



Siddharth Raina

Bachelor of Medicine & Bachelor of Surgery
3rd Professional (Final)

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PROFESSIONAL SUMMARY

20 years old undergraduate medical student, with keen interest in medical research. Current professional goals include a psychiatric residency and a doctoral research degree. I see myself being a psychiatrist as well as a medical researcher in coming 10 years. Skill set includes quick learning, meeting deadlines, handling multiple projects and team work capabilities.

EDUCATION

Bachelor of Medicine & Bachelor of Surgery (MBBS); 2016 to 2021 (Expected)

Medical School: All India Institute of Medical Sciences (AIIMS), Bhopal (India)

Professional Phases:

- Pre Clinical : Anatomy, Physiology, Biochemistry (76.2%)
- Para Clinical : Microbiology, Pharmacology, Forensic Medicine, Pathology (66.8%)
- Clinical (**Pursuing**): Paediatrics, Obs & Gynae, Surgery, Medicine, Dermatology, Community Medicine, Radiology, Anaesthesiology, Dental, Orthopaedics, Psychiatry, Ophthalmology, Electives.
- Completed 2 years of rotary posting in clinical departments

RESEARCH AND CLINICAL EXPERTISE

- **Clinical skills:** Patient history taking, General and systemic examination, Trained in Advanced Trauma Life Support, Basic clinical and surgical procedures.
- **Microbiology and Mammalian cell culture:** Trained in culture work of bacteria and human cancer cell lines for *in vitro* experiments, working under class II biosafety cabinet under sterile conditions.
- **Microscopy:** Sample preparation for Light microscopy, Sample preparation of Transmission and Scanning electron microscope, Immuno-fluorescence and Slides preparation for Laser scanning confocal microscopy.
- **Animal Handling:** Mice handling and surgical ileal loop ligation.
- **Western blotting** to study differential gene expression
- Using **bioinformatics and statistical tools** for data analysis.

LAB EXPERIENCE/ INTERNSHIPS

- **2019 (Nov-Dec) SRISTI Foundation, Ahmedabad:** A Govt. of India funded training with SRISTI Foundation where I green synthesised Silver Nanoparticles for treatment of bovine, non invasive enteric diarrhoea. Nanoparticles were tested *in vitro* and *in vivo*, where NP enema was administered in cows suffering from *E. coli* induced diarrhoea, which was followed by clinical and microbiological resolution.
- **2018 (May-June) Indian Institute of Technology, Kharagpur:** Worked on synthesising biocompatible scaffolds for different bio-medical applications. Used wet spinning technique to fabricate, Chitosan and Collagen membranes for skin denudation dermatological conditions.
- **2018 (November) Biochemistry Dept, AIIMS Bhopal:** Experiments for anti-microbial activity assessment and bacterial load estimation in various tissue samples at AIIMS Bhopal labs. Establishing various *in vivo* model of cholera including intact mice model and ligated ileal loop model, and standardising the study parameters using metabolic cage.
- **2019 (January) AIIMS, Delhi:** 1 week hands on training on basics of Metallic Nanoparticle synthesis using chemical reduction method, polymer capping and characterisation.
- **2019 (September) CSIR CDRI, Lucknow:** 2 weeks hands on training experience on animal cell culture, slide preparation for Confocal Microscopy and Running western blot analysis for differential gene expression in signalling pathways in cancer cell lines.

TRAININGS AND WORKSHOPS

- Certified hands on workshop on ***Application of Transmission and Scanning Electron Microscopy in Life sciences*** at CSIR Central Drug Research Institute (CSIR CDRI) (16th to 18th July 2019)
- Attended workshop on ***Use of Botulinum Toxin in Neurological disorders*** at, All India Institute of Medical Sciences, Bhopal (10th October 2019)
- Attended ICMR sponsored workshop ***Nanomedical science and its impact on healthcare:Challenge, opportunities and future directions during 6th World Congress of Nanomedical Sciences***, Vigyan Bhavan, New Delhi (7th January 2019)

TECHNIQUES EXPOSED TO

- Bio-membrane synthesis
- Nano particle synthesis
- Ultramicrotomy and TEM and SEM image acquisition
- Z stacking and 3D image acquisition using Confocal Microscopy
- Flow cytometry

FELLOWSHIPS AND GRANTS

- ***2020 Khorana fellowship to attend upto 12 weeks of training at a prestigious US University***
Supported jointly by DBT, Govt. of India, IUSSF, and WinStep; that includes travel fare, stipend and medical insurance.
- ***2019 BIIS SITARE Fellowship***
Supported by BIRAC, DBT, Govt of India. Grant of 1 lakh INR as Principal Investigator for an year to conduct research aiming to remove grassroots problems.

PUBLICATIONS

- ***'Modified Silver nanoparticles and loperamide leads to decreased bacterial load, and significant resolution of symptoms in animal model of cholera'*** Raina S, Khadanga S, Maurya A, Kumar A, Biswas D, Ranjan A. (*Manuscript under preparation*)
- Poster presented titled ***'Assessment of modified silver nanoparticles and loperamide in treatment of cholera in a mouse model'*** at ISNSCON (6th World Congress on Nanomedical Sciences), Vigyan Bhavan, New Delhi January 2019
- Poster presented titled ***'Comparing Tetracycline against Silver nanoparticle-loperamide combination in ligated ileal loop and intact mice model of cholera.'*** at NAMSCON (59th Annual Conference of National Academy of Medical Sciences), AIIMS Bhopal, Madhya Pradesh October,

REFEREES

- ***Dr. Sagar Khadanga (Assistant Professor, Dept of Internal Medicine, AIIMS, Bhopal, India)***
sagar.genmed@aiimsbhopal.edu.in
- ***Dr. Debasis Biswas (Professor & Dean Research, AIIMS, Bhopal, India)***
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- ***Prof. Anil Gupta (Coordinator at SRISTI Foundation, Professor, IIM, Ahmedabad)***
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- ***Dr. Mohammad Hasanain (Post Doctoral Scientist, Columbia University, New York, USA)***
mh4066@cumc.columbia.edu
- ***Rohit Sahai (Senior Research Fellow, CSIR-CDRI, Lucknow, India)***
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