

Getting To Know Our Students

Dr S.M.P. Kalaiselvi, PhD graduate



What are you currently working as?

I am currently working as a senior Research & Development (R&D) scientist, at a university spin-off company, Attonics Systems Pte Ltd, specialising in micro and nano technology, especially on the development of micro-spectrometers. I first started out working in a manufacturing company as a fresh engineering degree graduate. After my Master's degree at Nanyang Technological University (NTU), I started working at National University of Singapore (NUS) as a research assistant. Being in the research field for more than 5 years and working with international scientists, gave me the inspiration to pursue a PhD degree.

Dr Kalaiselvi is currently working as a Senior Research & Development (R&D) scientist at the Attonics Systems Pte Ltd and is a PhD graduate of Natural Sciences and Science Education (NSSE) Academic Group.

What attracted you to a higher degree programme at NIE?

The Natural Sciences and Science Education (NSSE) Academic Group in NIE had all the required facilities to conduct research in my field of interest and area of expertise. After discussion with my then potential PhD supervisors, Associate Professor Tan Tuck Lee Augustine and Associate Professor Rajdeep Singh Rawat, I gained the confidence to pursue my PhD at NIE.

What was your research on? Did the research yield the desired outcome that you hoped for?

My research was on "Fast Miniature Plasma Focus Device (FMPF-3): Soft X-rays Optimisation Studies and its Application in X-ray Lithography". X-ray Lithography is an evolving technique for fabrication of micro and nano components. It is currently pursued at Synchrotron facilities and has the potential to be adopted in semiconductor industries, once certain key challenges are addressed. The main objective of my research was to demonstrate x-ray lithography using miniature plasma focus device for the first time and fabricate micro-component using it as the x-ray source. After several optimisation studies, the same was done successfully.

How would you describe your interactions with NIE faculty members?

The main reason for me to pursue PhD studies at NIE was due to the confidence and motivation given by my supervisors. They provided rigorous training and constantly guided and motivated me throughout my PhD tenure. They were always there to help the students, especially in times of need. For these, I am always very grateful to them.

What was the best part of being a student at NIE?

There are many best parts that I can refer to. First of all, NIE gave me the opportunity to pursue my PhD studies with a scholarship, which was a lifetime dream come true. I was given the opportunity to conduct research independently, of course in constant consultation with my supervisors. Attending and presenting our research at international conferences, and discussing the same with peer researchers. There were also other fond memories such as publishing our work in international peer-reviewed journals, the experience in organising conferences and seminars, taking part in competitions, and being a part of the graduate students committee. Last but not least, the good times that we had with our supervisors and the chance to make many good friends who were very supportive in both good and bad times.

Has the programme been beneficial to you in bringing forth changes in your organisation?

I am fortunate to be continuing my work in the same field of research as my PhD studies. The expertise and skills earned during my PhD tenure allowed me to make my contribution to the organisation I worked for more efficiently.

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