Sunil Kumar, M. Pharm, PhD, LLM-IPR
37 Barbury Drive, Clifton, Nottingham, England NG11 9GG
Contact N.: +447466381907; Email: suniliftm1982@gmail.com

I seek a senior scientist/researcher/chemist/analyst position in drug discovery/organic chemistry/analysis. I have over ten years of academic and industrial research experience in organic chemistry with a strong background in interdisciplinary subjects like pharmaceutical/medicinal chemistry, pharmaceutical biotechnology, pharmaceutical analysis, and biochemistry.

EDUCATION

LLM Intellectual Property Law 2021-2022
Nottingham Trent University, Nottingham, England
Electives: Intellectual Property Law (Patents)

Ph.D., Medicinal Chemistry (Pharmacy) 2008-2012
Punjab Technical University, Jalandhar, Punjab, India,
Research-based degree

M. Pharm., Pharmaceutical Chemistry 2006-2008
Uttar Pradesh Technical University, Lucknow, India
Elective: medicinal chemistry, first division

B. Pharm (Bachelor of Pharmacy) 2002-2006
Uttar Pradesh Technical University, Lucknow, India
Elective: Pharmaceutical sciences, first division

GATE (Graduate aptitude test in engineering) qualified in **2006** and **2009** with 94 and 95 percentiles, respectively, conducted by **I.I.T.** (Indian Institute of Technology).

I have completed **DL-101** (General Course on Intellectual Property Rights), **DL-301** (ADVANCE COURSE OF PATENTS), and **DL-320** (basics of patent drafting) online courses from **WIPO** Geneva, Switzerland.

PATENT EXPERIENCES

Research Scientist (Intellectual Property Rights) (January 2012 to March 2013): Arch Pharmalabs Ltd, MIDC, Taloja, Navi Mumbai, India. I have worked as a research scientist in IPR (Intellectual Property Rights). Having on hand experience in prior art searches for patent/literature using various Patent databases, such as Sci-Finder, Reaxys, and Thomson innovation; Patent drafting; Freedom-to-Operate (FTO) opinions; Non-infringing strategies on R & D.

RESEARCH EXPERIENCES

I worked as a part-time sustainability leader at Green Academy, Nottingham Trent University, Nottingham, England.

Postdoctoral Researcher (September 2018 to August 2021): Chang-Gung University, Taoyuan, Taiwan.
I synthesized organic compounds and separated them using column chromatography and HPLC. Some compounds were purified by the crystallization method. I scan pure compounds for NMR and perform LC-MS to elucidate the chemical structures. I managed all synthesis-related projects independently. I was involved in anticancer and anti-inflammatory pharmacological studies.

Postdoctoral Researcher (May 2017 to July 2018): National Taiwan University, Taiwan.
I isolated many compounds from natural sources and modified them using a semisynthetic strategy. I purified compounds by crystallization and column chromatography. After purification, I performed NMR and data interpretation of synthesized and isolated organic compounds. Separating organic compounds efficiently from the mixture is one of my achievements.

Research Scientist (November 2016 to February 2017): Formosa Pharmalabs ltd, Taoyuan, Taiwan.
I worked on new drug development, scale-up, and synthesis of intermediate chemical compounds. I used NMR technique to confirm the chemical structures of the synthesized compounds.

Postdoctoral researcher (April 2013 to October 2016): Taipei Medical University, Taipei, Taiwan.
I worked on the total synthesis of intermediate and final natural products in addition to multistep organic compound synthesis. I isolated and purified compounds using crystallization techniques, thin-layer chromatography, and column chromatography. I helped increase the percentage yield of reactions from 20% to 70%. I managed a team of five people by guiding them in synthesizing and purifying organic molecules.

Research Scientist (Intellectual Property Rights) (January 2012 to March 2013): Arch Pharmalabs Ltd, Navi Mumbai, India.
I worked as a research scientist-IPR (Intellectual Property Rights) in R&D. Obtained hands-on experience in prior art searches for patent literature using various Patent databases. I also worked on patent drafting, freedom-to-Operate (FTO) opinions, and Non-infringing strategies for the research team.

Employability challenge at Potter Clarkson: I worked with Potter Clarkson to fulfill 10 hours

employability challenge requirement for my LLM course, where I worked in a group and provided advice to a patent-based client scheme.

Volunteer IP work:
I have experience working in the Legal Advice Centre at Nottingham Law School after completing the compulsory training in General Data Protection Regulation (GDPR) and Professional conduct. In this role, I learned about workplace correspondence.

Other volunteer work:
I worked for mental health focus group for Nottingham City Council.

TECHNIQUES AND SKILLS

Chemical reactions: I can perform any organic reaction. I have experience synthesizing small organic molecules to the total synthesis of complex natural products.

Purification by separation:
I perform the purification and isolation of compounds using column chromatography, preparative thin-layer chromatography, and high-performance liquid chromatography (HPLC).

Purification by crystallization:
Crystallizing pure compounds from a mixture is among my best practices and achievements. I can purify compounds using my unique sense of imagination, which saves enormous amounts of time, solvents, and materials (Silicagel, etc.) that help attain sustainability in chemical reactions and natural product isolation.

Analytical techniques:
I have acquired skills in running analytical instruments like NMR, LC-MS, IR, and HPLC and interpreting their data. Have experience in detecting impurities in chemical synthesis using HPLC. Also, I have purified compounds using HPLC.

PUBLICATIONS

1. Yao-Chin Wang, Woon-Man Kung, Yi-Hsiu Chung[*], **Sunil Kumar**[*], Drugs to Treat Neuroinflammation in Neurodegenerative Disorders, **Current Medicinal Chemistry,** 2023 Apr 3. doi: 10.2174/0929867330666230403125140. Epub ahead of print. PMID: 37013428.

2. **Sunil Kumar**, Yi-Hsuan Wang, Po-Jen Chen, Yu-Chia Chang, Hemant K. Kashyap, Ya-Ching Shen, Huang-Ping Yu, and Tsong-Long Hwang: Design and synthesis of β-carboline and combretastatin derivatives as anti-neutrophilic inflammatory agents. **Bioorganic Chemistry**, 111 (2021) 104846.

3. **Kumar S,** Chang YC, Lai KH, Hwang TL, Resveratrol, a Molecule with Anti-Inflammatory and Anti-Cancer Activities: Natural Product to Chemical Synthesis. **Current Medicinal Chemistry, 2020** Sep 17. doi: 10.2174/0929867327999200918100746. Epub ahead of print. PMID: 32957870.

4. Chang YC, Lai K.-H, **Kumar S**, Chen PJ, Wu YH., Lai CL, Hsieh HL, Sung PJ, Hwang TL: ^{1}H NMR-Based Isolation of Anti-Inflammatory 9,11-Secosteroids from the Octocoral *Sinularia leptoclados*. **Marine Drugs 2020**, *18*, 271.

5. **Kumar S**, Lee HY, Liou JP: Total Synthesis of two Glycosylated Stilbenes, Oxyresveratrol-2-O-β-D-Glucopyranoside and 2,3,5,4′-Tetrahydroxystilbene-2-O-β-D-Glucopyranoside. **Journal of Natural Products**, **2017**; 26, 80(5), 1294- 1301.

6. **Kumar S**, Lee HY, Lin TC, Liou JP: Total Synthesis of Denbinobin. **Journal of Natural Products**, **2016**; 79, 1170-1173.

7. Lee HY, Chang CY, Su CJ, Huang HL, Mehndiratta S, Chao HY, Hsu CM, **Kumar S**, Sung TY, Huang YZ, Li YH, Yang CR, Liou JP: 2-(Phenylsulfonyl)quinoline N-hydroxyacrylamides as potent anticancer agents inhibiting histone deacetylase. **Eur J Med Chem, 2016**; Jun 16;122:92-101.

8. **Kumar S**, Nepali K, Hsiang-Ling H, Fei-Chiao K, Cheng-Hsin L, Ching-Chuan K, TengKuang Y, Yu-Hsuan L, Jang-Yang C, Jing-Ping L and Hsueh-Yun L: 2-Aroylquinoline-5,8diones as potent anticancer agents displaying tubulin and heat shock protein 90 (HSP90) inhibition. **Organic and Biomolecular Chemistry**, **2016**; 14 (2), 716-723.

9. Mehndiratta S, Pan SL, **Kumar S**, Liou JP: Indole-3-ethylsulfamoylphenylacrylamides with Potent Antiproliferative and Anti-angiogenic Activities. **Anticancer Agents Med Chem**. **2016**; 16(7), 907-913.

10. **Kumar S**, Gauttam V, Bande MK, Nepali K, Tyagi A and Dhar KL: Estimation of Crotepoxide in the fruits of Piper attenuatum Buch.-Ham. Using High-Performance Thin Layer Chromatography and High-Performance Liquid Chromatography. **Current Pharmaceutical Analysis**, **2015**; 12 (4), 343-348.

11. Sharma S, Mehndiratta S, **Kumar S**, Bedi PMS, Nepali K: Purine analogues as kinase inhibitors: a review. **Recent patents on anticancer drug discovery**, **2015**; 10 (3) 308-341.

12. Pai HC, **Kumar S**, Shen CC, Liou JP, Pan SL, Teng CM MT-4 Suppresses Resistant Ovarian Cancer Growth through Targeting Tubulin and HSP27. **PLoS One**, **2015;** Apr 14;10 (4), 1-17 (open access).

13. Mehndiratta S, Hsieh YL, Liu YM, Wang AW, Lee HY, Liang LY, **Kumar S**, Teng CM, Yang CR, Liou JP: Indole-3-ethylsulfamoylphenylacrylamides: Potent histone deacetylase inhibitors with anti-inflammatory activity. **Eur. J. Med .Chem. 2014**; 85,.468-479.

14. **Kumar S**, Mehndiratta S, Nepali K, Sapra S, Koul S and Dhar KL: Isolation of New Cyclohexyl Epoxide from the Fruits of Piper attenuatum. **The Natural Products Journal, Bentham Science, 2014**; 4(4), 249-251.

15. **Kumar S**, Mehndiratta S, Nepali K, Gupta MK, Saxena AK, Koul S, Sharma P and Dhar KL: Novel indole bearing combretastatin analogues as tubulin polymerization inhibitors. **Org. and Med. Chem. Lett. 2013**; 3(3), 1-13 (open access).

16. Baviskar AT, Banerjee UC, Gupta M, Singh R, Kumar S, Gupta MK, **Kumar S**, Raut SK, Khullar M, Singh S, Kumar R: Synthesis of imine-pyrazolopyrimidinones and their mechanistic interventions on anticancer activity. **Bioorg. Med. Chem. 2013**; 21 (18), 5626-5633.

17. **Kumar S**, Sapra S, Kumar R, Gupta MK, Koul S, Kour T, Saxena AK, Suri OP, Dhar KL: Synthesis of combretastatin analogues: evaluation of in vitro anticancer activity and molecular docking studies. **Med. Chem. Res. 2012**; 21(11), 3720-3729.

18. **Kumar S**, Koul S, Meena AK, Saxena AK, Suri OP, Dhar KL: Synthesis and antitumor activity of combretastatin analogues. **Asian Journal of Research in Chemistry**, **2011**; 4(6),902-904.

19. Rajnikant, Gupta VK, Kapoor K, **Kumar S**, and Dhar KL: Multiptle molecules in the crystallographic asymmetric unit of (Z)-3-(3-chlorophenyl)-2-phenyl acrylic acid. **X-ray Structure Analalysis Online**, **2012**; 28, 9-10.

20. Nepali K, Bande MK, Sapra S, Garg A, **Kumar S**, Sharma P, Goyal R, Satti NK, Suri OP, Dhar KL: Antitussive effects of azepino[2,1-b]quinazolones. **Med. Chem. Res. 2012**; 21(7), 1271-1277.

21. Mehndiratta S, **Kumar S,** Koul S, Meena AK, Suri OP, Dhar KL: A review on plants a useful source of anti-cancer drugs. **J. of Phar. Res., 2011**; 4(1), 264-271.

22. Sandhu H S, Sapra S, Gupta M, Nepali K, Gautam R, **Kumar S,** Kumar R, Jachak SM, Chugh M, Gupta M K, Suri OP, Dhar KL: Synthesis and biological evaluation of arylidene analogues of Meldrum's acid as a new class of antimalarial and antioxidant agents. **Bioorg. Med. Chem. 2010;** 18, 5626-5633.

23. Sweety, **Kumar S**, Nepali K, Sapra S, Suri OP, Dhar KL, Sarma GS, Saxena AK: Synthesis and Biological Evaluation of Chalcones having Heterosubstituent. **Indian J. Pharm. Sciences**. **2010**; 72(6), 801-806.

BOOK CHAPTER

Samir Mehndiratta, Sahil Sharma, **Sunil Kumar**, Kunal Nepali, Molecular hybrid with anti-cancer activity; Topics in anti-cancer research, chapter 12, vol 4, 3-73, 2015, Bentham Science publisher.

SELECTED CONFERENCES

1. **Oral presentation** on "Synthesis of Natural Products Inspired, Neutrophil Targeted, Anti-inflammatory Drugs" The 34th Symposium of Natural Products, Chang Gung University of Science and Technology, Taoyuan, Taiwan, October 17 (Thu) – 19 (Sat), 2019.

2. **Oral presentation** on "Anti-cancer drugs which cause alterations in key proteins of certain signalling pathways" 2018 mini-symposium on membrane trafficking and remodelling, College of Medicine, National Taiwan University, Taipei, Taiwan, May 5th, 2018.

3. **Oral presentation** on "Role of natural products in drug discovery of antibiotic and anticancer agents" ICAMC 2018: 20th International Conference on Antibiotics and Medicinal Chemistry, Holiday Inn Sıngapore Atrium 317 Outram Road Singapore, July 5-6, 2018.

4. **Oral presentation** entitled "Syntheses and biological evaluation of 7-anilino-Indoline -N-benzenesulfonamides as antimitotic and vascular disrupting agent." PST (Pharmaceutical Society of Medicinal Chemistry Symposium), Taiwan, May 31-June 2, **2015.**

5. Poster Presentation entitled "synthesis of novel tubulin inhibitors as anticancer agents" in *7th Princess Chulabhorn International Science Congress (PC VII), on 'Cancer: from basic research to cure'* Bangkok, Thailand, November 29-December 3, **2012**.

6. Poster Presentation entitled "synthesis of novel bioactive compounds akin to combretastatin" in *3rd International Conference on Drug Discovery and Therapy'*. ICDDT, Dubai, UAE, February 7-10, **2011**.

AWARD AND HONOURS

- Received Nottingham Trent University scholarship Award to pursue LLM (IPR).
- Elected as course representative for LLM course at Nottingham Trent University.
- I have won Employability Gold Award, NTU Enterprise Silver Award, NTU Sustainability Employability Bronze Award, and NTU Digital Silver Award at Nottingham Trent University (2022) by earning the required points after attending various online and in-person social, educational, and volunteer events and experiences.
- Travel grant from Punjab Technical University for conference attendance and work presentation at 3rd ICDDT, 7-11 Feb. 2011, Dubai, U.A.E.
- Postdoctoral research fellowship by Ministry of Science and Technology (MOST), Government of Taiwan (April 2013-July 2015 and November 2017- July 2018).
- Scholarship award to pursue M. Pharm from All India Council for Technical Education (AICTE) New Delhi, India (2006-2008).

ADDITIONAL INFORMATION:

Languages: English (fluent), Hindi (Native), Chinese (intermediate).
Driving license: I have a full UK driving license.