

## **New Opportunities for the Development of Education at the Technical University of Liberec**

Specific objective A2: Development in the field of distance learning, online learning  
and blended learning

**NPO\_TUL\_MSMT-16598/2022**



## **KNT\_TNA\_Needle-less electrospinning**

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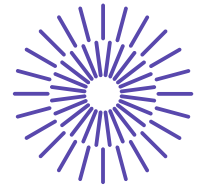


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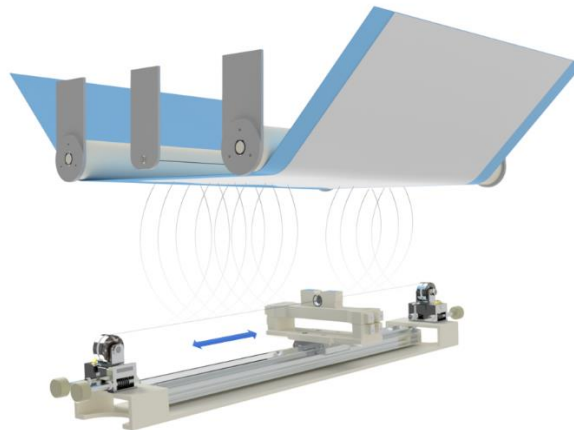


**CZECH  
RECOVERY  
PLAN**

**MSMT**  
MINISTRY OF EDUCATION,  
YOUTH AND SPORTS



The Nanospider device is used for electrospinning from the string. The spinning part of the device consists of a string, a cartridge, a die, a background fabric and high voltage sources.



**Tutorial objectives:**

During the tutorial, familiarize yourself with the Nanospider machine and assemble the spinning part of the equipment. During the tutorial, try spinning prepared polymer solutions and find suitable spinning process parameters. Observe the effect of collector-to-electrode distance on the electrospinning process. Measure the basis weight of the produced fiber layer.

**Method:**

- 1) Assemble the spinning part of the device, draw a diagram of the device used.
- 2) Dose the polymer solution into the cartridge.
- 3) Turn on the high voltage sources and gradually find the appropriate electrospinning process parameters.
- 4) Observe the effect of the distance of the collector from the electrode on the electrospinning process.
- 5) Gradually change the concentration of the polymer solutions and observe the effect on the electrospinning process.

