Welcome to the PhD Program







An Informal Guide for PhD Students

Academic Year 2022-23

Department of Chemical Engineering

Indian Institute of Technology Delhi



MESSAGE FROM THE HEAD

Your department at IIT Delhi is inviting you to come, connect and embark on an exciting journey filled with learning and rich experiences. The PhD program in Chemical Engineering is focused on providing you an immersive experience in research with challenging ideas and innovative thinking. Over the years, the department is built by the contributions of doctorate students who have participated in all spheres of activities including research, teaching and training. Our PhD Alumni and students share a common dream, which is to serve the society with their knowledge and expertise. With these words, I welcome you, on behalf of all the faculty and staff members. We look forward for making a fruitful stay for you at the Department.

Prof. Anil K. Saroha

PhD Course Work

Compulsory Course Work for PhD Students

1. All courses should be completed before the comprehensive exam by full time (FT) and part time (PT) students[1]

	Course No.	Course Title	Credits	Credit Requirement
1	CLL 701	Modelling of Transport Processes	2	2 (any one course can be taken)[2]
2	CLL 702	Principles of Thermodynamics, Reaction Kinetics & Reactors	2	
3.	CLL 7xx	Any one 700 level course of the Department	3	3
4.	CLL7xx	Any one 700 level course of the Department	3	3
Total Credit Requirement for DGPA (as mentioned in the green color PG-7 form)				**8**

Other Courses (Non-graded)

2. HSL- 800 (Communication skills) – offered every semester for FT and PT[3] students
3. CLP704 (Technical Communication for Chemical Engineers) – offered in even semester for FT students only.

DTD- 899 (Doctoral Thesis)

4. Both FT and PT students should register every semester from the beginning till thesis submission

Course Work for Students Entering with a B.Tech. or M.Sc. Degree

Student with a B.Tech. only degree has to complete 20 credits of courses. Out of which 8 credits are completed as described in the Table above. In addition, one more 3 credit 700 level course has to be taken from the Department. Remaining 9 credit of courses may be taken as any 700 or 800 level courses of the department and/or institute.

[1] All Ph.D. students should submit a copy of their transcript when submitting their comprehensive and synopsis reports.

[2] For students completing their MTech. degree from IIT Delhi, who have done equivalent CLL701 and CLL702 courses, a waiver may be requested through DRC and any 700 level course of the department may be completed to fulfil the credit requirement.

[3] PT students, who are not able to attend HSL- 800, may give a seminar to the SRC to request a waiver through DRC.

Some Rules to Remember

Formation of Student Research Committee (SRC)

The SRCs must be formed within first three months of joining the Ph.D. program. The requirement of 8 (or 20) credits must be prescribed on the form for SRC formation.

General Note on the Continuation/Termination in the PhD Program)

PhD student need to have a SGPA>6 at the end of first semester, and CGPA>7 at the end of second semester onwards otherwise the registration is terminated.

Comprehensive exam should be completed within 18 months of registration for FT and 24 months for PT students. Otherwise registration may get terminated.

As soon as the student completes the credit requirement as written in the PG-7 form, the DGPA is calculated from the (CLL7xx) courses in which the student has got the best grades, satisfying the Table above (which include one of the CLL701 or 702 course). If DGPA < 7.5, the student is allowed to continue to the next semester to do additional CLL7xx courses to improve the DGPA (calculated again the same way and the fellowship may be discontinued), till the end of 18 months for FT and 24 months for PT students. If the DPGA > 7.5, then student is allowed to take his/her comprehensive examination, subject to the fulfillment of the completion of the other non-graded (HSL-800 and/or CLP704) courses.

Seminars and Presentations

Seminars

All FT Ph.D. students must present a seminar in the department, as a part of 'ChE Graduate Seminar Series' once in a cycle of 1.5 – 2 years, after completion of the comprehensive examination. The schedule of such ChE Graduate seminars is announced in the beginning of every year.

All FT Ph.D. students must attend at least 50 % of the compulsory seminars (ChE Graduate seminars, Seminars given by invited speakers, Ph.D. synopsis and Ph.D. defence seminars). If a full time student fails to attend 50% of these seminars for two consecutive semesters, the SRC/DRC may award an unsatisfactory (U) grade for that semester. The compulsory seminars will be clearly announced by the faculty in-charge of the seminars and Ph.D. co-ordinator. This also applies to new students who are doing their coursework and also to the students who have submitted their synopsis.

End-Semester Progress Reports and Presentations

All FT and PT students must submit an online progress report at the end of every semester i.e. in the months of July and December every year, starting from their first semester till the submission of Ph.D. thesis.

All FT and PT students, who have completed their comprehensive examination, must submit a written progress report to their SRC members and give a SRC presentation (in the oral or poster format) every semester.[4] This should be done till their synopsis is completed. Oral SRC presentations are conducted for students having an odd entry number in the first semester and those having an even entry number in the second semester of the academic year.

[4] Students, who will complete their comprehensive examination in a semester, may not give SRC presentation for that semester. Also, students who have submitted their synopsis need not give SRC presentations. The students, whose synopsis seminar is scheduled within 30 days after the last date of submission of progress reports for that semester, need not give the SRC presentation. Students who are on long research leaves (research-stays abroad, international exchange program) and on long special leaves (e.g. maternity leaves, medical leaves etc.) will have to give SRC presentation immediately on their return.

Prime Minister's Research Fellowship

Outstanding research scholars who are selected through a highly competitive selection process receive a stipend of Rs. 70,000 per month for the first two years, Rs. 75,000 per month for the third year and Rs. 80,000 per month for the last two years. In addition, they receive a contingency grant of Rs. 2 lakh per annum.

Direct Entry

In the 'Direct Entry' mode, outstanding students who have secured admission for full-time Ph.D. and paid fees in one of the PMRF granting Institutes (all IITs, IISERs and IISc plus top 25 NIRF ranking institutes are eligible) are recommended by the host Institute.

Lateral Entry

In the 'Lateral Entry' mode, existing (currently registered) full-time Ph.D. students who have not completed 12 months (those who joined with Masters' qualification) or 24 months (those who joined with B.Tech. qualification) are eligible.

Shortlisting Criteria and Metrics

For PMRF Lateral Entry Nomination: 3 CLL7xx courses (out of which one course could be **CLL701/ CLL702)** and one more any of the institute 7xx or higher level courses will be considered for CGPA calculations. Minimum CGPA from these four courses should be 8.5 for nomination. All eligible students will make a presentation before the committee for nomination. Metrics on which the candidates will be judged will include

1) Research proposal
2) Grades
3) Publications record
4) Presentation (Defence of the Proposal/Viva on Fundamentals)
5) Miscellaneous (Participation in National/International level tests/competitions/Awards)

Prime Minister's Fellowship Scheme for Doctoral Research

This is a different scheme than the aforementioned scheme. This is organized in a Public-Private-Partnership (PPP) mode for human resource capacity building for industrial R&D between SERB and CII. Please Check https://www.primeministerfellowshipscheme.in for more details.

Research Scholars Club

Research Scholars Club (RSC) at the Department of Chemical Engineering is dedicated to organizing different events and to create a bridge between the faculty and PhD students. RSC devoted in creating a comfortable zone for fellow researchers where student can discuss any issues i.e. LAMHE FURSAT KE... Following Activities are generally undertaken by the RSC.

1. Organising Events Related to PhD Students

2. Placement & Outreach

3. Workshop/Training/Research Scholar Symposium

4. Alumni Relations

Sub Units and Activities

	Sub Units and Activities
1	Events
2	Department Seminars
3	Webpage of PhD Activities
4	Alumni Interactions
5	PhD Admissions
6	Women Cell
7	Placement & Industrial Outreach
8	Workshop/Training/Research Scholar Symposium
9	Lab Safety & Inventory Database
10	Coordinator

Travel Grants

1. Research Excellence Travel Award (RETA)

This grant is available to top 10% PhD students in each six months block. For this, a merit list of PhD students is made, who can avail the grant. A committee constituted by the department evaluates and make a merit list of the students. Once selected the student can take this grant anytime (within the time frame applicable for RETA) in future. No fresh application for the grant is required. There is no need to indicate the conference in which the student would like to go in future.

For RETA Nomination: Two publications (> 2 impact factor) arising from the work related to the PhD thesis (signed by the adviser) are considered.

2. Research Scholar Travel Award (RSTA)

All full time PhD students are eligible for the RSTA to travel to the conference, once or twice during the first five year period of their PhD program. Maximum financial grant available to a student under RSTA is 1.5 Lacs.

3. International Travel Support (ITS) Scheme of the Department of Science and Technology (DST)

Provides financial assistance to Indian researchers for presenting a research paper in an international scientific event (conference, seminar, workshop etc.) held abroad. The researchers are required to apply online through the portal www.serbonline.in between 60-90 days in advance prior to the start date of the event.

4. National Meeting Travel Grant of the ACS for International Student Chapter

Through the student chapter of American Chemical Society (ACS) at IIT Delhi, one can apply up to $2,500 USD in grant funds supporting travel expenses associated with attending the ACS National Meeting.

Frequently Asked Questions

1. Whom should I contact on the first day of joining to register in a course?

Ans: You should contact first your advisor on the day of joining. Your advisor knows the best, what courses you need for your PhD program and she/he can provide the best advice on this. If you have not met your advisor, do it as soon as possible.

2. How many courses should I take in the first semester ?

Ans: The course work is designed in such a way that you can finish most of the courses in the first semester itself. However, we recommend that you should take 2 course in the first semester. One of which could be a 3 credit CLL7xx course and another could be a 2 credit CLL701 or CLL702 course. In addition, you should register for the non-graded courses (HSL800 and CLP704). HSL800 is generally available in both semesters and CLP704 is only available in the even semester. Get yourself accustomed with the courses and teaching style at the IIT. In the subsequent semester, you may take one more CLL7xx course to finish your credit requirements. In addition, make sure that you register for DTD-899 every semester. Students having a B.Tech. or MSc. Degree should take more courses.

3. How should I become a part of the Research Scholars Club (RSC)

Ans: Wait for the general body meeting of the RSC. All activities will be explained to you in this meeting so that you can participate in a formal manner. However, at any time you can contact the PhD coordinator to volunteer and associate yourself with the RSC.

4. Whom should I contact for any grievances and issues during my PhD studies.

Ans: You should first discuss the issue with your advisor, or with the PhD coordinator or Head of the Department. For any issue related to female candidates, two female members of the Research Scholars Club are available to discuss issues informally, supervised by a female faculty member (you can also contact the faculty directly).

Frequently Asked Questions

5. When should I start doing research on my PhD project?

Ans: Ideally on the day one. However, the day when you will actually start sitting in your research group varies from group to group. It is generally expected that the PhD student should be ready with data worth of one good research paper before the comprehensive exam. Setting this as a target, you should start your research as soon as possible, while doing the courses.

6. How many hours should I stay in the lab?

Ans: The lab for a PhD student is like a home away from home. There is generally no bound on the total number of working hours for a PhD student. However, maintaining a healthy routine is the key to success. One should arrive at 9 am in the lab and make a routine to finish the targeted work on the same day. Avoid procrastination and late night works. Keep yourself motivated and disciplined.

7. Who can I ask for informal advice during PhD program?

Ans: You can always come and meet with the PhD coordinators. However, if you are comfortable more with a student, we can connect you with a senior PhD student of the department, who can play the role of a mentor. Sometimes taking advice from an experienced person helps.

8. How can I do research in entirely different field without any prior knowledge?

Ans: Research projects can never be entirely in chemical engineering. You need to think this opportunity as a chance to enhance your knowledge in different areas and different fields. There are always open courses available in other departments which will help you as a guide to proceed further. Other than your own supervisor, there is always an open platform of knowledgeable teachers in every department who are always ready to guide you. Take any project as a chance to challenge yourself to upgrade you.

Frequently Asked Questions

9. How much time the PhD is going to take?

Ans: It entirely depends on your ability to finish your assigned objectives. There is some timeline for the comprehensive exam and a limit on maximum number of seven years fixed by the institute for the PhD program. Never feel scared with the timeline as PhD is not just a degree, it is a process in which you learn to deal with future challenges. Enjoy every moment and try to learn as much as possible while you are a part of us. If you ever feel demotivated, try talking to your lab mates, seniors, supervisors, or the helpline available in the institute. We are always there to help you.

10. Will I be getting scholarship continuously?

Ans: The source of scholarship will be assigned to you before your enrolment. Based on the source, the timeline of scholarship may vary. Although your supervisor is always there to support you and generate more resources for you. Moreover, there is always an opportunity to write new projects and get the funding for yourself and generate more resources for yourself and department. Generally, scholarship beyond five years of stay in PhD program is not available.

11. Can I take courses from outside the department?

Ans: You can take courses from outside the department. However, for students entering with a MTech degree these courses will not be used to calculate the DGPA, since it is strictly calculated from the prescribed 8 credits of CLL7xx courses. Students entering with a B. Tech. or M.Sc. Degree are required to do 20 credits and they may chooses few of the courses from other departments. You should discuss the courses you are planning to do with your advisor and SRC members.

12. What happens if my CGPA<7 but DGPA>7.5 or CGPA>7 but DGPA<7.5?

Ans: For CGPA<7, you will be terminated. For DGPA<7.5, you may get a chance to improve grades.

13. I am not able to register a course. What should I do?

Ans: Please contact the course instructor, who may help you in offline registration.

14. Can I drop a course?

Ans: Check Academic Calendar. Usually there is a date given in the calendar for dropping the courses.

Opportunities

TCS Research Scholar Program

Tata Consultancy Services Limited (TCS) through its TCS Research Scholar Program provides scholarship to full-time registered PhD students in Computing Sciences of select institutes in India. This scheme is open to candidates who have been selected by IIT Delhi and registered for a full-time PhD programme, provided they are within 28 years of age at the time of application, and have a brilliant academic background.

A stipend of Rs. 41,000 per month for the first two years and Rs. 45,000 per month for the next two years will be paid by TCS to the students.

Application: Generally advertised in January every year

Sumant Sinha- Sustainability Leadership Award for IIT Delhi Students

Applications are invited to recognize an exceptional research and student leadership in the broad area of sustainability. The awards are given in three different category, each comprises of cash award of Rs 25000, a certificate and a citation.

Application: Generally advertised in July every year

FITT Award for Best Industry Relevant Projects - Sustainability Leadership Award for IIT Delhi Students

This is given to PhD projects approved for the award of degree

Application: Generally advertised in September or before convocation

Excellence in HPC-based Research Award

The High Performance Computing (HPC) Group invites application from all HPC users for the "Excellence in HPC-based Research Award" every year at IIT Delhi". This award worth INR 5 Lakh of computational time is given to students who have done outstanding research work using the HPC facility. Entries for the consideration of these awards have to be recommended and forwarded by the Department.

Opportunities

Gandhian Young Technological Innovation (GYTI) Awards

The award celebrates the spirit of student innovation in all the fields of engineering, science, technology and design through extremely affordable/frugal solution or the ones pushing the technological edge. These could deal for example, with a) communities at grassroots, b) co-creation with grassroots innovators, c) manufacturable technologies for saving or generating energy, sanitation, water purification, saving material consumption, d) biotechnology and medical devices, e) diagnostics, f) assistive devices for physically challenged, and all others areas of social and industrial applications.

Application: Refer to the webpage http://gyti.techpedia.in

Bioenergy-Awards for Cutting Edge Research

Internship Opportunity at US universities for Indian citizen currently pursuing a Ph.D. on a full-time basis in the field of Biofuel related area

Application: Refer to IUSSTF webpage https://www.iusstf.org/

Bhaskara Advanced Solar Energy Fellowship

Internship Opportunity at US universities for Indian citizen pursuing a Ph.D. as full time scholars in the field of Solar Energy

Application: Refer to IUSSTF webpage https://www.iusstf.org/

Water Advanced Research & Innovation Fellowship

Internship Opportunity at to world class research facilities at the University of Nebraska-Lincoln; Daugherty Water for Food Global Institute, Purdue University, Texas Tech University and the University of Idaho. For Indian citizen pursuing a Ph.D. as full time scholars in Ph.D. in Water Science and Engineering

Application: Refer to IUSSTF webpage https://www.iusstf.org/

Opportunities

IRD Early-Doc fellowship

IRD Early-Doc fellowship scheme is to support Ph.D. students at IIT Delhi after the successful completion of Ph.D. Viva Examination. The main objective is to support the Ph.D. Scholar for completing the manuscript writing related to thesis work. The fellowship will be given to full time Ph.D. students of IIT Delhi (including those getting assistantship from projects) for a maximum period of 3 months w.e.f. the date of his/her Ph.D. Viva with a monthly fellowship of Rs. 40,000/- per month (including HRA).

Newton Bhabha Fund PhD Placement Programme

The Newton-Bhabha Fund offers PhD scholars from India and the UK to spend a period of their study (up to two to four months) in UK higher education institutions.

Application: Refer to ttps://www.britishcouncil.in

Miscellaneous Awards for PhD Students

1. Dr A V Rama Rao Foundations Best Ph.D. Thesis and Research Award in Chemical Engineering, refer to https://www.iiche.org.in

2. Shah-Schulman Award for the best Ph.D. thesis in the area of Colloid and Interface Science refer to https://www.iiche.org.in

International Conferences

PhD students should aim for attending at least 3 or more international conferences. For attending reputed and well-known international meetings, a lot of planning is required. Usually it takes a year to apply and present a paper in a renowned conference. So planning ahead of time is essential. Some of the renowned conferences which are attended by the faculty members and PhD students of the department are mentioned below.

Annual Meeting of American Institute of Chemical Engineers (AIChE)

This meeting covers all disciplines of Chemical Engineering. Every year, some of the Chemical Engineering Departments of the IITs and IISc come together to organise a reception for all attendees. AIChE is one meeting which one should attend as a Chemical Engineer, at least once during their PhD program. Senior PhD students should also think about attending the conference and presenting a poster in the **Meet the Faculty and Post-Doc Candidates Poster Session**. This generally helps them in showcasing their research and candidature in academic job market.

ACS National Meeting

American Chemical Society (ACS) organises national meetings twice every year (once in March and once in August tentatively). This meeting is generally useful for PhD students working in the broader research areas of Biotechnology, Chemistry, Catalysis, Polymers and Soft Materials. Through the student chapter of ACS at IIT Delhi, international travel grants are available to attend this conference.

International Symposium on Chemical Reaction Engineering

Symposia in Chemical Reaction Engineering initially started as ESCRE in 1957 (Amsterdam), later as ISCRE, are now held biennially, in cycles of six years i.e. once in North American, European and Asia-Pacific regions each. For the first time in India, IIT Delhi is hosting this conference tentatively on December 5-8, 2021.

International Conferences

Gordon Research Conference

The Gordon Research Conferences provide an international forum for the presentation and discussion of frontier research in the biological, chemical, physical and engineering sciences and their interfaces. These are more focused venues to discuss research on a specific concentration. Check for https://www.grc.org for an appropriate GRC conference in your research area.

Area Specific International Conferences

1. North American Meeting: Organised every other year during summer in the US in heterogenous catalysis research

2. Annual Green Chemistry & Engineering (GC&E) Conference: Organised every year by the ACS during summer in the US.

3. Biannual Meetings of the Electrochemical Society: Organised twice a year, once in summer and once in fall semester in North America.

From the Desk of Our Alumni

Abhijeet H. Thaker



I have done my Diploma in Chemical Engineering at N. G. Patel Polytechnic, Bardoli from 2004-2007, followed by B.E.(Hons.) in Chemical Engineering at L. D. College of Engineering, Ahmedabad from 2008 to 2011 and M. Tech in Chemical Engineering at SVNIT, Surat from 2011 to 2013. I joined IIT Delhi as a PhD scholar in 2014 to enhance my R&D skills further in the field of fluid dynamics. I have joined PhD under the supervision of Prof. Vivek V. Buwa at Department of Chemical Engineering, IIT Delhi, from 2014-2020. Presently, I am working as a Postdoctoral Researcher at the University of Limerick, Ireland. My professional achievements include 6 international journal articles and 8 international conferences. In addition to the research activity, my other hobbies and self-development activities are running, cycling, reading books, travelling, etc.

The PhD research program not only enhanced my scientific knowledge and research skills but also provided an opportunity to develop personal skills in terms of scientific analyses, problem-solving abilities and curiosity. Also, the PhD program provided a vision to correlate my research in the development of multidisciplinary aspects. The courses taught during the PhD are closely relevant to prospective research. Therefore, I got an opportunity to enhansce my fundamental knowledge which is very important in the initial stage of any research field. Apart from that, I developed several personal development skills such as scientific articles writing, presentation skills, communication skills which is crucial in PhD and also for the prospective career. During the PhD, I got an opportunity to interact with my colleague scholars and SRC members which I feel the best way to recognize the applicability of my research in the interdisciplinary field.

The research facilities and high-performance computing facility provided at IITD are amazing and that I will always remember. I will always appreciate the helping nature of SRC members. I spent an ample amount of time with my supervisor in several aspects such as, during the discussion of research problems and scientific article writing that I always remember. Besides the scientific memories, I enjoyed the IITD campus life a lot. I enjoyed all the scientific and cultural festivals at IITD.

Advice to PhD Students:

Since you have already made the right decision by selecting IITD, my only advise to current PhD students to stay motivated and curious. My personal experience during the PhD says that all the days will not be the same, sometime you will be highly motivated, someday you will be frustrated by troubleshooting the research problem or by not getting the expected outcomes. However, patience, the persistence of getting the problem resolve and the experience you gain during the troubleshooting the research problem will make you a very strong, which is very much required to be a successful researcher. Therefore, don't get demotivated and depressed by whatever difficulties you face in your research because it is a part of PhD and therefore, don't give up, keep trying, pursue it, learn it, take a lesson from the failures and move ahead. All the very best for your future.

From the Desk of Our Alumni

Brijesh Singh



I am working as a PDF at Polytechnique Montreal, Canada. My research focuses on developing new reactors and complete process flow development for phosphorus and green ammonia production. It briefly involves experiments under microwave/induction fields, reaction kinetics modeling, thermodynamic simulations, process calculations, techno-economic evaluations, and computational fluid dynamics (CFD) simulations. Before Polytechnique, I worked as a PDF at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany where I performed lattice Boltzmann method (LBM) simulations of multiphase flow systems. I did my Ph.D. from the Department of Chemical Engineering, Indian Institute of Technology Delhi in the year 2019 under the supervision of Prof. Vivek V. Buwa and Prof. Shantanu Roy. During my Ph.D., I worked on hydrodynamics studies of multiphase reactors and CFD simulations of gas-solids flow in a fluidized bed. Apart from compulsory courses such as chemical reaction engineering, transport phenomena, and thermodynamics offered during the Ph.D., I got myself enrolled in several other courses such as CFD, numerical methods, programming languages, etc. provided by chemical, mechanical, and computer science departments. I enjoyed most of the courses and I am utilizing those learnings in my current research work.

In my opinion, IIT Delhi provides one of the world-class research facilities in diverse backgrounds. New Ph.D. students at IIT Delhi should be motivated towards innovative ideas and show their rigor for science without worrying about their career after Ph.D. One should never fall in conflicts with their own decision of choosing a Ph.D. by comparing a Ph.D. stipend with the salaries of their bachelor's or master's batchmates who are working in the industry. If you devote your time compassionately to your research work, you will have a bright future and a satisfying working lifestyle.

Advice to PhD Students

Work hard on your research objectives, make it more patentable or applicable than derivative, have at least two publications before three and half years of your Ph.D., and last but not the least, try to submit your synopsis under four years of your registration date. To make it feasible, you must respect your working time as well as your personal time. Do not take more than one break (lunch/snacking at Amul or Nescafe) during a working day, make work plans and complete them on a daily basis. Your research needs consistent and continuous focus than you assume. Be alive during other's presentations, ask questions, understand other's research work no matter how stupid that sounds.

Your Ph.D. is your responsibility and not your supervisor's, propose your research ideas or plans after consulting with your supervisor, if they do not agree, convince them with more factual data rather than argumentative conversation. There is nothing like good or bad supervisors, so never engage yourself in "coffee with colleagues" on criticizing your supervisor, it is only your work that makes your supervisor the way you perceive them. Take good care of your health, do sports, exercise, and sleep properly to make your brain function efficiently. Plan vacations, outdoor activities, make friends, fall in love, learn new skills, or new languages offered in IIT Delhi. After all, nothing matters more important than your life, if nothing is going right talk to your loved ones. I wish you all the best for your Ph.D. endeavour and stay at IIT Delhi, just rock it!!

From the Desk of Our Alumni

Arunima Shukla



I have done B.Tech. in Chemical Engineering from Banasthali University, Rajansthan (2008-2012). While I was doing my B.Tech., I did internship with Prof. D.P. Rao, Chemical Engineering Department, IIT DELHI, where I worked on carbon dioxide absorption-desorption pilot plant operation. That was the time when I realized that research is my cup of tea and I started looking forward to making research as a career. Having that in my mind, I joined in the M.S. (R) program of our department in 2014, which I converted into Ph.D. after completing the criterion of the department. I have done my Ph.D. research under the supervision of Prof. Ashok N. Bhaskarwar from 2014-2019. Presently, I am working as Research Engineer in the R&D department of Dehn India. My professional achievements include overall 3 Indian patents (1 is granted), 2 journal articles (4 under process), and 11 national/international conferences and poster presentations. I have received best poster award under the theme sustainable habitat in Industry Day, 2018. I have written multiple projects for funding my research during my Ph.D. I got funding by TSDP, Department of Science and Technology with budget of Rs. 74 Lakhs (2016-2020). The project helped me to continue my research as well as helped me to generate my scholarship. During my Ph.D., I participated actively on every departmental activity. I was a member of Research Scholars Club (RSC), Trestle, Corporate Relations at IIT Delhi and Alumni Relations Committee. In my spare time, I loved to write down my thoughts on paper, and our institute has given me the opportunity to share those thoughts on many platforms such as Hindi Samiti, and Research Scholar's Day.

The best part of doing research in IIT Delhi is; 'there is no boundary'. You think of any idea and you will look around and see that all the knowledge is there. You can choose any courses from any department to enhance your skills and that will help you throughout the course of your study. My area of research was 'aerated concrete', even then I got all the help from my department as well as other departments. I am always thankful to my supervisor and my SRC committee members who were like a family and a guidebook to me. Other than official help, I had continuous support from many faculty members from the Institute. I have learnt to be curious, and question almost everything. I have gained good presentation skills and because of the interaction with other researchers from my lab (thanks to the weekly group meetings), I have knowledge of different fields and aware about their troubles. So, I must say, the whole process of my research has shaped me well and given me a lot more confidence than I had in the beginning to face any challenges of the world.

I don't know where to start, what I am missing, but my lab (countless sleepless nights), my friends (constant source of positivity), and the safest environment provided by institute. Parents were worried about Delhi, but I felt like, I had superpowers in IIT, which includes my lab, friends, my hostel, informal discussions with faculty, canteen, even security staff (you just need to talk about the issue). I remember one incident where someone speeding the car and I informed the security staff. That guy got blocked from the Institute- see **"SUPER-POWERS"**. I had tough time in the beginning while converting my masters into a Ph.D. program and that lasted for a long time. Even though, that has made me strong and I am proud of that time too. Late night spending time in our central library which was open 24*7 and using the database was the privilege to me. So much of study and then having tea at any time, it was fun. I am still a part of my department and my Institute which will remain forever, and I am proud of it.

From the Desk of Our Alumni

Advice to PhD Students

If you are reading this, trust me you are at the best place possible. Start gaining knowledge and experience from the resources around you. Work on the problem identification and do a thorough literature survey just to clarify what you are doing is not the repetition of someone else's work. Choose your problem wisely and you are good to go. Never ever copy paste anything. While reading someone else's work it looks like that's the best but even though don't tempt to copy. Never take credits of anyone and always have gratitude for even a simple help.

Don't get demotivated by the number of years you will be spending in Ph.D. Enjoy every day while you can. One thing which you need to remember always that It's not a competition, rather it's a journey of knowledge which will prepare you for the future. There will be a time, when things won't go well (mostly in your 3rd year or 4th year beginning), you may have doubts about **what and why** you are doing all this. But, believe me, every researcher goes through the same state of mind and it will pass (you can contact me anytime). You may take help of your friends, seniors, supervisor, and for that matter any faculty of our department. You won't realize but faculty do observe you and your state of mind, you just need to go and talk. Stay positive and distribute the positivity all around you and at the end you will smile and think '**IT WAS AWESOME**'. All the very best for the journey.

From the Desk of Our Alumni

V. M. Rajesh



Assistant professor, Shiva Nadar University.

I have joined the PhD program at IIT Delhi since Jan 2009. I was fortunate to have Prof. Vivek V Buwa as a mentor for my PhD thesis. I am confident that his meticulous guidance and support made me what I am today. PhD program at IIT Delhi was a dream came true for me. This program gave me an abundance of chances to interact and learn many technical stuff and ideas from Professors at the Department of Chemical Engineering. I must be thankful to all of them. In particular, this program gave me lots of confidence and courage that still helps me in shaping my career.

Moreover, fellow students were very helpful for open technical discussion and sharing their knowledge. Of course, the courses learnt at IIT Delhi during my PhD program helped me tremendously to shape my professional career. IIT Delhi courses taught me not only the subject knowledge and also how to teach students and that is helping me a lot in my teaching profession.

I do mostly remember my lab, where I spent most of my time during the PhD program. I still remember many sleepless nightsthat I stay in the lab and work till early morning, pleasant memories. I too remember playing cricket with my friends on Sunday's and that always gave me a little break from my regular research work.

Advice to PhD Students

I have few suggestions, Understanding the problem statement and its feasibility and applications are utmost important at the beginning of the PhD program. I feel that the first six months of the PhD program is very crucial to strengthen on these points. If the research problem to be identified or offered by a faculty member, I would still recommend the students to do a thorough literature survey at least by first six months to make his/her agenda clear before starting the actual research work. It's also essential to have an open technical discussion with fellow research students across various departments. I feel that a multidisciplinary approach might bring a new essence to your work/fellow students. It's better to have a habit of reading journal articles throughout your program as and when required to update yourself in your research field.

From the Desk of Our Alumni

Rohini Singh



I did my Ph.D. from the Department of Chemical Engineering, Indian Institute of Technology Delhi (IIT Delhi) in the year 2019 under the supervision of Prof. Shalini Gupta. Currently, I am writing collaborative projects for international postdoctoral fellowships. During my Ph.D., I worked on the design and development of theranostic platforms for bacterial infections in the blood and intracellular bacteria in cancer. The first year of the PhD program revolves majorly around course work but, my advice here is to touch the research base as soon as possible as it will help in understanding the direction and the basic idea of your Ph.D. The most important thing here is that you should own your Ph.D. because it is your responsibility and not your supervisor's as he/she has already done it 😊.

Ph.D. is not just a degree; it is your own personal journey of science. It will help you grow not only at a professional level but will transform you into a different person, in a good way for sure. Since it is a quite personal journey, you will have your ups and downs but one thing which is most important here is 'perseverance'. Once you start accepting the problems and develop a troubleshooting attitude it will solve all your problems. The key to balance this journey is consistency and hard work and nothing else which will come automatically once you start enjoying what you do. One should work on necessary skills such as scientific writing, presentation, public speaking as it is an integral part. One thing you should value most is your relationship with your supervisor and never take your supervisor's feedback in a negative way or as a personal attack as it is their job to guide you and believe me the more critique you allow the more you improve. Your supervisor would be the first person to applaud on your success so try to learn as much as possible from their experience. Keep your mind open for new ideas make it a habit of attending seminars and reading at least two scientific papers in a week. It nurtures your scientific knowledge, boosts confidence, and helps in generating new ideas. Times will come when you will feel suffer setbacks but take them as opportunities for re-evaluation and critical analysis of your work.

Advice to PhD Students: It is recommended that a Ph.D. student should design at least one project independently and convince your supervisor with facts and literature to pursue it. Work hard and keep a track of your publication record if you plan to join academia. Your lab is your second home so try to create a positive energy, indulge in scientific discussions with your lab mates, and try to look beyond your own research topic. Never miss your short gossip sessions on chai as they are the best stressbusters. Always be open to help others as research is always about teamwork and respect the time and space of your lab mates. Do not forget your personal time and take good care of your physical and mental health. Plan vacations, do outdoor activities, do sports, make new friends, laugh harder, fall in love, learn new languages or skills (IIT Delhi offers a lot). I really enjoyed swimming lessons, painting classes, yoga sessions and learnt German language during my Ph.D., and I found my life partner here so always be hopeful. In the end, nothing is more important than your life so talk your heart out to your loved ones and be happy. I wish you all the best for your Ph.D. and future endeavors, and hope you have your own great story one day to look beyond your own research topic. Never miss your short gossip sessions on chai as they are the best stressbusters. Always be open to help others as research is always about teamwork and respect the time and space of your lab mates. Do not forget your personal time and take good care of your physical and mental health. Plan vacations, do outdoor activities, do sports, make new friends, laugh harder, fall in love, learn new languages or skills (IIT Delhi offers a lot). I really enjoyed swimming lessons, painting classes, yoga sessions and learnt German language during my Ph.D., and I found my life partner here so always be hopeful. In the end, nothing is more important than your life so talk your heart out to your loved ones and be happy.

From the Desk of Our Alumni

Iyman Abrar



I have completed my B.Tech (Chemical Engineering) from NIT Srinagar in 2012, and M.Tech (Chemical Engineering) from NIT Durgapur in 2014. I have qualified AIEEE 2008, GATE 2012, and GATE 2013. Subsequently, I joined Prof. Bhaskarwar at IIT Delhi to pursue PhD in Chemical Engineering. I was awarded PhD in May 2020, and am currently working as an Early Doctoral Fellow with Prof. Bhaskarwar. I have published four journal papers (three under process), one book chapter, five international conferences (one accepted) and five posters, and have filed four Indian Patents. Apart from that, I have received the Institute Gold Medal at NIT Durgapur and awarded prestigious DST-INSPIRE fellowship for pursuing PhD I am also a member of AIChE, ASME, and ACS, and reviewer of Journal Renewable and Sustainable Energy Reviews. Apart from that, I have been an executive member of the Research Scholar Committee (RSC), Alumni Interaction Committee, and Trestle, Students Chapter, Corporate Relations at IIT Delhi. I have also actively volunteered for various NSS projects and participated in Spic Macay Events held at IIT Delhi. I like to learn new things, traveling, and reading novels.

IIT Delhi gives an opportunity to develop both personal and professional skills. The compulsory core courses help in enhancing more profound knowledge and fundamentals of the subject, and the flexibility of choosing other courses help in advancing the research field. Moreover, the talks given by eminent people worldwide enabled me to learn more about other research areas, and the graduate seminars helped in discussing research work with my colleagues, and improving communication and presentation skills.

Most of the time in PhD is associated with doing research, and it is gratifying to see the successful experiments after several failures. The never-ending discussions with my lab mates are something I will always remember. Besides that, attending conferences and cultural festivals are also memorable.

Advice to PhD Students

Patience is a crucial element of success. So, whatever the conditions are, be patient and stay motivated. There would be times when you would get demoralized since you wouldn't be getting expected outcomes for all the hard work you have put in. It is at those times when you need to be persistent. Also, it is equally important to balance both personal and professional life. It is absolutely okay to take some time off, cool down, and restart again. It will help you to look at the same problem with a new perspective. When you feel demotivated, remember that most people aren't able to make into such an Institute of Eminence. Hence, you should be proud of yourself, stay focussed, and all the very best.

From the Desk of Our Alumni

Fatima Jalid



I have been working as a Trainee Faculty in the Department of Chemical Engineering where I teach B.Tech undergraduate students for the past four years. That's when I started my PhD journey at IIT Delhi, where I was supervised by Prof. M. Ali Haider, who has been a constant source of inspiration and support all through. I quite recently defended my thesis in the area of Computational Catalysis. Now, I plan to continue teaching at NIT Srinagar and reinforcing it with research, to further introduce and consequently establish the resources as well as start building expertise in the research area at NIT Srinagar. My hobbies are reading, photography, driving by the Dal and sometimes I take to writing too! I'm fond of travelling and have seen a little part of the world, which I would definitely want to pursue more intently and more often.

For me, PhD was a part of the path for the career that I'd chosen, which was academia. The PhD research and the course work have definitely pushed me towards a more open thought process and ignited a passion for research within me. Once into PhD, it seems that the students are likely to continue research even after its completion – therefore, get to remain a student of knowledge all along.

Of the stay that I'd at IIT Delhi, the most memorable was the bonds I shared with people around me. I got to meet such beautiful souls on the way and build relations which I will hopefully cherish for the life to come. When I look back, it definitely brings a smile on my face. Late night biking trips, cold coffee and night mess with friends, lab meetings over coffee, lab outings, advice sessions with friends and what not – overall, it has been a memorable journey altogether, with much to learn from.

Advice to PhD Students

I would like suggest to work hard and smart, always keep things moving in different directions, as my supervisor kept guiding us of. The more one would read, the more one would learn. Try to give focused time to work. Sometimes one sits in the lab for full day thinking they have committed 8 hours to work, when they have done actual work for just one hour as the rest of time is spent in tasks not pertaining to work. Even if one dedicates lesser time, but focussed time – that's when productivity would increase. I've had both kinds of days, fewer of the latter, and so am able to say this! Starting the day early helps in getting focussed, and having a to-do list also gives the right impetus for work. It's difficult but I fondly remember the days I was able to accomplish this. It's important that you keep rewarding yourself for your minutest of triumphs as that makes the journey all the more gratifying. Getting into PhD is a commitment for quite a huge chunk of time, which has its ups and downs, I'd recommend to have some kind of hobby that you're involved in regularly and that you're able to give yourself sometime which one often tends to forget amidst work. This, however, is very important, not just in PhD but overall in life as it helps one rejuvenate and look at things from a broader and newer perspective always. Just be kind to yourself all through, as that's help one traverse everything.

From the Desk of Our Alumni

Shelaka Gupta



I am currently working as an Assistant Professor in the Department of Chemical Engineering, IIT Hyderabad. I have completed my Ph.D. in Chemical Engineering from IIT Delhi in 2019. I did my Master's from IIT Roorkee and Bachelors's from DCRUST Murthal in Chemical Engineering. I have also worked as Assistant Professor in BITS Pilani. I am a co-founder of WowChemE Pvt Ltd. at IIT Delhi, which is focused on commercializing biorenewable products. My research interests are focused on both experimental and theoretical heterogeneous catalysis in the field of biorenewables. On the theory side I have expertise in molecular modelling using Density Functional Theory simulations. I am a recipient of Gandhiyan Young technology Innovation Award (GYTI-2018) from BIRAC-SRISTI, Bioenergy Awards for Cutting Edge Research (B-ACER, 2017) sponsored by Indo-US Science and Technology Forum (IUSSTF) and Department of Biotechnology (DBT) and BIRAC BIG start-up grant. My hobbies are reading, travelling and gardening.

The entire duration of my PhD at IIT Delhi was a great learning experience for me. In the first two semesters we had a rigorous coursework which gives one an opportunity to interact with the best faculties of the department and helps in building a strong foundation of Chemical Engineering. During PhD the focus was not only limited to thesis work but IIT Delhi also provides its scholars ample of opportunities to interact with the renowned scientists of the world through various international conferences and exchange programs. Overall the entire program successfully produces scientists with a good research aptitude.

Whenever I look back to the last few years at IIT Delhi I remember my lab, friends and the fun we had along with the exhausting working hours.

Advice to PhD Students

I must say that whose so ever has got a chance to be a part of this wonderful institute should utilize every bit of the resources and ample of opportunities that IIT Delhi provides to its students. The lessons that you will learn here will be there with you for the rest of your life. So try to make the best use of it.

From the Desk of Our Alumni

Uzma Anjum



I have completed her doctorate from the Indian Institute of Technology Delhi (IIT Delhi) in Chemical Engineering, 2019. Recently, I have joined the Chemical and Biomolecular Engineering Department as a research associate in the Computational Nanocatalysis group under the supervision of Prof Sergey Kozlov. My work is focused on developing new computational approaches for the design of alloy nanoparticles for heterogeneous catalysis and electrocatalysis towards the understanding and rationalizing systems for CO_2 utilization, energy, and fuel technologies using density functional theory (DFT) simulations. I have received my master's degree in Nanochemistry from Joseph Fourier University, Grenoble, France, 2012. During my Ph.D. I worked towards the development of cathode and anode materials for solid oxide fuel cells using both experimental and theoretical approaches. I have also received the "Research Excellence Travel Award" from IIT Delhi for presenting my work at Materials Research Society (MRS) fall meeting 2018, Boston, USA. In addition, I received the "Best Oral Presentation Award" at 6th International Conference on Nanotechnology, Nanomaterials & Thin Films for Energy Applications 2019 conference held at Kuala Lumpur, Malaysia. Recently, I have been bestowed with the "DST inspire faculty award-2019" to start my independent research career.

The designed course work for the Ph.D. research program at the department of chemical engineering provides the complete spectrum of important subjects that one could also utilize afterward for his research. Not only that but the opportunity of regular presenting and exchanging research outcomes with the research committees allowed Ph.D. students to improve the quality of their research work. Overall, the department of chemical engineering at IIT Delhi has provided the international standards of research to their Ph.D. students by also keeping their career building in mind.

I remember my hostel, lab's and hostel's friends, and my Ph.D. supervisor's (Prof M Ali Haider) life and career counselling over the CCD coffee.

Advice to PhD Students

I would like to advise the upcoming researchers to be vigilant and active from the starting of their Ph.D. program so that they could use the maximum of the available resources. For example, I was able to attend five international conferences during my Ph.D. program which was higher than the average number in a national Ph.D. And, it was possible because of putting continuous efforts at the right time by availing all the possible travel grants (DST, CSIR, RETA, and RSTA). I would also like to give equivalent importance to reading and asking questions related to their research topics and discussions among peers for better research understanding and career opportunities. With this, I would like to quote all the upcoming new generation of researchers at IIT Delhi;

"It's not about not having an opportunity but preparing yourself for it to strike you".

From the Desk of Our Alumni

Ejaz Ahmad



I am working as an Assistant Professor in the Department of Chemical Engineering at the Indian Institute of Technology (IIT-ISM) Dhanbad. I have completed my Ph.D. on the thesis titled "Understanding the Role of Catalyst Materials and Process Conditions in Bio-renewable Transformations" from the Department of Chemical Engineering, Indian Institute of Technology, Delhi (India) under the supervision of Prof. K.K. Pant, Prof. M. Ali Haider, Dr. PVC Rao (GM, HPCL Green R&D Center), Prof. Andreas Hornung (Director, Fraunhofer UMSICHT, Germany) in 2019 and M. Tech from the same department in 2015 under the supervision of Prof. M. Ali Haider. My research work includes both theoretical and experimental aspects of developing new catalytic routes for biomass conversion to produce building block chemicals and fuels via synthesis and characterization of heterogeneous catalysts. I am a recipient of Prime Minister Doctoral Research Fellowship from DST, CII and HPCL R&D Centre, GYTI Award from Honourable President of India, DAAD Binational Research Grant for one year stay in Germany, American Chemical Society Travel Grant, DST international travel grant besides several other awards. I love reading and writing poems.

I worked in the Process Design industry before joining IIT Delhi M. Tech program in 2013 in which I did advance courses of reaction engineering, thermodynamic, and transport phenomena. Moreover, I studied process engineering, computational catalysis (DFT), and heterogeneous catalysis. The professors were teaching these courses showed me a whole new dimension of chemical engineering. Eventually, I ended up taking some of these courses for teaching to my students here at IIT ISM Dhanbad, especially Advance Reaction Engineering, Catalysis, and Process Integration. I must say that I could have never thought of becoming an academician and enjoying research before joining a Ph.D. at IIT Delhi. I realized that what I did in industries was merely an application of one of the many research problems undertaken by the esteemed faculties in the department. I realized the incredible science behind the reactors I used to design, the economics of the plants which I operated as well as the fascinating world of catalysis that runs 93% of the chemical process industries. I must say that the essence of IIT Delhi and its professors who taught me will last an eternity. I must admit that I cherish all the memories associated with IITD which are once in a lifetime experience. Therefore, it is difficult to say which one I remember most. However, besides my missing my lab mates and friends, there are two crucial things that I often remember from my IITD stay, which profoundly impacted my life. The first thing is my meeting with Professor Haider sir in winter morning for writing my first review paper that changed my perception towards research. Secondly, I miss my lab parties often organized by Prof. Pant sir, and his day to day mental support that helped me to grow as a good human being and become a caring faculty.

Advice to PhD Students Firstly, I would like to congratulate all the qualified candidates for their selection to the IITD CHE department. My suggestion to you would be that interact with your supervisors, senior Ph.D. students, and postdocs as much as possible. Sometimes it may feel frustrating but later on, you will realize that no book can teach the knowledge that comes from the discussion with your supervisors and experienced students in the lab. One important suggestion that I have for you that you should prepare at least two UG subjects rigorously and also take TA duty on a serious note if you have ambitions to become a faculty. It will be helpful in your faculty interview. Secondly, you should plan your experiments based on scientific rationale rather than your speculations.

From the Desk of Our Alumni

Pramod Jagtap



I have completed my PhD in October 2019 at Department of Chemical Engineering, IIT Delhi. I am fortunate to have IIT Delhi as Alma mater. I have spent almost five years of my life in the Chemical Engineering Department for better cause. It was a wonderful experience starting from PhD course-work to final defense seminar. I worked on one of the practical problems in diagnostic field i.e. timely and rapid detection of bloodstream bacterial infections. My thesis topic was "***Early and Rapid Development of In vitro Diagnostic Technologies"*** to curb bloodstream bacterial infections. More specifically, we have developed a ***Point-Of-Care (POC)*** device for early and rapid detection of bacterial infections. Rapid diagnosis will not only guide Doctors to prescribe medicine in a personalized way but also helps to reduce antimicrobial resistance by decreasing excessive use of antibiotics. Also, proud to share that part of my PhD research became a commercially viable technology and currently is undergoing clinical trials. During the course of research, I got expertise in multiple areas: nanomaterial synthesis, characterization, bioconjugation, developing *in vitro* assays and performing mammalian and bacterial cell cultures. Entire duration of my PhD made a significant transformation in my life not just in professional front but also in personal front. I will be always indebted to my mentor, Prof. Shalini Gupta for moral support, guidance, encouragement, motivation and specially trust, which were generously bestowed upon me.

Being a pharma graduate I also have fairly good knowledge about chemistry, pharmacology, biotechnology and biopharmaceutics of the drug administered. Before joining PhD I also worked for reputed Pharma/FMCG industries for 2.5 year as an Associate Scientist R & D. Currently, I am working as a Scientist at **Diversey India Hygiene Pvt. Limited**, Mumbai. My role is to develop different disinfectant technologies and their commercialization and it is very much replica to the training received at IIT Delhi. I just wanted to give a small message to PhD aspirants, PhD is not just a degree it's a P= patience, H = Hardwork, D= Direction to look at the problem. This makes your life simple and meaningful.

From the Desk of Our Alumni

Karthik G M



I have done my B.E.(Hons.) in Chemical Engineering at BITS, Pilani from 2004-2008. After a brief stint at BHEL, Trichy (heavy electrical equipment industry) as Development Engineer (R&D), I joined Haldor Topsoe, India (a world leader in catalysis) as CFD Engineer (R&D) in 2011. To enhance my R&D skills, I have done my Ph.D. (part-time, 2012CHZ7523) under the supervision of Prof. Vivek V. Buwa at Department of Chemical Engineering, Indian Institute of Technology Delhi (IITD) from 2012-2019. Presently, I am working as Principal Scientist (R&D) at Haldor Topsoe, India. My professional achievements include 5 international patents, 7 international journal articles and 9 national/international conference presentations. On my personal side, I am married to Vaenil Mathi (IT Professional) and we have an 5-year old daughter (Avira). During my spare time, I involve myself in self-development activities like reading books, running & meditation.

Overall, the Ph.D. research program enhanced my knowledge & skills in multiple dimensions. From my industrial experience, the courses (& its contents) taught at IITD are highly relevant for the industry and one has the option to choose a combination of courses focused on your future career. The research program provided ample opportunity to continuously develop my personal skills (curiosity, patience & persistence) required for pursuing research, an important element for a rewarding R&D career. Interactions with my supervisor, SRC committee, lab colleagues & external reviewers, writing journals articles and making conference presentations played a major role in developing my social skills (communication & collaboration), an essential ingredient for any successful career.

I will always cherish the personal and professional relationships developed during the my PhD research program at IITD. In addition, I will always remember the availability of state of the art and cutting edge research facilities, collection of comprehensive knowledge database in central library and accessibility to multi-disciplinary knowledge that supported me during my PhD research program.

Advice to PhD Students

My personal experience says a combination of personal skills (curiosity, patience, persistence) and social skills (communication, collaboration) are required for successful completion of the Ph.D. research program and also for your future career. Last but not the least, one must always maintain a good work-life balance to stay healthy & motivated. I think you have already made a right decision by choosing the PhD research program at Department of Chemical Engineering, IITD. So, all the very best for your future !

Eateries

- **Rajdhani Food Center:** In front of Aravali hostel, there is Rajdhani food Center where you can will get meals, snacks, juices and shakes.
- **Mother Dairy and Safal Stores:** There are three Mother Dairy outlets – near Nilgiri hostel, Kumaon hostel and one at the girls' hostel gate. Also, there are two Safal outlets where you can buy fruits and vegetables- near Nilgiri hostel and girls' hostel gate.
- **Night Messes:** Almost all the hostels have their own night mess, where you get inexpensive food. Be it snacks or late night dinner, and these are the places to go. There are juice & shake center in Aravali and Kumaon hostel, which are open until late at night.
- **Outside campus:** One cannot miss out on exploring restaurants and food joints with friends, especially when you are in a city like Delhi. The list is enormous and depends on person to person, but here are some places you would definitely want to try out during your stay here. There is Satya Niketan with some amazing cafes which are quite pocket-friendly too. Then there is SDA, right across our campus, so you can always go there without much prior thought. You can also try out the food outlets in Green Park, Ber Sarai, Khan Market, Connaught Place, Chandni Chowk, etc. Also, you can always ask your seniors for suggestions; they'll give you plenty of options as per your tastes. Feeling lazy? You can try sites/apps like Zomato, Swiggy, Faasos, Foodpanda, or Tasty Khaana and order food.

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A Friend at IIT Delhi

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