

Rajan Venkatraman

Biomedical Honors Student

Address Narre Warren South, VIC, 3805

Phone 0431287893

E-mail vvr.rajjan98@gmail.com

Enthusiastic Biomedical Science student with strong proficiency in latest cell biology technologies. Enjoys cooperative working relationships with supervisors and peers. Well-developed analytical and problem-solving capabilities. Motivated to learn, grow and excel in the field of biomedical engineering. Detail-oriented and methodical professional success in developing in-depth research projects. Reliable team player with excellent communication.



Biomedical Research Experience

Honors Project- Kile Laboratory (2020)

Monash University (Clayton)

Title: Investigating the role of TBK1/IKK ϵ in STING-induced NF- κ B activation

Supervisors: Dr. Dominic De Nardo, Dr. Senthil Arumugam and Dr. Benjamin T. Kile

- The project was to characterise the molecular mechanisms through which the kinases, TBK1 and IKK ϵ , activate the transcription factor NF- κ B downstream of the cGAS-STING pathway.
- Techniques learnt and utilised: Bioinformatic analysis to assess domain conservation; western blot to assess signal activation and kinetics; immunoprecipitation (IP) assays to characterise protein-protein interaction; and Tandem ubiquitin binding entities (TUBE) assay to assess protein ubiquitination; and cell culturing techniques.
- The findings of this study were presented through two seminars and 15,000-word thesis. Additionally, I present a poster at the 2020 Biomedicine Discovery Institute (BDI) Poster Symposium.

BCH3990: Research in action unit (Biochemistry) (2018)

Mitchell Laboratory

Monash University (Clayton)

Title: Characterisation of INPP5K SKICH domain in autophagy regulation

Supervisors: Dr. Michele Davies and Dr. Meagan McGrath

- The project was to characterise how the SKICH domain within INPP5K regulate INPP5K localisation and subsequently, autophagy.
- Techniques learnt and utilised: Cloning mutant gene constructs using Gibson Assembly; retroviral transduction to generate mutant cell-lines; and immunofluorescence microscopy to characterise protein localisation.
- The findings of this study were presented through two seminars and 5,000-word thesis.
- For this unit, I received a final grade of High Distinction with a score of 85.



Skills

- Analytical chemistry techniques
- Distil highly complex information and present in simpler terms
- Building Effective Relationships
- Excellent communication skills
- Proficient in Adobe Illustrator and iMovie (Mac)
- Team building
- Project Management



Education

Nov 2016 **High School Diploma**

John Monash Science School - Clayton, VIC

- Graduated with an ATAR of 95.60
- Coursework in English, Mathematical Methods, Specialist Mathematics, Chemistry, Extended Investigation and University Chemistry
- Scored a raw study score of 40 and 42 in Chemistry and Mathematical Methods respectively
- Completed Chemistry I (CHM1011) and Chemistry II (CHM1022) as part of University Extension at Monash with a WAM of 82.500
- Dissertation: Assessing the capacity of *Staphylococcus epidermidis* and *Aspergillus niger* to biodegrade Low Density Polyethylene (LDPE) within landfills
- Awarded Bronze JMSS Diploma for participation in various school hosted activities, contributions at international events and volunteering during school events
- Participated in 2016 International Science Fair hosted by Mahidol Wittayanusorn School in Thailand

Feb 2017 - **Bachelor of Biomedical Science Advanced (Honors): Biomedical Sciences** Current

Monash University - Melbourne, VIC

- Elected as Student Representative for third year Biomedical Science students in 2019
- Current GPA and WAM of 3.46 and 79.50 respectively
- Consistently achieved Distinction and High Distinction throughout the course
- Achieved a score of 95.40 in a grant writing unit, titled "Global leadership and advanced research program", offered by Monash University which is focused on teaching and developing grant writing skills, project management and budgeting
- Achieved a score of 85 in a biochemistry research unit. Completed a thesis titled "Characterization of the role of the INPP5K SKICH domain in the context of autophagy"

- Ongoing honor thesis: Characterizing the role of two kinases, TBK1 and IKKe, in the cGAS-STING pathway of the innate immune system



Work History

Mar 2019 - Floor Manager

Current

Kumon Berwick South, Narre Warren, VIC

- Evaluated team and employee performance in order to develop and implement strategies to increase workflow
- Implemented challenging personnel and department goals to increase percentage of advanced students from 60% to 80%
- Trained 4 team members in successful strategies to ensure staff can handle different type of students in different contexts
- Cultivated environment focused on collaborating with team members to provide smoother transition for students between different levels as well as ensuring readiness of students to start new level
- Recruited and retained top talent, with focus on completing timely performance evaluations, providing positive feedback and rewarding superior performance
- Submitted reports to senior management to aid in business decision-making and planning
- Created promotional videos for social media

Dec 2016 - Private Tutor

Current

Self-employed, Narre Warren, VIC

- Established tutoring company focused on preparing students for selective entry and scholarship exams. Tutored over 20 students who have achieved outstanding results in exams
- Created special handouts, study guides and assessments to evaluate and boost student knowledge
- Planned lessons for allotted time to strengthen weak subjects and build skills on stronger ones
- Tracked learning progress in order to identify opportunities to enhance tutoring methods and help students achieve stellar exam results
- Educated students on study tips and exam strategies
- Responded to after hours email and telephone requests to provide students assistance with specific questions

Oct 2015 - Mathematics Instructor

Current

Kumon Narre Warren, Narre Warren, VIC

- Tutored over 60 struggling, average and advanced students in grade 1 to university level mathematics
- Identified student weaknesses to determine most useful tools to facilitate learning
- Delivered personalized educational, behavioral and emotional support to individual students to enable positive learning outcomes

- Tracked learning progress in order to identify opportunities to enhance tutoring methods and help students achieve accuracy, speed, retention and advanced study goals
- Provided early intervention assistance to struggling students to boost understanding and performance
- Responded to after hours email and telephone requests to provide students assistance with specific questions
- Instructed students using Zoom online learning platform in addition to educating students in traditional, face-to-face settings
- Cultivated relationships with parents for complete support network



Accomplishments

- CURIE Undergraduate Research Fellowship in 2018.
- Awarded "The Best Presentation" in the Biochemistry Category at International Science Fair hosted by Mahidol Wittayanusorn School in 2016.
- Awarded "Australian Brain Bee Runner Up" in 2015 by Australian Neuroscience Society.
- Awarded "Victorian Brain Bee State Champion" in 2015 by Australian Neuroscience Society.
- Awarded "Outstanding Presentation" at John Monash Science School Science Fair in 2014.
- Developed and implemented full tutoring program at Narre Warren. Tutored up to 15 students per month.



References

Available upon request.