



Central European Institute of Technology
BRNO | CZECH REPUBLIC



[Instrument contacts updated 22 Oct 2019]

Spring Ceitec Nano User Meeting

19/03/2019

CF Nano User Committee
usercom@ceitec.vutbr.cz



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Members of the Committee



Michal Staňo

- Chairman of the Committee
- Junior researcher
- Nanomagnetism and spintronics



Lukáš Flajšman

- Member of the Committee
- Ph.D. student
- Fabrication and Characterisation of Nanostructures



Eva Šťastná

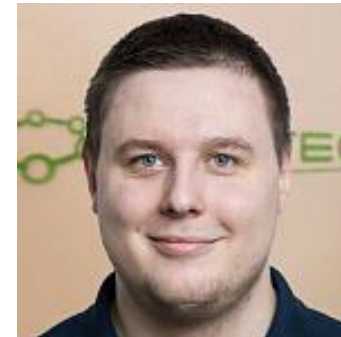
- Member of the Committee
- Ph.D. student
- Advanced Ceramic Materials

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David Salamon

- Member of the Committee
- Senior researcher
- Advanced Ceramic Materials



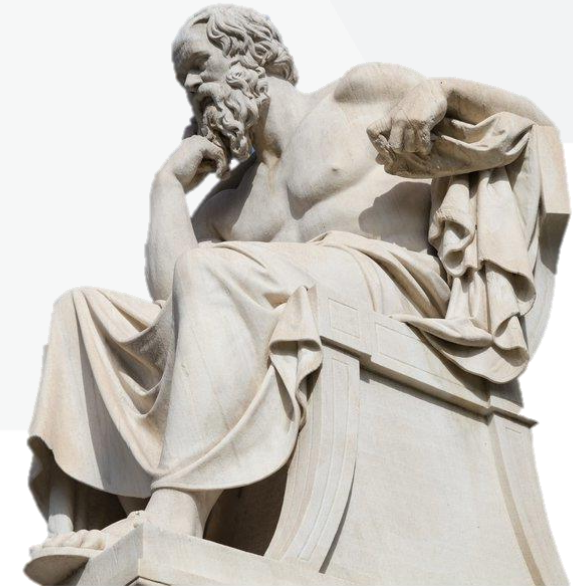
Igor Turčan

- Member of the Committee
- Ph.D. student
- Fabrication and Characterisation of Nanostructures

Activities of the Committee

- Meetings with Head of CEITEC Nano every 3 months
- Presence at CEITEC Nano regular meetings (weekly)
- Improvement of work environment in CF labs
- Communication between users and User office, core facility specialists (operators) etc.

What do the users need?



Feedback system

- USE IT! USE IT! USE IT! Thank you.



+ additional comments (what you liked, what made you angry, what didn't work...)

- The fastest communication channel between you and CF User office, operators...
- Your comments are checked every day → fast problem solution
- Give your feedback: <http://cfnano.ceitec.cz/feedback/>
- Statistics: <http://cfnano.ceitec.cz/feedback/report>

Cleanness of the Cleanrooms

- Do not bring incompatible materials inside
- Clean your work area when finished
- Set a good example

- Let's keep it clean!

CLEAN ROOM COMPATIBILITY?
CDA - clear dry air

Yes No

	CLR 100 000	CLR 100
own laptops (vlastní notebook)	 use CDA in <i>black changing room</i> , use IPA and clean wipes in <i>filter 1</i>	 use IPA and clean wipes in <i>filter 2</i>
cellular phones (mobilní telefony)	 use CDA in <i>black changing room</i> , use IPA and clean wipes in <i>filter 1</i>	 use IPA and clean wipes in <i>filter 2</i>
bags (tašky)	 use cupboards in <i>black changing room</i>	 use cupboards in <i>black changing room</i>
clothes (svrchní oblečení)	 use cupboards in <i>black changing room</i>	 use cupboards in <i>black changing room</i>
drinks, food (pití, jídlo) use fountain in <i>filter 1</i>		
paper box, wood, fabric (papír, dřevo, látky)		
lab notes, papers (laboratorní deník, papíry)	 use green labbook (available in CF) use sheet protector (euroobal) in case of paper	 use CLR paper in the <i>filter 2</i> , don't take papers inside
pencils, pen (tužky, psací potřeby)		 use CLR pen in the <i>filter 2</i> , don't take pen inside

Booking culture

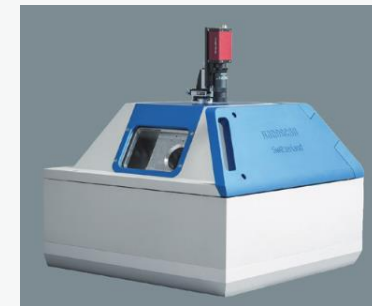
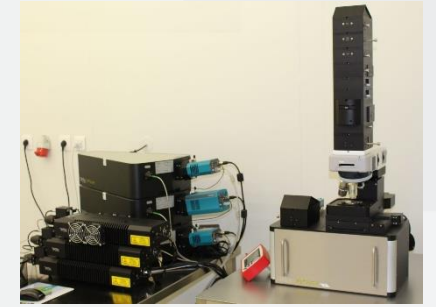
- You have to cancel your reservation in the last minute?
WRITE AN EMAIL to all the users.
- You finish your work much earlier?
WRITE AN EMAIL to the user who has reservation after you.
- Don't make too many reservations of the one machine ahead
Only two future reservations per instrument within standard working hours (Mo-Fri, 8am-5pm)
- Don't book the machine for the whole day (if it is not really necessary).
- <http://nano.ceitec.cz/rules-for-equipment-reservations/>

New instruments



- Magnetometry and transport measurements (VersaLab)
- Confocal Raman imaging system (WITec alpha300 R)
- Critical Point Dryer (Tousimis Autosamdri-815B)
- High vacuum AFM (NanoScan VLS-80)

- New investments (=instruments) after 2020
- New software modules for Lyra FIM-SEM microscope
 - *Image snapper* (automatic large area imaging)
 - *Sample observer* – for making videos
 - contact: Tomáš Šamoril - tomas.samoril@ceitec.vutbr.cz



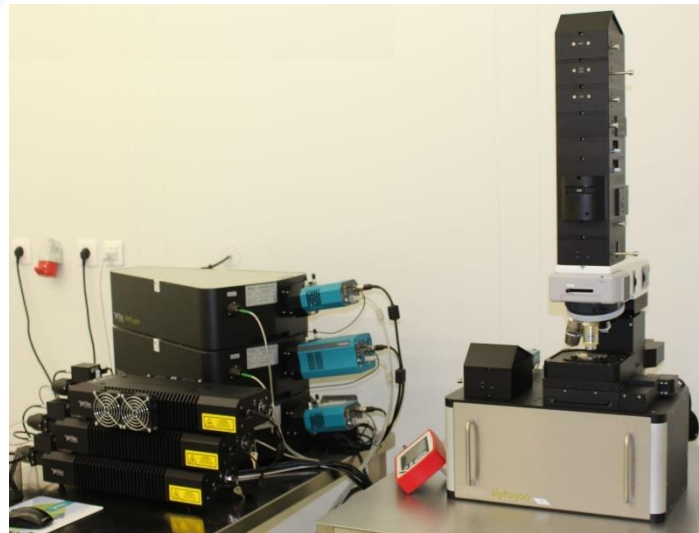
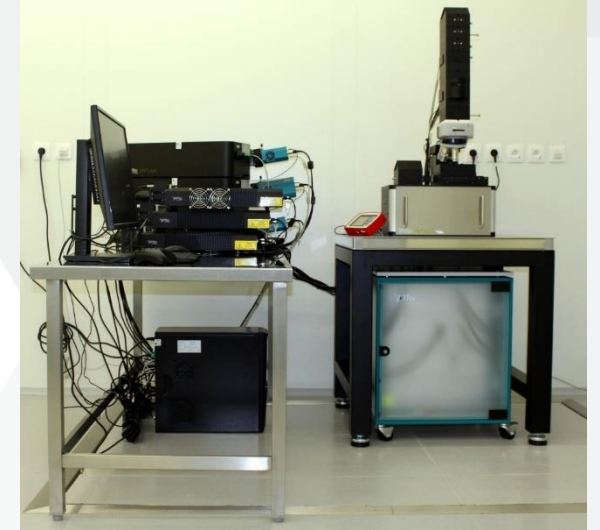
VersaLab [New instruments]

- Magnetometry and transport measurement
- Temperature 50-400K (400-1000K oven kit)
- Magnetic field up to 3T
- Sample size <7mm (<4mm standard coils)
- Sensitivity < 1 μemu (magnetometry), 1nV @ 100mA (ETO)
- Jon Ander Arregi Uribeetxebarria: ja.arregi@ceitec.vutbr.cz



WITec alpha300 R [New instruments]

- Confocal Raman imaging system
- Info on chemical composition and molecular structure
- Raman spectrum at every image pixel with a resolution down to the optical diffraction limit
- Martin konečný: martin.konecny@ceitec.vutbr.cz



Critical Point Dryer [New instruments]

- Wafer and MEMS drying (photolithography lab C100)
- Jiří Zita: jiri.zita@ceitec.vutbr.cz



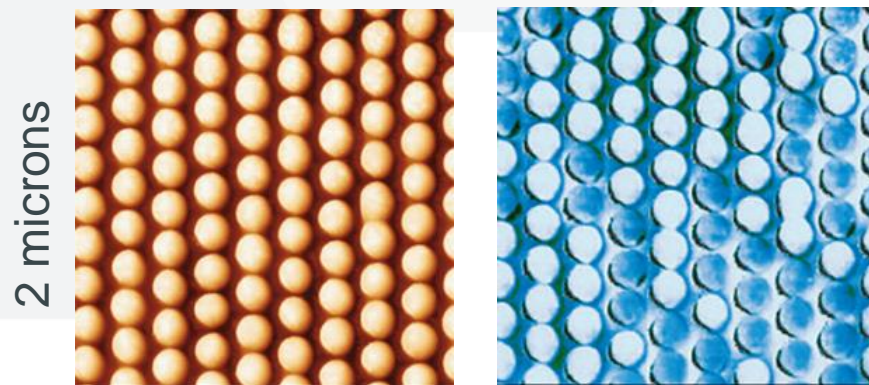
Critical Point Dryer (CPD) now available in the booking system

- Well established method for wafer and MEMS drying
- It reduces the effects of deformation and shrinkage that occur when drying samples by conventional evaporation
- Available for:
 - 5x – 4" wafer
 - 5x – 3" wafer
 - 5x – 2" wafer
 - Sample basket for 1 cm² samples
- Contact Jiří Zita to get the certificate

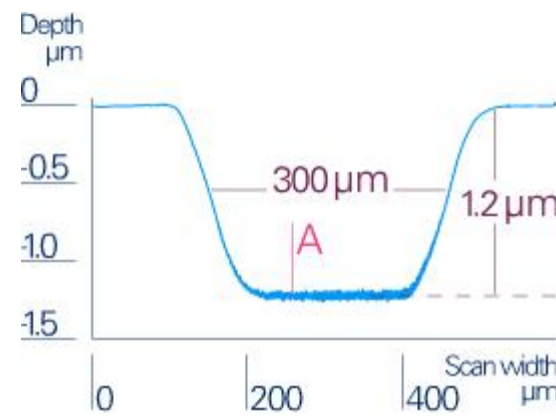
NanoScan VLS-80 [New instruments]



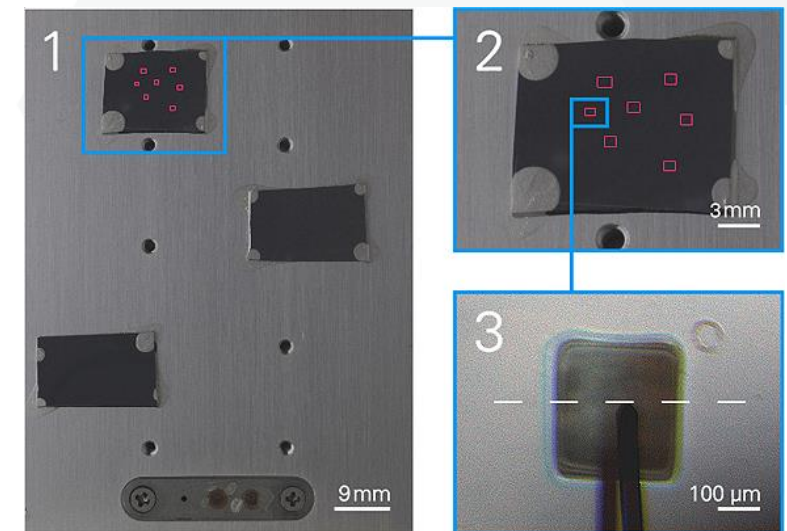
- High vacuum ($<5e-6$ mbar) Atomic Force Microscope (AFM)
- Vacuum = Higher sensitivity, but more difficult to operate
- Multifrequency, Double-Pass, hr-MFM, KPFM, Long-distance Profiling
- Compatible with IONTOF SIMS holders – crater measurements
- Magnetic force microscopy: in-plane (200mT) or out-of-plane field (550mT)
- Michal Staňo: michal.stano@ceitec.vutbr.cz



Dual -PLL: 1pass AFM (left) + MFM (right)



SIMS crater profile



Communication channels



Facebook group: Ceitec Nano research infrastructure, @ceitecnano



WhatsApp: CEITEC Nano Users



Email: usercom@ceitec.vutbr.cz



Personal contact

Thank you for your attention!

CF Nano User Committee
usercom@ceitec.vutbr.cz

<http://nano.ceitec.cz/user-committee/>

nano.ceitec.cz > User Access and services > User Committee