

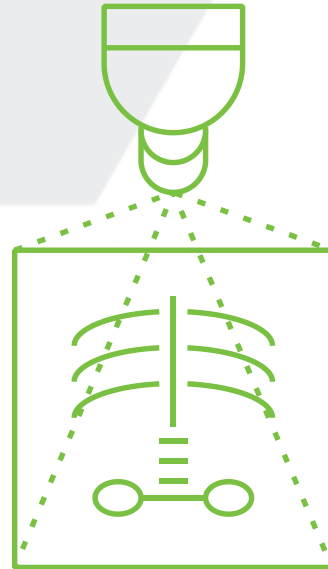
CEITEC Masaryk University



Discoveries of Science



PENICILLIN



ROENTGEN



INSULIN



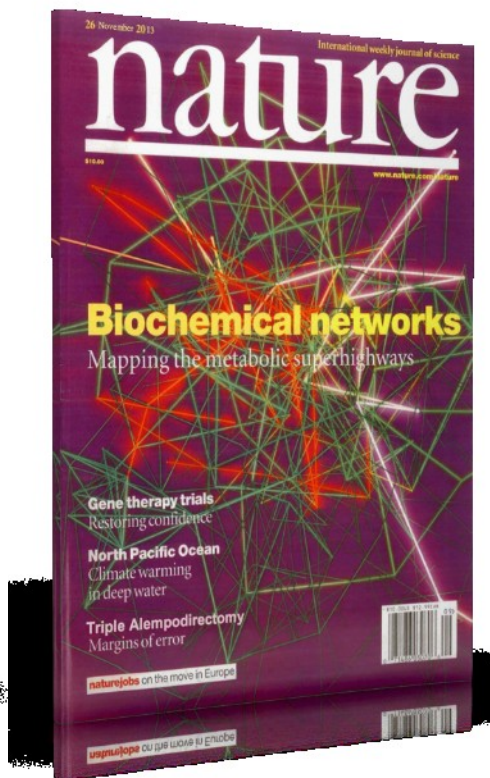
BRNO



Understanding the Future



Historical Legacy



Scientific Results



CEE Leadership

Improving Quality of Life Through Scientific Research



State of the Art
Infrastructure



Vibrant **Scientific
Community**



People

Built on a Foundation of 6 Core Institutions



CEITEC MU Highlights (2019)



26

Mil. EUR
Overall Budget



424

Employees (FTE)



36

Research Groups

CEITEC MU Highlights (2019)



26

Mil. EUR
Total Budget



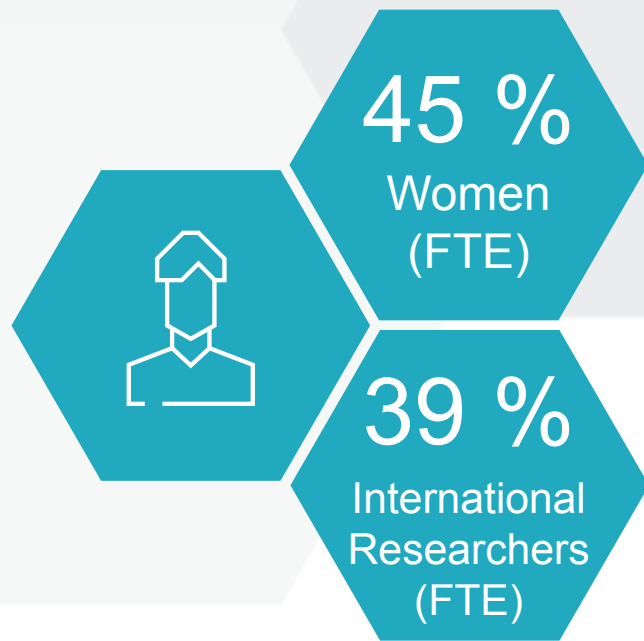
36

Research
Groups

11

Core
Facilities

CEITEC MU Highlights (2019)



298

Scientific
Employees
(FTE)



280

PhD
Students

CEITEC MU Highlights (2019)



185

Ongoing
Projects



343

Publications

Management Excellence



**COORDINATION
BOARD**

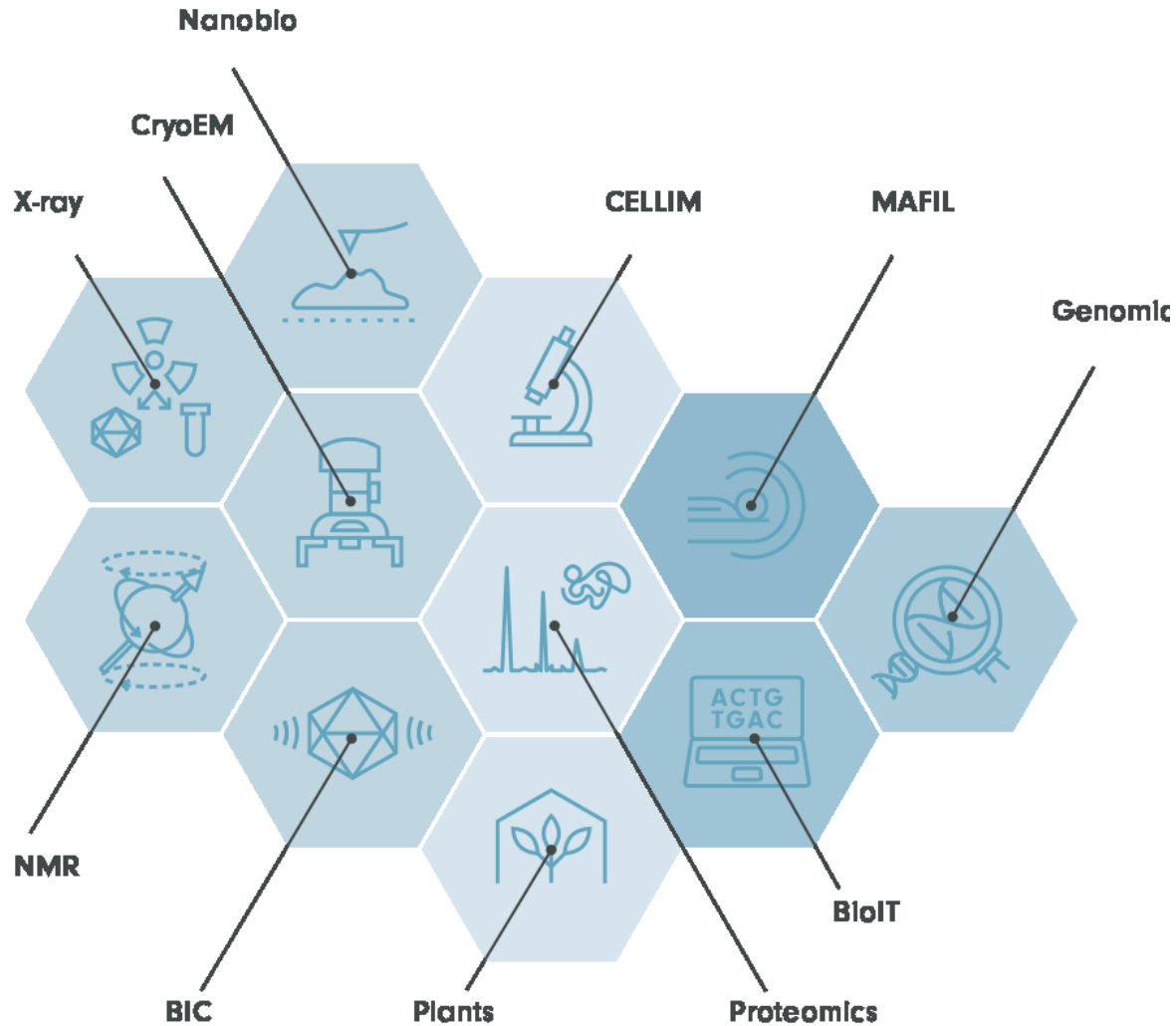


**INTERNATIONAL SCIENTIFIC
ADVISORY BOARD**



EVALUATION

Core Facilities



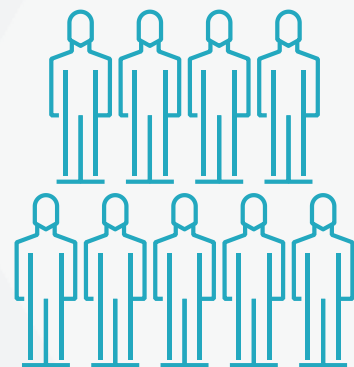
BIC	Biomolecular Interactions and Crystallization
BioIT	Bioinformatics
CELLIM	Cellular Imaging
CryoEM	Cryo-electron Microscopy and Tomography
Genomics	Genomics
MAFIL	Multimodal and Functional Imaging Laboratory
Nanobio	Nanobiotechnology
NMR	Josef Dadok National NMR Centre
Plants	Plant Sciences
Proteomics	Proteomics
X-ray	X-ray Diffraction and Bio-SAXS



Our People

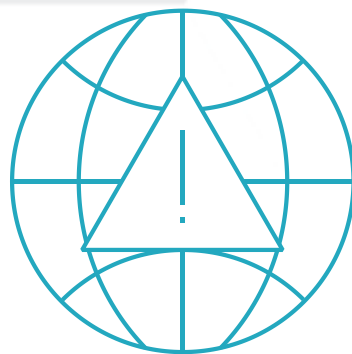


Addressing Global Challenges



9

Billion People
in 2040



CEITEC Agricultural
Sustainability



CEITEC Biomedicine

Main Research Areas



Structural
Biology



Plant Biology



Molecular
Medicine

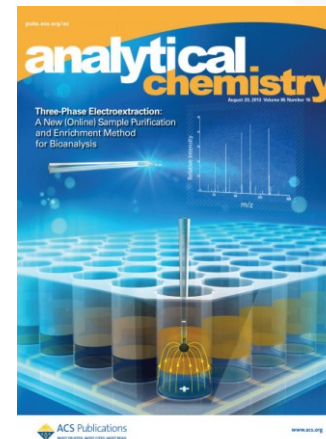


Neurosciences

Impressive Scientific Results

Selected T5 Publications with Corresponding Author from CEITEC MU (2018)

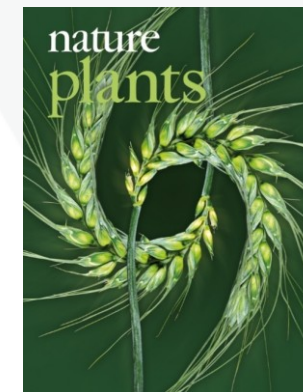
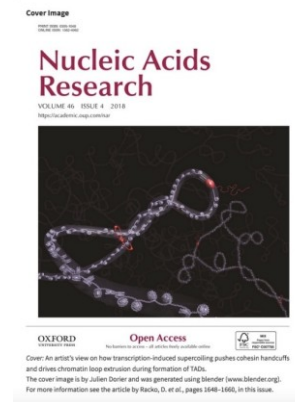
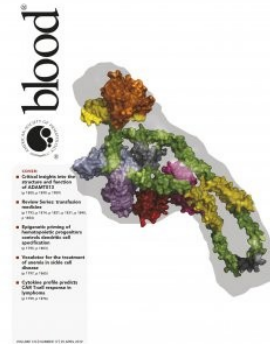
- Bolotin, D. A., Poslavsky, S., **Davydov, A. N.** and **Chudakov, D. M.** (2018) Evaluation of immune repertoire inference methods from RNA-seq data reply. *Nature Biotechnology*, 36, 1035-1036.
- **Evangelidis, T.**, Nerli, S., **Novacek, J.**, Brereton, A. E., Karplus, P. A., Dotas, R. R., Venditti, V., Sgourakis, N. G. and **Tripsianes, K.** (2018) Automated NMR resonance assignments and structure determination using a minimal set of 4D spectra. *Nature Communications*, 9.
- **Farka, Z.**, **Cunderlova, V.**, **Horackova, V.**, **Pastucha, M.**, Mikusova, Z., **Hlavacek, A.** and **Skladal, P.** (2018) Prussian Blue Nanoparticles as a Catalytic Label in a Sandwich Nanozyme-Linked Immunosorbent Assay. *Analytical Chemistry*, 90, 2348-2354.
- **Fuzik, T.**, Formanova, P., Ruzek, D., Yoshii, K., Niedrig, M. and **Plevka, P.** (2018) Structure of tick-borne encephalitis virus and its neutralization by a monoclonal antibody. *Nature Communications*, 9.
- Hafidh, S., **Potesil, D.**, Muller, K., Fila, J., Michailidis, C., Herrmannova, A., Fecikova, J., Ischebeck, T., Valasek, L. S., **Zdrahal, Z.** and Honysa, D. (2018) Dynamics of the Pollen Sequestrome Defined by Subcellular Coupled Omics. *Plant Physiology*, 178, 258-282.



Impressive Scientific Results

Selected T5 Publications with Corresponding Author from CEITEC MU (2018)

- **Mandakova, T. and Lysak, M. A.** (2018) Post-polyploid diploidization and diversification through dysploid changes. *Current Opinion in Plant Biology*, 42, 55-65.
- **Musilova, K., Devan, J., Cerna, K., Seda, V., Pavlasova, G., Sharma, S., Oppelt, J., Pytlik, R., Prochazka, V., Prouzova, Z., Trbusek, M., Zlamalikova, L., Liskova, K., Kruzova, L., Jarosova, M., Mareckova, A., Kornauth, C., Simonitsch-Klupp, I., Schiefer, A. I., Merkel, O., Mocikova, H., Burda, P., Polakova, K. M., Kren, L., Mayer, J., Zent, C. S., Trneny, M., Evans, A. G., Janikova, A. and **Mraz, M.** (2018) miR-150 downregulation contributes to the high-grade transformation of follicular lymphoma by upregulating FOXP1 levels. *Blood*, 132, 2389-2400.**
- **Pravda, L., Sehnal, D., Tousek, D., Navratilova, V., Bazgier, V., Berka, K., Varekova, R. S., Koca, J. and Otyepka, M.** (2018) MOLEonline: a web-based tool for analyzing channels, tunnels and pores (2018 update). *Nucleic Acids Research*, 46, W368-W373.
- **Pravda, L., Sehnal, D., Varekova, R. S., Navratilova, V., Tousek, D., Berka, K., Otyepka, M. and Koca, J.** (2018b) ChannelsDB: database of biomacromolecular tunnels and pores. *Nucleic Acids Research*, 46, D399-D405.
- **Robert, H. S., Park, C., Gutierrez, C. L., Wojcikowska, B., Pencik, A., Novak, O., Chen, J. Y., Grunewald, W., Dresselhaus, T., Friml, J. and Laux, T.** (2018) Maternal auxin supply contributes to early embryo patterning in Arabidopsis. *Nature Plants*, 4, 548-553.
- **Shugay, M., Bagaev, D. V., Zvyagin, I. V., Vroomans, R. M., Crawford, J. C., Dolton, G., Komech, E. A., Sycheva, A. L., Koneva, A. E., Egorov, E. S., Eliseev, A. V., Van Dyk, E., Dash, P., Attaf, M., Rius, C., Ladell, K., McLaren, J. E., Matthews, K. K., Clemens, E. B., Douek, D. C., Luciani, F., van Baarle, D., Kedzierska, K., Kesmir, C., Thomas, P. G., Price, D. A., Sewell, A. K. and **Chudakov, D. M.** (2018) VDJdb: a curated database of T-cell receptor sequences with known antigen specificity. *Nucleic Acids Research*, 46, D419-D427.**



ERC Grants



European Research Council
Established by the European Commission



ERC Consolidator Grant Richard Štefl
– Dynamic Assembly and Exchange of
RNA Polymerase II CTD Factors



ERC Starting Grant Pavel Plevka
– Structural Study of Human
Picornaviruses

ERC Starting Grant Marek Mráz
– Signaling Propensity in the
Microenvironment of B Cell
Chronic Lymphocytic Leukemia



Vibrant Scientific Community at CEITEC

Scientific Events

CEITEC MUNI

Molecular Medicine Seminar

2019

Tuesdays at 9.30 a.m., room no. 211 / A35

FEBRUARY		
19/02/2019	Sushil Sharma Max Planck IG	Identification of a miR-29 target in Chronic Lymphocytic Leukemia: implications for microenvironmental interactions
MARCH		
05/03/2019	Nandini Vaidyanathan Saxena-Novotny IG - Structural Biology	Examining factors modulating RNA stability of eukaryotic alternative RNAs
19/03/2019	Merit Metzger Dresny-Oudizov IG	Immunity and aging in long-lived animals: insights from the blind mole rat systems analysis
20/03/2019	Jakub Terebik Sala Popelians IG	Recognition of pathogenic variants in cancer patients: Fast gene expression from clinical genetics outpatient ward
APRIL		
02/04/2019	Michal Bielecky Dobner-Bielecky IG	Function of transcriptional cyclin-dependent kinases
06/04/2019	Cristina Lobello Sala Popelians IG	Can the mutational landscape give information about the progression in ALCL? DNA targeted NGS in Anaplastic Large Cell Lymphoma
16/04/2019	Marcela Ares Gallo Dobner-Bielecky IG	Circulating microRNAs in pancreatic cancer
22/04/2019	Helen Pechakova Michal Sirota IG	The use of CRISPR-Cas9 technology for functional genetic screening
30/04/2019	Ketty Stragaglia Mary O'Connell IG	Investigating mRNA modifications using mouse models
MAY		
07/05/2019	Tina Catala Iribarne Dobner-Bielecky IG	Non-coding RNAs and exosomes in colorectal cancer
21/05/2019	Jaclyn Elizabeth Qain Mary O'Connell IG	ADAM1 as a new target for the fighting against malaria

Funded under FP7 project 2318 DNA Chair Culture as a Catalyst to Maximize the Potential of CEITEC (contract no. 637386)

CEITEC MASARYK UNIVERSITY **INEXT** **CIISB**

iNEXT workshop on Integrated methodologies and approaches for structural biology

29–31/05/2019 Brno, Czech Republic

SPEAKERS

Guido Pintacuda Institute of Analytical Sciences, France	Hayden Mertens EMBL, Hamburg, Germany	Kristina Djinovic-Carugo Max F. Perutz Laboratories, Austria
Remco Sprangers University of Regensburg, Germany	Marcin Nowotny International Institute of Molecular and Cell Biology in Warsaw, Poland	Ana Casañal MRC Laboratory of Molecular Biology, United Kingdom
Peter Peters Maastricht University, Netherlands	Florian Schur ST. Austria, Austria	Felix Rey Institute Pasteur, France
Michael Sattler Helmholtz Center Munich, Germany	Roland Riek ETH Zurich, Switzerland	Pavel Pievka CEITEC MU, Czech Republic
Gideon Schreiber Weizmann Institute of Science, Israel	Josán Marquiez EMBL, Grenoble, France	Richard Stefl CEITEC MU, Czech Republic
Neil Ranson University of Leeds, United Kingdom	Kvido Stifšovsky IIOC, Czech Republic	Tim Grüne Paul Scherrer Institut, Switzerland
Alexandre Bonvin Utrecht University, Netherlands		

thermoscientific BRUKER

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653706.
Disclaimer: This poster and included materials reflect only the author's view and the Commission is not responsible for any use that may be made of the information it contains.

CONFERENCE

NUCLEIC ACIDS, IMMUNITY AND GENOME DEFENCE

4–6 September, 2018 Brno, Czech Republic

KEYNOTE SPEAKER

Eugene V. Koonin
NCBI/NLM/NIH, US

CONFIRMED SPEAKERS

Frank Lyko German Cancer Research Center, DE	Mariano Garcia-Blanco University of Leeds, GB	Jean-Yves Roignant INSERM, FR
Jan Rehwinkel University of Oxford, GB	Mark Helm Johannes Gutenberg University, DE	Vincent Kelly Trinity College Dublin, IE
Gunther Hartmann University Hospital Bonn, DE	Schrage Schwartz Department of Cell Biology, DE	Thomas Carell Max Planck Institute of Science, DE
Rayk Behrendt Technische Universität Dresden, DE	Erez Y. Leshanoni Boston University, US	Anki Östlund-Farrants Stockholm University, SE
Sara Macias Ribela Leibniz Universität Göttingen, DE		

ORGANIZERS

Mary O'Connell CEITEC Masaryk University, CZ	Liam Keegan CEITEC Masaryk University, CZ
--	---

www.nucleic-acids-immunity.ceitec.eu

Funded under FP7 project 2318 DNA Chair Culture as a Catalyst to Maximize the Potential of CEITEC (contract no. 637386)

Vibrant Scientific Community at CEITEC

Collaboration & Partnerships



Ce-M-M-



Vibrant Scientific Community at CEITEC

International Staff & PhD Program

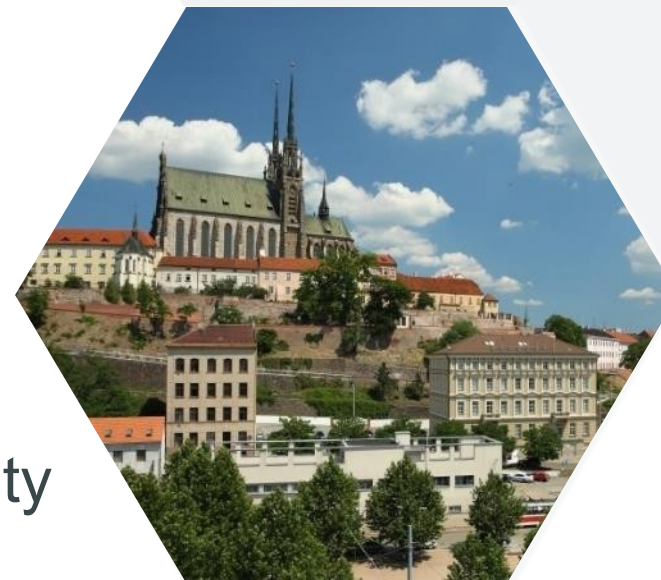


Reasons to Choose CEITEC

Breakthrough
Technologies



International
Scientific
Community



High Quality
of Life



HR EXCELLENCE IN RESEARCH

HR Award

CEITEC MU – a proud holder of this award!



Brno for Living – Safe, Vibrant & Convenient

#4 Most Popular City in the World for Students
(topuniversities.com)

#6 Safest Country in EU
(European Commission)

Prague

#1 Best City for
EXPAT Support
(Financial Times)

Excellent Health-Care
Coverage

3.8% of GDP for Sciences
and Research

BRNO

Bratislava

Mild Climate

EU, Schengen,
NATO, OECD Member

Vienna



Improving Quality of Life and Human Health Through Scientific Research



Legacy of Great Science



Worthy Partner

Excellent Scientific Results





CEITEC



@CEITEC_Brno

