The Manmohan Singh Bursary Fund

A report prepared for Bharti Airtel Limited

OCTOBER 2017
The University of Cambridge offers its sincere thanks to Bharti Airtel Limited for the gift of £250,000 to establish the Manmohan Singh Bursary Fund (matched with a £250,000 donation from The Eranda Rothschild Foundation).

This report contains updates from each of the current students, describing the academic progress they have made and the life-changing experiences they have had at Cambridge, all made possible thanks to the Manmohan Singh Bursary Programme.

In his first year, Akshat Pandey has enthusiastically embraced the intellectual opportunities offered by Cambridge. He has excelled in his programme of study, and participated in extracurricular activities that will inspire other students with an interest in physics.

Returning students also continue to make very good progress, describing their enjoyment of both the inspiring academic environment, and the social nature of college and university life in Cambridge.
The Manmohan Singh Bursaries are named in honour of India’s fourteenth Prime Minister, who holds an undergraduate degree in Economics and an Honorary Doctorate from the University. The Manmohan Singh Bursary Programme recognises Cambridge’s long-standing engagement with India.

The Bursaries are awarded to outstanding school leavers from India who would not otherwise be able to fund their studies at the University of Cambridge. Each Bursary provides full funding, covering fees and means-tested maintenance for undergraduate study in any subject except Medicine and Veterinary Medicine. The Bursaries are highly competitive, and the University has been delighted at the number and quality of the applicants. Offers are made based on a student’s previous academic performance, their performance at interview, their academic potential and a statement submitted with their application explaining why they would be a deserving recipient of the Bursary.

Additional funding provided by Cambridge Assessment has allowed for more than one student to be in residence each year since the programme commenced in 2010. From 2018/19 the only income remaining in the Manmohan Singh Bursary Fund will be income available from the permanent endowment established by the gifts from Bharti Airtel Limited and The Eranda Foundation, currently circa £25k per year. Going forward, this means that the Fund would be able to support one student in residence at any one time, with the Cambridge Trust paying the balance required (approximately an additional £10k per year) to award a fully funded bursary.

Progress of the Manmohan Singh Bursary recipients

Since the start of the Programme in 2010, fifteen students have received a Manmohan Singh Bursary. They are:

2010
- **Mr Rudrajit Banerjee***, Christ’s College, BA Natural Sciences
- **Mr Neal Duggal***, St John’s College, BA, Economics
- **Mr Abhimanyu Singh***, Girton College, BA, Engineering

2011
- **Mr Rishabh Bhargava***, Girton College, BA, Engineering
- **Miss Payoshaa Shah***, Newnham College, BA Politics, Psychology & Sociology (deferred until 2012)
- **Mr Neil Satra***, Pembroke College, BA, Computer Science

2012
- **Mr Devang Agrawal***, Queens’ College, BA, Engineering
- **Mr Gaurav Kumar***, Selwyn College, BA, Engineering
- **Mr Mayukh Ketan Mukhopadhyay***, King’s College, BA, Economics

2013
- **Mr Siddhant Madhu Jayakumar***, Queens’ College, BA, Computer Science
- **Mr Nisarg Mehta***, Jesus College, BA, Engineering

2014
- **Mr Anindya Sharma**, Corpus Christi College, BA, Computer Science
- **Mr Vikramaditya Giri**, Trinity College, BA, Mathematics

2015
- **Mr Hrittik Roy**, St John’s College, BA, Mathematics

2016
- **Mr Akshat Pandey**, Corpus Christi College, BA, Natural Sciences

*denotes students who have graduated
I have immensely enjoyed the two terms I have spent at Cambridge. As I expected, the lectures — both my own and the mathematicians’ which I like to sneak into (completely legally, of course!) — are excellent, and the broad Natural Sciences course has been profoundly useful in expanding my intellectual horizons. The unparalleled supervisions make for continuously interesting scholastic exercise, and the collegiate system provides a highly personal environment, both academically and otherwise.

Cambridge does live up to its reputation for being an intellectually stimulating place: during Term, there are no fewer than three intriguing talks at the various physics and mathematics societies every week, of which I have attempted to attend as many as possible. In fact, I am now on the committee of the University Physics Society, and am responsible for inviting speakers for the next academic year.

My College, Director of Studies and supervisors seem to be reasonably happy with my academic progress so far. Other than my curricular studies, I have found some time to pursue my interest in theoretical physics. I have gleaned several ideas and techniques by attending the aforementioned lectures and by reading books procured from the wonderful libraries.

I cannot overstate my gratitude to the donors of the Manmohan Singh Undergraduate Scholarship whose generosity has single-handedly made it possible for me to attend the University of Cambridge.

Mark Warner, Professor of Theoretical Physics adds:

Akshat was by far the strongest candidate in our College exams in early January. Since he obtained full marks in my areas (maths and physics), it is hard to say how much better he could do! The other students obtained no more than half to two-thirds of the marks, so he is doing very well indeed.

A rather more nuanced analysis is that his supervisors say he is fully on top of his work, and is interested in aspects well beyond the first year in Cambridge. He is technically and intellectually very well prepared and qualified for his course here.

Akshat also participates fully and enthusiastically in the College and University intellectual life. He has been a leading light in College-based activities – for instance estimation and Arduino evenings – so much so that we will get him to organise the next estimation evening and provide the challenging questions that make the occasions interesting and demanding. At the University level, he now holds one of the more interesting roles in the Cambridge University Physical Society, namely being responsible for the programme of talks that are there to inspire the students.

The College, and its physics fellows in particular, are delighted with his progress and his wish to contribute to our intellectual life.
This year has been very special for me in terms of academics and extra-curriculars. Unlike last year the topics I encountered in the course are unfamiliar to me and challenging but much more interesting. As a result I have a more precise idea of what kind of mathematics I like (topology and analysis).

I am very excited for next year where I will have the opportunity to explore these topics more deeply. I have also found some time to develop my other interests. I have been doing a lot of porgramming recently, and participated in two hackathons this year.

I have also been involved in the Algorithmic Trading Society which allowed me to learn about real life applications of neural nets in trading algorithms. I also started kickboxing after a three year break from combat sports. I had a great time and made some good friends. It was a unique experience fighting against Oxford in the Varsity match.

I would like to express my immeasurable gratitude to the donors of the Manmohan Singh Scholarship who made it possible for me to study at Cambridge. Without the generous support of all the donors the expenses would have been prohibitive and I would have missed out on this opportunity. It’s hard to express in words how important this has been for me, especially now after two years and with an understanding of what I would have missed out on had it not been for the scholarship. I am not perfect but I try my best to not take this opportunity for granted and to stay dedicated to my craft. Thank you for making my dream into a reality.

**Hrittik’s supervisor Dr Matthias Dörrzapf notes:**

Hrittick has worked well this term and has made very good progress. It is a pleasure to supervise his thesis and his work is well-written and well thought through.
I have had a great time in my third year as an undergraduate here at Cambridge. I feel that the supervision system has helped me progress in my studies, and my supervisors and Directors of Studies have been supportive and friendly. Part II of the Maths Tripos gave me a lot of choice in picking topics for my study. As a result, I have got a flavour of several parts of pure mathematics, while at the same time had the freedom to go very deep into some of them.

Last Easter, my Numerical Analysis supervisor advertised an internship at Schlumberger Gould Research, where I worked over the summer under Dr James Hobro. Over this Easter, we gathered results from our work, and our novel findings were presented at the European Association of Geoscientists and Engineers conference in Paris this June.

My College life has been enjoyable as well. I was the President of the Corpus Board Games Society, the Corpus Bridge Society, and the T. Batterby Mathematics Society. In my final year, I had the wonderful opportunity to live in Old Court, one of the oldest courts in Oxbridge.

After securing a high 2:i in my final year of Maths, I was accepted onto Part III Systems Biology, and will be studying for an MSci degree next year.

None of this would have been possible without the support I have received from Cambridge Trust through the Manmohan Singh Scholarship. I am extremely grateful to the donors who have sponsored me. The memories I have made and the lessons I have learnt over the past three years have been priceless, and I thank my sponsors for giving me this opportunity.

Anindya’s Director of Studies, Anastasia Kisil, notes:

Anindya is a friendly and amiable person who wants to do well in life. He has been working in companies during summer breaks and will have a choice of careers once he finishes in Cambridge.
It has been quite a wonderful year (again!). I find joy time and time again surveying the beautiful and vast landscape of mathematics. This year’s courses have been wonderful. The new Part II course ‘Analysis for Functions’ has been challenging and a lot of fun to get to grips with. Other excellent courses this year have been ‘Topics in Algebraic Geometry’ and ‘Many Particle Systems’. I have started to explore a few new areas of maths such as ‘Gromov’s h-principle’, perfectoid spaces, and hydrodynamic limits.

Gliding has been a great pastime. I recently passed my bronze theory tests and hope to get a sailplane pilot’s license soon. I went along with the Cambridge University Gliding Club on this Easter’s expedition to Portmoak, Scotland, and had an excellent time flying over the hills and lochs.

This summer I have been reading the Mathematical Aspects of Kinetic Theory with my supervisor, Professor Clement Mouhot. I have also visited Russia and travelled to conferences in Europe.

While writing this I realise that I have just one more year at Cambridge and I hope to make the best of it. I wish to thank you profusely for the opportunity to learn maths and to have a great experience at Cambridge.

Vikram’s tutor Dr Stuart K Haigh writes:

Vikram has made good progress through the year with both academic and extra-curricular pursuits. He’s doing well and has generally positive reports.
## Appendix I: A financial statement for the year 2015-16

**Department = AA**  
**Source of Funds = KFHO**  
**MANMOHAN SINGH BURSARY FUND**

### FINANCIAL YEAR 2015/2016

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<th>Description</th>
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<th>Spendable Capital</th>
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