Dr. Gargi Mishra

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**Snohomish, WA**

# Professional Summary

* ***Research professional and inventor*** with 8+ years’ experience in nanobiotechnology, cell biology assay and biomaterials, successfully executed 4 independent projects; >5 collaborative projects which resulted in 10+ manuscripts
* ***Science communicator and collaborator*** with an adaptability to do interdisciplinary research; developed collaborations and executed projects with different groups, departments, and institutions at the national and international level
* ***Team player with expertise in laboratory establishment and management***; played key roles in laboratory designing, grant writing and training co-workers; assisted in two M. Tech dissertations, guided undergraduate trainees and many summer internships during PhD and postdoc

# Work Experience

**Data Science career transition student [Oct 2020 - ]**

**(Springboard six month certification)**

* Actively learning tools for Data Sciences to improve decision making in scientific and business development; involves Python, SQL, Statistics and independent Capstone projects

**Postdoctoral Fellow [Oct 2018-Sep 2020]**

**(Fred Hutchinson Cancer Research Institute, Seattle, WA)**

* **Cutaneous vaccine delivery platform development for Merkel Cell Carcinoma:**

Analysis of delivery of plasmid constructs across epidermis using electroporation, jet injector, physical disruption methods and nano-vehicles; trained for slice culture, DCs isolation from human skin, transfection of skin explants cultures , flow cytometry(5 colour) and data analyses

* **Precision cut culture system development** for testing allogeneic T cell therapy and immune-oncology microenvironment, assessment of microfluidic culture and high throughput CART testing platform
* **Development of microfluidic platform for high through-put immunotherapy using breast cancer mice models and precision cut culture systems:** animal handling (syngeneic breast cancer mice tumor model, development of precision cut tumor models from harvested breast tumors and understanding of tumor immune microenvironment, alloreactive T cell experiments after isolation

## Researcher Ph.D. student [July 2011- Feb 2018]

**(Indian Institute of Technology Kanpur, India)**

* **Product development and application** proficiency demonstrated by the development of the biomaterials and nano-theranostic platforms and exploration of their biodistribution, nano-immunological interactions and clearance using *in vitro* and *in vivo* models; developed polymeric drug delivery vehicles for prostate cancer tumor regression; developed NIR responsive drug delivery nanocomposites; developed nano-shells for hydrogen storage; developed carbon nano-capsules based superhydrophobic coatings for anti-bio-adhesive purposes
* **Idea generation and trouble-shooting** demonstrated by the development of three novel biomaterials for drug delivery and biomaterial applications
* **Laboratory development and management**; helped in designing a bio-nano environmental technology lab from scratch which involved a crucial role in architecture, arrangement, instrument purchase and training initiatives.
* **Mentorship and skill transfer** to research associates, trainees, and lab members
* **Interdisciplinary and adaptive learning skills** demonstrated by completed projects of biotechnology, chemical engineering, nanotechnology and biomaterials during PhD and postdoc
* **Communication and drafting experience** gained while writing grants/proposals, manuscripts, and patents

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## M Tech Researcher [July 2009- July 2011]

## Project management and teamwork experience as shown by the the development of 3-D scaffolds to understand the material directed differentiation of stem cells

## Instructor Indian Institute of Technology Kanpur

* Mentored undergraduates as a lab instructor of Chemical Engineering lab [July 2012-Dec 2012]
* Teaching assistant of flow cytometry, taught instrument handling, sample preparation, data analysis and assisted in designing flow cytometry experiments at Post Graduate Research facility [Jan 2013- July 2016]

# Education

## Ph.D. in Nanobiotechnology, Indian Institute of Technology, Kanpur, India [Feb 2018]

## M. Tech in Biological Sciences and Engineering, Indian Institute of Technology, Kanpur [July 2011]

## M. Sc. in Biotechnology, Visva-Bharati Santiniketan, India [July 2009]

## B. Sc. in Biology and Chemistry, Deen Dayal Upadhyay University of Gorakhpur, India [July 2007]

# Techniques, Software & Instrumentation

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| --- | --- | --- | --- |
| Cell /explant /precision cut /slice /organoid culture | Nanomaterials/ Biomaterial fabrication | Python/Data-wrangling  Pandas/NumPy/Matplotlib | Micro-encapsulation and drug delivery |
| Flow cytometry tools | Bioimaging | Biodistribution  (PET/FL/ICPMS) | Microscopy (confocal, SEM, TEM) |
| Assay and platform development | Characterization  (XRD/SEM/TEM/FTIR) | Toxicology | Proposal/patents & manuscript drafting |

**Affiliations &/ Hobbies**

* Member of American Chemical Society (ACS), Alumni Association of Indian Institute of Technology, Kanpur, Cheeky Scientists Association, Women in Bio-Seattle member,
* Hobbies: Radio recording (script and audio), folk music, poem writing, cooking, connecting with people, hiking nearby Seattle, learning gardening

**Professional links**

* **LinkedIn:**  [**https://www.linkedin.com/in/gargi-mishra-2482465a/**](https://www.linkedin.com/in/gargi-mishra-2482465a/)
* **Research gate: https://www.researchgate.net/profile/Gargi\_Mishra4**
* **Google Scholar:** [**https://scholar.google.com/citations?user=dS8Qo60AAAAJ&hl=en&oi=sra**](https://scholar.google.com/citations?user=dS8Qo60AAAAJ&hl=en&oi=sra)