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**Faculty of Textile Engineering at Technical University of Liberec
within the project „Support of engineering of excellent research and development teams
at the Technical University of Liberec“, No. CZ.1.07/2.3.00/30.0065
announces the following selection procedure for positions
of Post-Doctorates
at workplaces of Faculty of Textile Engineering, Faculty of Mechanical Engineering**

Description of the workplace

The Post-Doctorate will be working on scientific and research projects, will be preparing publications in cooperation with his/her mentor (a contact person and an excellence scientific worker). He/she will gain new international experience within the project by educational stays and active participation at international conferences. The important part of his/her scope of work will be preparing and realisation of educational activities within his/her workplace in one of the faculties of Technical University of Liberec (TUL): Faculty of Textile Engineering (FT), Faculty of Mechanical Engineering (FME).

A) FACULTY OF TEXTILE ENGINEERING

Specialisation: Composites with textile materials, functional composites and nanocomposites

Number of advertised positions: 1

Mentor: doc. Rajesh Mishra, Ph.D., B. Tech. (Department of Textile Materials, Faculty of Textile Engineering TUL)

Specific requirements: Candidate should be a PhD holder in textile and materials field with focus on functional composite research.

Required education: Graduate of doctoral study in the field of textiles technology and materials engineering.

Work description:

The project execution will be supported not only by current experimental methods of carbonization but also by the new concepts and methods to carbonize textile wastes into functional carbon nanoparticles. One such idea is carbonizing the textile waste after fragmenting to small size in ball mill. The small fragmentations of textile waste are expected to produce carbonized compounds at faster rate and at less danger of release of toxic fumes. The size of fragmentations from micro to nanoscale will be investigated in detail to obtain faster carbonization. In addition, new high end applications will be discovered for prepared carbon nanoparticles. The expected applications are in development of intelligent textile structures by printing or coating the functional carbon nanoparticles. The traditional applications of reinforcement of polymeric composites in automotives will be explored as well by injection moulding.

B) FACULTY OF MECHANICAL ENGINEERING

Specialisation: Modelling and optimization of heat transfer processes in different types of materials system casting - casting mold

Number of advertised positions: 1



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Mentor: prof. Ing. Iva Nová, CSc. (Department of Engineering technology, Faculty of Mechanical Engineering TUL)

Specific requirements: Candidate should be a PhD holder in engineering field.

Required education: Graduate of doctoral study in the field of Manufacturing Technology.

Work description:

The Post-Doctorate will be dealing with experimental field of metallurgy and metal melts interaction with various materials causing other physico-chemical processes with very closely related to the measurement and modeling of temperature fields variously heated material systems.

The use of mathematical simulation calculations in processing processes found in the present considerable application in the refining process technology, eg a more accurate prediction of progressive methods of casting production.

Mathematics and Physics solutions will include: properties of molten metals, properties of compact and porous materials, simulation of melt flow in the channels, the simulation of thermal processes in the system melt - solid phase.

IMPORTANT INFORMATIONS

Position requirements

- 3 months research stay abroad or at the cooperative organisation.
- Teaching of students in the range of 3-5 hours per week.
- Administration of final works for students studying Bachelor studies and Master studies, consultations.
- Active participation in publishing of research results in journals and at the conferences under the patronage of TUL.

General requirements for applicants

- Fully finished doctoral study and acquired relevant degree of required doctoral study programme or similar certified study programme received abroad in term of 25th March 2008 – 1st March 2014.
- Good knowledge of Czech or English language (CAE \geq B1 or equivalent).
- Experience with realisation or research and development projects in industrial or academic field.

Working conditions

- Employment based on an employment contract.
- Starting date of work May 2014, eventually following mutual agreement and visa obligations.
- 100% load of work at TUL from May 2014 for the duration of the project until June 2015. (The employment contract will be signed for 1 year, after this period it will be prolonged until the project ends in case of proper fulfillment of working tasks and targets of the project.)
- Employment only in the Czech Republic.
- Salary 40 000,- CZK/month (in case of proper fulfillment of working tasks and targets of the project).
- Flexible working hours.



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- Possibility of university accommodation.
- Possibility of babysitting.

Working terms and salary classification are governed by the conditions of employment, Internal salary regulations of TUL, the Labour Code and Regulations of selection procedure for filling positions of academic workers and other employees of TUL.

Contact persons

Don't hesitate to contact us in case of any questions.

Organizational and personnel department: Ing. Alena Šírková (volnamista@tul.cz),

Manager of the project: Ing. Denisa Karhánková (denisa.karhankova@tul.cz).

Required documents

- Structured curriculum vitae according to Europass example, max. 2 pages size A4.
- Officially certified copy of diploma, which represents successful finishing of study in doctoral study programme and acquirement of doctoral degree in term of 25th March 2008 – 1st March 2014.
- Letter of motivation not longer than 2 pages size A4 including description of targets in research and development.
- Brief description of previous professional, scientific and research activities including experienced educational stays, max. 4 pages size A4.
- List of the most important achievements published especially in journals and reactions to the work (reactions according to WoK or SCOPUS, H-index etc.).
Example: [1] KOVÁŘOVÁ, Jana and DVOŘÁK Radek. Textile smart materials for medical applications. *Name of the journal*. 2012, year 5, number 1, pages 8-16. ISSN 1234-6789.
- Summarisation of adequate activity in development with giving the evidence of practical realisation (patent, utility models etc., and officially certified documents proving the realisation in practice) and list of other provable outputs related to the particular position of the Post-Doctorate.
- In case that the applicant is not a Czech citizen, a certificate proving good knowledge of Czech or English language (CAE \geq B1 or equivalent) is needed.
- Short abstract from thesis not longer than 4 pages size A4.
- Recommending letters if requested in specific requirements of the particular position.

Selection procedure

The selection procedure for particular positions will be held in 2 rounds. In the first round the applicant will be evaluated on his/her qualifications and relevant work experience (based on the delivered documentation). At this stage the applicant will be considered if he/she fulfills the general requirements.

Applicants who don't fulfill above mentioned characteristics will be excluded from the selection procedure. Applicants who meet the qualification requirements will move up to the second round, which will be carried out by assessment committee consisting of minimum 3 persons. A mentor for the particular position of the Post-Doctorate is also a member of the assessment committee. Applicants will be evaluated by following criterias:



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Criteria	Importance of criteria Total 100%
Number and quality of articles in journal with impact factor, reviewed journals and other publications	max. 50 %
Development activity, knowledge of spectra of experimental techniques and methodologies from the particular field	max. 30 %
Individual specific qualification	max. 20 %

The best applicant for each of the criterias gains maximal amount of points and others gain its aliquot part according to their results. In case that the applicant will be evaluated also according to criterias which don't have the objective specified figures, which are evaluated subjectively (e.g. recommendation from the previous supervisor), every member of the assessment committee gives the points according to his/her consideration. Resulting number of points for the applicant will be arithmetic average of the point evaluation given by the particular members of the assessment committee, however, the average can't reach over the particular importance of the criteria.

Interview is not the condition of the assessment procedure, although the assessment committee can decide about the interview for the applicants who identically show the best results after evaluation of all criterias. It can be either in-person interview or on-line interview. Both rounds of the selection procedure can take place immediately one after another. An integrated committee will be established for each faculty, and during the evaluation the specifications of the particular fields and their publication possibilities will be taken into consideration. The committee will prepare recommended order of the applicants within the frame of each working position. The winning applicant of the selection procedure will be the one, who gains in the evaluation of particular criterias the highest number of points. All the applicants will be informed about the result 30 days after the end of the selection procedure at the latest. The results and protocols about the running of the selection procedure will be also published on websites of Technical University of Liberec. If any of candidates to any position do not meet the requirements of the tender, this tender may be cancelled.

Applications for the selection procedure including all requested documents in Czech or English language shall be delivered via e-mail or by post no later than **9th April 2014** to the following addresses: **Technical University of Liberec**

Organizational and personnel department
Studentská 2
461 17 Liberec 1

Contact person: Ing. Alena Šírková, Organizational and personnel department
e-mail: volnamista@tul.cz



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The selection procedure is published since **10th March 2014** on the Official Board of the Technical University of Liberec (http://www.tul.cz/urednideska/uredni-deska-tul/vyberovazeni-volna-mista_107, <http://www.ft.tul.cz/projekty/VaVTUL/>) and the website of the Ministry of Labor. The selection procedure is also published on websites: euraxess.cz.