



INTEG-RNA

INTEGRATION OF RNA BIOLOGY FOR NEXT- GENERATION SCIENTISTS

H2020-WIDESPREAD-2020-5

Project Number: 952541



D5.4 Mid-term impact assessment report on CEITEC MU excellence

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1 STATEMENT

CEITEC's Strategy and R&D Support Office set the baseline for the 3 main KPIs related to the scientific excellence of the project outputs (publications of involved researchers from CEITEC MU in T10, publications realized in cooperation between Twinning partners, publications in Q1 where the first author is a PhD student from CEITEC MU whose supervisor belongs to the Twinning research team) and 3 KPIs that count Twinning activities realized during the project (number of outgoing ESR secondments, number of outward researchers secondments, number of inward researchers secondments).

1.1 PUBLICATIONS

RGLs involved in INTEG-RNA from CEITEC MU (Mary Anne O'Connell, Štěpánka Vaňáčová, Peter Lukavsky, Dalibor Blažek, Panagiotis Alexiou, Karel Říha, Jiří Fajkus, Marek Mráz and Helene Robert Boivson) produced 41 publications in 2021 - November 2022 (source: Web of Science Core Collection, document type: Article, Review or Letter). The RGLs are affiliated to the CEITEC MU. 41 % of publications were in T10 journals, 5 % of publications were realized in cooperation between Twinning partners and 12 % of publications were in Q1 where the first author is PhD student from CEITEC MU whose supervisor belongs to Research Groups involved in INTEG-RNA (and RGL is a co-author of publication).

In numbers of publications

- publications of involved researchers from CEITEC MU in T10: 17
- publications realized in cooperation between Twinning partners: 2
- publications in Q1 where the first author is a PhD student from CEITEC MU whose supervisor belongs to the Twinning research team: 5

The list of publications (2021 - November 2022) in alphabet order:

- (1) Agrawal, R.; Jiri, F.; Thakur, J. K. The Kinase Module of the Mediator Complex: An Important Signalling Processor for the Development and Survival of Plants. *JOURNAL OF EXPERIMENTAL BOTANY*, 2021, 72, 224–240. <https://doi.org/10.1093/jxb/eraa439>.
- (2) Agrawal, R.; Sharma, M.; Dwivedi, N.; Maji, S.; Thakur, P.; Junaid, A.; Fajkus, J.; Laxmi, A.; Thakur, J. K. MEDIATOR SUBUNIT17 Integrates Jasmonate and Auxin Signaling Pathways to Regulate Thermomorphogenesis. *PLANT PHYSIOLOGY*, 2022, 189, 2259–2280. <https://doi.org/10.1093/plphys/kiac220>.
- (3) Borsky, M.; Hrabcakova, V.; Novotna, J.; Brychtova, Y.; Doubek, M.; Panovska, A.; Muller, P.; Mayer, J.; Trbusek, M.; Mráz, M. Rituximab Induces Rapid Blood Repopulation by CLL Cells Mediated through Their Release from Immune Niches and Complement Exhaustion. *LEUKEMIA RESEARCH*, 2021, 111. <https://doi.org/10.1016/j.leukres.2021.106684>.
- (4) Brablik, J.; Ladrova, M.; Vilimek, D.; Kolarik, J.; Kahankova, R.; Hanzlikova, P.; Nedoma, J.; Behbehani, K.; Fajkus, M.; Vojtisek, L.; Martinek, R. A Comparison of Alternative

Approaches to MR Cardiac Triggering: A Pilot Study at 3 Tesla. *IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS*, 2022, 26, 2594–2605.
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- (5) Cairo, A.; Vargova, A.; Shukla, N.; Captao, C.; Mikulkova, P.; Valuchova, S.; Pecinkova, J.; Bulankova, P.; Riha, K. Meiotic Exit in Arabidopsis Is Driven by P-Body-Mediated Inhibition of Translation. *SCIENCE*, 2022, 377, 629–634. <https://doi.org/10.1126/science.abo0904>.
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- (7) Covelo-Molares, H.; Obrdlik, A.; Postulkova, I.; Dohnalkova, M.; Gregorova, P.; Ganji, R.; Potesil, D.; Gawriyski, L.; Varjosalo, M.; Vanacova, S. The Comprehensive Interactomes of Human Adenosine RNA Methyltransferases and Demethylases Reveal Distinct Functional and Regulatory Features. *NUCLEIC ACIDS RESEARCH*, 2021, 49, 10895–10910.
<https://doi.org/10.1093/nar/gkab900>.
- (8) Eekhout, T.; Dvorackova, M.; Garcia, J. A. P.; Dadejova, M. N.; Kalhorzadeh, P.; Van den Daele, H.; Vercauteren, I.; Fajkus, J.; De Veylder, L. G2/M-Checkpoint Activation in Fasciata1 Rescues an Aberrant S-Phase Checkpoint but Causes Genome Instability. *PLANT PHYSIOLOGY*, 2021, 186, 1893–1907. <https://doi.org/10.1093/plphys/kiab201>.
- (9) Fajkus, P.; Kilar, A.; Nelson, A. D. L.; Hola, M.; Peska, V.; Goffova, I.; Fojtova, M.; Zachova, D.; Fulneckova, J.; Fajkus, J. Evolution of Plant Telomerase RNAs: Farther to the Past, Deeper to the Roots. *NUCLEIC ACIDS RESEARCH*, 2021, 49, 7680–7694.
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- (10) Fajkus, P.; Peska, V.; Fajkus, J.; Sykorova, E. Origin and Fates of TERT Gene Copies in Polyploid Plants. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*, 2021, 22. <https://doi.org/10.3390/ijms22041783>.
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1.2 SECONDMENTS AND INTERNSHIPS

Unfortunately, the outgoing problems with COVID during the 1st reporting period affected the start of secondments and internships. No one was allowed to join another lab last year due to measures that were applied by national governments and by the director of CEITEC MU. We resumed the secondments and internships in spring 2022.

In numbers of secondments:

- number of outgoing ESR secondments: 5
- number of outward researchers secondments: 2
- number of inward researchers secondments: 0

1.2.1 Outward ESR and researchers secondments

Table 1. ESR secondments

Participant	Hosting institution	Term
Alžběta Kusová	Laboratory of Falk Butter, IMB	7.3.2022-13.3.2022
Praveenkumar Rengaraj	Vladimir Benes lab., EMBL	17.7.2022-7.8.2022
Juan Francisco Sanchez Lopez	Andreas Wachter lab., JGU	5.9.2022-7.10.2022
Karolína Trachtová	Vladimir Benes lab., EMBL	6.11.2022-12.11.2022
Terézia Kurucová	Vladimir Benes lab., EMBL	6.11.2022-12.11.2022

Table 2. Researchers secondments

Participant	Hosting institution	Term
Lucie Bozděchová	Laboratory of Mark Helm, JGU	20.2.2022-18.3.2022
Vojtěch Bystrý	Vladimir Benes lab., EMBL	6.11.2022-12.11.2022

Table 3. Secondment plan for 2023

Participant	Position	Hosting institution	Term
Qiupei Du	PhD	Sara Macias lab., UEDIN	January 2023
Rosangela Digilio	PhD	Julian König lab., IMB	January 2023
Josef Večeřa	Senior researcher	Vladimir Benes lab., EMBL	March 2023
Peter Maník	PhD	Falk Butter lab., IMB	April 2023
Vivek Raxwal	Postdoc	Marie-Luise Winz lab., JGU	January 2023
Priyadharshini Selvaraj	PhD	Mark Helm lab., JGU	February 2023

1.2.2 Inward secondments

During the 1st project period, no inward secondment of researchers from Twinning partners were implemented. We plan to organize the visits in 2023.