



universität
wien

Univerzita Komenskeho v Bratislave
Fakulta Matematiky, Fisikij a Informatiky
Referat vedy a vyskumu
Mlynska dolina F2
84248 Bratislava
Slovakia

Research Network
„Chemistry meets Microbiology“

Department of Microbiology and Ecosystem
Science
Division of Computational Systems Biology
Prof. Dr. Thomas Rattei
Althanstr. 14
A-1090 Wien

T +43 (1) 4277-766 80
F +43 (1) 4277-8-76680
thomas.rattei@univie.ac.at
<http://cube.univie.ac.at/>

Vienna, November 9, 2016

Referee's report on habilitation thesis of Mgr. Tomas Vinar, PhD.

Dear Prof. Urban,

thank you for your request to review the habilitation thesis of Dr. Vinar. I have evaluated the thesis and the further scientific activities of Dr. Vinar and here report on my assessments.

The habilitation thesis presents seven publications from the period 2007-2014. Dr. Vinar is first, last, or co-author on these publications. According to ISI (Thompson Reuters) two of the publications are highly cited (679 and 254 citations), whereas three are marginally cited (5, 3 and 1 citation, respectively). All five papers were published in Q1 journals. The remaining two publications are conference papers which are not listed in the ISI database. On the two highly cited papers Dr. Vinar is co-author. In addition to the publication metrics of the papers included in the habilitation thesis I have also assessed the overall publication metrics of Dr. Vinar. According to ISI he achieves an h-index of 14 from 55 publications. Altogether the citation analysis proves that Dr. Vinar has contributed continuously and valuably to the fields of bioinformatics, computational biology and computer science.

The habilitation thesis introduces and discusses in different chapters two publications studying the evolution of protein coding genes, four publications that investigate the evolution of duplicated genes, and one publication for the reconstruction of ancestral genome structures by rearrangements. The manuscripts demonstrate different types of scientific contributions by Dr. Vinar. Several publications are focused on data analysis of novel (genome) sequencing data based on existing algorithms. The authors had to cope with the challenge of method selection, evaluation and project-specific adaptation, in order to answer the research hypotheses by the newly generated data. Other manuscripts are focused on models for evolutionary problems, such as gene evolution. Further Dr. Vinar has worked on development and improvement of algorithms for computational biology, and their implementation. Such mix of algorithm and method development, as well as data analysis, is very typical for researchers in contemporary bioinformatics.

From my point of view the habilitation thesis comprehensively represents the scientific activities by Dr. Vinar. Both the thesis and the selected publications by Dr. Vinar are methodologically clear, novel and original. They provide valuable novel scientific theory, methods and algorithms. Dr. Vinar has clearly documented his scientific qualification in the area of his habilitation by the quality, the number and the methodological broadness of his scientific work.

I therefore conclude that Dr. Vinar has proven his scientific qualification in bioinformatics and computational biology to be promoted to the title „Docent“.

I recommend the habilitation commission to accept the habilitation request by Dr. Vinar.

Thomas Rattei