



The CHUST Committee



Travel Story 2023

Name: Saurabh Singh

Year and line of study at KTH: 2nd Year Masters, Chemical Engineering

Which university did you visit? (Name, city, state): The City College of New York, New York City, New York

Time Frame: 10 weeks

Visa Category: J-1

Insurance Coverage: International Student Insurance, Self

Scholarship Details: Stipend of \$2500 for the whole period.

We would be grateful if you could share insights from your travel, internship, and time spent in the U.S. Kindly provide detailed responses to the following questions within 1-2 pages. Responses are preferred in English.

Project Overview:

The project aimed to investigate the impact of various reaction parameters on the electrochemical conversion of furfural. Specifically, the study focuses on temperature and initial concentration as key factors influencing the selectivity, yield, and faradic efficiencies of the resulting products. The findings indicate that higher temperatures enhance furfural conversion, yet at the expense of furfural alcohol production due to the formation of undesirable side products through secondary reactions. Conversely, higher temperatures led to increased 2-methyl furan production. Moreover, increasing the initial concentration of furfural boosted the production of desired products as well as the faradic efficiencies. The use of acidic conditions and temperatures slightly above room temperature (25 °C) proved beneficial for achieving higher yields of 2-methyl furan. However, higher temperatures and initial concentrations facilitated higher overall conversion rates, although further investigation is required to quantify these results. The project was a part of CCNY's collaboration with Department of Energy.

What was its focus? How was your interaction with the Professor or supervisor? Describe a typical day in the lab for you.

The focus was of the project of increasing the production of 2-methylfuran from furfural under acidic conditions and normal pH concentration which can thereafter be used a potential biofuel. My professor, Dr. Elizabeth J. Biddinger was very supportive and intriguing. Although my professor was sabbatical for the whole internship, but she was there to help me whenever I needed help or was stuck somewhere during the experimentation. My typical lab day would begin

at 10 and end at 17 or later, depending on the experiments. I was expected to work with a PhD student and he was my first point of contact for any kind of help, and we had mandatory group meetings once a week to discuss personal and project progress for my experiments. All my lab mates were really helpful and fun to work with!

Learning & Development:

What new skills or knowledge did you acquire during the project?

I learnt how to use the electrochemistry, different analytical methods like GCMS and FTIR, which was very fun to work with because I just learned the theory about the methods the period before the summer internship began. The biggest takeaway for me was I learned a lot about how to find errors while conducting experimentation by breaking up every small part of the experiment.

Was your prior knowledge adequate for the tasks you undertook?

Yes, my theories were strong enough to grasp the research hypothesis.

How much responsibility were you entrusted with?

Since I did not have the lab safety certification from CCNY, I was not allowed to conduct experiments initially when I was alone in the lab. However, towards the last few weeks I carried my own experiments without supervision which was something my professor put an emphasis on. Other than that, the responsibility to design my project and take decisions related to experimentation was completely on me.

Life on Campus:

Share your experiences of life at the university you attended. This can include aspects of campus life, nightlife, and any trips you embarked on.

New York is everything as they show on TV and movies! The college is in Manhattan which gave a lot of opportunity for me to do touristy things with my friends. Of course, New York is also a bit scary with crime rates being pretty high. I personally encountered few such issues which was something I was never prepared for. Night life is quite good in NYC but I did not go out much during the weekdays.

Breakdown your living expenses in the city. How did you manage the financial aspect of your stay? Did you rely on scholarships, personal funds, or both? If you were on scholarship, were there any documents you had to submit to the university to facilitate its disbursement?

NYC is extremely expensive and given how U.S has very few student discounts unlike Stockholm, expenses were quite high. The fundings alone were not enough and I had to spend from my own pocket (which I anticipated). For the scholarship, I had to get a SSN and prior to that, submit a lot of documents related to the visa itself.

Describe your housing experience at the university. Were you satisfied with your accommodation? I stayed in New Jersey with my 2 other friends and shared an apartment. It was cheap compared to Manhattan but there was a travel time of around 1.5 hours which was tiresome in the hot and humid summer. I would have ideally spent a bit more and preferred a place in Manhattan itself as traveling was really painful.

Application & Stay Insights:

Did you face any challenges during your stay that future students should be aware of? If yes, please detail these challenges.

Find a place closer to college, don't go out at night especially in lonely alleys and always travel with someone, especially if you are a female traveler. Apply for your visa as early as possible as the overall processing time is around 2 months (includes application, biometric appointment and receiving of visa to your address). Once you reach the U.S, apply for SSN and get a bank account ASAP. Carry cash as they still use currency notes in many places.

What documentation was required by the university? Additionally, what papers were essential for your visa approval at the embassy?

Passport, Residence Permit (for non-Swedish applicants), DS-2019, DS-7002, SEVIS, invite letters from your professor and project plans.

Please also fill out this simple budget table.

Expense	Monthly cost (in USD)	Notes/Comments
Rent/housing (incl. utilities)	\$450	Try not compromising on this!
Food	\$400-\$600	Can be reduced if you cook at home but NY has irresistible restaurants!
Transport costs	\$250	Can be brought down if you stay closer to campus.
Health Insurance	\$85-\$100	

Your contribution will significantly assist prospective students.

Warm regards,
CHUST Committee 2022-23