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## Personal letter for tenure-track position as assistant professor in Umeå University, in Department of Mathematics and Mathematical Statistics

Hereby, I apply to a tenure-track position as assistant professor in Umeå University. In this letter, I will explain my interest towards the position and my expertise.

**About my research.** Within my dissertation, I did research on complex differential equations in the unit disc. The main topic was to consider the order of growth of solutions or to place the solutions in some function space. The dissertation consists of three publications: first one is short, second is good and the third is published in a good journal Transactions of American Mathematical Society.

In addition to my dissertation, I have done research on univalent functions and Nevanlinna theory. My two papers concerning univalent functions are quite short. One expands results of Becker and Pommerenke from analytic functions to harmonic functions. The other expands a method from Nehari criterion to Becker's criterion.

Towards Nevanlinna theory, I have learned many techniques in K. Yamanoi's 80 page proof of the Goldberg's conjecture. So far, the only refinement are some constants.

In addition to research in mathematics, I have collaborated with staff in photonics.

**About your research groups.** I see that your department has a good group of Mathematical Modeling and Analysis I wish to join. In particular, I am happy to see Antti Perälä who knows many things about Bergman spaces.

Also, I am happy to see that your department has an active group of Computational Mathematics. I am interested in numerical calculations of univalent functions, and would like to collaborate with this group. Also, I would like to collaborate in making online teaching materials.

**About my teaching.** I have taught mathematics in university every year since 2008. I started off with homework coaching sessions. Then I have taught exercise sessions and lectures of various courses on all levels – from first year courses to master and post graduate courses.

During the last academic year 2019-2020, I took part in an online teaching project and made online courses for first year students. (Materials equivalent of 8 ECTS. Namely, one full course of 4 ECTS;

and half of the materials for a 5 ECTS course and a 4 ECTS course.) I have found online teaching an exiting topic. It promotes the own activity of students. Also, it is a necessity during this corona time.

In particular, I am interested in high-quality TikZ-LaTeX graphics. Integrating such graphics to beamer slides makes explaining easy.

Web sites can be created with HTML, CSS, Javascript. MathJax allows the use of LaTeX formulas. JSXGraph promotes dynamic figures. Also, simple SVG plots can be made adjustable.

I am excited to teach in your department. Upon finishing my Finnish high school in 2006, I had good skills in Swedish. I am sure that I will refresh my Swedish fast.

**About my administrative and other skills.** I am active in the PhD student coaching. In 2019, I founded a PhD student journal, named UEFDSA newspaper. The journal has evolved and nowadays also includes a science series, though not peer-reviewed. I am the editor-in-chief, whereas **Ari Tervashonka** is editor-in-chief in the science series.

In 2020, Ari Tervashonka and I founded an international peer-reviewed journal in methodology, named Metodologia. The first issue is due end of 2020.

At the moment, I am not supervising PhD theses. However, I do a lot of study coaching for PhD students.

**About my computer skills.** I am good with computers and people. In 2018, I was an IT support person in Department of Physics and Mathematics in Joensuu. I solved various computer issues in offices and in the laboratory and clean room facilities.