UNIVERSITETET I BERGEN

Styre:	Fakultetsstyret ved Det samfunnsvitenskapelige fakultet	**Dato:** 28.01.2020
Styresak:	7/20	**Arkivsaksnr:** 2014/9375-BOH
Møtedato:	18.02.2020	

Opprykk til professor etter kompetanse i informasjonsvitenskap – Søknadsrunde 2019 – Godkjenning av sakkyndig vurdering og tildeling av opprykk

Bakgrunn
Førsteamanuensis Csaba Veres, Institutt for informasjons- og medievitenskap, søkte 31. august 2019 om opprykk til professor etter kompetanse i informasjonsvitenskap.

Etter forslag fra Institutt for informasjons- og medievitenskap oppnevnte fakultetsstyret følgende komité for å vurdere Veres sin kompetanse:
- Professor Victor Kaptelinin - Department of Informatics, Umeå University (Komitéens leder)
- Professor Gleb Beliakov, School of Info Technology, Deakin University, Melbourne Burwood Campus
- Professor Koenraad De Smedt, Institutt for lingvistiske litterære og estetiske studier, Universitetet i Bergen

Professor Victor Kaptelinin ble oppnevnt som leder for komiteen.

Medlemmene i den sakkyndige komité konkluderer enstemmig den 7. januar 2020 med at Csaba Veres er kompetent for opprykk til professor i informasjonsvitenskap. Han oppfyller de faglige kriteriene til omfang, kvalitet og bredde i vitenskapelig produksjon. Komiteen skriver følgende «*In general, the committee concludes that applicant's academic level is in line with established standards, and his practical pedagogical competence is documented. Therefore, the committee unanimously recommends the promotion to professor based on competence*».

Csaba Veres fikk frist til 22. januar 2020 med å levere merknader. Han har ikke kommet med noen merknader.

I henhold til *Forskrift om endring i forskrift om ansettelse og opprykk i undervisnings- og forskerstillinger* § 2-1 (15) skal søkers egen institusjon fatte vedtak om godkjennelse av bedømmelsen og tildele opprykk på grunnlag av denne.

Fakultetsledelsens merknader
Fakultetsledelsen anbefaler at den sakkyndige vurderingen godkjennes, og at Csaba Veres tildeles opprykk og lønn som professor i informasjonsvitenskap fra søknadstidspunktet 31. august 2020.

Forslag til vedtak:
Styret ved Det samfunnsvitenskapelige fakultet godkjenner den sakkyndige vurderingen av Csaba Veres, og tildeler ham opprykk og lønn som professor i informasjonsvitenskap fra søknadstidspunktet 31. august 2019.

Jan Erik Askildsen
dekan

Alette Gilhus Mykkeltvedt
fakultetsdirektør

Vedlegg:
- Sakkyndig vurdering

Faculty of Social Sciences
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5020 Bergen, Norway

Expert committee assessment of Dr. Csaba Veres' application for promotion to full professor at the University of Bergen

On **November 5, 2019**, the Faculty of Social Sciences, University of Bergen, has appointed the following expert committee to evaluate the application of Associate Professor Csaba Veres for full professorship at the Department of Information Science and Media Studies, University of Bergen:

- Professor Victor Kaptelinin, Umeå University
- Professor Gleb Beliakov, Deakin University
- Professor Koenraad De Smedt, University of Bergen

Professor Victor Kaptelinin has been appointed to coordinate the committee's work. The materials submitted to the committee for evaluation included:

(a) Dr. Veres' application, 11 pages, with an outline of his research, research grants and project activities, teaching and supervision, strategic university activities, and academic community activities,

(b) Dr. Veres' CV (9 pages),

(c) Fourteen research papers by Dr. Veres, published between 1997 and 2017,

(d) A doctoral education contract, naming Dr. Veres as the main supervisor of a Ph. D. student,

(e) A list of courses given by Dr. Veres at the University of Bergen,

(f) A selected list of master's students supervised by Dr. Veres at the University of Bergen

The materials became available to members of the committee via www.jobbnorge.no on **November 12, 2019**.

The evaluation presented below is based on the guidelines specified in the document "Qualification requirements for promotion to professor – Supplementary guidelines for assessment committees within the social sciences", prepared by the National Conference of Faculties of Social Sciences. According to the document, the requirements for becoming a professor are:

- Academic level in line with established international or national standards (in particular, significant and consistent academic production beyond what is required for a doctorate), and

- Documented relevant practical pedagogical competence based on education or teaching and supervision in order of importance.

The document further specifies that the following criteria should be applied when assessing the academic competence of the applicant: scope, quality, breadth, independence and collaboration, visibility, and relevance.

The remainder of the present report is organized as follows. The next section briefly summarizes the contribution of each of applicant's papers submitted for evaluation and then discusses the overall contribution by applying the academic competence criteria listed above. After that the report discusses applicant's pedagogical competence. The report concludes with an overall assessment of the applicant's qualifications.

Academic competence

The candidate submitted 14 works for consideration, which he selected from his larger publication list.

Overview of submitted research publications

JL Nicol, KI Forster, C Veres. (1997) Subject–verb agreement processes in comprehension. Journal of Memory and Language 36 (4), 569-587.

This article, published in one of the canonical journals for psycholinguistics, starts with a thorough review of the literature on subject-verb agreement errors in sentence production. Through various experiments involving potential mismatches, the authors investigate whether the mechanisms underlying agreement in comprehension are different from those in production. The main conclusion is that while the computation is different, the syntactic mechanism seems to be the same in both cases.

P Bloom, C Veres. (1999) The perceived intentionality of groups. Cognition 71 (1), B1-B9, 178, 1999.

The paper, published in a top-level journal in cognitive studies, builds upon the classic study of perceived intentionality by Heider and Simmel. It was found that groups of objects (geometrical figures), and not just individual objects, can be described in terms of purposeful actions. It is concluded that there is a psychological distinction between "intentional entity" and "object".

KI Forster, C Veres. (1998) The prime lexicality effect: Form-priming as a function of prime awareness, lexical status, and discrimination difficulty. Journal of Experimental Psychology: Learning, Memory, and Cognition 24 (2), 498, 143, 1998.

This article, published in a respectable journal in cognitive studies, advances our knowledge of word recognition, in particular through investigating the prime lexicality effect, which is the differential effectiveness of word and non-word primes. Through various lexical decision experiments, the authors failed to find any priming with word primes when the nonword distractors were very close, while priming is restored with distant non-word distractors in the masked condition. The results are interpreted in the context of an entry-opening model as well as an interactive activation model.

C Veres, G Mansson. (2005) Cognition and modeling: Foundations for research and practice. Journal of Information Technology Theory and Application (JITTA) 7 (1), 9, 13, 2005.

The paper, published in an information systems journal, intends to bring the rigorous methodology of psychological experiments to information systems research. The authors discuss, and illustrate with empirical evidence, the notion of making modeling languages reflect not only abstract relationships between modelling languages, but also how the relationships are perceived by the designer.

C Veres, S Hitchman. (2002) Using psychology to understand conceptual modelling ECIS 2002 Proceedings, 12, 12, 2002

This is another paper on the relation between cognition and information systems modeling, which precedes and lays foundation for Veres and Mansson, 2005. The paper, published in proceedings of a leading international conference on information systems, argues that in systems modelling there is a need to shift from philosophical ontologies to psychological ontologies, derived through linguistic analysis.

J Krogstie, C Veres, G Sindre. (2007) Integrating semantic web technology, web services, and workflow modeling: Achieving system and business interoperability International Journal of Enterprise Information Systems (IJEIS) 3 (1), 22-41, 15, 2007

This paper advocates merging ontologies with models of workflow and business processes. It provides a detailed overview of the existing technologies and shows how these technologies can be combined in theory and in practice, illustrated by an example. The paper looks into workflow and process modelling languages. A detailed description of integration of ontologies, services, descriptions and workflow models is presented. This journal paper was published in an appropriate venue and has 15 citations.

C Veres, J Sampson, SJ Bleistein, K Cox, J Verner. (2009) Using semantic technologies to enhance a requirements engineering approach for alignment of IT with business strategy. International Conference on Complex, Intelligent and Software Intensive Systems, 11, 2009

A full refereed conference paper (sponsored by IEEE) about an extension of B-SCP model to address the alignment of IT with business strategy from the perspective of requirements engineering. Well cited and certainly an appropriate venue. The question of adding semantics to the B-SCP framework through ontologies was specifically addressed. The paper is technical in nature and well written.

C Veres. (2006) The language of folksonomies: What tags reveal about user classification. International Conference on Application of Natural Language to Information Systems. NLDB 69, 2006.

This peer-reviewed conference paper investigates the nature of folksonomies, which are naive classification schemes arising from tags collectively assigned to resources by users of web services. Veres studies these in the light of Wierzbicka's not-truly-taxonomic semantic categories. Data about websites was collected and annotated with an extension of these categories and their distributional pattern was studied. Furthermore, the folksonomies were compared to established directory structures on websites, revealing similarities and differences. This work may be a step towards automatic classification.

C. Veres. (2006) Concept modeling by the masses: Folksonomy structure and interoperability. International Conference on Conceptual Modeling, ER 2006 325-338, 2006.

This peer-reviewed conference paper, published in the Springer LNCS, addresses the same theme as the previous paper and shares some of its theoretical points, but adds the viewpoint of interoperability. The sets of tags assigned to the same fairly specific concept on different websites may be quite different. Veres attempts to expose a latent structure which explains their cognitive associations which may facilitate interoperability, but the paper falls short of an implementation, which is left for future work.

C Veres. (2005) Aggregation in ontologies: Practical implementations in OWL. International Conference on Web Engineering, 285-295, 14, 2005

This is a fully reviewed conference paper with 15 citations, which is published in the Springer LNCS volume. It treats aggregation in the context of ontologies (OWL stands for Web ontology language), and some specific problems that arise, for example when one object has attributes of an instance of a class and as a class itself. Three approaches to aggregation were examined. An implementation of an aggregation system is presented in great detail.

C Veres. (2013). Crowdsourced Semantics with Semantic Tagging: "Don't just tag it, LexiTag it!" in Maribel Acosta, Lora Aroyo, Abraham Bernstein, Jens Lehmann, Natasha F. Noy, Elena Simperl (Eds.): Proceedings of the 1st International Workshop on Crowdsourcing the Semantic Web, Sydney, Australia, October 19, 2013. CEUR Workshop Proceedings

Fully refereed recent conference paper, 7 citations. It treats the issue of meaningful semantic tagging and advantages it gives over free tagging. Semantic tags emerged as a way to impose consistent and refined meanings to user tags. It presents system called lexiTag as a tool for content management with rich tags and intended to become a crowdsource for the semantic web. It provides tools for disambiguation of tags. A short evaluation of the system is presented.

C Veres. (2012) MapXplore: Linked Data on the App Store. Proceedings of the Third International Workshop on Consuming Linked Data (COLD 2012) Workshop in conjunction with the 11th International Semantic Web Conference 2012 (ISWC 2012) Boston, MA, USA, November 12, 2012.

Fully refereed conference paper in one of the leading international conferences. It presents a description of an application for mobile devices that uses semantic technologies to provide the users with the world of linked data about the place they are in. The app is user friendly, provides feature rich information and presents clear advantages over non-semantic versions. An analysis of competitive applications is performed. Then the description of the MapXplore application is presented. This app retrieves suitable information about a geographical point of interest which is then filtered according to the implied user preferences. Technical issues and challenges are also described.

C Veres. (2015) How to Talk to a Cognitive Computer. International Conference on Applications of Natural Language to Information Systems, NLDB, Passau

This conference paper discusses the notion of Cognitive Computing and limitations of employing statistical models in AT and machine learning. The author makes the case for an

alternative approach, human-machine symbiosis (as well as a related concept "Symbolic Computing") that involves humans providing information that computers cannot easily infer.

C Veres. (2017) Strong Cognitive Symbiosis: Cognitive Computing for Humans. Big Data and Cognitive Computing (Open Access Journal), Special Issue "Cognitive Services Integrating with Big Data, Clouds and IoT". Volume 1, issue 1.

This journal article further develops and extends the arguments outlined in a previous conference paper (Veres, 2015, see above). The author proposes the notion of Strong Cognitive Symbiosis, that is, cognitive symbiotic systems designed to address concrete identified weaknesses in, respectively, human and machine cognition. The notion is illustrated by examples of two technologies developed by the author, LexiTags and MaDaME.

Discussion of assessment criteria

Scope

The academic production of the applicant, as documented through the submitted publications, has a scope which may be commensurate with the requirements for the position. The applicant has submitted only six journal articles but has also included eight papers at high-ranked conferences. He is the first or the only author of ten of the submitted publications. Three early articles in prestigious journals were produced in close cooperation with his supervisor K.I. Forster and other senior colleagues as first authors. Although we do not doubt that the applicant made important contributions to these three articles, the input by his more experienced colleagues could have been a determining factor in getting these articles published. The remaining publications, which mark some shifts in theme and approach, seem to more clearly bear the stamp of the applicant and show how his interests have led him to cooperations and conferences that address scientifically challenging as well as societally important questions.

Quality

The publications submitted by the applicant are of high quality. Although not ground-breaking, his research results represent interesting incremental advances in our knowledge of cognition and information, often addressing original research questions. The applicant masters the scientific genre of relevant fields, provides ample citations and reviews of related work, and clearly describes the methods applied and the new knowledge obtained.

Breadth

Information and media studies is a wide area of scholarship. The research outputs of the applicant span several disciplines and a wide variety of topics, including experimental cognitive psychology, psycholinguistics, information systems, conceptual modeling, the semantic web, crowdsourcing, markup languages, artificial intelligence and neural computing. The applicant is clearly qualified to teach the above-mentioned subjects and provides evidence of important additional knowledge and skills such as statistics and computer programming.

Independence and collaboration

Among the papers submitted for review, the applicant produced seven, i.e. half, as the sole author, three as the first author, and four in collaboration with his former adviser and others. This indicates

both independence and collaboration. The papers, of which the applicant is a co-author, rather than the sole author, are generally ranked higher, which suggests that the applicant benefits from collaboration.

Visibility

Six of the papers submitted by the applicant for consideration have been published in international journals, others in proceedings of international events (six conference papers, two workshop papers), all of which peer-reviewed by international experts. Some of the venues are top-level international journals and conferences, and publishing there was a way to successfully convey the applicant's research to the academic community. Some other venues are more specialized and/or less high-profile ones, but in these cases the particular focus of the respective venue of conference made it possible for the applicant to effectively convey his research to people working in the same area. In general, the committee considers the visibility of applicant's research as appropriate.

Relevance

As mentioned the publications submitted for consideration address a broad range of topics. Broadly speaking, they all deal with understanding human perception and cognition, as well as building on such understanding to design new technologies. At the time of publication, the papers explored some of the most central issues of contemporary research in this area. This is especially true of applicant's recent studies, which deal with human-AI interaction, one of the most topical issues in current information studies research. It should be noted that, according to the application letter, three recent papers (one published and two under review), also dealing with AI, are not included in the set provided to the committee.

Pedagogical and other competencies

The applicant has taught a variety of subjects ranging from information systems and semantic technologies to cognitive science and AI. He has also been leader of the steering committee for the Bachelor's program in Cognitive Science for 6 years, and has undertaken several initiatives at UiB such as establishing new educational initiatives involving machine learning and AI. In addition, the applicant supervised a number of master students, many of which have produced a publication as an outcome of the project. One Ph. D. student is under supervision in their third year.

The committee observes that the applicant meets the criteria of teaching and supervision experience at all levels, including the doctoral level. His experience regarding the supervision of PhD students is quite limited, but we understand that the supply of Ph. D. candidates in the area of his expertise is limited as well. His work in managing a complete study program makes up a specially useful experience in education planning.

Conclusion

The committee concludes that applicant's documented work submitted for evaluation meets the criteria set forth by the Faculty of Social Sciences at the University of Bergen. The committee notes that in certain respects the applicant's record is not especially strong. In particular, more recent publications appeared in less reputed academic outlets compared to early publications of the

applicant; some of applicant's early experimental research is somewhat more associated with psycholinguistics than with the core of the field in which the promotion is applied for; and experience in Ph. D. student supervision is limited. The committee takes into account that applicant's recent academic performance is likely to have been affected by health problems.

In general, the committee concludes that applicant's academic level is in line with established standards, and his practical pedagogical competence is documented. Therefore, the committee unanimously recommends the promotion to professor based on competence.

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Victor Kaptelinin   Gleb Beliakov   Koenraad De Smedt
Umeå, Sweden   Melbourne, Australia   Bergen, Norway