



Coláiste na Tríonóide, Baile Átha Cliath
Trinity College Dublin
Ollscoil Átha Cliath | The University of Dublin

20th June 2024

To whom it may concern,

I write this reference about the application of **Ms. Lingyu Gong** for the PhD program at the University of Auckland.

I¹ have known Lingyu as her lecturer in the academic year 2023-24, where she took my modules Self-Organising Technological Networks and Next Generation Networks, doing well in both.

Lingyu is very passionate about research. From reading literature and searching for research directions to practical and in-depth research, and finally drawing conclusions and writing reports or papers, she enjoys the logic and sense of achievement that the whole process brings. Lingyu is very persistent and once she sets a goal, she is very determined to accomplish it. She shows good skills of independent thinking. Lingyu has also shown good leadership skills to date, having served as a project leader on several occasions during her academic career to date.

Lingyu's education record so far has been very good, and here is a sample of her achievements:

1. Master of Electronic Information Engineering, Trinity College Dublin, Ireland. Trinity is ranked #87 in the world. Her MSc graduation project was titled 'Enhancing On-Chip Network Predictions with Advanced AI Techniques', 2023-2024.
2. Bachelor of Science in Computer Science and Technology, Capital Normal University, China. Her BSc graduation project was titled 'Research on Open Source Network on Chip (NoC) based on Intelligent Routing Algorithm', 2019-2023.
3. Beijing Merit Student, 2021-2022.
4. University Merit Student / Major First Class Scholarship, 2021-2022.
5. Major 2nd Class Scholarship, 2019-2020.

Lingyu has also been exposed to several *research and work experiences*, including:

1. Visiting student, Institute of Computing Technology, Chinese Academy of Sciences, 2022-2023
2. Intern IT Teacher, Capital Normal University High School, China, 2022.
3. Short-term training experience, 'Engineering, Design, Gaming and Entrepreneurship (EDGE) Program for STEM,' Massachusetts Institute of Technology, USA, 2020.
4. Team leader, 'MOOC Course Design on Teacher Education Practice,' 2021-2022.

¹ Dr. Nicola Marchetti, Associate Professor in Wireless Communications at Trinity College Dublin, Republic of Ireland, where I lead the Wireless Engineering and Complexity Science lab (WhyCOM). I am an IEEE Communications Society Distinguished Lecturer, an IEEE Senior Member, and a Fellow of Trinity College Dublin. I received the PhD in Wireless Communications from Aalborg University, Denmark in 2007, the MSc in Electronic Engineering from University of Ferrara, Italy in 2003, and the MSc in Mathematics from Aalborg University in 2010. I have authored more than 190 journals and conference papers, 2 books and 9 book chapters, hold 4 patents, and received 4 best paper awards. My former and current collaborations include research projects in collaboration with Intel, Samsung, Nokia, Huawei, as well as projects funded by the European Commission, National Science Foundation, Irish Research Council, and Danish Research Council. My research spans Communication Engineering, Complex Systems, and Applied Mathematics.



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5. Team leader, project 'Design and research of a 3D modelling course,' 2020-2022.
6. Team leader, project 'Exploring solutions for data restoration using protection cards,' 2020-2021.

Overall, my assessment is that Lingyu has very good skills in terms of solving complex problems and elaborating on how those ideas can help design component technologies for engineering systems, such as computer and electronic ones. In general, Lingyu has shown good abilities in terms of both mathematical modeling and engineering design.

I consider that Lingyu's academic performance against his peers, would position her in the top 15% in her class, which is an elite cohort in a top engineering programme worldwide.

Based on the foregoing, I consider Lingyu to be a promising engineer in the making and who deserves being admitted to the PhD programme at the University of Auckland. She is committed to trying to make an impact, and I am confident that she will be able to do this if admitted to the programme.

I am available for any further input concerning Lingyu, by email.

Best regards,

Prof. Nicola Marchetti

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