

Postdoctoral Researcher in Boron Nitrate Nanotube
Synthesis Research
Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=250279>

Downloaded On: Dec. 25, 2024 12:12am

Posted Dec. 11, 2024, set to expire Apr. 12, 2025

Job Title	Postdoctoral Researcher in Boron Nitrate Nanotube Synthesis Research
Department	T304 Dept. Applied Physics
Institution	Aalto University , , Finland
Date Posted	Dec. 11, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student
Academic Field(s)	Physics - General
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-Researcher-in-Boron-Nitrate-Nanotube-Synthesis-Research_R41674-3

Apply By Email

Job Description

Aalto University is where science and art meet technology and business. We shape a sustainable future by making research breakthroughs in and across our disciplines, sparking the game changers of tomorrow and creating novel solutions to major global challenges. Our community is made up of 13 000 students, 400 professors and close to 4 500 other faculty and staff working on our dynamic campus in Espoo, Greater Helsinki, Finland. Diversity is part of who we are, and we actively work to ensure our community's diversity and inclusiveness. This is why we warmly encourage qualified candidates from all backgrounds to join our community.

At the Department of Applied Physics, our pioneering research in physical sciences creates important industrial applications that hold great technological potential. Our research focuses on Materials physics, Quantum technology, Soft & living matter, and Advanced energy solutions. Topics extend

Postdoctoral Researcher in Boron Nitrate Nanotube
Synthesis Research
Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=250279>

Downloaded On: Dec. 25, 2024 12:12am

Posted Dec. 11, 2024, set to expire Apr. 12, 2025

from fundamental research to important applications. We educate future generations of research and development professionals, data specialists, technology experts, inventors, and scientists for industry and society.

The Nanomaterials Group at the Department of Applied Physics is now looking for a

Postdoctoral Researcher to develop synthesis methods for boron nitrate nanotube materials

We are now looking for an active Postdoctoral Researcher to develop novel gas phase i.e. floating catalyst chemical vapor deposition (FC-CVD) methods to produce boron nitrate nanotubes (BNNT). FC-CVD method is based on introducing nanosized transition metal catalyst particles into a high temperature gas environment containing boron and nitrogen gaseous precursors like e.g. amine borane in ammonia atmosphere. The boron and nitrogen precursors are decomposed at the catalyst nanoparticle surface, liberating B and N atoms into the catalyst particles followed by the growth of the BNNT. Thin BNNT films are produced via collecting the BNNTs onto a filter from the reactor gas phase. In this position you will have a chance to make a significant impact on the boron nitrate nanotube synthesis development as well as to contribute to the development of important industrial BNNT applications.

Your role and goals

The main roles of the postdoc to be hired include developing novel FC-CVD systems and finding the B and N precursors as well as growth promoters and also the reactor operating condition, which would allow to grow high quality BNNTs. You will develop FC-CVD reactors based on the Nanomaterials Group's over 20 years of experience in producing high quality carbon nanotubes with the FC-CVD technology. In addition, you will design and develop FC-CVD reactors using novel, advanced catalysts, B and O precursors and find new BNNT growth promoters. Also, you will characterize the material you will produce with electron and atomic force microscopy (TEM, SEM and AFM) as well as with optical methods (absorption and Raman spectroscopies). Also, you will produce BNNT thin films and explore their use as nanoparticle filters in high tech applications.

Your experience and ambitions

A prospective postdoc is expected to hold a completed PhD degree in materials science, chemical engineering, physics or chemistry.

To be successful in this position, proficiency in the following areas is required: * Competence to design and operate high temperature material synthesis reactors * Experience with CVD and/or other high

Postdoctoral Researcher in Boron Nitrate Nanotube Synthesis Research Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=250279>

Downloaded On: Dec. 25, 2024 12:12am

Posted Dec. 11, 2024, set to expire Apr. 12, 2025

temperature methods to produce nanomaterials * Working proficiency in English. Finnish language is not required.

Experience in the following is considered as an advantage: * Experience on carbon and/or boron nitrate nanomaterial synthesis and their characterization * Experience on TEM * Experience on gas phase material synthesis i.e. aerosol science and technology

What we offer

[\[url=https://www.aalto.fi/en/department-of-applied-physics/nanomaterials-nmg\]](https://www.aalto.fi/en/department-of-applied-physics/nanomaterials-nmg)The Nanomaterials Group at the Department of Applied Physics has pioneered the development of FC-CVD method for CNT synthesis and thin film deposition for many industrial applications over 20 years, having published more than 300 reviewed publications in this field. It operates multitude FC-CVD reactors used for nanotube synthesis, and has [\[url=https://www.aalto.fi/en/otanano\]](https://www.aalto.fi/en/otanano)advanced electron microscopic, optical and aerosol technology-based material characterization equipment. The FC-CVD methods developed by the group have been industrialized for the industrial production of advanced CNT thin film-based products.

The fixed term contract is initially for two years, and it may be possible to continue for 1 more year. The annual workload of research and teaching staff at Aalto University is currently 1612 hours. Aalto University follows the salary system of Finnish universities. The starting salary ranges for a Postdoctoral Researcher from 4030 € to 4430€ per month (gross), depending on previous experience. The contract includes Aalto University occupational healthcare.

The primary workplace will be the Otaniemi Campus at Aalto University. The international collaboration project offers possibilities to visit international research collaborator laboratories.

Ready to apply?

To apply for the position, please submit your application including the attachments mentioned below as one single PDF document in English through our online recruitment system by using the “Apply Now” button on Aalto University’s web page.

- (1) Letter of motivation
- (2) CV including list of publications
- (3) Degree certificates and academic transcripts
- (4) Contact details of at least two referees (or letters of recommendation, if already available)

Postdoctoral Researcher in Boron Nitrate Nanotube
Synthesis Research
Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=250279>

Downloaded On: Dec. 25, 2024 12:12am

Posted Dec. 11, 2024, set to expire Apr. 12, 2025

Please note: Aalto University's employees should apply for the position via our internal HR system Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions). Aalto University's students and visitors should apply as external candidates with personal (not aalto) email.

The deadline for applications is January 20th, 2025. The position will be filled as soon as a suitable candidate is identified.

For additional information, kindly contact Prof. Esko Kauppinen (firstname.lastname(at)aalto.fi). Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and to consider candidates who have not submitted applications during the application period.

Want to know more about us and your future colleagues? You can watch these videos:

[url=https://www.youtube.com/watch?v==5k_og_6zUJQ]Aalto University - Towards a better world, [url=https://www.youtube.com/watch?v==dUfEGVM-ZP8&feature==youtu.be]Aalto People, and [url=https://www.youtube.com/watch?v==ZK6pDWm1_CE]Shaping a Sustainable Future. Read more about working at Aalto: [url=https://www.aalto.fi/en/careers-at-aalto]Careers at Aalto | Aalto University

Check out our new virtual campus experience: [url=https://virtualltour.aalto.fi/]Aalto University - virtual campus tour

About Finland

Finland is a great place for living with or without family - it is a safe, politically stable and well-organized Nordic society. Finland is consistently ranked high in quality of life and was just listed again as the happiest country in the world: [url=https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/]It's a Three-Peat, Finland Keeps Top Spot as Happiest Country in World | The World Happiness Report. For more information about living in Finland: [url=https://www.aalto.fi/en/careers-at-aalto/living-in-finland]Living in Finland | Aalto University

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

Postdoctoral Researcher in Boron Nitrate Nanotube
Synthesis Research
Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=250279>

Downloaded On: Dec. 25, 2024 12:12am

Posted Dec. 11, 2024, set to expire Apr. 12, 2025

Finland