

## PhD scholarship in Applied Mathematics - DTU Compute

Are you interested in gaining the qualifications and experience to pursue a career where advanced mathematical techniques are developed? Would you like to advance applied mathematics and deepen our understanding of various phenomena? Then a PhD in mathematics at DTU Compute is the ideal place for you.

We seek an ambitious and highly motivated PhD candidate with a strong background and interest in mathematics. This position is funded by the Danish Research Council Project 1 (DRC-1), which aims to address fundamental problems in geometric singular perturbation theory within the setting of slow-fast analytic vector fields.

The position is based at the Section for Mathematics at DTU Compute in Lyngby, Denmark, which is within the greater Copenhagen area. It will involve collaboration with a project partner based in Australia. The position includes funds for international travel and collaboration.

### Responsibilities and qualifications

You are expected to:

- Develop novel mathematical theory in line with the DRC-1 project goals.
- Publish results in international mathematical journals and present results at international conferences.
- Collaborate with partners within the DRC-1 project (this will include traveling abroad).
- Perform some limited teaching and other departmental duties.

### Additionally, the requirements are:

You will conduct theoretical research on geometric singular perturbation theory in the context of slow-fast analytic vector fields. A degree in (pure or applied) mathematics is required. Moreover, your studies and thesis work should demonstrate solid skills in mathematics analysis. This has to include top-level grades/potential in all analysis courses. Computational competences (e.g. relating to numerical methods) are not directly relevant for the position. Instead, it is important that you possess a general desire to do rigorous mathematics. Prior knowledge of advanced dynamical systems concepts is an advantage, but not a requirement.

You must have a two-year master's degree (120 ECTS points) or a similar degree with an academic level equivalent to a two-year master's degree.

### Approval and Enrolment

The scholarship for the PhD degree is subject to academic approval, and the candidate will be enrolled in one of the general degree programmes at DTU. For information about our enrolment requirements and the general planning of the PhD study programme, please see [DTU's rules for the PhD education](#).

### Assessment

The assessment of the application will be made by Associate Professor Kristian Uldall Kristiansen.

### We offer

DTU is a leading technical university globally recognized for the excellence of its research, education, innovation and scientific advice. We offer a rewarding and challenging job in an international environment.

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We strive for academic excellence in an environment characterized by collegial respect and academic freedom tempered by responsibility.

### Salary and appointment terms

The appointment will be based on the collective agreement with the Danish Confederation of Professional Associations. The allowance will be agreed upon with the relevant union.

The period of employment is 3 years. The preferred starting date is as soon as possible or beginning of 2026 at the latest. The position is full-time.

You can read more about career paths at DTU here <http://www.dtu.dk/english/about/job-and-career/working-at-dtu/career-paths>.

### Further information

Further information may be obtained from Kristian Uldall Kristiansen (e-mail: [krkri@dtu.dk](mailto:krkri@dtu.dk)).

You can read more about DTU Compute at [www.compute.dk](http://www.compute.dk).

If you are applying from abroad, you may find useful information on working in Denmark and at DTU at [DTU – Moving to Denmark](#). Furthermore, you have the option of joining our monthly free seminar “[PhD relocation to Denmark and startup “Zoom” seminar](#)” for all questions regarding the practical matters of moving to Denmark and working as a PhD at DTU.

### Application procedure

Your complete online application must be submitted no later than **1 August 2025 (23:59 Danish time)**. Applications must be submitted as **one PDF file** containing all materials to be given consideration. To apply, please open the link “[Apply now](#)”, fill out the online application form, and attach all your materials in English in **one PDF file**. The file must include:

- A one-page letter motivating the application (cover letter)
- Curriculum vitae
- Grade transcripts and BSc/MSc diploma (in English) including official description of grading scale
- A one-page document on the master thesis. This should include the following: A summary of the thesis with particular focus on the technical aspects of the thesis that relate to mathematical analysis. Feel free to include equations and state theorems (if they can be summarized in simple terms). Finally, the document should describe how the thesis work potentially relates to a PhD-project in dynamical systems theory and singular perturbation theory.

You may apply prior to obtaining your master's degree but cannot begin before having received it.

Applications received after the deadline will not be considered.

All interested candidates irrespective of age, gender, disability, race, religion or ethnic background are encouraged to apply. As DTU works with research in critical technology, which is subject to special rules for security and export control, open-source background checks may be conducted on qualified candidates for the position.

## DTU Compute

DTU Compute – Department of Mathematics and Computer Science – is an internationally recognised academic environment with over 400 employees and 10 research sections. We broadly cover digital technologies within mathematics, data science, computer science, and computer engineering, including artificial intelligence (AI), machine learning, internet of things (IoT), chip design, cybersecurity, human-computer interaction, social networks, fairness, and data ethics. Our research is rooted in basic research and centres on mathematical models of the physical and virtual world, as a basis for the analysis, design, and implementation of complex systems. We focus on ensuring that our research results contribute to creating a better society by supporting areas such as health, green transition, energy supply, and life science. We collaborate with universities, public and private organisations, and companies in Denmark and abroad, and through DTU's startup ecosystem, we encourage innovation and entrepreneurship. We have a strong ethical, human, and sustainable approach that ensures integrity in our work. Therefore, we strive for and take responsibility for driving the democratisation of digital technologies, so that everyone has the opportunity to actively participate in the development, and we ensure a continued open, democratic, and inclusive society for the benefit of all. At DTU Compute, we value diversity, inclusion, and a flexible work-life balance. Read more about us at [www.compute.dtu.dk](http://www.compute.dtu.dk).

## Technology for people

DTU develops technology for people. With our international elite research and study programmes, we are helping to create a better world and to solve the global challenges formulated in the UN's 17 Sustainable Development Goals. Hans Christian Ørsted founded DTU in 1829 with a clear mission to develop and create value using science and engineering to benefit society. That mission lives on today. DTU has 13,500 students and 6,000 employees. We work in an international atmosphere and have an inclusive, evolving, and informal working environment. DTU has campuses in all parts of Denmark and in Greenland, and we collaborate with the best universities around the world.

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