

## PhD

Ecole/Institution/Société:

**Reykjavik University / Háskólinn í Reykjavík, Iceland / Reykjavík**

Discipline:

**Electronics**

Type d'emploi::

**Full-time**

Date de publication:

**2022-04-27**

Personne à contacter:

**If you wish to apply for this position, please specify that you saw it on AKATECH.tech**

### **PhD position in the field of vacuum electronics**

The Nanophysics Center of Reykjavik University has an open PhD position in the field of vacuum electronics. The project includes computer simulations of the dynamics of the electron beam released by a microscopic cathode, and in particular by a Carbon nanotube fiber, either due to photoemission or due to field emission.

The effect of temperature, work function, cathode inhomogeneities, or ions present in the vacuum will be considered. The simulations will be compared with experimental results provided by a group of collaborators from outside Iceland or obtained at Reykjavik University, and the PhD student will have an opportunity to contribute to the experiments.

#### **Interested candidates will contact:**

- Prof. Ágúst Valfells, e-mail: [av@ru.is](mailto:av@ru.is), or
- Prof. Andrei Manolescu, e-mail [manoles@ru.is](mailto:manoles@ru.is), or
- Dr. Kristinn Torfason, e-mail [kristinnt@ru.is](mailto:kristinnt@ru.is) .

See also the website of the group <http://nano.ru.is/> .

Recent publications from our group on related topics:

K. Torfason, A. Sitek, A. Manolescu, Á. Valfells, Dynamics of a Field Emitted Beam from a Microscopic Inhomogeneous Cathode, IEEE Transactions on Electron Devices, DOI 10.1109/TED.2021.3063210 arXiv:2011.13731 (2021).

A. Sitek, K. Torfason, A. Manolescu, and A. Valfells, Space-charge effects in the field-assisted thermionic emission from nonuniform cathodes, accepted for publication in Physical Review Applied, 15, 014040 (2021), arXiv:2009.13616.

J. B. Gunnarsson, K. Torfason, A. Manolescu, A. Valfells, Space-Charge Limited Current from a Finite Emitter in Nano- and Microdiodes, IEEE Transactions on Electron Devices 68, 342 (2021), arXiv:2010.01334.

H. V. Haraldsson, K. Torfason, A. Manolescu, and A. Valfells, Molecular Dynamics Simulations of Mutual Space-Charge Effect between Planar Field Emitters, IEEE Transactions on Plasma Science 48, 1967 (2020), DOI 10.1109/TPS.2020.2991582

## **Reykjavik University (RU)**

Reykjavík University has around 3.700 students and 250 faculty and employees in addition to numerous adjunct faculty in two schools: Technology and Social Sciences. We offer a welcoming and stimulating environment in which to work and live. The University is centrally located in Reykjavík, the capital city of Iceland.

The role of Reykjavik University is to create and disseminate knowledge to enhance the competitiveness and quality of life for individuals and society, guided by good ethics, sustainability and responsibility. Education and research at RU are based on strong ties with industry and society. We emphasize interdisciplinary collaboration, international relations and entrepreneurship.

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