

AVIK CHATTOPADHYAY

Ph.D. student

Prof. Dipankar Nandi Lab

Dept. of Biochemistry

IISc Bangalore



About me

I am a Ph.D. student in the **lab of Prof. Dipankar Nandi (Ph.D. under the supervision of Nobel laureate Prof. J.P. Allison)**. My area of specialization is **immunology**. My research focuses on metabolism in inflammation, cytokine signaling, identification of novel immunomodulatory drugs, and characterization of their mechanism of action.

Key projects

- **Drug repurposing:** Identification of novel anti-inflammatory drugs inhibiting Nitric Oxide production in IFN- γ signaling and their characterization
- **Cancer immunology:** IFN γ -induced NOS2 in tumor metabolism and growth
- **Systems biology:** Transcriptomic modulation by Nitric Oxide in IFN- γ signalling in macrophages

Preprint

- **Chattopadhyay A**, Jagdish S, Karhale AK, Ramteke N, Zaib A, **Nandi D**. Interferon- γ lowers tumour growth by increasing glycolysis and lactate production in a nitric oxide-dependent manner: implications for cancer immunotherapy. bioRxiv. 2023:2023-07.

Notable Publications

- **Chattopadhyay A**, Joseph JP, Jagdish S, Chaudhuri S, Ramteke NS, Karhale AK, Waturuocha U, Saini DK, **Nandi D**. High throughput screening identifies auranofin and pentamidine as potent compounds that lower IFN- γ -induced Nitric Oxide and inflammatory responses in mice: DSS-induced colitis and Salmonella Typhimurium-induced sepsis. International Immunopharmacology. 2023 Sep 1;122:110569.
- **Chattopadhyay A**, Joseph JP, Shyam S, **Nandi D**. Characterizing Salmonella Typhimurium-induced Septic Peritonitis in Mice. JoVE (Journal of Visualized Experiments). 2022 Jul 29(185):e63695.
- **Nandi D**, Pathak S, Verma T, Singh M, **Chattopadhyay A**, Thakur S, Raghavan A, Gokhroo A, Vijayamahantesh. T cell costimulation, checkpoint inhibitors and anti-tumor therapy. Journal of biosciences. 2020 Dec;45:1-36.

Patent

- Indian Provisional Patent Application No.: 202341039378
Filing date: 08/06/2023
Title: "MODEL(S) FOR IDENTIFICATION OF ANTIINFLAMMATORY COMPOUNDS AND COMPOUNDS DETERMINED THEREFROM"
Applicants: INDIAN INSTITUTE OF SCIENCE
Investigators: **Mr. Avik Chattopadhyay** (student), **Prof. Deepak Saini** and Prof. **Dipankar Nandi**

☎ 080-2293-3051

✉ avikc@iisc.ac.in

📍 FE-14, Prof. Dipankar Nandi Lab, Dept of Biochemistry, Biological Sciences Building, IISc

🌐 <https://orcid.org/0000-0002-5507-0204>

Technical Skills

- Large Library Screening
- RNA Sequencing
- Fluorescence Activated Cell Sorting
- In vivo Experimentation with Mice
- Cell Culture (primary cell and cell line)
- Seahorse XF analysis
- Systems Biology
- Pharmacology Studies
- Bacterial Culture
- Quantitative biochemical and enzymatic assays
- Transfection and cell Imaging
- Molecular Biology Techniques
- RT-qPCR and Western blot

Education

Doctoral fellowship

Dept. of Biochemistry
IISc Bangalore
2018-ongoing

Master of Science

Dept. of Zoology
Banaras Hindu University
2016-18

Bachelor of Science

Dept. of Zoology
Scottish Church College
University of Calcutta
2013-16

Educational Qualifications

1. H.S. in Science, Singur Mahamaya High School, WBCHSE

Year: 2013

Passed with A+ Grade

Percentage obtained: 86.6

2. B.Sc. in Zoology, Scottish Church College, University of Calcutta

Year: 2013-16

Passed with honors and first class

Percentage obtained: 77.25

3. M.Sc. in Zoology, Department of Zoology, Banaras Hindu University

Master's dissertation in the laboratory of **Prof. S.C. Lakhotia** from the Department of Zoology, Banaras Hindu University

Project: Role of Heat Shock Proteins in tumor development in *Drosophila melanogaster*

Specialization: Cytogenetics

Year: 2016-18

Passed in first division with distinction

Cumulative CGPA: 8.65

4. Doctoral research under supervision of Prof. Dipankar Nandi, Department of Biochemistry, Indian Institute of Science, Bangalore

Year: 2018-ongoing

TGPA in Research Training Program: 8.3

Project: Metabolic and Pharmacological Modulations During IFN- γ signaling


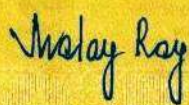
Specialization: Immunology, Pharmacology, Biochemistry

1. Class XII: WBCHSE (Singur Mahamaya High School)

a. Aggregate marks obtained: 433


b. Number of attempts: 1

c. Year of passing: 2013

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION									
INSTITUTION CODE		NO.				MARK-SHEET			
117104		B266230				Higher Secondary Examination 2013			
THE FOLLOWING IS THE STATEMENT OF MARKS AND GRADE OBTAINED BY									
AVIK CHATTOPADHYAY									
ROLL		213011		No.		0081		AT THE HIGHER SECONDARY EXAMINATION 2013.	
SUBJECTS	FULL MARKS		PASS MARKS		MARKS/GRADE		TOTAL	SUBJECT GRADE	
	THEORY	PRACTICAL /ORAL/ PROJECT	THEORY	PRACTICAL /ORAL/ PROJECT	THEORY	PRACTICAL /ORAL/ PROJECT	IN FIGURES IN WORDS		
COMPULSORY LANGUAGE									
BNGA	100		30		71/A		71	A	
					(SEVENTY ONE)				
ENGB	100		30		90/AA		90	AA	
					(NINETY)				
COMPULSORY ELECTIVE									
BIOS	80	20	24	6	76/AA	20/AA	96	AA	
					(NINETY SIX)				
CHEM	80	20	24	6	71/A+	19/AA	90	AA	
					(NINETY)				
PHYS	80	20	24	6	53/B+	20/AA	73	A	
					(SEVENTY THREE)				
OPTIONAL ELECTIVE									
MATH	100		30		86/A+		86	A+	
					(EIGHTY SIX)				
COMPULSORY									
ENVE	40	60	30 (TOTAL)		30	58	88	A+	
					(EIGHTY EIGHT)				
GRAND TOTAL						433			
RESULT: PASSED									
OVERALL GRADE: A+									
PLEASE SEE REVERSE					 DEPUTY SECRETARY (EXAMINATION)				

2. Bachelor’s degree: Scottish Church College (University of Calcutta)
- a. Aggregate marks obtained: 618
- b. Number of attempts: 1
- c. Year of passing: 2016

223/14029623/081/661801012002



UNIVERSITY OF CALCUTTA
STATEMENT OF MARKS

B. SC. PART-III (THREE YEAR HONOURS) EXAMINATION, 2016
(UNDER 2009 REGULATIONS, 1+1+1 SYSTEM)

NAME AVIK CHATTOPADHYAY

Roll Number. 3223-61-0137 & Registration number 223-1121-0120-13

Compulsory Language Group at Part-I Examination (Consisting of Compulsory English (ENGC) of 50 marks and a Modern Indian Language (MIL) in Bengali (BNGM)/Hindi(HINM)/ Urdu(URDM)/ Nepali (NFLM)/ Alternative English (ENGM) of 50 marks.)					Compulsory Paper on Environmental Studies (ENVS) at Part III level; Consisting Project Work of 25 marks Theoretical Examination of 75 marks under CSR/ 54/09, At Part-I Full marks 50 under CSR/61/06 & CSR/79/05					GRADE RANGE OF MARKS	
SUBJECT	YEAR OF EXAMINATION	MARKS OBTAINED	GRADE SCORED	SUBJECT STATUS	YEAR OF EXAMINATION	MARKS OBTAINED	GRADE SCORED	SUBJECT STATUS	A	60% & Above	
ENGC	2014	33	A	P	2016	91	A	P	B	35% to below 60%	
BNGM	2014	33	A	P					C	Below 35%	

HONOURS / GENERAL / MAJOR SUBJECTS												
Subject Codes	Exam Part I / II / III	Year of Examination	Marks Credited Previously		PAPERS	Marks obtained at the current examination				Subject Status		
			FM	MO		Theoretical Marks		Practical Marks			I+II+III	
						FM	MO	FM	MO			
ZODA					V UNIT-I	50	35					
					V UNIT-II	50	37					
HONS					VI UNIT-I	50	40					
					VI UNIT-II	50	36					
					VII UNIT-I	50	34					
					VII UNIT-II			50	45			
					VIII UNIT-I			50	38			
					VIII UNIT-II			50	46			
Total	I	'14	200	141								
	II	'15	200	166								
						250	182	150	129	800	618	H

CEMG												
GENL	I	'14	100	68								
Total	II	'15	200	141								P

BOTG												
GENL	I	'14	100	66								
Total	II	'15	200	148								P

Aggregate Marks & Result							Common Codes		Explanation of codes	
[Part - I, Part - II & Part - III marks taken together; excluding marks in ENVS & Compulsory Language Group. For Honours / Major Course, marks obtained in Honours / Major papers only are taken into account for the purpose of calculating final result on completion of Part I, Part II & Part III Examinations]							H	Qualified with Honours		
FOR PART III EXAMINATION ONLY							G	Qualified in General Course		
EXAMINATION RESULT							FX	Failed		
#										
Class										
Range of Marks										
I										
60% & above										
II										
40% to below 60%										
Division										
I										
60% & above										
II										
45% to below 60%										
III										
30% to below 45%										
X										
							AB-ABS	Mark Absent		
							FM	Full Marks		
							MO	Mark Obtained		
							EC	Examination Cancelled		
							HONS	Honours		
							GENL	General		
							MAJR	Major		
							MOD	Module		
							CRS	Course		

UG-ASC-015/0336936

223-1121-0120-13

PASSED WITH HONOURS AND
PLACED IN FIRST CLASS

CONTROLLER OF EXAMINATIONS

3. Master's degree: Dept. of Zoology, Banaras Hindu University


a. Cumulative CGPA: 8.65

b. Number of attempts: 1

c. Year of passing: 2018

Serial No. 245732

काशी हिन्दू विश्वविद्यालय



BANARAS HINDU UNIVERSITY

AN INSTITUTION OF NATIONAL IMPORTANCE ESTABLISHED BY AN ACT OF PARLIAMENT

GRADE CARD

MASTER OF SCIENCE IN ZOOLOGY FOURTH SEMESTER EXAMINATION 2017-2018

Name of the Candidate : Shri Avik Chattopadhyay Examination Roll No. : 16419ZOO018

Father's Name : Shri Pradip Chattopadhyay Enrolment No. : 389820

Mother's Name : Smt. Sukla Chattopadhyay

PAPERS	Credits Assigned	Grade Obtained
<u>Theory Papers :</u>		
ZOM-401 : Animal Behaviour & Environmental Biology	3	B
ZOM-402E : Clinical Genetics and Genetic Counseling	3	S
ZOM-403E : Gene Expression and Cancer & Immuno-Genetics	3	B
<u>Practicals :</u>		
ZOM-404 : Lab Exercises based on courses ZOM-401	2	B
ZOM-405E : Lab Exercises based on ZOM-402E & 403E	2	B
ZOM-406 : Project Work/ Dissertation	4	A
ZOM-407 : Seminar	1	B
Total Credits :	18	
Sum of (Credits X Grade Points) obtained in Fourth Semester		154
Fourth Semester Grade Point Average (SGPA)		8.56
Fourth Semester Course Passed or Failed		Passed
Third Semester Grade Point Average (SGPA)		9.16
Second Semester Grade Point Average (SGPA)		8.79
First Semester Grade Point Average (SGPA)		8.05
Cumulative Grade Point Average (CGPA) upto the end of the Course		8.65

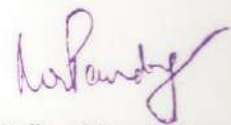
Passed in First Division with Distinction

Date of Declaration of Result : 26-06-2018

Prepared by :

Checked by : 1

Checked by : 2


Controller of Examinations

P.T.O.

4. Research Training Program: IISc Bangalore

a. TGPA obtained: 8.3

b. Number of attempts: 1

c. Session: 2018-19



Indian Institute of Science BANGALORE TRANSCRIPT

Research Training Programme - Ph D

NAME : AVIK CHATTOPADHYAY

S R NO : 03-01-00-10-11-18-1-15949

Dept of Biochemistry

SESSION : 2018-2019

TERM : August-December 2018

COURSE CODE	COURSE -TITLE	CREDIT	GRADE
BC 201	Cell Biology	2:0	B+
BC 202	Proteins: Structure and Function	2:0	B
BC 306	Essentials in Immunology	3:0	B+
MC 208	Principles of Genetic Engineering	3:0	A
RD 204	Principles of Signal Transduction in Biological Systems	2:0	A

PERFORMANCE IN CURRENT TERM CREDITS: 12 GP: 99 TGPA: 8.3

DEPUTY REGISTRAR
ACADEMIC