Public Lecture Evaluation

Masaryk University	
Faculty	Faculty of Science
Procedure field	Biomolecular Chemistry
Applicant	**doc. Mgr. Richard Štefl, Ph.D.**
Lecture date	December 6, 2019
Lecture topic	**Transcription by RNA polymerase II**
Persons present (number)	……. (see attached list of attendees)
Designated evaluators (board members)	prof. Ing. Richard Hrabal, CSc. prof. RNDr. Vladimír Sklenář, DrSc. prof. Mgr. Petr Svoboda, Ph.D.

The public lecture for a general scientific community was well structured and explained the details of Richard Štefl's research in the broad context of recent developments of RNA molecular structural biology. It started with the description of Richard Štefl's career story (CV, teaching experience, and scientific qualification), followed by introduction to the topics of his public presentation (Transcription by RNA polymerase II), and explanation of his research motivation. The lecture focused of the elucidation of cellular gene expression, which involves the synthesis of RNA using DNA as a template, in a process called transcription. The resulting RNA molecules carry out a broad range of functions. They can convey not only genetic information but also act as regulators and catalysts during expression of genes. Protein-coding genes and a set of non-coding genes are transcribed by RNA polymerase II, which is a multiprotein complex. Lecture introduced key structural and mechanistic aspects of transcription by eukaryotic RNA polymerase II, including nucleotide addition cycle, translocation, pausing, proofreading, backtracking, arrest, reactivation, and inhibition, which were obtained using integrative structural biology approaches. The lecture also explained the intricate network of transient and cooperative interactions between RNA polymerase II and various factors which coordinate transcription with other nuclear events, such as chromatin remodeling and RNA processing. Finally, the candidate discussed open questions about the mechanism of transcription and its regulation, including the concept of phase-separated transcription clusters. At the end, Richard summarized his most important contributions to the field and highlighted results from his lab, which have significantly contributed to the understanding of RNA polymerase II interactome. The lecture stimulated rich discussion, in which Richard responded number of highly interesting questions.

Conclusion

The lecture entitled “Transcription by RNA polymerase II “, delivered by Richard Štefl as part of his professor appointment procedure, ***demonstrated*** sufficient scholarly qualifications and pedagogical capabilities expected of applicants participating in a professor appointment procedure in the field of Biomolecular Chemistry.

Brno, December 6, 2019

prof. Ing. Richard Hrabal, CSc. ……
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