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CONTENTS

7th INTERNATIONAL WORKSHOP ON BIBLIOMETRIC-ENHANCED INFORMATION RETRIEVAL (BIR 2018)

2nd CALL FOR PAPERS

You are invited to participate in the upcoming 7th international workshop on Bibliometric-enhanced Information Retrieval (BIR 2018), to be held as part of the 40th European Conference on Information Retrieval (ECIR 2018).

IMPORTANT DATES

Submissions: . . . . . 15 January 2018
Notifications: . . . . . 15 February 2018
Camera-ready contributions: . . . . . .15 March 2018
Workshop (in Grenoble, France): . . . . . 26 March 2018

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AIM OF THE WORKSHOP

In this 7th workshop we aim to engage with the IR community about possible links to bibliometrics and complex network theory which also explores networks of scholarly communication. Bibliometric techniques are not yet widely used to enhance retrieval processes, yet they offer value-added effects for users. Our interests include information retrieval, information seeking, science modelling, network analysis, and natural language processing. The goal is to apply insights from bibliometrics, scientometrics, and informetrics to concrete practical problems of information retrieval and browsing.

See proceedings of the former BIR workshops at ECIR 2014 http://ceur-ws.org/Vol-1143/, ECIR 2015 http://ceur-ws.org/Vol-1344/, ECIR 2016 http://ceur-ws.org/Vol-1567/, ECIR 2017 http://ceur-ws.org/Vol-1823/, JCDL 2016 http://ceur-ws.org/Vol-1610/ and SIGIR 2017 http://ceur-ws.org/Vol-1888/.

Retrieval evaluations have shown that simple text-based retrieval methods scale up well but do not progress. Traditional retrieval has reached a high level in terms of measures like precision and recall, but scientists and scholars still face challenges present since the early days of digital libraries: mismatches between search terms and indexing terms, overload from result sets that are too large and complex, and the drawbacks of text-based relevance rankings. Therefore we will focus on statistical modelling and corresponding visualizations of the evolving science system. Such analyses have revealed not only the fundamental laws of Bradford and Lotka, but also network structures and dynamic mechanisms in scientific production. Statistical models of scholarly activities are increasingly used to evaluate specialties, to forecast and discover research trends, and to shape science policy. Their use as tools in navigating scientific information in search systems is a promising but still relatively new development. We will explore how statistical modelling of scholarship can improve retrieval services for specific communities, as well as for large, cross-domain collections. Some of these techniques are already used in working systems but not well integrated in larger scholarly IR environments. The availability of new IR test collections that contain citation and bibliographic information like the iSearch collection or the ACL collection could deliver enough ground to interest (again) the IR community in these kind of bibliographic systems. The long-term research goal is to develop and evaluate new approaches based on informetrics and bibliometrics.

The aim of this workshop is to bring together researchers and practitioners from different domains, such as information retrieval, information seeking, science modelling, bibliometrics, scientometrics, network analysis, natural language processing, digital libraries, and approaches to visualize search and retrieval to move toward a deeper understanding of this research challenge.

WORKSHOP TOPICS

To support the previously described goals the workshop topics include (but are not limited to) the following:

- IR for digital libraries and scientific information portals
- IR for scientific domains, e.g. social sciences, life sciences etc.
- Information Seeking Behaviour
- Bibliometrics, citation analysis and network analysis for IR
- Query expansion and relevance feedback approaches
- Science Modelling (both formal and empirical)
- Task based user modelling, interaction, and personalisation
- (Long-term) Evaluation methods and test collection design
- Collaborative information handling and information sharing
- Classification, categorisation and clustering approaches
- Information extraction (including topic detection, entity and relation extraction)

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- Recommendations based on explicit and implicit user feedback
- Recommendation for scholarly papers, reviewers, citations and publication venues
- (Social) Book Search
- Information extraction (including topic detection, entity and relation extraction)

We especially invite descriptions of running projects and ongoing work as well as contributions from industry. Papers that investigate multiple themes directly are especially welcome.

SUBMISSION DETAILS

All submissions must be written in English following Springer LNCS author guidelines (6 to 12 pages) and should be submitted as PDF files to EasyChair. All submissions will be reviewed by at least two independent reviewers. Please be aware of the fact that at least one author per paper needs to register for the workshop and attend the workshop to present the work. In case of no-show the paper (even if accepted) will be deleted from the proceedings AND from the program.

Springer LNCS:
http://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines

EasyChair:
https://easychair.org/conferences/?confbir2018

Workshop proceedings will be deposited online in the CEUR workshop proceedings publication service (ISSN 1613-0073) - This way the proceedings will be permanently available and citable (digital persistent identifiers and long term preservation).

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esss 2017: OOPS, WE DID IT AGAIN!

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According to our rotating venue principle, this year's *European Summer School for Scientometrics* (esss) took place in Berlin, currently one of Europe's most popular cities. For the third time, the Humboldt University of Berlin hosted this event high in demand, which has apparently lost none of its attraction even in its eight's edition [1,2,3,4,5,6,7].

Attendees from 24 countries (Austria, Belgium, Botswana, Brazil, Canada, Croatia, Czech Republic, Denmark, France, Germany, Iran, Italy, Lithuania, Morocco, Norway, Pakistan, Russian Federation, Singapore, Spain, Sweden, Switzerland, The Netherlands, United Kingdom and the USA) participated in a six days programme, which was packed with highly informative lectures, practical hands-on sessions and lively discussions from September 17—22, 2017. Like in previous years, a subject much debated within the scientometric community was selected as this year's focus topic and one day was exclusively dedicated to the subject "Identification of Research Focuses. National & Institutional Profiles and Strategic Partnerships".

On Sunday, September 17th, Sybille Hinze opened the esss 2017 at the Humboldt's School of Library and Information Science and gave a warm welcome to the attendees of this year's event. Being a member of the local organizing team and the esss Steering Committee she emphasized the success story of the esss that actually started in Berlin in 2010. After introducing the representatives of the partner organisations and Steering Committee members, namely Wolfgang Glänzel (KU Leuven), Nicolas Robinson-Garcia (University of Granada) and Juan Gorraiz (University of Vienna), she moved on to the "Bibliometric Crash Course". With this very first glimpse of bibliometrics we provided an overview of the basic terms and concepts and therefore the initial element of the esss programme. In the following lecture Wolfgang Glänzel and Juan Gorraiz gave a brief introduction to the most important bibliometric data sources and discussed their benefits and limitations.

This theoretical part was followed by the tutorials offered by representatives of the two most renowned citation databases,

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Picture 1: Audience at the esss in Berlin 2017.

Picture 2. Lectures were challenging and required a lot of focus.

the Web of Science Core Collection (WoS) and Scopus. Tihomir Tsenkulovski, Strategic Business Manager of Clarivate Analytics, demonstrated how to use the different search and analytical features in WoS, while Tomasz Asmussen, Customer Consultant of Elsevier, informed the audience about the most recent versions of Scopus and SciVal. Traditionally this first day was closed with a welcome reception, a pleasant opportunity for participants and the esss staff to get to know each other in a casual atmosphere.

The lectures on Monday, September 18th started with a lively talk on the history, institutionalisation and concepts of bibliometrics given by Stefan Hornbostel (DZHW), followed by Sybille Hinze shedding some light on the most relevant scientometric indicators, their construction, their potential applications but also their limitations.

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After the coffee break, Stephan Gauch (DZHW) managed to catch the audience's attention in a remarkably engaging and vivid way by focusing on the theory and approaches of subject classifications. Afterwards Juan Gorraiz switched from theoretical considerations to practical aspects of applied bibliometrics and presented the Vienna University Library services for both, academic and administrative staff, particularly considering individual evaluation and professorial appointments.

In the afternoon session, a prestigious group of international speakers, reported on how bibliometrics can be put into action. Koenraad Debackere (KU Leuven) demonstrated how modern science and innovation policies make use of bibliometric data and indicators for scientific performance assessment within the scientific community. Jonathan Adams, currently Chief Scientist at Digital Science & Research Ltd, then reflected on why current research assessment methodologies should be contextual. He also pointed out that strategic management vision would require to go beyond standard research assessment. He reminded the audience that we only rely on proxy indicators, and although multiple 'bearings' can help to reduce uncertainty, some of them are still obscured and misleading. He finally concluded his presentation with the remark that the application of informetric methods requires sound evaluative surrounding conditions, however, unfortunately most assessments fail to meet a proper development and implementation of such a framework. The third speaker, Éric Archambault, President and CEO of Science-Metrix and 1science in Canada, examined the intricacies of the Open Access (OA) publishing concept and the potential relevance and consequences for bibliometric analyses. His presentation focused on the results of recent studies assessing the free availability of scholarly publications.

The day closed with a presentation by Stephane Jouanin, Solutions Specialist at Clarivate Analytics, who informed about new developments in the Web of Science. Stephane also showed a case study based on the tool "InCites" with the purpose of finding the most suitable collaborations.

Picture 3: Practical exercises at the computer labs.

The two following days were characterised by theoretical lectures in the morning, which thematically correlated with the hands-on sessions in the afternoon in order to provide the participants with the theoretical basis and knowledge before starting the practical work.

Tuesday, September 19th was dedicated to the important but time consuming and tedious field of data retrieval and cleaning. Stephan Gauch (DZHW) demonstrated

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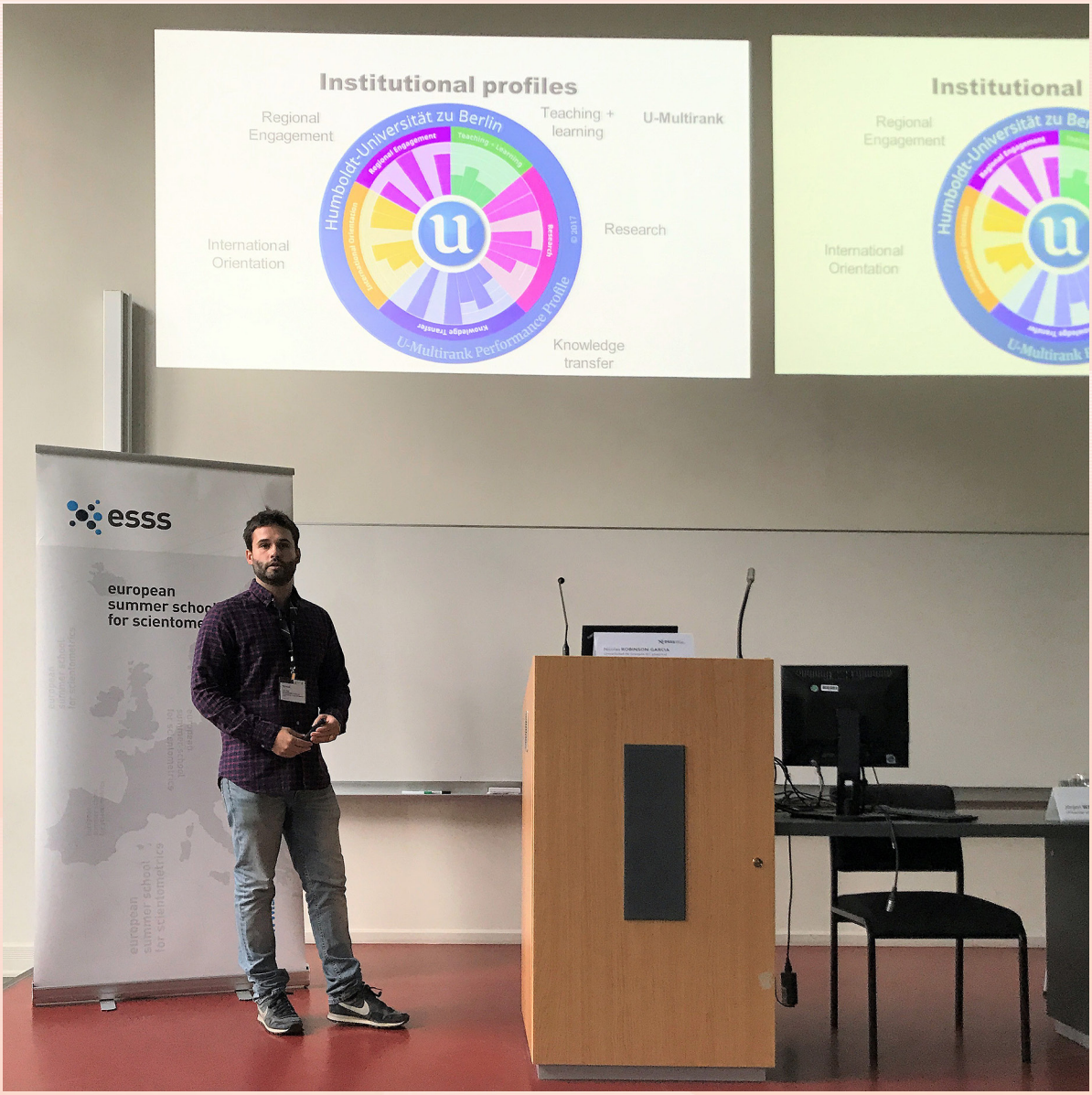
how effective queries can be designed by uncovering common mistakes and hidden pitfalls in a talk full of witty questions and examples, whereas Christine Rimmert (Bielefeld University, Germany) clearly illustrated that accurate data cleaning and processing, while tedious work, is the linchpin and an essential precondition of any bibliometric analysis.

In the following lecture Wolfgang Glänzel provided an understanding of "Subject Normalisation", which is a fundamental requirement for citation analysis in a multidisciplinary environment due to discipline-specific publication and citation behaviour. Starting with the theoretical background of the two fundamental approaches, the source- and the citing-side normalisation, the presenter lead over to the discussion of advantages and disadvantages of both methods. With his second talk "Journal Impact Measures", jointly presented by Juan Gorraiz, Wolfgang Glänzel seamlessly continued the thematic scope by focusing on Garfield's well established but highly controversial "Journal Impact Factor", whereas alternative impact measures like Eigenfactor metrics, SJR and SNIP were highlighted by his co presenter.

The exercises in the afternoon reflected these issues and participants had the opportunity to consolidate theoretically imparted knowledge. The participants were



Picture 4: Nicolas Robinson Garcia during his lecture.

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guided to develop a small bibliometric report for a given institution by processing the different steps of the common three major tasks: data retrieval & cleaning, visualization and citation analysis.

After some busy hours in the computer labs participants were finally heading to their first social event, where they had the chance to join young artists on a tour to explore Berlin's vibrant culture. The street art and graffiti tour was a great opportunity to take a closer look at Berlin's urban art scene. The guides pointed out the differences between street art and graffiti, the scene's terminology (tag, writer, bombing, masterpiece), as well as its techniques, various motives and styles—what a colourful and impressive evening.

The application of network analysis in science studies was the main theme of the lectures and practical exercises on Wednesday. Bart Thijs (KU Leuven) introduced the common theoretical background and demonstrated how network analysis can be applied to uncover relations, structures and developments among different actors in science. Wolfgang Glänzel then focused on the use of co-authorship as a proxy for research collaboration at both, institutional and individual level, and discussed the limitations of this approach.

As visualisation of network relations within science is an important aspect of explorative bibliometrics, esss attendees were given the opportunity to practice the newly acquired knowledge and to create maps on their own by using different tools such as BibExcel, Pajek, R and iGraph in the following hands-on sessions.

A short product presentation concluded the day. This time Christina Lohr, Product Manager of Research Metrics at Elsevier, introduced PlumX, a tool recently acquired by Elsevier, and reflected upon the importance of modern impact metrics for the evaluation or assessment of research output.

Thursday, September 21st was exclusively dedicated to this year's focus topic: "Identification of research focuses and strategic partnerships", both topics of high interest within the bibliometrics community as well as in the sphere of science policy. Speakers from different sectors were invited to explain their practices and necessities, and to share their experiences. The first speaker, David Müller, representative of the Federal Ministry of Science, Research and Economy of Austria, explained the difficulty to provide a solid definition for the term 'research focus', how to foster it, and in which way the Austrian government is currently addressing this issue. Research focuses can be used as a tool for strategic commitments, but understanding them as "going towards a certain goal" could also be dangerous, because forced convergence can harm creativity at the end. Serendipity has been a central idea in the theory and practice of science policy for a long time, but there has been little research on its importance, frequency, magnitude and factors. The perspective from a university was then provided by Jürgen Wastl, head of the Research Information Team in the Research Strategy Office at the University of Cambridge (UK). His presentation was based on his experience in introducing and implementing a research information system at Cambridge University to prepare for the national research evaluation framework (REF2014). He also emphasized that focusing on academic profiling and network analysis would aim at the implementation of an efficient and accepted tool for academics and administrators and that there is pressing need for visualisations of institutional knowledge graphs.

After a short coffee break, Anthony van Raan, founder of CWTS at Leiden University (Netherlands), started off with his presentation on the role and importance of citation- and concept-networks as a basis for the construction of performance indicators and science maps. Calculation and construction of indicators and maps are based on sound mathematical principles. These are highly standardized, and are suited to reliable application on different levels in the academic

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Picture 5: Agora with Sybille Hinze.

world. He also demonstrated that advanced bibliometric methods can provide important, valid and strategic information about international performance and institutional structure of research programs, universities and their departments.

Not only the design of effective queries, but also an adequate subject delineation of the research field or focus are necessary in order to conduct sound bibliometric analyses. This crucial issue in so-called "domain studies" and bibliometric studies of interdisciplinary research was addressed by Wolfgang Glänzel and Bart Thijs in the following presentation. Proper subject delineation is a key element to find correct reference standards for benchmarking the research performance of the actors in the topic under study. They demonstrated that core documents represent the most interlinked papers in a set and that following their links might help to retrieve relevant information without formulating search queries. Therefore, adjustable hybrid (text/citation-based) techniques will allow bibliometrics-aided retrieval even in fields where citations do not play an important role.

The central topic of the following talk presented by Nicolás Robinson-Garcia and Daniel Torres-Salinas (Universidad de Granada) was to enlighten bibliometric solutions for identifying potential collaborators, thereby focusing on the new metrics, sources and digital profiles. After thorough reflexion on the alternative use of social networks and bibliometric profiles and the appropriate inclusion of new visualization techniques they excellently illuminated the theory by giving various examples.

The afternoon was again dedicated to the practical exercises designed to reflect this year's topic focuses.

The programme on Thursday was finally concluded with the "bibliometric agora", our traditional and popular discussion forum. Moderated by Sybille Hinze, the agora in Berlin featured Juergen Wastl, David Müller and Peter A. Frensch, Vice President for Research of the Humboldt-Universität zu Berlin, as panellists. They picked out some pending discussion points already mentioned during the day, demonstrating that the identification of research focuses has be-

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come both a hot and controversial topic not at least due to the lack of generally accepted definitions and terms. A vivid and lively dispute developed quickly among the panellists and the audience, and the agora again proved to be an excellent forum to promote the exchange of ideas and opinions.

Undoubtedly one of the highlights is the annual conference dinner. This year participants, lecturers and esss staff experienced German hospitality at the restaurant TorEins in Kreuzberg, which is part of the Deutsches Technikmuseum and situated in one of the museum's former storage depots. The committed service team spoiled us with German specialities like "Berliner Kalbs—Buletten" or "Quiche mit Pfifferlingen" and of course some glasses of German beer or wine. As a perfect match with the street art tour the local organizing team of the DZHW accomplished to select a perfect setting to explore Berlin and its lifestyle off the beaten tracks of common tourist destinations. People especially enjoyed the cosy & relaxed atmosphere, the unusual ambience & interior as well as the helpful service.

Returning back to business on Friday morning, the programme of the final day still provided some highly interesting contributions. It was devoted to new metrics with a special focus on altmetrics. Juan Gorraiz prepared the ground by giving an imaginative introduction proposing the dawn of a new metrics era. Moreover he emphasized that the actual meaning, validity and usefulness of these recently developed metrics and tracking tools are still open questions. At present they should not be used for evaluative purposes but rather to depict a more complete and broader picture of the impact of research output. State of the art and future work were subsequently addressed by Isabella Peters, affiliated to the Leibniz-Informationszentrum Wirtschaft (ZBW) in Germany and member of the European Expert Group on Altmetrics. She introduced studies on the coverage and intensity of altmetrics and gave an overview of theories and models trying to establish a theoretical background. Last but not least, she informed about current developments and initiatives that aim to bring altmetrics into practice.

This year's esss was concluded with a session providing a platform for participants to present their results to the audience and to give feedback about achievements, challenges and problems during the practical exercises. The esss staff who permanently supported the group works, namely Wolfgang Glänzel, Bart Thijs and Sarah Heeffer (KU Leuven), Sybille Hinze and Stephan Gauch (DZHW), Juan Gorraiz (University of Vienna) and Nicola De Bellis (Medical Library, University of Modena and Reggio Emilia, Italy) as well as Daniel Torres-Salinas and Nicolás Robinson-Garcia (Universidad de Granada) were deeply impressed with the high quality of some presentations that strikingly illus-

Picture 6: Q & A session at the esss 2017: Awards for the best presentations.

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trated the great dedication of the attendees. For the first time awards were granted for the best presentations given by Angelo Romasanta, Isabel Iribarren & Gineke Wiggers, and Irene Maseda & Monika Sieberová.

Finally, the organisers were happy to answer any remaining open questions after a demanding week before officially closing the event in the late afternoon.

The esss 2017 will be recognized as another success, since it was again fully booked within a few weeks and was able to attract international participants from four continents. For the first time the EC3metrics group from Granada was participating as official esss steering committee member and organizing institution, without any doubt a valuable enrichment and support of our collaborative efforts.

The overall feedback gained from personal encounters and conversations, mail contacts as well as from the evaluation of an online participants survey, was very positive and inspiring. Besides the pleasant and stimulating atmosphere throughout the whole course the participants particularly enjoyed the hands-on sessions, the dedication of the lecturers as well as the high level and diversity of the different contributions, and last but not least, the social events.

The esss steering committee is already looking forward to next year's event, which will be held at the University of Vienna, Austria, July 23-28, 2018. Again participants can expect a well-established mix of theory and hands-on training. As usual further announcements will be made via the esss website (www.scientometrics-school.eu) and via the esss mailing list (to register please send an informal email to office@scientometrics-school.eu).

ACKNOWLEDGEMENTS

Many helping hands are needed to organize events like this! Therefore the esss 2017 could only be a success due to the excellent and outstanding cooperation with the DZHW organizing team in Berlin and the great efforts taken by the local staff members, namely Sybille Hinze, Nele Albrecht, Stephan Gauch, Jeanne Plaumann and Astrid Sohn.

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THE ISSI 2017 IN CHINA

CONFERENCE REPORT


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WOLFGANG GLÄNZEL


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RONALD ROUSSEAU


CASSIDY SUGIMOTO


RONGYING ZHAO

From October 17 till October 20 2017, the 207 participants of the ISSI 2017 Conference enjoyed the beautiful green and hilly environment of the Campus of Wuhan University in the province of Hubei in China. Organized by the Research Center for Chinese Science Evaluation, the School of Information Management (WHU) and the Chinese Association for Science of Science and S&T Policy (CASSS&TP), and under the auspices of the *International Society for Scientometrics and Informetrics (ISSI)*, the 16th International Conference on Scientometrics & Informetrics took place at the Campus of Wuhan University.

The conference began with an opening ceremony during which Cassidy Sugimoto, on behalf of ISSI, Xin Fang, on behalf of CASSS&TP, Fei Li, on behalf of Wuhan University, and Junping Qiu, on behalf of the local organizers, welcomed the participants. They expressed their ideas on scientometrics, research evaluation and science policy. The opening ceremony was followed by two keynote speeches and two presentations by representatives of the two sponsors, Clarivate Analytics and China National Knowledge Infrastructure (CNKI). The keynote speakers Rongying Zhao and Menghui Li explained the idea of five metrics sciences (bibliometrics, scientometrics, informetrics, webmetrics and knowledgemetrics) on the one hand, and discussed the difference in studying popular topics between mathematicians, economists, biomedical scientists and physicists, on the other hand.

The ISSI Doctoral Forum, organized during the first afternoon by Cassidy Sugimoto with the help of Wolfgang Glänzel, Liming Liang, Wei Lu, Rodrigo Costas and Vincent Larivière, provided doctoral students the occasion to discuss their ideas with senior researchers, getting valuable feedback and possible new ideas to try out. Those not in-

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volved in the doctoral forum participated in one of two workshops, one focusing on open science and reproducibility, while the other one focused on the relation between computational linguistics and bibliometrics.

The day ended with an exquisite banquet in Chinese style, including raki, a gift from the previous conference organizers.

The next two days were devoted to regular contributed conference presentations—

about 150 in total—in several parallel sessions. These sessions were grouped under the following themes: altmetrics, career issues, citation analysis, collaboration, contributions related to China, databases, gender issues, indicators, interdisciplinarity, knowledge discovery, mathematical methods in bibliometrics, medical and health sciences, network analysis, new perspectives, patenting and publication activity and scholarly communication, research evaluation, science policy, social sciences and humanities, topic modeling and visualization.

The last day of the conference started with a poster session, held in the Humanities Building of Wuhan University, where also the other sessions of this day were held. The last plenary session before the closing ceremony was the award session. During this session Wolfgang Glänzel, as Editor-in-Chief of the journal *Scientometrics*, presented the Derek de Solla Price Award of the international journal *Scientometrics* to Judit Bar-Ilan, Professor in the Department of Information Science at Bar-Ilan University in Israel, where she teaches information

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retrieval, internet research, research assessment and information systems. This award recognizes excellence through outstanding, sustained career achievements in the field of quantitative studies of science and their applications. In a reply Judit Bar-Ilan talked about her main research interests. Next, Cassidy Sugimoto announced Jesper Schneider, recipient of the ISSI Paper of the Year award. In his talk, Jesper Schneider made it amply clear why his paper "Null hypothesis significance tests: A mix-up of two different theories—the basis for widespread confusion and numerous misinterpretations" (Schneider, 2014) was worthy of this new award. Finally, Nees Jan van Eck gave the prestigious Eugene Garfield Doctoral Dissertation Scholarship Award to Canadian PhD student Philippe Mongeon for his doctoral thesis "On division of labor and attribution of credit in science: a comparative study of authorship and inventorship practices using paper-patent pairs" (see ISSI Newsletter 51).

During the closing ceremony, attendees could watch a pleasant photographic overview of the events. Finally Cassidy Sugimoto, as president of ISSI, officially announced that the 2019 ISSI conference will be held in Rome, Sapienza University, chaired by Cinzia Daraio.

Besides the conference, also the facility to hold a number of administrative and other events, such as the ISSI board meeting, the editorial board meeting of JOI (Journal of Informetrics) and a dinner meeting with representatives of Clarivate Analytics. Furthermore, Wolfgang Glänzel and Ronald Rousseau gave evening classes for local students.

In conclusion, we want to thank all participants for making this a lively and scientifically rewarding networking event. We further thank the whole team of Wuhan University volunteers, all reviewers of submitted papers for their efforts and the sponsors, Clarivate Analytics and CNKI, for their generous financial support.

We are looking forward to meet you all in Rome in 2019.

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REPRODUCIBLE SCIENTOMETRICS RESEARCH: OPEN DATA, CODE, AND EDUCATION (ISSI 2017)

WORKSHOP REPORT

THERESA VELDEN

In science, reproducibility is key for making systematic progress. Scientometrics is no exception to this. The reproducibility of scientometric research was the topic of a workshop held in the afternoon of 17th October 2017 at the 16th ISSI Conference, in Wuhan, China, attracting about 50 participants. The workshop sought to kick off the debate whether and in what way the reproducibility of research in scientometrics may be endangered, and if so, what to do to address the problem.

The workshop started with a series of short presentations by the workshop organizers, offering a variety of perspective on reproducibility in scientometrics research: *Sybille Hinze (DZHW, Germany)* reported on the collaborative efforts of the competence center for bibliometrics in Germany around the creation, development and curation of a quality assured data infrastructure for bibliometric applications; *Jason Rollins (Clarivate Analytics, USA)* presented a vendor's view on reproducibility. He emphasized Clari-

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vate Analytics readiness to cooperate, e.g. by providing custom datasets of the Web of Science for data challenges, and expressed openness to suggestions on details of other datasets; *Jesper Schneider (Aarhus University, Denmark)* remarked that the concept of reproducibility is more ambiguous than suggested by common sense understandings. He made a distinction between exploratory and confirmatory or explanatory research, criticizing that too often research is framed as explanatory or confirmatory when in fact it is only exploratory, leading to issues with replication of the claims made. *Ludo Waltman (CWTS, Netherlands and editor of Journal of Informetrics)* argued that due to the difference between psychological research and scientometrics research we should not expect to encounter the same major reproducibility problems, but suggested that instead the major threat in scientometrics are mistakes made in data analysis. *Theresa Velden (ZTG, TU Berlin, Germany)* discussed concerns about the reliability of computational methods used to map scientific fields that drive the initiative of the recent topic extraction challenge (www.topic-challenge.info). *Katy Börner's (Indiana University)* presentation in form of a recorded video message described various data centered, tool-

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based, and training oriented initiatives she is involved in in order to improve the reproducibility of research in scientometrics.

In the second part of the workshop, all workshop participants got involved to discuss in break-out groups three questions:

1. What threats to the reliability of scientific knowledge in scientometrics exist & why bother?

2. Should we be more concerned about exact or conceptual reproducibility? (Why?)

3. Through what measures can these threats be addressed?

The break-out groups were organized to align with four broad topics. In the following some of the key points that they discussed and reported back at the concluding session of the workshop:

- **Data** (*Rapporteur Sybille Hinze*): We need good data since data are foundational for what comes after, and one of the key requirements for reproducibility is stability of data. The group regarded alternative data sources as hugely problematic, as they contain more black boxes than traditional data sources, and emphasized that we need to fulfill same requirements ourselves that we expect database vendors to fulfill.

- **Computational Methods** (*Rapporteur Ludo Waltman*): We need clear standardized protocols for checks of computations to make sure that the most standard errors are avoided and when tools are used we need better explanations from users and developers of what the tools used actually do. The group further suggested to calculate scientometric statistics two times to ensure correctness, and stressed the importance of having discussions with users on how the statistics have been obtained. The group echoed the need for stable access to data in order to support exact replication.

- **Statistical Methods** (*Rapporteur Jesper Schneiders*): The group concluded that over-reliance on statistical significance and statistical inference is a bad thing, and that statistics as prime evidence for knowledge claims is problematic and that instead other evidence needs to used. The group called for more openness, better documentation of analyses, and suggested that if findings seem interesting, we should try to reproduce those.

- **Interpretation** (*Rapporteur Alesia Zuccala*): This group focused on conceptual replication of findings rather than exact replication by use of the same method and data. While we need to have a clear explanation of underlying concepts and assumptions, e.g. for policy recommendations, the group identified as problematic that in our field often operationalization is enough while theoretical conceptualization is often fuzzy. It was identified as a threat to conceptual replicability that too often the ready availability data drives how we conceptualize things.

Both group II and group III who focused on methods, as well as members of the audience, highlighted the important role journals can play to help improve reproducibility and set standards for best practices, e.g. by providing check lists to authors and reviewers for good method descriptions or granting certificates to articles that provide reproducibility.

The workshop organizers envision a continuation of the discussion in form of a workshop or special track at the upcoming STI conference from 12-14 September 2018 in Leiden (The Netherlands).

The presentations and outcomes of the workshop are available at: http://www.issi-society.org/workshops/reproducible-scientometrics-research-issi2017/.

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THE 22nd NORDIC WORKSHOP ON BIBLIOMETRICS AND RESEARCH POLICY WAS HELD IN HELSINKI

WORKSHOP REPORT

JUUSO ALA-KYYNY*

REETTA MUHONEN*

SUSANNA NYKYRI*

Three days, 37 presentations, 16 posters and 141 participants from 16 countries. The annual Nordic Workshop on Bibliometrics and Research Policy (NWB) brought the most recent currents of bibliometrics from the Nordic countries and from across Europe to the House of Science and Letters in Helsinki. It also hit the previous record, and all the interested ones could not participate due to lack of space. If the space would have allowed more participants, there would have been in all around 200 participants. NWB has a strong history as an one-track conference, but due to the success, part of the sessions were held as parallel sessions.

Bibliometric researchers in the Nordic countries have arranged annual Nordic workshops on bibliometrics since 1996. The idea of the Nordic Workshop on Bibliometrics and Research Policy is to present recent bibliometric research, to strengthen and create linkages between the bibliometric research groups and their PhD students, and enhance collaboration between bibliometric research and research policy.

The 22nd Nordic Workshop on Bibliometrics and Research Policy (#NWB2017)

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Kim Holmberg

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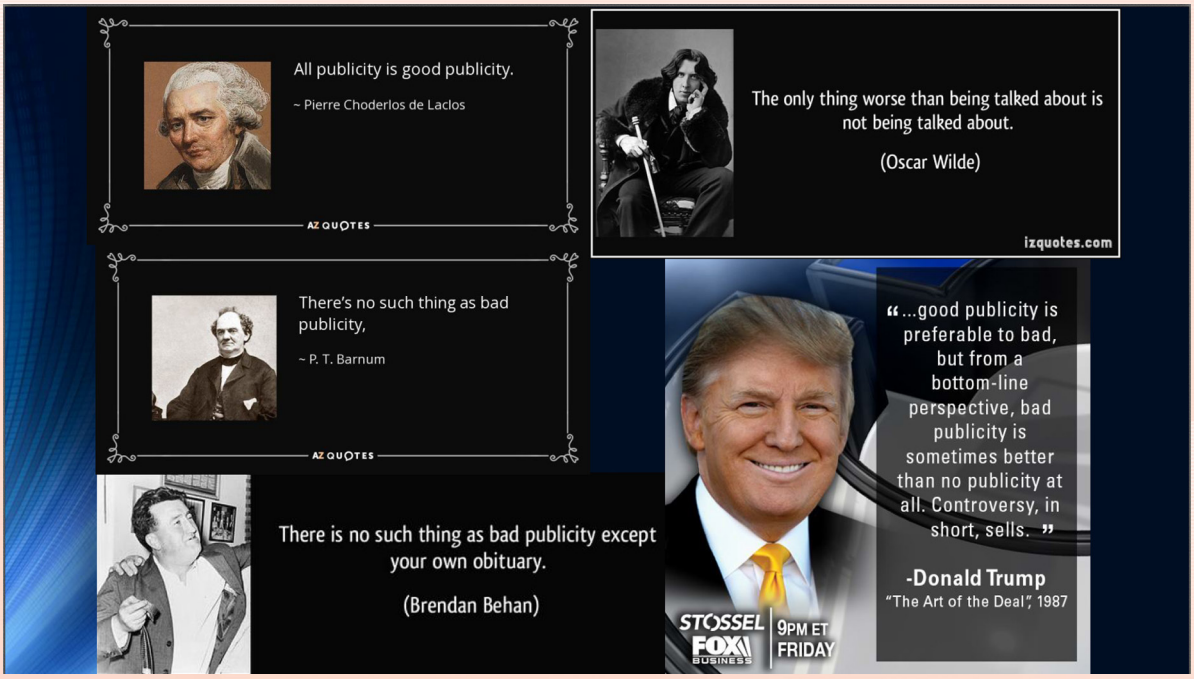
Ilkka Niiniluoto



Capture from Arto Lanamäki's presentation

was organized by a consortium consisting of the Federation of Finnish Learned Societies (TSV), Helsinki University Library (HULib) and the University of Tampere Research Centre for Knowledge, Science, Technology and Innovation Studies (TaSTI).

The presentations during the three days from 8–10 November offered a wide range of perspectives on bibliometrics, from mathematical formulae to research policies and the societal impact of research. The most novel themes were linked to open science. Research data was approached from the perspectives of research data metrics, data citation as well as research data management. Many presentations demonstrated also citation curves favoring OA articles.

The actual workshop sessions on Thursday and Friday were preceded by Wednesday's pre-workshop event, which attracted the full hall to the upper floor of the House of Science and Letters. In the pre-workshop's keynote speech, Kim Holmberg from the RUSE research unit discussed measuring researchers' online visibility, especially altmetrics. Holmberg emphasized,

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Photo courtesy of © Jussi S. Männistö

Fredrik Niclas Piro

Photo courtesy of © Jussi S. Männistö

Jesper Schneider

that altmetrics can be used to map how researchers are engaging with the public (and others), but it cannot be used directly to measure the quality of research.

Later on, Arto Lanamäki provided a presentation about trivial or even bad publicity, titled as "Is Any Social Media Publicity Good Publicity? The Case of @RealPeerReview and Altmetrics", which provoked an especially lively discussion by the audience.

During the event, NWB tweeters were active on Twitter, and on Thursday #NWB2017 rose momentarily to the top 20 hashtags in Finland along with #Catalonia and #peräkonttigate.

Thursday started with Ilkka Niiniluoto's opening speech on the use of bibliometrics in the Finnish science policy context. The day's keynote speech, Fredrik Niclas Piro from the Nordic Institute for Studies in Innovation, Research and Education (NIFU), went through the findings of a recent NordForsk report on Nordic higher education institutions. Comparing Research at Nordic Higher Education Institutions using Bibliometric Indicators was published this year and it covers the period 1999 to 2014.

In his speech Piro discussed measurement issues and the differences the report reveales between the Nordic countries. He emphasized that the purpose of the report is to provide higher education institutions with information for developing their research activities. However, the actual use of the report is university-specific.

NordForsk report is not about ranking, but about providing information for comparison, says Fredrik Niclas Piro.

"Many universities say that yes, we have read the report and we use it some way. In some cases the use of the report is very specific. For example, one university uses it in their development contract with the Ministry. These reports are useful for many purposes, but the benchmarking of other institutions is the main thing. The report is not about ranking, but about providing information for comparison," claims Piro.

The comparison shows that although the number of publications in Nordic countries is rising sharply, its global share in production is falling. From the Nordic countries' point of view, the strong fields in international comparison are the social sciences, business studies, economics, and the health sciences. In Finland, certain areas of medicine are declining in comparison with other Nordic countries.

"Research in the Nordic countries is growing in the social sciences and health-related fields. But in the natural sciences, we are declining. Finland is a bit different. Its growth in material science, geosciences and also mathematics and statistics is higher than in other Nordic countries. But on the other hand, the

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Group photo of attendees of the 2017 Nordic Workshop on Bibliometrics & Research Policy.

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Audience at the door

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Gunnar Sivertsen & Susanna Nykyri

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Day 1

Photo courtesy of © Eva Isaksson

Workshop dinner

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Audience

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Camilla Hertil Lindelöw

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Audience on day 2

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Audience on day 2

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Lively discussions

Photo courtesy of © Eva Isaksson

Poster session

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On the way to the dinner

Photo courtesy of © Jussi S. Männistö

Wine reception

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Gunnar Sivertsen

Photo courtesy of © Jussi S. Männistö

Day 1 with Birger Larsen (middle)

growth of biomedicine and clinical medicine in Finland was negative from 1999 to 2014. That's very unique" says Piro.

In Friday's keynote speech, Jesper Schneider from Aarhus University discussed the phenomenon of science crisis. Schneider pointed out that it is easy to find strong opinions on the subject, but verifying these views is another case. Instead of scientific frauds, Schneider focused on questionable research practices (QRP). Research integrity related themes arose lively discussions also in parallel sessions.

NWB poster session was first time introduced last year in Copenhagen. Due to the new participant record, almost one third of presentations was held as a poster and poster sessions took place in both workshop days. Imitating the tradition started in Copenhagen, poster sessions were preceded by the poster minute madness -session, where every presenter had 90 seconds time to introduce their poster. The sessions were chaired by Birger Larsen both in Copenhagen and in Helsinki. Poster minute madness -sessions have turned out to be inspiring and efficient tool for poster boosting and organizers wish that this could increase the attractiveness of poster sessions also in the future of NWB.

Starting from 2017, the NWB has a steering group: Birger Larsen, Aalborg University – Copenhagen, Denmark; Camilla Hertil Lindelöw, Södertörns högskola, Sweden; Susanna Nykyri, University of Helsinki, Finland; Sigurður Óli Sigurðsson, RANNIS, Iceland; and Gunnar Sivertsen, NIFU, Norway. The role of the group is to take care of the continuity of NWB and promote the best practices of the NWB workshop.

Gunnar Sivertsen kindly reminded about the NWB rules:

- Present new ideas or work in progress if you want to
- Be policy-oriented if you can
- All presentations are followed by questions, suggestions and discussion
- Be friendly

The #NWB2017 contributions are available for viewing and peer-feedback at Figshare (with citable DOIs),

- Proceedings: https://figshare.com/articles/_/5633815
- Presentations: https://doi.org/10.6084/m9.figshare.c.3896053
- Posters: https://doi.org/10.6084/m9.figshare.c.3896050

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The organizers - Janne Pölönen and Anna-Sofia Ruth (TSV), Eva Isaksson, Johanna Lahikainen and Susanna Nykyri (HULib), and Reetta Muhonen (TaSTI), wish the best of luck to the organizers of NWB2018! See you next year in Borås!

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