/10.1016/j.drudis.2023> (IF: 6.50)
- **N. Khan**, A.K. Singh, A. Saneja* **(2023)** “Preparation, Characterization, and Antioxidant Activity of L-Ascorbic Acid/HP- β -Cyclodextrin Inclusion Complex-Incorporated Electro-spun Nanofibers, **Foods** , 12(7), 1363, <https://doi.org/10.3390/foods12071363> (IF : 4.70)
- **Khan N**, Bhardwaj V.K., Ruchika, Purohit R. *, Saneja A. * **(2023)**. Deciphering the interactions of genistein with β -cyclodextrin derivatives through experimental and microsecond timescale umbrella sampling simulations. **Journal of Molecular Liquids**, 374, 121295. <https://doi.org/10.1016/j.molliq.2023.121295> (IF: 5.30)
- **Khan. N**, Ruchika, Dhritlahre, R. K., Saneja. A*. **(2022)** “Recent advances in dual-ligand targeted nanocarriers for cancer therapy”. **Drug Discovery Today**, 27, 2288-2299. <https://doi.org/10.1016/j.drudis.2022.04.011> (IF: 6.50)
- Ahirwar. R*, **Khan. N**, Kumar. S. **(2021)** “Aptamer-based sensing of breast cancer biomarkers: a comprehensive review of analytical figures of merit”. **Expert Review of Molecular Diagnostics**, 21 (7), 703-721, <https://doi.org/10.1080/14737159.2021.1920397> (IF: 3.90)
- Rawat A.B., **Khan. N**, Singh S.K., Patil U.K.*, (2023) “Delayed Release HPMC Capsules for Efficient Delivery of Cholecalciferol Solid Dispersion, **Indian journal of Pharmaceutical Education and Research**, [DOI: 10.5530/ijper.57.2.51](https://doi.org/10.5530/ijper.57.2.51)
- **N. Khan**, A. Saneja* (2024). “Colon Targeted Delivery of Quercetin from Sulfobutylether- β -Cyclodextrin Inclusion Complex Incorporated Electrospun Eudragit® S100 Nanofibers” (Under preparation).

- **N. Khan, A. Saneja*** (2024). "Inclusion Complex of Naringenin with Sulfobutylether- β -cyclodextrin derivative: Characterizations, antioxidant and antibacterial activity" (Under preparation).
- **N. Khan, A. Saneja*** (2024). "Formononetin loaded cyclodextrin nanosponges: Preparation, characterizations and antibacterial activity" (Under preparation).

Book Chapters

- Ahirwar. R*, **Khan. N. (2022)** "Smart wireless nanosensor system for human healthcare". **Nanosensors for Futuristic Smart and Intelligent Healthcare Systems** (1st Edition). Eds by Suresh Kaushik, Vijay Soni, Efsthia Skotti. 265-288. (Publisher: CRC Press)
- Ahirwar. R*, **Khan. N. (2024)** "Aptamer-based point-of-care testing: an overview from past to future". **Aptasensors for Point-of-Care Diagnostics of Cancer: From lab to clinics**. <https://doi.org/10.1088/978-0-7503-5012-9ch1>. 1-19 (IOP Science publishing)

Scientific Skills

- **Formulation and drug delivery:** Preformulation studies (such as solubility, pKa & melting point determination etc.). preliminary screening of excipients, development of various novel drug delivery systems for amelioration of bioavailability and therapeutic efficacy of active molecules utilizing self-emulsifying drug delivery system, oral thin films, liposomes, solid – lipid nanoparticles, electrospun nanofibers/nanomats, nanoparticles, nanofibers, solid dispersion and cyclodextrin inclusion complexes etc. (via spray dryer, rotatory evaporator, lyophilizer, probe sonicator, E-spin device, homogenizer and microfluidizer). Development of ligand targeted nanocarriers through different ligand functionalization strategies such as carbodiimide and click chemistry for improving therapeutic outcomes for cancer therapy.
- **Characterization of developed formulations:** Characterization of developed formulations via dynamic light scattering (DLS), microscopy techniques (SEM and TEM), P-XRD, TGA/DSC and spectroscopy techniques (UV-Visible, 1D & 2D NMR, MALDI-TOF MS, FT-IR). Enumeration of drug content, encapsulation efficiency, *in-vitro* release and dissolution studies using UV-Visible spectroscopy and HPLC techniques, antioxidant assays, *in-vitro* cell culture techniques (cell viability and cytotoxicity assays), stability and compatibility studies, evaluation of conductivity, rheological and mechanical strength parameters. Determination of surface hydrophobicity (water contact angle) of films and nanofibers.
- ***In-vivo* studies:** Preliminary knowledge of animal handling, oral dosing and parameters of kinetics and protocol in rodent models.

Workshops

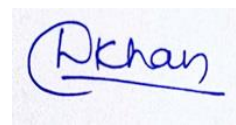
- Participated in IP awareness training program under ***“National Intellectual Property Awareness Mission”*** on April 22, 2022, organized by Intellectual property office, India.
- Attended two days online training workshop on ***“Intellectual Property Rights”*** under CSIR- Integrative Skill Initiatives From 7th to 8th March 2022 at CSIR-IIIM, Jammu.
- Attended cloud-based hands-on workshop on ***“Rotational Computational Drug Design Approaches”*** held on 10-12th November, 2021 organized by NIPER – Hyderabad in association with Schrodinger.
- Participated/presented poster in National Seminar on ***“Insight to New Drug Discovery and Development: Harnessing the Potentials of key Scientific Departments”*** sponsored by Indian Council of Medical Research, New Delhi and Organized by Faculty of Pharmacy, VNS Group of Institutions, Bhopal.

Research Experiences

- Working as **PhD Industrial Exposure Fellow** at **LIONEX GmbH, Braunschweig, Germany** on the project entitled “Development of Ultrasensitive antibody-gold conjugated nanoparticles (Ab-AuNPs) based rapid diagnostic strips to detect blood pathogen marker” under IGSTC scheme 2023-2024 [1st September 2023 – 28th February 2024).
- Engaged for short duration (8 months) as Junior Research fellow (JRF) in the SERB-ECR project entitled ***“Development of aptamer-based sensing techniques for the detection of delta-aminolevulinic acid, a biomarker of effect in lead toxicity”*** under PI: Dr. Rajesh Ahirwar at **ICMR – National Institute for Research in Environment Health (NIREH)**, Bhopal (M.P), India. (8 June 2020 to 27 January 2021).
- Joined as Research Intern and work on master dissertation project entitled ***“Development and Characterization of Solid Dispersion Based Formulation of Cholecalciferol”*** at **CSIR – Indian Institute of Integrative Medicine (IIIM)**, Jammu & Kashmir, India (From 16 August 2017 to 28 March 2018).

Declaration

I do hereby declare that the particulars of information and facts stated here in above are correct and complete to the best of my knowledge.



NABAB KHAN