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This issue centers on the 2016 Annual Meeting held in October in Copenhagen, Denmark. It was our first Annual Meeting conducted outside North America, although we have held many IA Summits in Europe and co-sponsored many other events there. As President Lynn Silipigni Connaway reported in her President’s Page in the December/January 2017 issue of the Bulletin, the meeting was well attended with 37 countries represented. In this issue we present reports on many aspects of the meeting – pre-conferences, plenaries and sessions – as well as reflections from four recent recipients of ASIS&T Awards. The most unusual such piece is by the top winner of the newly instituted Doctoral Student Research Video Competition, Olubukola Oduntan, about her research on the information needs of immigrants and how she made her winning entry.

In this issue’s President’s Page Lynn Connaway reports on a recent extensive trip to Taiwan and China, also the subject of articles in Inside ASIS&T. In addition to highlighting some exciting upcoming events, she brings us up-to-date on the search process for a new executive director to replace Dick Hill, who is retiring after more than 20 years of service to ASIS&T. We also regret to report that Dick suffered a stroke suffered in January, but we are pleased to report that he is recovering well. In his absence, ASIS&T is being managed by acting executive director, Jan Hatzakos, ASIS&T director of finance and administration and webmaster. I know ASIS&T is in capable hands with Jan and that all of us will support her in any way we can. We wish Dick a speedy recovery.

Finally, in her IA Column, Laura Creekmore, associate editor for information architecture, considers the importance of metaphor in communicating the essence of a website.

ASIS&T Opposes Executive Order to Suspend Visa to Nationals from Seven Countries

January 31, 2017. The Association for Information Science & Technology (ASIS&T) President Lynn Silipigni Connaway and the Board of Directors express deep concerns over President Donald J. Trump’s Executive Order requiring a 90-day suspension of visas to nationals of seven nations. ASIS&T joins countless organizations in urging the lifting of the visa suspension.

For 80 years, ASIS&T has been leading the search for new and better theories, techniques and technologies to improve access to information, the free flow of ideas and ethical practices of information provision for the benefit of humankind. Its members include thousands of researchers, developers, practitioners, students and professors in the field of information science and technology of which a large number are citizens of over 50 countries around the world. Collectively, ASIS&T members share and uphold the values of open exchange of ideas as well as the freedom of thought, expression and movement that are central to any functioning society.

The United States has long benefitted from the scientific, cultural and economic contributions of international students and scholars. The information science field has been strengthened by the presence of students and researchers from around the globe, including those from the seven countries specifically targeted by the U.S. President’s executive order. We value the contributions of our colleagues working and teaching in the United States and overseas and appreciate the rich diversity of our global membership and the significance of intellectual exchange across borders. Indeed, the social and economic benefits of advancements in science, technology and innovation have been well documented. Accordingly, we respectfully urge President Trump and his administration to reconsider this decision.
It has been a busy several months since my last column. Approximately 75 people attended the Asia Pacific chapter event at Nankai University on November 29, 2016. Yuelin Li, professor, associate dean and chair of the department of information resources management in the business school at Nankai University, organized and hosted the event and gave an overview of the benefits of membership in the ASIS&T Asia Pacific Chapter. I had the opportunity to share my research on digital visitors and residents and to discuss the activities and benefits provided by ASIS&T membership. Eleven excellent faculty and doctoral student research projects were presented. The faculty presenters were Wenlin Bai, Zhenjia Fan and Man Xu from Nankai University; Change Liu, Peking University; and Rui Wei, Hebei University. The student presenters included Hongliang Han, Pengei He, Pianran Wang, Jing Yan, Zin Zhang and Wenbo Zhou from Nankai University. The research topics included gamification in information retrieval systems, mobile learning environments, online health communities, data-driven health care decision making, empowerment for immigrant workers, user studies and monograph open access. Morning tea and a delicious lunch were served to make the event even more memorable.

Editor’s Summary
ASIS&T President Lynn Connaway traveled to Taiwan, Hong Kong and mainland China in December to visit the Asia Pacific and Taipei Chapters. At several universities she participated in chapter meetings and research forums with faculty and students and promoted ASIS&T membership in the region. ASIS&T plans interesting upcoming events including an ASIS&T Regional Meeting in Columbus, Ohio, Meet the Author webinars and the 2017 Annual Meeting, which will be held in Washington, D.C., October 27-November 1, 2017. The search for an executive to replace Dick Hill, who is retiring, is now being conducted by an executive search firm. Hill also became ill in mid-January, and ASIS&T director of finance and administration, Jan Hatzakos, is serving as interim executive director until he can return or his replacement is hired.

Keywords
Association for Information Science and Technology
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meetings
Asia
My hosts in China, Taiwan and Hong Kong were kind, cordial, funny, intelligent and generous. I had the opportunity to visit many different academic and cultural institutions, to spend time with students and to indulge in an eclectic array of delicious food.

I worked with Ming-Hsin Phoebe Chiu, associate professor, National Taiwan Normal University and chair of the ASIS&T Taipei Chapter, and Tien-I Tsai, assistant professor, National Taiwan University and vice chair of the chapter, to organize a full agenda for my visit to Taiwan December 4-11, 2016. I met with doctoral students and faculty at National Taiwan Normal University, gave a guest lecture in Professor Tsai’s information visualization course at National Taiwan University and in Professor Joyo Chiou’s class at National Cheng-Chi University. I presented an invited talk at TamKang University and a keynote at the Library Association of the Republic of China (LAROC) Annual Meeting about my user studies research. My travels to these universities and events in Taiwan gave me an opportunity to share information about ASIS&T and to encourage new members to join the Association.

On December 7, the ASIS&T Taipei Chapter hosted a Research Forum and Reception at the National Taiwan University library. Twelve library and information science faculty and students from Taiwan universities presented their research. Dr. Chiu gave an overview of the Taipei Chapter activities and events, and I talked about the benefits of ASIS&T membership. Once again the presentations were excellent, interesting and thought-provoking and I was able to provide suggestions on different data collection and analysis tools and provide advice for junior faculty and doctoral students. For more detailed information about and photos of the Research Forum and Reception, see Phoebe and Tien-I’s report in Inside ASIS&T.

I also was in Hong Kong for an OCLC event and met with Dr. Sam Chu, associate professor, University of Hong Kong, who is coordinating an ASIS&T event titled, “Symposium on Research Design, Paper Writing & Publishing in Information Science,” with the Asia Pacific and Taiwan Chapters. Sam is the symposium chair and primary organizer for the event, which will be held at the University of Hong Kong on March 27-28, 2017. For additional information see www.asist.org/mc-events/symposium-on-research-design-paper-writing-publishing-in-information-science/.

My hosts in China, Taiwan and Hong Kong were kind, cordial, funny, intelligent and generous. I had the opportunity to visit many different academic and cultural institutions, to spend time with students and to indulge in an eclectic array of delicious food. I cannot thank them enough and want to encourage them to co-author a book with ideas for hosting foreign guests since there is a lot that can be learned from them.

If you are in the Columbus, Ohio, area on March 3, join us at the OCLC Conference Center for an ASIS&T Regional Meeting co-sponsored by the Central Ohio Chapter, the Northern Ohio Chapter and OCLC. Organizing and participating in these regional meetings supports my presidential initiative to meet...
with and to attract students, early career professionals and researchers to ASIS&T by facilitating new forms of engagement in addition to the Annual Meeting. The program and speaker and registration information are available at www.asist.org/events/asist-regional-meeting/asist-regional-meeting-oclc/.

We also are continuing the Meet the Author Series webinars initiated by Nadia. Please join Marie L. Radford, Rutgers University professor, and me on February 16, for a discussion of trends and tips for library and information science research. The discussion will be based on the new edition of the book, *Research Methods in Library and Information Science*. More details about and registration for the webinar are available at www.asist.org/events/meet-the-author-series/meet-the-authors-top-trends-and-tips-in-lis-research/. Registration is free for ASIS&T members and $15 for non-members. I hope you are able to join us.

Sanda Erdelez, professor, University of Missouri, and Naresh Agarwal, associate professor, Simmons College, have agreed to co-chair the 2017 Annual Meeting, which will be held in Crystal City (Washington, DC), October 27-November 1. They have been busy organizing their committees and identifying speakers. The theme of the 80th meeting is *Diversity of Engagement: Connecting People and Information in the Physical and Virtual Worlds*. Sanda and Naresh have confirmed one of the keynote speakers – Dr. Richard Marks, senior research engineer and head of the PlayStation Magic Lab at Sony Interactive Entertainment. The Magic Lab, a part of the research and development group, was founded by Marks to push the boundaries of play by investigating how technology can be used to create new entertainment experiences. His areas are augmented reality and virtual reality. More information about Marks is available at http://venturebeat.com/2016/05/27/sonys-richard-marks-to-tell-what-works-and-what-doesnt-in-vr-at-gamesbeat-2016/.

The search for the new ASIS&T executive director is well under way. The ASIS&T Executive Director Search Committee is chaired by Sandy Hirsh and Clara M. Chu; other members include Jamshid Behshti, Nadia Caidi, Lisa Given, Marjorie Hlava and me. The Search Committee made the recommendation to the ASIS&T Board of Directors to hire an executive search firm, Isaacson, Miller (IM), which was approved. IM has gathered input from Association members and staff, the Search Committee, Board members, Dick Hill and other key stakeholders in the Association to identify the knowledge and skills needed for the next executive director and the areas of focus for the Association. Additionally, IM held two virtual focus group interviews in early December 2016. The Search Committee has provided IM with key documents, including the ASIS&T Executive Director Search Membership Input Survey Report and the ASIS&T Strategic Plan. IM has worked with the Search Committee to finalize the position profile, which has been posted. Candidate selection will take place in Spring 2017. We welcome your help in spreading the word about this opportunity! If you have any nominations for the position, please contact Nanette Blandin, nblandin@IMSearch.com, and Jackie Mildner, jmildner@IMSearch.com.

We are also sorry to report that our present and long-time executive director, Dick Hill, had a stroke in January 2017. He is recovering and undergoing physical therapy at the time of this publication. We do not have a date for his return to the office and he is greatly missed. Based on this information and after consulting with Dick, the Executive Committee has asked Jan Hatzakos, ASIS&T director of finance and administration and webmaster, to serve as acting executive director until Dick returns to the office or a new executive director is hired. Jan has graciously agreed. If you would like to send well wishes to Dick, please send them to the ASIS&T Headquarters, and the staff will be sure that Dick receives them.

So, once again, we have experienced a busy two months with many changes (some not planned) and lots of activity. However, as Benjamin Disraeli stated, “Change is inevitable. Change is constant.” As I said in my previous column, “I’m looking forward to the exciting road ahead so fasten your seat belts!”
In the December/January issue of the *Bulletin of the Association for Information Science and Technology*, we began our coverage of the 79th Annual Meeting in Copenhagen, the first ever held outside of North America. We provided a brief news report, as well as the acceptance speech delivered by Peter Ingwersen, 2016 ASIS&T Award of Merit winner. But the timing of both the meeting and this publication’s deadlines kept us from providing full photographic and text coverage of the fun, the substantive, the social and the ridiculous at the successful ASIS&T confab.

So join us throughout this issue of the *Bulletin* for a look at some of the work and fun that members and guests enjoyed in Copenhagen at the 2016 ASIS&T Annual Meeting. Following a photo montage from the meeting, in Inside ASIS&T you’ll find coverage of the ASIS&T Annual Awards presented at the conference; a report from the miniBARcamp hosted by the European Student Chapter in Copenhagen; and a European student’s personal look at the first ASIS&T Annual Meeting held in Europe. Then in the feature section of this issue, other Annual Meeting coverage includes reports from many of the pre-conference workshops and seminars; the plenary sessions headlined by Greg Welch and Markus Bundschus; and a session on European contributions to information science; and articles from recipients of three major ASIS&T awards.

Though it’s not as good as having been with us in Copenhagen, this issue’s extensive coverage will certainly provide a flavor of what happens at ASIS&T Annual Meetings.
2016 Annual Meeting Coverage
2016 Annual Meeting Coverage
2016 Annual Meeting Coverage
One of the highlights of each year’s ASIS&T Annual Meeting is the presentation of the prestigious ASIS&T Annual Awards.

**Award of Merit**

Peter Ingwersen, professor emeritus at the Royal School of Library and Information Science at the University of Copenhagen, is the 2016 recipient of the ASIS&T Award of Merit, the organization’s highest award recognizing individuals who have made sustained and noteworthy contributions to the field of information science.

Peter Ingwersen first joined the faculty at the Royal School in 1973; he became research professor in 2001 and full professor in information retrieval in January 2006. In addition, he is affiliate professor (docent) at Åbo Akademi University, Finland, and the recipient of multiple honorary degrees and international awards. He is one of the most widely published and cited researchers in the field in his domains of interest: information retrieval and bibliometrics, especially webometrics. Additionally, he has been and continues to be active in organizing international conferences, serving on multiple editorial boards and teaching and mentoring new generations of researchers in information science all over the world.

Because of Professor Ingwersen’s extraordinary range of contributions to scholarship, teaching and service, we are delighted to award him our highest honor – the 2016 ASIS&T Award of Merit.

**Watson Davis Award**

ASIS&T’s Watson Davis Award recognizes the contributions of members who have shown continuous dedicated service to the ASIS&T membership through active participation in and support of programs, chapters, SIGs, committees and publications. For 2016, two distinguished long-time members of ASIS&T are honored: Donald O. Case and Diane Sonnenwald.

**Donald O. Case** is a distinguished scholar whose long-standing and broad service to ASIS&T exemplifies his commitment to excellence and leadership in the development of information science and its related professions. His research impact is evidenced by the over 4,300 Google Scholar citations of his various journal articles, conference papers, book reviews and monographs. His book, *Looking for Information*, now in its fourth edition, has emerged as one of the most important books on information seeking, needs and behavior. Donald has shown continuous efforts in the ASIS&T community dating back to 1987 when he was a member of the planning committee.

His service has ranged from being a member of several committees, being a member of the *JASIST* editorial board, being a chapter advisor, serving on award juries, serving on the board of...
Diane Sonnenwald is a distinguished scholar in the field of library and information science, with a large number of publications and over 20 research grants. She has led research projects that address complex and important collaboration- and information-centric problems and challenges which arise in a variety of domains. Diane has provided years of effective and influential leadership to ASIS&T. Since joining as a PhD student in the early 1990s, she has served as the co-chair of the 1998 Mid-Year Meeting, a student chapter advisor and has played an influential role in engaging and recruiting members outside North America. She listens intently, identifies barriers with respect to ASIS&T being more inclusive and works actively using innovative solutions to reduce these obstacles. She led efforts to translate the ASIS&T brochure into multiple languages. She has served on the membership and international relations committees, editorial board of *JASIST*, the board of directors and as ASIS&T president in 2011-2012. During her presidency, long discussed issues were addressed, including fee reduction for individuals in developing nations and the modification to the name of the society to make it more international, which helped ASIS&T gain new members.

Diane nurtured the European and Asia-Pacific chapters and led efforts toward the Board agreement to hold the 2016 Annual Meeting outside North America. She continues to give presentations on the benefits of ASIS&T membership.

Diane Sonnenwald is a worthy recipient of the Watson Davis Award.

**Research Award**

Going beyond the traditional focus on scholarly and scientific and technical information, **Reijo Savolainen** has established the research area of *everyday life information seeking* (ELIS) and conducted a remarkable research program, providing both a strong theoretical foundation and innovative methodologies. His highly original theory of ELIS, based on insightful thinking and extensive research, has become a standard in information science, influencing scholars around the world, including many PhD students who used the ELIS framework. He laid the foundation in his superbly written seminal 1995 article *Everyday Life Information Seeking: Approaching Information Seeking in the Context of “Way of Life”* and cogently summed up the state of research in his 2008 monograph *Everyday Information Practices: A Social Phenomenological Perspective*. Savolainen played a large part in the movement toward broad information behavior research, looking
at the whole information picture of groups and individuals. 

Savolainen’s work (including 80 peer-reviewed articles, 20 since 2013) appeared in the field’s top venues; its intellectual quality and impact find their expressions in impressive citation counts: h-index 36; 5,000 citations total, 2700 since 2011; the 1995 article cited 755 times and still going strong; the 2008 monograph 236 times.

In sum, Reijo Savolainen receives the 2016 ASIS&T Research Award in recognition of his outstanding, high-impact theoretical and empirical contributions to information behavior research, in particular as the founder of everyday life information seeking as a research area, which is so important for understanding how searching for everyday information through PCs and mobile devices is becoming an integral part of life.

Best JASIST Paper


This paper sought to understand how users interpret meanings of symbols commonly used in information systems, especially how icons are processed by the brain. The researchers’ innovative melding of neuroimaging and information behavior paradigms extends the boundaries for each domain while building new ways to explore and understand key research questions in information science and for the design of information systems. In particular their findings show that icons are not as efficient as words in conveying semantics because it takes more brain resources to process them. Their creative research design and clear presentation of the process, analysis and results demonstrate the usefulness of neuroscience to information science.

Best Information Science Book Award

Boundary Objects and Beyond: Working with Leigh Star, edited by Geoffrey C. Bowker, Stefan Timmermans, Adele E. Clarke and Ellen Balka and published by MIT Press, is the winner of the 2016 Best Information Science Book Award. The work of Susan Leigh Star, the late critical thinker, spans multiple fields – among them sociology, computer-supported collaborative work and informatics writ large. This book of essays honors her legacy, and yet it is not merely an homage. This edited volume also reflects on the social context of library and information science, as well as other socio-technical-scientific disciplines. Leigh Star’s work continues to profoundly impact the field of LIS. This volume is an exceptionally good reader for use in introducing this canonical work to newcomers, as well as providing deep scholarly reflection and perspective. Organized around four thematic areas

Nadia Caidi presents Best JASIST Paper Award to Sheng-Cheng Huang, accepting on behalf of himself and his co-authors.

Geoffrey Bowker, left, accepts the Best Information Science Book Award from Kathryn La Barre.
that Leigh Star’s work explores – ecologies of knowledge, boundary objects, marginalities and suffering, and infrastructure – each section begins with a key selection from Leigh Star’s work, followed by well-written essays that explore the theme. Carefully edited, this collection serves as an inspiration to take the time to look at the invisible, the marginalized and the problematic – and an exhortation to be more fully human in our research.

**ProQuest Doctoral Dissertation Award**


The dissertation analyzed 762 written natural language questions users submitted to two national archives: the German Federal Archives and the National Archives of Norway. Taking historical, archival and formal knowledge representation approaches, the questions were thoroughly analyzed and beautifully conceptualized as the Archival Knowledge Model ontology – the very first ontology to model archival knowledge. The jury for this award found the work “outstanding” in its importance and broad impact to information science, its skillful execution of the applied ground-up method in building the ontology, its thorough data analysis and its comprehensive yet clear presentation. The student’s adviser, Vivien Petras, says, “This is an important analysis and conceptualization for the study of information needs of archival users and their representation in archival information systems. The dissertation represents the outcomes of a very intellectually challenging hermeneutic analysis of the question structures in archival inquiries. Both the methodological approach and the resulting Archival Knowledge Model ontology are superbly discussed and represented. The research question and the hypotheses have been addressed not only adequately but to a precise and outstanding degree.” A member of the jury added that “it is difficult to praise this work adequately.”

An honorable mention for the Doctoral Dissertation Award is presented to Ashlee Edwards, University of North Carolina at Chapel Hill, for her dissertation, *Engaged or Frustrated? Disambiguating Engagement and Frustration in Search.* Can an IR system detect if users are engaged in or frustrated by their search activities? This dissertation provides operable answers to this key question in interactive IR research through well-designed user experiments that are hard to criticize. In addition to the traditional log data and self-report data, she innovatively collected and convincingly analyzed user physiological data, including skin conductance and heart rate, and then connected the internal mental states (engaged/frustrated) with external observable data. The jury was impressed by the number of subjects used in the experiments, the careful experimental design, analyses of the data and well-supported findings.

**Pratt Severn Best Student Research Paper Award**

The Pratt Severn Best Student Research Paper Award goes to Deidre Alyse Whitmore, University of California, Los Angeles.
California at Los Angeles, for her paper, *Seeking Context: Archaeological Practices Surrounding the Reuse of Spatial Information*. This paper is well written and well organized. The jury reports that the whole thesis flowed nicely and was conceptually interlined. There was a thoughtful and thorough discussion of the literature, a clear articulation of the research questions and significance of the study. The work was original and creative. It was an excellent piece of work that shows the importance of geospatial data in archaeology.

The jury gives special runner-up recognition to Colin Post, University of North Carolina at Chapel Hill, for his paper, *Preservation Practices of New Media Artists: Challenges, Strategies and Attitudes in the Personal Management of Artworks*.

**Thomson Reuters Doctoral Dissertation Proposal Scholarship**

The 2016 Thomson Reuters Doctoral Dissertation Proposal Scholarship goes to Jesse David Dinneen, School of Information Studies, McGill University, Montreal, Canada, for his proposal entitled, *Analyzing File Management Behavior*.

Dinneen’s project is designed to provide new insights into personal information management (PIM). At the core of the proposal is a novel software data collection tool that enables anonymous, cross-platform, remote and asynchronous collection of data showing how individuals use files and folders on their devices. Combined with instruments to assess individual differences, the results of the study will show the impact of a range of factors on PIM behaviors. The proposal stands out because of its clear objectives, well thought-out research plan and its potential contribution to the field of information science, with evident theoretical and practical implications. Dinneen is already an active contributor to the PIM and broader information science research fields, and he shows signs of developing into a highly productive and engaged researcher.

**Thomson Reuters Outstanding Information Science Teacher**

The 2016 Thomson Reuters Outstanding Information Science Teacher Award goes to Lisa Nathan, University of British Columbia iSchool. Dr. Nathan is a radical, passionate and inspiring teacher who challenges her students to take risks, address the challenges facing our society and take ownership of their own learning. The nomination and supporting letters attest to the rich, authentic learning environments she creates and to the way she models critical reflection and respectful, engaged participation in her classes. Her students comment on how she has nurtured relationships, supported research and professional opportunities and – quite tellingly – listened to them. She has...
transformed the First Nations Curriculum Concentration at the University of British Columbia, centering issues of indigenous knowledge and pedagogy. More generally, she has raised the level of understanding of First Nations to the point that the iSchool now acknowledges its position on unceded Musqueam territory – on every syllabus and at every public event. She has presented on her work internationally, speaking about issues at the intersection of pedagogy, indigeneity and information science. Dr. Nathan has clearly made an enduring impact on her students, on the university and beyond. We are pleased to name Lisa Nathan the 2016 Outstanding Information Science Teacher.

JAMES CRETOS LEADERSHIP AWARD

Adam Worrall, assistant professor at the University of Alberta School of Library and Information Studies, is the winner of the 2016 James Cretsos Leadership Award. Just as capstones hold archways together, so Cretsos awardees hold the ASIS&T future together. In honoring a rising leader for what he has done and will do, the award committee is confident that the coming years will see Adam grappling energetically with the constant evolution of ASIS&T opportunities.

Adam’s accomplishments range from unsung essentials, such as serving on innumerable peer review panels, to ASIS&T-wide strategy development, such as contributing to the Web Presence Task Force. His reviewers speak highly of his integrity and dedication to challenging the more traditional social communication avenues. His invigoration of the ASIS&T blog and regular contributions to real-time conference reporting speak to his communication leadership. Winner of two Florida State University awards, Adam brings a similar vigor to his ASIS&T work, a fact that augers well for reflective development in his future activities. His frequent contributions to panels and presentations in SIG/IS and SIG/USE research events highlight his cross-disciplinary interests.

NEW LEADERS AWARD

The ASIS&T New Leaders Award is designed to recruit, engage and retain new members and to identify those among them with potential for Association leadership. Only members in their first three years of membership are eligible for the award. For 2016, the new leaders are back row, left to right, Alyson Gamble, Agnes Mainka (in her 2nd year as new leader) and Rebekah Willson; front row, left to right, Ekatarina Grguric, Kayla Hammond Larkin, Christine Meschede, Tamara Heck (in her 2nd year as new leader), Laura Ridenour and Hillary Stark. Not pictured is Benafsheh Asadi.
For 2016, Chapter-of-the-Year honors go to the European Chapter. In selecting the European Chapter for the award, the jury considered the chapter’s membership, activities, communications, financial and administrative management and contributions to ASIS&T and the broader IS community. The chapter takes advantage of regional information science meetings to hold their own chapter meetings. The chapter was particularly cited for its great focus on the 2016 ASIS&T Annual Meeting and the important and essential role they will play in the ongoing success of ASIS&T.

The chapter surveyed its members to understand members’ needs, and jury members were impressed with the honesty with which the leadership has identified the issues and is tackling the problems.

The 2016 Student Chapter-of-the-Year award goes to the student chapter at the Pratt Institute’s School of Information (SI). In selecting the Pratt Student Chapter, the jury considered the chapter’s membership, activities, communications, financial and administrative management and contributions to ASIS&T and the broader IS community. Not content to rest after winning the 2015 Student Chapter Membership Award, Pratt began the next year with renewed energy and enthusiasm. Armed with data from their fall membership survey, the officers worked hard to attract new members, plan programs and activities, and expand collaborations with other organizations. Among many other events and activities, Pratt presented its chapter by handing out cord wraps imprinted with the ASIS&T logo to new students at the Pratt SI orientation, collaborated with an ASIS&T special interest group to produce a text mining webinar for the ASIS&T membership, and hosted a series of faculty Speakeasy events. The Pratt student chapter combined learning, networking, career development and fun while strengthening and engaging the membership.

The 2016 winner of the Chapter Member-of-the-Year Award is Isabella Peters, whose outstanding service and leadership to the European Chapter (EC) has been identified by several members and officers. Dr. Peters has served as chair and advisor of the
European Chapter and has been a dedicated and active member of ASIS&T for many years. She has actively advertised and administered the ASIS&T free student membership program for the European Chapter, renewed and upgraded the EC website and Facebook pages, and provided advice and support to the EC Student Chapter. Dr. Peters has served as a mentor for the ASIS&T New Leaders program, organized new member brunches at the Annual Meetings and participated in delivering high-value webinars to the members.

For all these reasons, we are pleased to honor Isabella Peters as ASIS&T Chapter Member-of-the-Year.

**CHAPTER EVENT-OF-THE-YEAR**

The 2016 Chapter Event-of-the-Year Award goes to New Jersey ASIS&T for the first ASIS&T Regional Meeting held at Rutgers University on April 15 (www.asist.org/events/asist-regional-meeting-2016-rutgers-university/).

Reviewers noted the timeliness of the topic, diverse and well-known speakers, and opportunities for engagement by both students and SIGs. The meeting was well publicized and well attended, in both face-to-face and virtual forms. As described by the nominator, this event brought student chapters from Rutgers, Pratt and Drexel together in working with the NJ Chapter, setting a good example of how chapters can collaborate in mutually beneficial ways. In addition to executing a highly successful program, this event created a milestone in ASIS&T and set an example of how ASIS&T can create value for its members at a local level.

**STUDENT CHAPTER MEMBERSHIP GROWTH AWARD**

1st Place: University of North Texas
2nd Place: McGill University
3rd Place: European Student Chapter

**SIG AWARDS**

**SIG-OF-THE-YEAR**

The ASIS&T 2016 SIG-of-the-Year Award is presented to SIG/Metrics (SIG/MET) for the work it does in connecting its 160 members to each other and with other SIG/MET-related communities mainly by virtual means. The SIG’s website offers a section on “How to become a SIG/MET member,” which provides a step-by-step guide, including screenshots, of how to become an ASIS&T and SIG MET member. SIG/MET adopted the new website design to give SIG/MET a stronger visual link with ASIS&T. Content has been updated and expanded to include all past workshop programs from 2011 to 2015 with full text and links to presentation slides, reports published in the Bulletin of the Association for Information Science and Technology, as well as links to slides of SIG/MET-sponsored panels presented at the ASIS&T Annual Meetings.

To keep visitors up-to-date about bibliometrics-related topics and to open information silos, SIG/MET’s Twitter feed has been incorporated into the website. SIG/MET members also have created and maintain a Twitter list with Twitter accounts relevant to SIG/MET. The SIG also maintains a very popular mailing list with almost 1,000 subscribers.

SIG/MET allocates funding for Best Paper Awards and Student Paper Contests presented at SIG/MET workshops during the Annual Meetings which significantly increased popularity and quality of SIG/MET workshops.
Moreover, the SIG’s chairs are active in different working groups such as the European Commission, NISO Altmetrics Initiative and the LIBER (Association of European Research Libraries) Metrics working group and have also promoted the SIG’s activities there.

**SIG Member-of-the-Year**

In recognition of significant efforts on behalf of ASIS&T SIGs, the 2016 SIG Member-of-the-Year award goes to **Alyson Gamble**. Alyson’s extensive work for SIG/Digital Libraries (SIG/DL) includes productive administration in her roles as chair-elect, treasurer and secretary. At a broader level, Alyson has been the driver behind SIG/DL’s extensive knowledge management process. On both immediate and long-term levels, her work for SIG/DL has been exemplary.

**SIG Publication-of-the-Year**

The 2016 SIG Publication-of-the-Year Award is presented to **Moriana M. Garcia** and **Tod Colegrave**. SIG/Scientific and Technical Information (SIG/STI), for “3D Printing and Digital Fabrication Technologies in Libraries and Museums Special Section,” special section of the *Bulletin of the Association for Information Science and Technology*, October/November 2015, volume 42, number 1.
REPORT FROM COPENHAGEN

First ASIS&T miniBARcamp
by Agnes Mainka

We, the European Student Chapter, invited ASIS&T members in Copenhagen for the 2016 Annual Meeting and people from Copenhagen to join us for an informal get-together in Copenhagen on October 15, one evening before the meeting began. We sent invitation letters to professors, students and practitioners from the information science field in Copenhagen and to all colleagues from ASIS&T.

Our intention was to encourage people to get in touch with others interested in the same topics – members and non-members of the ASIS&T community. Thus, everybody who participated was invited to bring ideas and for discussion. First up for discussion was Tjaša Jug with her award-winning Movie Meets Science video about book metadata and readers. The audience started to discuss with Tjaša her video presentation, creating our first topic table.

Next we invited the audience to suggest further topics. Finally, five topic tables were generated at which the miniBARcamp guests met and talked about their backgrounds, their research and their ideas.
As an unexpected special treat, Greg Welch, scheduled as the first keynote speaker for ASIS&T AM on the following afternoon, joined us with the topic virtual reality.

The miniBARcamp was a big success. We thank Tjaša and all other guests of this introductory effort for the nice evening. We particularly thank ASIS&T president Nadia Caidi and president-elect Lynn Connaway for taking the time to join us.

The miniBARcamp was an attempt to represent the ASIS&T community in Copenhagen and to invite people who are not yet in our community. The European Chapter providing initial funding with additional support from the chapter development fund of ASIS&T. We would love to see continuing the miniBARcamp in the following years to promote the community of ASIS&T at the city where the Annual Meeting is held. Thus, we are looking forward to meet next year with professors, students and practitioners in Washington, DC, for a joyful miniBARcamp one evening before the 80th Annual Meeting of ASIS&T.
REPORT FROM COPENHAGEN

A European Student’s View of ASIS&T in Europe
by Christine Meschede

For the European Student Chapter (ESC), the Annual Meeting kicked off Saturday evening with the opening of our miniBARcamp. Beside the presentation of the winning video of the Movie Meets Science Contest from Tjaša Jug, this innovative experimental project included an open discussion aimed at bringing together students and researchers from all over the world. We had an interesting time with inspired discussions and great guests. The next day, Sunday the 16th, was the official start of the conference.

Our first meeting was the Chapter Assembly which brought us a little surprise in the form of an award for our chapter: We won 3rd place in the Student Membership Growth competition!

What a promising start for the day – and we were not disappointed. After the plenary session with Greg Welch, University of Central Florida, ESC was involved in an exciting panel session about Open Innovation in Smart Cities: Civic Participation and Co-creation of Public Services. Agnes Mainka, her advisor Wolfgang Stock from Duesseldorf and Walter Castelnovo from Milan discussed actual developments in co-creation of public services and the role of information science within it. An important finding of Agnes was that open space is one of the key factors in a modern library.

After the panel, we took part in the ASIS&T Leadership Development Program held by Ixchel Faniel on the topic Building and Cultivating your Mentoring Network. In small groups we discussed the role of mentors at our institutions. The day ended with SIG Rush and the student reception, a nice opportunity to get to know the leaders of the organization, is the Annual Awards Lunch. For many participant this was not only the last social event of the meeting, but also time to say goodbye to the first Annual Meeting held in Europe.

The following days also provided good opportunities for networking, interesting discussions and showcasing the European (Student) Chapter. Just to mention a few examples, we represented the ASIS&T community in Europe at the European Chapter Table, had an active exchange of ideas on diversity with Toni Carbo and Nadia Caidi at the Diversity and Inclusion Luncheon and contributed to the International Reception with a basket from Duesseldorf. In the Poster Session both Agnes Mainka and Isabella Peters discussed the importance of information science by summarizing the topics that were raised in the protest against the closing of the Department for Information Science at the University of Duesseldorf.

Yet another important event, particularly for students and new members eager to get to know the leaders of the organization, is the Annual Awards Lunch. For many participant this was not only the last social event of the meeting, but also time to say goodbye to the first Annual Meeting held in Europe.

Why You Should Attend the ASIS&T Annual Meeting

The European Student Chapter enjoyed the time in Copenhagen. The Annual Meeting is always an excellent change to meet important people in the
ASIS&T community and to expand your network. For students in particular, ASIS&T reaches out in a number of ways. For those who might need a little extra cash to facilitate a trip to the Annual Meeting, different awards, contests and programs arise from year to year. For instance, Tjaša won a trip to Copenhagen via the Movie Meets Science Contest sponsored by jointly by the European Student Chapter and the European Chapter. Other programs, like the New Leaders Award, support students financially if they are active ASIS&T members. Once in attendance at the meeting, students are addressed specifically with various activities, such as this year’s Student Reception, Student Design Competition and Doctoral Seminar.

For those of us planning careers in the information profession, there’s never a shortage of opportunities to meet the people who might help us out in years ahead. Thus, come and join this awesome community next year in Washington, DC!
Meeting the ASIS&T President at Nankai University
by Yuelin Li

In support of the Nankai University Business School’s efforts to promote its influence in the Asia Pacific area, ASIS&T president Lynn Silipigni Connaway visited the school’s department of information resources management on November 29, 2016 and met there with faculty members and students.

This one-day event involved four sessions: Lynn’s research talk, the Young Scholar Forum, an introduction to ASIS&T and the Asia Pacific (AP) Chapter, and a doctoral student forum. The participants of the event included faculty members, students, librarians and journal editors. In addition to the participants from Nankai University, other universities represented included Peking University, Peking Normal University, Sun Yet-sen University, Tianjin University, Hebei University, Tianjin Normal University, Tianjin University of Finance and Economics and Tianjin University of Science and Technology. Lin Peng, editor of the Journal of Data and Information Science, also attended. In total, more than 100 people joined the event.

At the first morning session, Lynn spoke on the OCLC study “Visitors and Residents: The Hows and Whys of Engagement with Technology.” She presented the research and the process used to collect data from different countries, including the United States, the United Kingdom, Italy, Spain and Hong Kong. She talked about the process used to analyze the data in detail and shared interesting results on the behavioral characteristics of the two types of users (hows and whys). After her report, during the Q&A, the participants asked questions and she gave further elaboration about the study. The discussion was active and thoughtful.

In the second session, several young faculty members from Nankai University, Peking University and Hebei University presented their research on different topics, such as “Stay or Move: Double Backup System Dilemma in China” by Wenlin Bai, “ICT as Empowerment for Rural Entrepreneurs in China: A Capability Approach” by Zhenjia Fan, “Time as a Context of Information Search Behaviors” by...
Chang Liu, “Development and Practice of Monograph Open Access” by Rui Wei and “Data Driven Health Care Decision Making” by Man Xu and her students. Lynn Connaway commented on each study during this session.

In the afternoon, Lynn Connaway and Yuelin Li introduced ASIS&T and AP Chapter, respectively. The presentation introduced ASIS&T and the AP Chapter’s history, missions and visions, and events and activities as well as the benefits of participating in ASIS&T and the AP Chapter. After the presentations, AP chair-elect Miguel Nunes, dean of the school of information management at Sun Yet-sen University, gave a short talk and encouraged the faculty members and students to join ASIS&T and the AP Chapter. He emphasized that the LIS community in China is one of the biggest research groups in the world and is very active. He said that the world needs to hear the voice from this community and that undoubtedly ASIS&T and its AP Chapter provide a wonderful platform.

The last session was a doctoral forum. Six doctoral students from Nankai University presented their research, such as “Interactive Information Behavior in IR System with Gamification” by Pengfei He, “Interactive Design and Knowledge Acquirement in Mobile Learning Environment” by Hongliang Han, “A Research Proposal on Library Evaluation with Children” by Pianran Wang, “Source and Use of Theories in Chinese Information Science Research” by Jing Yang, “Research on User’s Participation in Online Health Communities” by Xin Zhang and “Dynamics for Development of China’s Village Library Project: A Study Based on Activity Theory” by Wenbo Zhou. After each presentation, Lynn and the faculty members in the meeting commented on the research and gave insightful suggestions.

After the session, the participants were invited to write down their comments on this event. In general, it was favorably reviewed by the participants. The students said they learned a lot from the event, which helped them learn more about research, the LIS community and ASIS&T and the AP Chapter. Professor Pengyi Zhang commented, “Meeting with ASIS&T President at Nankai University event was very well organized. Connaway’s presentation on digital residents and visitors brought an insightful perspective in examining the relationship between technology and users. I was intrigued by the four-year multi-country study and I hope to see more results later. The faculty presentations covered a broad range of topics and were very stimulating intellectually. I hope there will be more events like this in Asia Pacific Chapter and ASIS&T will provide more support to this area.”

In sum, this was a very successful event and a very good effort. We expect that more events like it will be held in the Asia Pacific area, and it is hopeful to see the increasing influence of ASIS&T in Asia Pacific area, especially in Mainland China.
Lynn Silipigni Connaway, ASIS&T president and senior research scientist and director of user research at OCLC Research, visited Taiwan in December 2016. To welcome Dr. Connaway and to foster interactions among LIS young scholars and junior faculty in Taiwan, the ASIS&T Taipei Chapter held a research forum and reception on December 7, 2016, at National Taiwan University Library.

The ASIS&T Taipei Chapter was established in 1982. It is one of the earliest regional chapters outside North America. In the subsequent year, the Taipei Student Chapter was also established, composed mainly of graduate students from National Taiwan University and National Taiwan Normal University. It won the Best Student Chapter Award in 1988. Pioneers in information science in Taiwan, including Harris B. H. Seng, Lucy Tee-Chu Lee, James S. C. Hu and Margaret Fung, have been and are still playing crucial roles in facilitating local participation in the global community. Today, the Taipei Chapter has grown to be one of the strongest library and information science professional associations in Taiwan. It continues its mission to promote Taiwan in collaborating and networking with leading intellectuals around the world. In 2016, ASIS&T Taipei was under the guidance of Ming-Hsin Phoebe Chiu, chair; Tien-I Tsai, vice chair; and Wei-Chung Cheng, secretary.

Faculty members and graduate students from five different LIS schools in Taiwan participated in the research forum and reception. Twelve LIS faculty and young scholars in Taiwan shared their research on various topics through a series of five-minute madness presentations. The presenters included Suyu Lin (assistant professor, Tamkang University), Hui-Yun Sung (assistant professor, National Chung Hsing University), Tien-I Tsai (assistant professor, National Taiwan University), Ming-Hsin Phoebe Chiu (associate professor, National Taiwan Normal University), and others.
University), post-doctoral researcher **Cheng-Ching Chang** and seven doctoral students from National Taiwan University (NTU), National Taiwan Normal University (NTNU) and National Chengchi University (NCCU). The topics ranged from library user services and user behavior, scholarly communication and scientific collaboration, information behavior and user experience, to health informatics, bibliometrics and information repositories. In addition to the presentations, there was a social refreshment session for attendees to exchange research ideas. At the end of the event, Connaway mentored the participants on the art of five-minute madness and speaking in academic contexts and also shared tips for junior faculty and recent Ph.D. graduates on preparing for academic careers.

Prior to her visit to Taiwan, Connaway also visited China and Hong Kong. Researchers from the three areas organized a collaborative event, **Symposium on Research Design, Paper Writing & Publishing in Information Science**, which will be held at the University of Hong Kong on March 27-28, 2017. The joint effort was first initiated by the members of ASIS&T Asia-Pacific Chapter and the Taipei Chapter during a networking lunch at the ASIS&T Annual Meeting at Copenhagen, Denmark. After series of discussions, it became a major event derived from the ASIS&T Annual Meeting and President Connaway’s Greater China trip. Thanks to **Sam Chu** from the faculty of education, University of Hong Kong, who is the symposium chair and main organizer, this first Asia-Pacific collaborative ASIS&T regional event will draw together talented minds from Hong Kong, Taiwan, China, Singapore and the United States to pave the way for young scholars and doctoral students to develop knowledge and the ability to act as potential movers and shakers of the LIS field. More information about the symposium can be accessed from [https://www.asist.org/mc-events/symposium-on-research-design-paper-writing-publishing-in-information-science/](https://www.asist.org/mc-events/symposium-on-research-design-paper-writing-publishing-in-information-science/).
Celebration is in the air as the Association for Information Science and Technology (ASIS&T) gets ready for its 80th anniversary Annual Meeting. Under the theme Diversity of Engagement: Connecting People and Information in the Physical and Virtual Worlds, ASIS&T will once again demonstrate how it has for 80 years helped people and institutions of different backgrounds, cultures and disciplines forge connections with each other, discover and use information and engage with technology. We will address the opportunities and challenges of navigating through physical and digital/virtual realms with computers, tablets or smartphones to interact in work and everyday activities. We will also look at the digital divide that exists between most of us and those who choose to disengage or who have no access to or knowledge of technology. ASIS&T 2017 will provide an interactive platform for exploration of these complex and rapidly changing technological and socio-cultural developments.

ASIS&T 2017, October 27-November 1, 2017, will be headquartered at the Hyatt Regency Crystal City at Reagan National Airport, 2799 Jefferson Davis Highway, in suburban Washington, DC.

The ASIS&T Annual Meeting is a premier, peer-reviewed international conference that gathers scholars and practitioners from around the globe to share research, innovations and insights regarding how information and technology mediate the creation and use of knowledge within and across cultures and enhance lives. Paper, poster, panel and workshop submissions that focus on the conference theme, as well as the production, discovery, recording, storage, representation, retrieval, presentation, manipulation, dissemination, use and evaluation of information and on the tools and techniques associated with these processes are welcome. The conference embraces plurality in methods and theories and encompasses research and development from a broad spectrum of domains, as encapsulated in ASIS&T’s many special interest groups (SIGs).

Early deadlines are rapidly approaching. The first significant milestones are for the paper mentoring service and for contributed papers. First up is the March 9 deadline for submission of complete draft papers for the mentor service. This service is designed to provide early feedback for improvement of papers before submitting for consideration at the meeting. Submission of papers deadline is April 16. Additional deadlines come in May and throughout the summer. Please visit the ASIS&T website for updated information between issues of the Bulletin.

Mark Your Calendars:
ASIS&T 2017
Annual Meeting
Diversity of Engagement: Connecting People and Information in the Physical and Virtual Worlds
October 27 – November 1
Crystal City, Virginia
In keeping with our continuing efforts to make ASIS&T a truly international organization, the 2016 Annual Meeting held October 14-18 was the first conducted outside North America. With 424 attendees from 37 countries, it was large, lively and informative. As usual, it included, in addition to the main program, an array of pre-conference symposia and a celebration of the achievements of our members, who are recognized through a variety of awards and, in some cases, competitions.

Meeting coverage in this issue began in Inside ASIS&T with the ASIS&T Awards presentations and a number of reports presenting members’ views about the meeting itself. Extensive coverage of the substance of the meeting is here in this special section.

This special Annual Meeting section includes reports on

- three pre-conference events (SIG/USE, SIG/MET and the Theory Development Workshop)
- the two plenary sessions
- two sessions on information science in Europe

In addition, four individuals who were honored by the Association with prestigious ASIS&T Annual Awards have written articles for your enjoyment:

- Reijo Savolainen, Research in Information Science Award
- Adam Worrall, Jim Cretsos Leadership Award
- Lisa Nathan, Outstanding Information Science Teacher Award
- Olubukola Oduntan, top winner of the first ASIS&T Doctoral Student Research Video competition.

The acceptance speech by Peter Ingwersen, winner of the 2016 Award of Merit, appeared in the December/January 2017 issue of the Bulletin.

Can we include your session or workshop in our coverage next year? Spread the wealth. We are always eager to provide a wider audience for your efforts and very grateful to our many contributors to this year’s special section.

Irene Travis
Editor
Bulletin of the Association for Information Science and Technology
The 16th Annual Research Symposium for Special Interest Group/Information Needs, Seeking and Use (SIG/USE) was held in Copenhagen, Denmark. The focus of the symposium was information behavior and information practices as applicable to workplaces. As technology grows and shifts on a constant basis, so too must workplaces adapt how information is used and accessed. Newer generations in the workforce are expected to be able to learn many new skills, change careers several times and balance work life from home life with boundaries that are less clear than they used to be. Two presentations given by the 2014 and 2015 winners of the Elfreda A. Chatman Research Proposal Award started off the symposium. The 2016 winners of this award were announced by the awards committee chair, Wade Bishop, and included Karen Fisher of the University of Kentucky and Devon Greyson of the University of British Columbia, Canada.

**KEYWORDS**
information technology
information behavior
information needs
meetings

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that support these functions that are so critical to organizationally effective and individually rewarding work. The essential understanding increasingly lies with how people in- and outside a workplace interact with information and each other, in activities that are facilitated, constrained and augmented by workplace practices, including technological and social structures.

The issues are many, from the consequences of new devices that are stretching the ways that an organization works, to the efficacy dynamics (such as stress, motivation, collaboration, productivity and age) and to the new skills and expertise required to work in such changing and changeable environments. Information is indispensable in many, if not all, workplace activities: as a resource for getting work done, as well as for learning, managing change, developing and maintaining processes and creating professional networks. The symposium addressed a number of related topics in the talks, posters and discussions during the half-day event.

The symposium gathered close to 60 participants, and the program consisted of a keynote address by Hazel Hall, University of Napier, UK; three short papers by Diane Pennington, University of Strathclyde, UK; Morten Hertzum, University of Copenhagen, Denmark; and Helena Vallo Hult, University West, Sweden; as well as 16 posters, a roundtable discussion session and the presentation of the SIG/USE awards. The 2016 SIG/USE symposium was co-chaired by Katriona Byström, Oslo and Akershus University College of Applied Sciences, Norway; Luanne Freund, University of British Columbia, Canada; Nicole A. Cooke, University of Illinois Urbana-Champaign; and David Allen, Leeds University, UK. The committee worked with SIG/USE chair, Gary Burnett, Florida State University, as well as Howard Rosenbaum and Pnina Fichman, both of Indiana University, for SIG/SI (Social Informatics) in co-planning the event.

Keynote Address

Hazel Hall is a professor of social informatics, the Centre for Social Informatics (CIS), Edinburgh Napier University, UK. Her talk, “Watching the Workers: Researching Information Behaviors in, and for, Workplaces,” highlighted research on information behavior and technological development conducted by her and her research team at CIS. Among other things, she discussed the current development of automation in modern workplaces and its consequences to work. Her major conclusion was that research ought to focus on integration between humans and machines, where it is not about “humans or robots” or “humans versus robots,” but about “humans with robots,” and that by “following the information,” information behavior researchers can make contributions to both economic and societal priorities.

Short Papers

The three talks explored the possibilities of supporting work in different contexts and out of different preconditions. How information technology can assist (or hamper) people with disabilities is an important topic, not only as a concern of people’s wellbeing at work but also since people want/are expected to have long working lives. This topic was addressed by Diane Pennington, who is a senior lecturer in information science, Department of Computer and Information Sciences at University of Strathclyde, UK, in her talk, “Supporting Workplace Information Needs of People with Dementia.”

Work that is performed in temporary teams with requirements on both accuracy and promptness requires high levels of trust on information-related practices as was demonstrated by professor Morten Hertzum, Royal School of Library and Information Science, University of Copenhagen, in his talk “Information Behavior and Workplace Procedures: The Case of Emergency Department Triage.”

The last short talk was given by Helena Vallo Hult, a doctoral student at University West, Sweden. Her talk, “The Emergence of Sharing and Gaining Knowledge: Towards Digital Collaboration in Everyday Work,” also concerned the health sector, and she identified tensions and conflicting perspectives depending on individual characteristics as well as work roles and tasks: personal vs professional; medical vs administrative; flexibility vs institutionalization.

Poster Session

During registration and lunch, the following 16 posters were displayed around the conference room:

Roundtable Discussions
Following the talks and the poster session, the floor was given to the symposium participants in roundtable discussions. The discussions were given a goal to identify challenges in relation to five themes: technology (facilitated by Stan Karanasios, RMIT University, Australia); changing work practices (facilitated by Gunilla Widén, Åbo Akademi University, Finland); methods (facilitated by Barbara Wildemuth, University of North Carolina at Chapel Hill); workplace learning (facilitated by Annemaree Lloyd, University of Borås, Sweden); theory (facilitated by Diane Sonnenwald, University College Dublin, Ireland); and play and social issues (facilitated by Isto Huvila, Uppsala University, Sweden). Among the challenges identified were:

- Current theories are inadequate to account for advances in technology. Information studies have not kept pace with other fields which are concerned with technology. How to we adapt and bridge this gap?

- Technology and agency: Do technologies have agency? It seems increasingly that technologies can think and act for themselves. What does this mean for our field?

- Diversity issues such as several generations present at the workplace with different abilities (especially concerning ICT), global workplaces with several languages. This has implications for information flows. The concept of expertise is also changing, who is teaching whom in the workplace (novices vs experts)?

- Where does workplace learning research fit in the national agendas? How do we make sure that research makes an impact? How do we articulate the impact and benefits of our research to the workplace community and to workplace educators?

- Is playful working really play or work? Capturing play at work can be difficult in empirical research.
## SIG/USE Research and Travel Awards

The session began with presentations by the 2014 and 2015 Elfreda A. Chatman Research Proposal Award winners. Diane Sonnenwald, University College Dublin, Ireland, presented her research, “Visioning a New Future for Rare Historic Books and Manuscripts,” which was a result of the 2014 Award, while 2015 winner Debbie Rabina, Pratt University, followed with a presentation on “Information Needs of People in Prisons and Jails: A Discourse Analytic Approach.”

Finally, the awards committee chair Wade Bishop, University of Kentucky, presented this year’s winning submissions:

- **Outstanding Contribution to Information Behavior Research Award:** Karen Fisher, University of Washington
- **Best Information Behavior Paper:** Devon Greyson, University of British Columbia, Canada: “Evolution of Information Practices Over Time”
- **Best Information Behavior Poster:** Saguna Shankar, Heather O’Brien, Elissa How, Wendy Lu, Millicent Mabi and Cecilia Rose, University of British Columbia, Canada: “The Role of Information in the Settlement Experiences of Refugee Students”
- **Elfreda A. Chatman Research Proposal Award:** Heather O’Brien, Saguna Shankar, Elissa How and Peter Wanyenya, University of British Columbia, Canada: “The Information Worlds of Student Refugees in Canada”
- **Innovation Award:** Tim Gorichanaz, Drexel University: “A Gardener’s Experience of Document Work at a Historic Landscape Site”
- **Student Travel Awards:** Yiwei Wang, Rutgers University, Manasa Rath, Rutgers University, and Saguna Shankar, University of British Columbia, Canada
- **Interdisciplinary Conference Travel Award:** Devon Greyson, University of British Columbia, Canada

More information about the SIG/USE awards is located at [http://siguse.wordpress.com/awards/](http://siguse.wordpress.com/awards/).
Editor’s Summary

ASIS&T SIG/MET held the METRICS 2016 workshop on October 14, 2016, in Copenhagen, Denmark. Topics covered during the workshop include informetrics, information retrieval, bibliometrics and scientometrics, especially as they apply to evaluation of individuals and scholarly work. Nine presentations were given at the full-day workshop, as well as seven posters, three of which were open posters. The end of the event included presentation of the Best Student Paper award, a staple in the METRICS workshop, and the prize winners were invited to discuss their papers at the event. The SIG/MET Best Paper Award sponsored by Altmetric.com and Digital Science was awarded to Dangzhi Zhao and Lucinda Johnson for their case study “To What Degree Are Uni-citations Perfunctory? A Case Study.”

Keywords

workshops
information science
scientometrics
bibliometrics
evaluation

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individual evaluation of researchers. Fei Shu presented his proposal for a new indicator, the M-score. This indicator, based on citation distribution properties, aims at improving the inconsistencies and lack of accuracy of the H-index. The presentation raised an animated discussion among the workshop’s participants on the need for caution when using single indicators at the individual level. Mikko Tuomela, University of Illinois at Urbana-Champaign, presented an author names disambiguation web service, Author-ity Exporter, developed with co-authors Brent Fegley and Vetle Torvik. The tool, which also contains the geo-localization of authors’ affiliation, allows the study of geo-temporal movement of researchers during their career. Philippe Mongeon, University of Montreal, introduced a new method to detect sequences of alphabetical order in scientific papers’ bylines. In his study, co-authored with Elise Smith, Bruno Joyal and Vincent Larivière, Mongeon demonstrates that a more accurate identification of alphabetical sequences allows for a better operationalization of “middle authors” in bibliometric studies.

In the session focusing on reading, citing and online mentioning of scholarly work, Kim Holmberg, University of Turku, presented via Skype an analysis of the effects of open access on altmetric events related to Finnish research publications. The work in progress, done in collaboration with Timothy Bowman and Fereshteh Dideghah, found great disciplinary differences in accumulated altmetric events but no clear advantage for open access publications. Judit Bar-Ilan, Bar-Ilan University, with co-authors Gali Halevi and Elsa Anderson, investigated the potential relationship between usage and publication of journals. More specifically, the case study sought to find if researchers from Mount Sinai hospital were reading the journals they published in. The analysis did not find significant correlation between the most used journals, in terms of views and downloads and the ones in which researchers most published. A study presented by Dangzhi Zhao and Lucinda Johnston, University of Alberta, aims at providing an efficient method to filter perfunctory citations since these non-necessary citations constitute a serious source of noise in citations analysis. Zhao and Johnston found that, contrary to their hypothesis, removing citations that appear only once in a paper is not an effective method to filter-out perfunctory citations.

In total, seven posters were presented during the day. Rafael Aleixandre-Bena veнт, Antonia Ferrer-Sapena, Antonio Vidal-Infer, Adolfo Alonso-Arroyo, Enrique Alfonson Sánchez-Pérez and Fernanda Peset, University of Valencia, presented an analysis of open-data policies regarding raw data availability in journals. The authors also studied the relation between the aforementioned policies and the impact factor. Keiko Yokoi, University of Tokyo Library, investigated the current status of open access journals’ sustainability using data from Ulrichsweb. Noriko Sugie, Surugadai University, presented a statistical analysis of users’ information-seeking patterns measured through the movement of RFID-tagged items inside the Chiyoda Public Library. Lastly, Lourdes Castelló-Cogollos, Rafael Aleixandre-Benavent and Rafael Castelló-Cogollos, University of Valencia, examined endogamy indicators to study the relationship between supervisors involved in the academic assessment of Spanish theses. This year, once again, in addition to peer-reviewed poster submissions, participants were invited to bring posters for the open poster session. Three authors responded to the invitation and presented their latest findings during the open poster session.

As in previous editions of the METRICS workshop, outstanding student contributions were recognized by SIG/MET with its Best Student Paper Award, sponsored by Elsevier. Recipients of the prize were invited to present their work during the meeting. The winner was Adèle Paul-Hus, University of Montreal, for her paper co-authored with fellow Ph.D. student Philippe Mongeon and Maxime Sainte-Marie. The study, which analyzes collaboration patterns by combining authorship and acknowledgements data, showed that the important differences traditionally observed between disciplines in terms of team size are greatly reduced when acknowledgees are taken into account. Antoine Archambault and Philippe Mongeon, University of Montreal, won second place for
their paper co-authored with advisor Vincent Larivière. In their study, they analyze the scholarly output of a cohort of German researchers before and after the country’s reunification in 1990. Their results show that East German researchers who had direct ties with the West such as scientific collaboration or indirect ties such as publications written in English or citations from Western researchers had better chances of surviving the transition. Jennifer Pierre, University of California, Los Angeles, received an honorable mention for her analysis of professor-student relationships using web analysis measurement of mentorship impact, which she presented via Skype.

Finally, the workshop concluded with the SIG/MET Best Paper Award, sponsored by Altmetric.com and Digital Science. The organizing committee was pleased to award Dangzhi Zhao and Lucinda Johnston for their contribution entitled “To What Degree Are Uni-citations Perfunctory? A Case Study.”

More information about SIG/MET, which was named SIG of the Year by ASIS&T, and about the METRICS 2016 workshop can be found on the SIG’s website at www.asist.org/SIG/SIGMET. Follow SIG/MET on Twitter (https://twitter.com/sig_met) and subscribe to the mailing list (http://mail.asis.org/mailman/listinfo/sigmetrics).
Workshop

Theory Development Within the Information Sciences
by Sam Chu, Diane H. Sonnenwald, Mei-Mei Wu and ShanJu Lin Chang

The Theory Development Within the Information Sciences workshop was held on October 15, 2016, at the ASIS&T Annual Meeting in Copenhagen, Denmark. The two main goals of the theory development workshop were to understand stages of theory development and discuss solutions to common challenges in the field, and to gauge the interests of the participants on theory development strategies. Diane Sonnenwald gave an overview on theory development based on her own experiences, Sam Chu talked about theory development applied to inquiry project-based learning, Mei-Mei Wu discussed multi methodologies in information retrieval and ShanJu Lin Chang touched on theory development processes in research on browsing phenomena. The workshop’s second half was a roundtable discussion that involved participants discussing challenges in the field and receiving feedback from the presenters.

KEYWORDS
workshops
information theory
information science
feedback
research methods

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2016 Annual Meeting Coverage

Theory Development Within the Information Sciences, a workshop held at the 2016 ASIS&T Annual Meeting in Copenhagen, was organized and facilitated by Mei-Mei Wu, Diane H. Sonnenwald, ShanJu Lin Chang and Sam Chu. They were joined by a group of nine academics and students for the afternoon workshop whose goals included the following:

1. Increase our understanding of stages of theory development and provide examples of challenges and potential ways to address the challenges.
2. Explore challenges and strategies with respect to developing theories of interest to participants.

The half-day workshop consisted of two parts: facilitator and participant presentations and roundtable sharing. The organizers gave presentations based on their own experiences on theory/model development. Diane opened the workshop with an overview on theory development based on her synthesis of theory development experiences across the information sciences [1]. This was followed by three presentations on theory development in each facilitator’s area of interest: Sam on theory development in information literacy and inquiry project-based learning [2]; Mei-Mei on the use of multi methodologies in searching elicitation phenomena in information retrieval [3]; and ShanJu on theory development processes through conducting research on browsing phenomena [4]. Diane, Sam, Mei-Mei and ShanJu also shared two things that they now know about theory development that they wished they had known earlier in their careers.

In the second part of the workshop, the group engaged in a roundtable discussion facilitated by Sam. Participants shared their challenges and questions regarding theory development, and they received feedback from the presenters and fellow participants.
Workshop feedback indicated that participants appreciated the opportunity to explore the theory development process and would appreciate having focused discussions with colleagues in future workshops. These were among the participants’ comments:

I really liked the presentations...Diane’s [presentation]... could have been much longer.

[This was] a very informative and interactive workshop...[it provided] very useful advice.

Problems raised are ones I have been thinking about...[it’s] nice to know I’m not alone.

Resources Mentioned in the Article


Bridging the Telepresence Valley

Greg Welch Speaks

by Steve Hardin

The first plenary speaker at the ASIS&T Annual Meeting outlined ways to bridge what he calls the “telepresence valley” – a metaphorical valley separating one person from another in a telepresence situation. Dr. Greg Welch is, among other things, the Florida Hospital Endowed Chair in Healthcare Simulation at the University of Central Florida, as well as the co-director of the UCF Synthetic Reality Laboratory as well as the Interactive Systems & User Experience Research Cluster at UCF.

Welch began by noting that humans have been representing humans at least since 24,000 to 22,000 BCE, when archaeologists believe the Venus of Willendorf – a model of a woman showing exaggerated breasts and hips – was created. He also showed a Mayan representation of a human head, complete with skin and underlying skull. Walt Disney’s “Carousel of Progress,” featuring robotic representations of actors, was displayed at the New York World’s Fair in 1964.

Welch also showed a video of Geminoid F, a robot that looks like a woman. It was developed by Hiroshi Ishiguro of Osaka University in cooperation with ATR Intelligent Robotics and Communication Laboratories [1]. There’s even a new version of Teddy Ruxpin, featuring animated LCD eyes. The bear can blink, turn its irises into snowflakes and transform them into hearts and flowers [2].

In his 1970 article “The Uncanny Valley,” Masahiro Mori said that as a robot’s appearance becomes increasingly humanlike, a human will have an increasingly positive response to that robot. However, there’s a point at which the human appearance becomes revulsive [3]. Welch also referenced “On the Psychology of the Uncanny,” a 1906 article by Ernst Jentsch in which he defines unanny as referring to doubts whether an apparently animate being is really alive, or, conversely, whether a lifeless object may be, in fact, animate [4].

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Welch said Ishiguro’s extension of the uncanny valley – the synergy effect – is the expected balance between appearance and behavior when we recognize creatures [5].

Telepresence, Welch said, is different from telecollaboration. Sonnenwald et al [6], writing on Schütz and Luckmann’s theory of the life world [7] [8], noted that humans in remote locations, trying to work together, are motivated to develop a shared reality. The controlling agent can be a human (avatar) or a computer algorithm (agent).

TLE TeachLivE [9] is a “flight simulator” for teachers. A virtual classroom appears on a big screen in front of the teacher; virtual students react to the teacher. The software gives teachers a chance to improve their skills. The students are avatars, controlled by an “interactor” using a mixture of agent behavior and avatar behavior.

Facebook is active in virtual reality too, acquiring Oculus VR [10] in 2014. On the other hand, Apple CEO Tim Cook has said, “There’s no substitute for human contact.” Welch said it’s unclear what he meant by that; it remains to be seen what Apple will do.

The “telepresence valley” is a metaphorical valley separating one person from another in a telepresence scenario. It’s not a valley of revulsion, but more a valley of repulsion, Welch said. One wants the persons separated by distance to feel as if they are together in a common place, yet many factors pull each person back into his or her distinct remote environments.

Welch noted that augmented reality (AR) is trending now. Instead of immersing you in another world, AR adds more information to the world around you. For example, a person’s name may appear when you see him or her. There’s the audio-only approach, too, such as Apple’s Siri or Amazon’s Echo.

Physical-virtual (PV) telepresence can extend healthcare. Welch shared a vision in which a woman confined to a hospital would connect to a remote robotic avatar at the shopping mall. It could provide an escape for immobile or confined patients.

Welch also showed a demonstration at the ACM International Symposium on Mixed and Augmented Reality (ISMAR) with comedian Brian Bradley inhabiting a PV avatar. It was sometimes characterized as “creepy,” but people seemed engaged with substantive back-and-forth exchanges. Visitors appeared to follow the avatar’s gaze, which is a natural interaction behavior that was encouraging to see. It shows why physical presence is important. Welch says innovators in this area want a person to act as if he or she really is with another.

He has recently turned his attention to increasing social/co-presence via indirect effects, as a mechanism to bridge beyond direct human-human factors. An experiment was conducted with a virtual human and a virtual (real) confederate. If two avatars are observed speaking to each other as a person walks in, it affects how the newcomer interacts with them. In another experiment, a table was instrumented so that it would wobble. The wobble could be initiated by a real human as well as a virtual human. Even subtle wobbling enhances the shared sense of social/co-presence.

“What’s next?” Welch asked. One promising area is medicine. Currently,
the faces of medical mannequins don’t change no matter what the healthcare provider is doing. Welch et al. are developing a touch-sensitive head that changes in response to the provider’s actions. They’re also working on expanding the concept to the entire body. You could walk up to a robotic patient which could turn and talk with you, even changing the temperature in its hands to simulate symptoms.

Resources Mentioned in the Article

When you visit the doctor, you may not be thinking about text and data mining. But Markus Bundschus says they’re having a profound impact on biomedical research. Bundschus serves as head of scientific and business information services at Roche Diagnostics’ Bavarian Site in Penzberg, Germany. He told the second plenary session at the ASIS&T Annual Meeting that Roche contributes to cutting-edge science and personalized healthcare in numerous ways, such as taking the DNA sequence from a patient and making treatment decisions accordingly. It can take millions of working hours, thousands of experiments and hundreds of scientists to create one new drug.

Bundschus said there are three main sources of external information for the science his division at Roche does: patent literature, PubMed articles and raw data such as genomic cancer samples. It’s critical to provide context through data integration, ontologies and data mining. He related a story of researchers whose efforts failed because they missed some crucial literature.

Biomedical research and development depends on text and data mining. How, Bundschus asked, can researchers “burst the dam” holding back information? First, they utilize data integration and aggregation. They look for high quality information. They also try to democratize data and analysis. Data analysts speak a different language than biomedical researchers. They need to learn how to communicate. It’s also important to learn from the past, to understand the impact of older research and data.

How can we bring text mining successfully to the end user? First, Bundschus quoted Google’s Ten Things We Know to be True: “Focus on the user and all else will follow.” Apply this advice to the domain of life sciences as well as to the day-to-day work of the industry researcher. What are the favorite tools of both domains? They want to make the look and feel of the text mining tools resemble the look and feel of the favorite tools.
He said there are two main modi operandi for text mining: there’s text mining as a way to complement the traditional literature search, and there’s also text mining to build structured knowledge bases. You get more information from text mining in a structured database [1].

One example involves the pharmacological parameters of antibody drug conjugates (ADCs). ADCs are a new class of highly potent biological drugs built by attaching a small molecule anticancer drug or therapeutic agent to an antibody. Can we learn from existing research parameters? You can search on the full text or the abstract or curated data. You can get a lot of additional knowledge from the full text. But not always; it depends on the situation.

Text mining can be used to help build structured knowledge bases automatically from unstructured data. Roche researchers built the disease marker association database with 50-million scientific abstracts. They went from an unstructured world to text mining with relation classification for relevant articles/information. The motivation is to avoid information overload, reduce the time component to manageable levels, enhance flexibility and provide links to the literature.

Roche scientists use a flexible platform to create structured knowledge bases. There are rule-based engines with machine learning engines feeding into the normalization module. There is also an optional curation module. Then the indexing and representation layer is added. A graphical user interface (GUI) makes it easier to use.

Bundschus showed the user interface for the disease marker association database. He searched for bladder cancer; the program suggested various topics it considers related. The user can export the results to an Excel file which he or she can then use for other data collections.

Bundschus and his Roche colleagues want to link the database world and the literature world. Utopia Documents is a semantic, scientific PDF reader from the University of Manchester [2]. The unstructured literature world represents the most complete human knowledge base. It’s growing exponentially. It is used to create a structured database world, representing human knowledge in a machine-readable format, after being created by humans who analyze the unstructured world. There are plugins available to show additional data. Once scientific PDF articles are loaded, users can make queries of those articles. They are usually able to go directly to the PDF instead of having to go to a web page and download it separately. They can create a chart showing the relationships among the various articles. Users can also go into the gene sequences and further determine what’s going on. There’s also a figure browser to search illustrations.

Text and data mining can be used for outcome prediction in clinical trials. The results are quite encouraging, Bundschus said. They can assess the probabilities of a launch by uncovering publication data patterns from thousands of scientists. For example, in 2011, Zelboraf, a medicine used to treat melanoma, was launched. Prior to that launch, the biggest component of research for this product involved genetics. But drug therapy and drug effects are also important components. The idea is to gain new insights into the drug introduction process.

Article counts can be useful too. Consider the number of papers with co-occurring target and indication per year. The article count is significantly higher for the drugs that make it to market. Successful topics have on average a stronger author commitment as well as a lower average density of gene names in their abstracts before approval.

Look at the evolving digital health ecosystem and the role of scientific literature. Is there a big misunderstanding about text mining? On one hand,
text mining enables researchers to read less. On the other hand, text mining enables researchers to read more relevant things. The healthcare system is always learning, and digitization holds a lot of promise. Researchers always say, “I should read more; but when?” Also, they ask, “Can I trust the data?”

Medical care includes continuous monitoring of the patient, diagnoses and treatment. If we can achieve the integration of all these streams of information, patients will be helped, and the results will work their way into the scientific literature. To sum up, the healthcare system will undergo a digitization shift, he said.

Holistic information science approaches will become a differentiator. He wants to not have to go to various repositories and aggregate information. It’s better to get it at one site.

“The scientific literature ecosystem,” Bundschus concluded, “has the potential to connect all the dots and act as glue that holds it all together.”

Resources Mentioned in the Article


And oh, if we ever part, then that might break my heart [1].

In the lyric, “tomato tomahto” from Shall We Dance [2], the marked, or explicitly differentiated term, is tomahto, corresponding more to the English rather than the United States pronunciation. The marked term of a contrast characteristically designates the exception or minor term and the distinctions contained in the unmarked term may be implicitly, and incompletely, understood. Analogously, information science has often been implicitly based in the United States and influenced by American modes of thought, while European, including English, developments have been the occasionally marked and often minor term. Our concern here could be partly understood as focusing on the marked term, European influences and perspectives on information science, in order to unmask the unmarked, the implicit dominance of United States influences.

The article is derived from papers presented at a panel and from the discussion at the panel session at the 2016 ASIS&T Annual Meeting held in Copenhagen. The panel explored European perspectives on information science, explicitly and implicitly contrasting them with United States perspectives, from a base in a number of languages and in Europe and beyond. The combination of European and beyond and United States perspectives on information science was especially appropriate for the first ASIS&T Annual Meeting outside North America. This article continues the celebration of real international expansion.

**European Perspectives and Influences**

Niels Lund explored the complex development of information science in the Nordic sphere. Despite a considerable number of differences, it was still possible to talk with good reason about a joint effort to develop a Nordic
library and information science (LIS) since the early 1970s. This development has in a very complex way been intertwined with parallel developments in the professional library world and the educational programs for librarians.

One huge challenge, especially in Denmark and Norway, has been to justify or explain the relevance of a scientification of a professional educational program for a diverse world of libraries, including public libraries and school libraries as well as academic libraries. It led to a very tense conceptual fight – trying to find an overarching concept, embracing the whole library world, and choosing among culture, information or institution. This professional fight on a conceptual core, was accompanied with an attempt for the many to-be LIS scholars to find their place in the general scientific world, leading to discussions about where LIS belongs in the academic world – in the natural sciences (cognitivists), the humanities (culturalists), in the social sciences with the institutionalists or perhaps in all three scientific worlds.

All these paradigmatic changes in Nordic LIS education had a decisive impact on the educational programs, not least in Denmark in the 1980s, moving from two distinct educations for respectively public librarians (culture) and academic librarians (information) to a unified education with information as the hegemonic concept covering the whole library world, and changes in the 1990s with documentation studies in Norway opting for a complementary approach, and a media turn in the 2000s.

Today, many of the academic fights have been replaced by collaboration and dialogue between the different paradigms within the Nordic region as well as on the international level with cross-disciplinary journals and conferences.

Julian Warner began his talk with a reference to “the whole earth … girded by telegraph cables” and traced the quotation to the European thinker, Karl Marx, who, in the late 19th century, observed “the last fifty years have brought a revolution that is comparable only with the industrial revolution of the second half of the last century … the whole earth has been girded by telegraph cables” [3, p.164].

The technology of the telegraph, fully realized in working form in the mid-19th century as the transcontinental (North America) and then the transatlantic telegraph, was later theoretically described by the model of communication given in Claude Shannon’s *A Mathematical Theory of Communication* [4].

Warner traced some diverse European influences on and contrasts with United States theory and practice in areas central to information science. First, the working telegraph is understood as a product of the westward expansion of the United States, the increasing links with Europe and the corresponding need for message transmission technologies. He emphasized the historical priority of the working telegraph to both Shannon’s rigorous account [4] of communication and Warren Weaver’s more expansive interpretation of that account [5], which subsequently strongly influenced the development of information science. He also discussed Norbert Wiener’s indebtedness to European thinkers, including Marx, both for his understanding of technology as a cumulative human construction (“In all engineering, there is a certain family history, a certain genealogy. The smith’s hammers were forged by the hammers of an earlier smith” [6, pp.46-47) and for his conception of developments in information and communication technologies as a second industrial revolution.

Thirdly, Warner considered the contrast between the United States and the European Union in their treatment of intellectual property in databases, with the United States retaining the integrity and scope of copyright [7] and the European Union developing *sui generis* provision for databases. In this instance, the United States, a more recent formation than many European countries, although not than the European Union, may have had a greater and more extensive historical sense. He concluded by pointing to the value of a fully theoretically informed and ecumenical, but controlled, framework for understanding information developments.

Fidelia Ibekwe-SanJuan reviewed the development of information science in continental Europe. Information science has failed to coalesce in Europe into a solid body of a well-identified academic discipline with its core theories, paradigms and methods. The situation is very disparate across Europe, and it is difficult to get a global view. France’s situation is peculiar since the discipline of information science does not exist separately but is part of a composite inter-discipline called information and communication sciences (ICS).

She reviewed the role terminology played in efforts to forge a distinctive identity for this composite inter-discipline. Terms such as *communicational*
differentiate their form of bibliography they adopted the term Universal Decimal Classification, photography and potentially much more. To bibliographical access through use of the newest technologies: cards, the 19th century when Paul Otlet and others sought ambitiously to expand particularly those understood as documentation and neo-documentalism.

is intrinsically, and welcomely, plural and that it is characterized by a triple plurality: epistemological, methodological and ontological (thematic).

approach or infor-communicational approach have been coined. However, the substantive distinctiveness of these terms may not bear close scrutiny. A communicational approach is another way of affirming the complex and non-linear nature of communication phenomena that requires input from the complexity paradigm and from systemics [8]. However, if this communicational approach can be easily applied to the study of communication phenomena, its translation into information science’s research problematics and traditions is less straightforward. The other seemingly distinctive term, infor-communicational approach, can be replaced by another existing term, holistic approach.

The coinage of these terms resulted in a communication breakdown for the diverse communities gathered under the ICS umbrella, comprising scholars in media studies, including IS, documentation, library studies, organizational communication and cultural studies, because their epistemological and methodological implications were neither demonstrated nor clearly articulated.

This period of distinctive terminology coinage, which came in the wake of the official creation of the field in 1975, has been followed by a period of acceptance that the quest for theoretical and methodological unity sought by the first generation of ICS scholars is unattainable. While these distinctive concepts are not abandoned and are still employed by many in the field, they have lost some of the force they had before in sorting out “who is in” and “who is out” of the discipline. There is now a wider acknowledgement that the ICS is intrinsically, and welcomely, plural and that it is characterized by a triple plurality: epistemological, methodological and ontological (thematic).

Michael Buckland traced historical influences on information science, particularly those understood as documentation and neo-documentalism. One mainly European influence on information science started in the late 19th century when Paul Otlet and others sought ambitiously to expand bibliographical access through use of the newest technologies: cards, the Universal Decimal Classification, photography and potentially much more. To differentiate their form of bibliography they adopted the term documentation. This development inspired some interest in the United States. The U.S. zoologist Herbert H. Field developed a service essentially similar to Otlet’s at the Concilium Bibliographicum in Switzerland.

Techniques referred to in Europe as “documentation” were already well-developed in the United States as special-library work. Watson Davis, Mortimer Taube, Jesse Shera and others defined documentation as including special-library work but broader, including document creation and publication. The American Documentation Institute, founded in 1937 and now ASIS&T, had a strong interest in document technology (microfilm, punch cards, computers) and retrieval systems. Shera arranged re-publication of the book Documentation by British librarian Samuel Bradford, but failed to understand Suzanne Briet’s refinement of documentation theory for mid-20th century conditions.

Independently (at first) in Europe and in the United States there was a revival in the 1990s of interest in a “document-centric” perspective within information science. This neo-documentalism includes an emphasis on “document-as-thing,” an inclusive view of what might be considered a document, and insistence on the co-existing presence of physical, social and mental aspects in any adequate discussion of information science. These issues were further discussed in a review article by Niels Lund, “Document Theory,” in 2009 [5].

Isabella Peters concentrated on definitions and perceptions of information science from the perspective of members of the ASIS&T European Chapter. Members of ASIS&T’s European Chapter had been invited to indicate how they defined the concept information science and how they perceived it, from their particular points of view and specific backgrounds. Currently, the more than 115 members of the European Chapter come from more than 20 different countries and are affiliated with universities, research institutions, other information service providers and other institutions and enterprises. Also, members reflect the entire range of levels of professionality, from Ph.D. students to more senior researchers. In August 2016 a poll was sent out to all members of the chapter asking them to complete two sentences: 1) Information science is… and 2) Information science for me is… . Twelve members answered and most of them came from Germany (4 answers), the United Kingdom (3 answers), France (2 answers) and one answer each from Croatia, Austria and Sweden.

The answers were analyzed via term clouds with merged word forms and showed only those terms which had two or more occurrences. Information science was described with the terms knowledge, management, processes, retrieval and storages, whereas the more personal relationship with information science was explained by research, services, applied and
communication. When comparing the answers from the United Kingdom members with those coming from Germany it became apparent that information science in the United Kingdom is about management, services, theory, records, governance and formats, whereas the Germans relate information science with knowledge, computers, processes, practical, usage and retrieval. Further outstanding viewpoints and quotes were presented to provide a map of concepts related to information science. The presentation was used as a visual starting point for discussion with the conference attendees.

Conclusion

The panel presenters employed diverse and complementary viewpoints, and the presentation was followed by a lively and engaged discussion. It concluded in sympathy with Gershwin – “if we ever part, then that might break my heart” [1] – that cooperation and integration, or a reciprocal dance, corresponding to increasing globalization, was the way forward.

We look forward to the increasing globalization of ASIS&T and welcome the continuing value and stimulus of diversity. ■

Resources Mentioned in the Article

Some European Contributions to Information Science
by Michael K. Buckland

The prominence for several decades of the American Society for Information Science and Technology and of its Journal might give the impression that information science has been primarily a North American field. Removal of American from the new name, Association for Information Science and Technology, and the holding in Europe of the first Annual Meeting outside of North America, provide a suitable occasion to take note of some European contributions done, or at least initiated, in Europe. What follows is a personal choice. It is limited to contributors known to be dead and excludes contributions by Europeans after migrating to North America. Of course, not all contributions find acceptance. The International Standard Book Number system, which originated in Britain, has been adopted globally. Successive library cataloging codes were collaborations between, mainly, Europe and North America. The ISO paper formats (A4, etc.) spread everywhere except the United States. Other contributions were ignored and forgotten.

A caveat: Claims concerning who really had priority in any field are hard to establish with confidence and should be treated with caution. They may have been early contributors rather than the very first. No guarantees are offered!

Recognition of the Field
Karl Marx deserves credit as an early herald of the information society. (See also related paper in this issue of the Bulletin: “Tomato TomahTo: European Perspectives on Information Science.”) Widespread recognition of the significance of information science came through two major international conferences. The largest was the International Conference on Scientific Information held in Washington, D.C., in 1958, but the first and, perhaps, more formative, was the Royal Society Scientific Information Conference in London in 1948.
Information Science Theory

Two of the leading theorists of information science were English. Robert Fairthorne was a pioneer of avant-garde movies and of the use of tabulating machines for complex calculations before digital computers became available. He wrote extensively about the foundations of information science with rigor, penetrating clarity and wit. B. C. “Bertie” Brookes was a physicist who became a specialist in the presentation of technical information at University College London. He worked on quantitative methods within information science and became a tireless and highly influential teacher and mentor. Brian C. Vickery, born in Australia, educated in Egypt and active in England, also became a very influential thinker and writer.

Bibliographical Description

The Swiss botanist Conrad Gessner got an early start on bibliographical description with his Bibliotheca Universalis in 1545 and in the early 19th century an Italian political refugee in England, Sir Anthony Panizzi, laid the foundations for cataloging codes with his 91 Rules for Compilation of the Catalogue, which appeared in the Catalogue of Printed Books in the British Museum. The establishment of the Bibliographical Society in London marked a major milestone in the development of historical bibliography.

Documentation and Documentation Theory

Belgian bibliographer Paul Otlet was a leader from 1895 onwards, theorizing the role of documents in society and exploring the potential of new media to develop new forms of document more flexible than the traditional bound book. His vague, impractical, but grandiose schemes eventually resulted in his being discredited, but his institute flourished for decades as the International Federation for Documentation and he has recently become a fashionable icon of early information science.

The French librarian Suzanne Briet significantly advanced Otlet’s ideas in her 1951 treatise What Is Documentation?, but her work was ignored even in France until the 1990s when her semiotic insights into the nature of documents and recognition that information science was a “cultural necessity” began to receive the attention they deserved. As the founding director of studies of the educational program at the Institut National des Techniques de la Documentation in Paris in 1951 she has a claim to being the founding mother of the i-school movement.

Otlet’s interest in the transformative effects of new media was echoed in France in the middle of the first decade of the 2000s in the extensive studies exploring the transformative impact of the transition from paper to digital technologies by the indefatigable Roger T. Pédaouque, a collective pseudonym for a network of some hundred scholars.

Understanding of the social role of information has been profoundly influenced by French histoire du livre writers and the famous Panizzi lecture “Bibliography and the Sociology of Texts” given by a New Zealander active in Britain, Donald F. McKenzie, in 1985.

Library Science

Library services are, of course, ancient, and Frenchman Gabriel Naudé’s Advis pour dresser une bibliothèque of 1627 is considered the first manual. But library science as a term and as the basis for modern library techniques originated in Germany. When the Bavarian royal library in Munich was unable to cope with a flood of material from 200 confiscated monastic library collections around 1800, librarian Martin Schrettinger understood that formal technical systems were needed to enable readers (as well as librarians) to find what they needed by themselves quickly and easily. For the technical guidelines that he developed he coined the phrase Bibliothek-Wissenschaft (library science) in his textbook in 1808. Schrettinger’s work anticipated both the modern public access catalogs and the transformation of scholar librarians from intermediaries into less visible, less intrusive, but ultimately more useful facilitators [1].

Classification and Representation

The “Brussels expansion” of Dewey’s Decimal Classification, better known now as the Universal Decimal Classification, moved library classification theory and practice a long way towards a faceted structure. Later, S. R. Ranganathan, an Indian librarian trained in England, advanced faceted classification much further. In the second half of the 20th century, library classification theory
was primarily a British and Indian preoccupation. In Britain an informal group with membership by invitation, the Classification Research Group (1952-1968), was the international epicenter of classification theory.

Complementing faceted analysis is the role of syntax (grammar) in indexing: the explicit specification of relationships. After all, the mere listing of the three keywords bit, dog and man, does not indicate who bit whom. Around 1960 in France, Jean Claude Gardin combined graph theory with formal relationships to develop SYNTOL (syntagmatic organization language), a formal framework for organizing representations of scientific data. In the United Kingdom, the Czech-British Jason Farradane experimented similarly with “relational indexing.” Later, the British National Bibliography developed PRECIS (Preserved Context Indexing System) to manipulate complex strings of terms in subject headings. These ingenious and powerful systems could not compete with cheap, efficient character-string searching, but they may well be reinvented with the rise of AI.

Information Retrieval

Information retrieval refers to the use of systems to retrieve relevant documents from a collection. The first use of the term relevance in relation to information retrieval has been attributed to Samuel C. Bradford, librarian of the Science Museum in London, in his book *Documentation* (1948). The first important use of the relevance, recall and precision formulation for retrieval evaluation came with the Aslib-Cranfield experiments at the Cranfield College of Aeronautics in England in the years around 1960. Led by Cyril Cleverdon, the first Cranfield experiment assembled a test collection and created four quite different search mechanisms for it: the Universal Decimal Classification (think of Dewey’s Decimal Classification on steroids), a conventional subject index, a faceted classification and uniterm (keyword) coordinate indexing. Questions were designed to match a single document within the test collection. The systems did not perform very well and did not retrieve the same documents. The simplest retrieval system (keywords) worked best but there was little difference in performance. The second Cranfield experiment examined variations in indexing and vocabulary control and the test collection was later used by other experimenters. The Aslib-Cranfield studies inspired the many subsequent TREC and similar retrieval evaluation conferences, which for 50 years have consistently continued to reach the same findings.

The development of search engines has been major component of information science, partly inspired by Vannevar Bush’s famous essay, “As We May Think,” a questionable vision based on Bush’s development of a microfilm-based rapid selector machine developed from 1938 onwards. But Bush’s technology had already been developed, patented and demonstrated a decade earlier by Emanuel Goldberg, Russian immigrant working for Zeiss in Dresden, Germany.

**Bibliometrics**

The term bibliometrics appears to have been coined in Britain in a 1969 paper by Alan Pritchard entitled “Statistical Bibliography or Bibliometrics?” but the topic itself has a much longer history including early studies by Cole and Eames in 1917, by E. W. Hulme and by Gross and Gross. Samuel Bradford, early user of relevance, published a mathematical model of the dispersion of literature, Bradford’s law of scattering, in 1934. His method of quantitatively identifying core journals in any field has had huge consequences in the currently prevailing obsession with using citation counts, impact factors and the like as an easy but dubious alternative to honest peer evaluation. In addition, ambiguities in his explanation and his mathematical formulation led to a cottage industry of competing revisions by the mathematically inclined.

The father figure of the more general field of scientometrics is Derek de Solla Price. Although he did most of his work in the United States, he started in England. It should be acknowledged, however, that the mythic origin of scientometrics was in Singapore where Price noticed the exponential growth in size over time of the annual volumes of the *Philosophical Transactions of the Royal Society*.

**Microforms**

Where would we be without photocopying? We can note that the three historically important developments in photocopying were all pioneered in Europe: microfilm, photostats and microfiche. René Dagron famously used
tiny rolls of microfilms attached to the legs of homing pigeons to fly microfilmed reports over enemy lines during the German siege of Paris in 1870. Photostats (copying directly onto sensitized paper) was invented by a French academic, René Graffin, around 1900 to facilitate his editing of old Syriac texts. When commercially developed, photostat equipment transformed office work. Microfiches, small sheets of microfilm produced by Robert Goldschmidt and Paul Otlet in Belgium to demonstrate the feasibility of ultra-compact, portable libraries, later became a major publication format for technical reports.

Infrastructure and Standards

Visiting the World Fair in Brussels in 1910 German chemist Wilhelm Ostwald was so impressed by Paul Otlet’s ideas that he spent his Nobel prize money to establish his own information institute (The Bridge) in Munich. Ostwald’s World Format paper format was the basis for the ISO A4 system. His monographic system was an early form of hypertext, and he started the “guide to the literature of” genre with his guide for chemistry.

It was three Europeans – Ostwald, Otlet and H. G. Wells – who popularized the idea of a (Wikipedia-like) “World Brain.” Like Ostwald, the librarian and New Testament scholar Adolf von Harnack understood before others did the importance of infrastructure and society’s need for advanced information services. In 1921 Harnack justified the chair in librarianship at the University of Berlin on the need for economic competitiveness and intellectual production.

Other

The Conceptions of Library and Information Science (CoLIS) series of conferences has mitigated a tendency to neglect attention to ideas within information science. CoLIS originated in Finland in 1991 and has remained primarily a European initiative.

No account of European contributions to information science would be complete without paying tribute to the *Journal of Documentation*. Since its initiation in 1945 *J Doc* has maintained consistently high standards for over 70 years under a series of able editors, starting with the Polish-British bibliographer Theodore Besterman. It served as an important outlet for North American as well as European authors, and after five decades it was possible to produce an impressive account of the development of information science using primarily material that appeared in this one journal: *Fifty Years of Information Progress: A Journal of Documentation Review* [2].

But for lighter reading than *J Doc*, try a lurid murder mystery, *La table des matières* [The Table of Contents]. Who did it? I won’t tell. But, curiously, in this French novel almost all major contributions to information science are revealed as having been made by francophone Europeans [3].

Resources Mentioned in the Article


Everyday Life Information Seeking
by Reijo Savolainen

EDITOR'S SUMMARY
Reijo Savolainen, 2016 recipient of the ASIS&T Research in Information Science Award, observes that research on information behavior tends to be skewed more heavily toward the context of the workplace, but focusing on everyday life information seeking (ELIS) brings information behavior into the sphere of ordinary life. Using Brenda Dervin's sense-making methodology, research on ELIS can illuminate information seeking behavior for individuals in many different fields and circles. Qualitative study results from environmental activists, home buyers and unemployed individuals reveal how these groups seek information to help solve everyday problems. These studies highlight the use of information source horizons and preferred information seeking paths of individuals, showing patterns in how far people search for information and where they prefer to begin and end their searches. While social media provided useful information in these contexts, the information was often clouded behind affective factors when dealing with sensitive or controversial topics and thus were not always reliable or accessible to all.

KEYWORDS
information seeking
information behavior
sense making
user studies
information resources

After receiving my Ph.D. in library and information science in 1989, I started my academic career at the University of Tampere, Finland, where I have taught since that time. My early studies focused on library issues such as the socio-economic dimensions of charging for library services [1]. Quite soon, however, my research interest expanded to library as a channel of information seeking. One of most important sources of inspiration was the now classic ASIS&T Annual Review of Information Science article on information needs and uses by Brenda Dervin and Michael Nilan [2]. They strongly advocated a paradigm shift from the traditional system-centered approach to a user-centered perspective on information behavior. The above article also ignited my long-time interest in Dervin's sense-making theory. In 1991, our department organized the first international conference on the Conceptions of Library and Information Science (CoLIS). I presented a paper focused on the potential of sense-making theory as a user-centered approach to information seeking. Tefko Saracevic, editor-in-chief of Information Processing & Management, participated in the conference and encouraged me to write a paper reviewing the above topic [3]. Somewhat later Brenda visited our department and provided invaluable ideas about how to approach the complex processes of information seeking and use from the perspective of the sense-making methodology.

The critical reflection of the above issues helped me to identify significant gaps in information behavior research. From the 1950s, most studies had focused on work-related information needs and seeking, while issues related to information seeking in non-work contexts were seldom examined. However, there were a few prominent investigations indicating the significance of the non-work context. The development of my research ideas was influenced by the pioneering surveys on citizen information needs.
conducted in the United States in the 1970s [4, 5], as well as Elfreda Chatman’s [6] studies characterizing information seeking among low-skilled workers. To elaborate this research stream I preferred the term everyday life information seeking (ELIS) because concepts such as “citizen information needs and seeking” are associated to an individual’s specific role in society.

To strengthen the theoretical basis of ELIS studies, I drew on sociological studies examining the nature of ordinary life, more specifically, people’s “way of life”. To this end, Bourdieu’s [7] habitus theory appeared to be particularly useful for the development of an ELIS model. Later on, it was tested in an empirical study based on the interviews with industrial workers and teachers [8]. I was delighted to note that the acronym of ELIS was internationally recognized as a label for a sub-field of information behavior research focusing on information needs, seeking and use in non-work contexts such as health and leisure. A growing interest in the ELIS issues could be identified, for example, in the international conferences on Information Seeking in Context (ISIC) held since 1996 [9]. Like ASIS&T Annual Meetings, I have found the ISIC conferences to be inspiring arenas for the discussion of theoretical, methodological and empirical questions of information behavior research.

With the breakthrough of the internet, people’s everyday information practices began to undergo changes in the late 1990s. Supported by a research grant from the Academy of Finland (the Finnish counterpart of the U.S. National Science Foundation), I examined the role of the networked sources in ELIS [10, 11, 12]. Taken as a whole, these studies confirmed the ELIS model’s assumptions about the importance of social and economic factors in information seeking. Somewhat unsurprisingly, however, it appeared that the internet had not replaced traditional sources but rather complemented them.

To elaborate the picture of ELIS, I made a series of in-depth qualitative studies by interviewing diverse groups of people such as environmental activists, prospective home buyers and unemployed people. These studies examined how people identify, access and use information sources of various types in order to obtain orienting information (“what’s happening in the world today”) and to solve everyday problems. The findings refined the picture of people’s information source horizons, that is, their conceptions and experiences of the significance of diverse sources, ranging from core to peripheral sources [13]. The above studies also identified people’s strategies for coping with information overload in everyday contexts [14].

The empirical findings were used to revise the ELIS model in my book Everyday Information Practices published in 2008 [15]. To this end, I combined the ideas of practice theories [16] and social phenomenology [17]. Information practices are viewed as tools that people use to further their everyday projects. Essentially, people’s information practices draw on their stocks of knowledge that form the habitual starting point of information seeking, use and sharing. To judge the value of information available in external sources like newspapers and the internet, people construct information source horizons. They set information sources in order of preference and suggest information seeking paths, such as “first check the net, then visit the library.” The book shows that everyday information seeking practices tend to be oriented by the principle of “good enough.” Overall, my book suggested that the role of routines and habits is more significant than has earlier been assumed. Thus, everyday information seeking practices tend to change quite slowly.

More recently, I have examined the role of social media in everyday information practices. Empirical studies have been made to find out how people use blogs, online discussion groups and social Q&A forums such as Yahoo! Answers to seek and share information. The findings indicate that the forums of social media can provide useful informational and emotional support to people with diverse everyday projects such as slimming [18], coping with depression [19] and travel planning [20]. As the use of online forums is a discursive practice, attention has also been devoted to the nature of rhetorical strategies and argument patterns used in social media forums [21, 22]. The findings suggest that the identification of such strategies is important for the evaluation of the credibility of user-generated content.
As online discourses often deal with emotionally sensitive topics, for example, consumer issues and immigration, the processes of information seeking and sharing are colored by affective factors [23, 24]. More generally, my studies on this topic provide further support for the assumption that everyday information practices are driven by a complex set of cognitive, affective and social factors. However, such practices cannot be accomplished in an ideal form because they are constrained by contextual factors. To examine their role, my recent investigations have focused on cognitive, affective and socio-cultural barriers to information seeking [25, 26, 27]. To deepen our understanding about the complexities of everyday information practices, it is important to find out how cognitive, affective and social-cultural factors both drive and impede information seeking, use and sharing.

The domain of ELIS touches the whole spectrum of human life. Therefore, it provides almost an endless list of interesting topics for interdisciplinary research. To elaborate research on everyday information practices, it is important to make use of ideas developed in diverse fields such as communication research, sociology, psychology and HCI. As in all scientific research, the most fruitful ideas are often found in the intersecting areas of related fields. Since the beginning of my research career I have tried to orient my studies from this perspective. While drawing on the concepts originally developed within library and information science, I have intentionally stepped out of the box of LIS to get insights from research on human motivation, affect theories, argumentation theories and rhetoric research, to mention a few. In the end, however, the crux issue is how to integrate the ideas obtained from diverse sources into a coherent model for everyday information behavior or practice. In this regard, there is still much work to be done for our research community.

Resources Mentioned in the Article

Resources Mentioned in the Article, continued


For a list of my publications, please visit www.uta.fi/sis/reijosavolainen/index.html
My first ASIS&T Annual Meeting was in 2010 in Pittsburgh, Pennsylvania. While it was not strictly the start of my ASIS&T service experience, it did serve as a catalyst towards my eventual service to the Association. Three experiences that began in small ways during my first ASIS&T Annual Meeting and extended further helped build my interest in becoming involved with ASIS&T and are ones I would encourage new members and attendees at ASIS&T conferences to seek out themselves:

1. **The ASIS&T Leadership Workshop:** The workshops are held late every Sunday afternoon at ASIS&T Annual Meetings. At the one I attended in 2010 it became clear that ASIS&T relies heavily on volunteers; without volunteers, there would be no ASIS&T. I learned there are a wide variety of ways that members can choose to volunteer with committees, award juries, chapters and special interest groups (SIGs) and eventually even the Board of Directors. It was clear, though, that we shouldn’t feel overwhelmed: “start small” was a key piece of advice. We were also encouraged to talk with other members who were active in volunteering and serving, and indeed I met New Leaders and others who were already volunteering as part of the leadership workshop, many of whom I now count as valued colleagues and friends. If you’re new to ASIS&T and are attending the Annual Meeting, go to the leadership workshop!

2. **A feeling of home:** Other doctoral students and faculty at Florida State University had mentioned to me that one would eventually find one’s scholarly home, in both the sense of common research interests and in terms of one conference, association or venue feeling like the place to be. It became clear during my first ASIS&T Annual Meeting that the Association...
– and its main conference – were the home for me. The research was certainly interesting. I still remember sessions on collaboration, sociotechnical perspectives, online communities and social Q&A research from ASIS&T 2010 and 2011, along with SIG/SI (social informatics) workshops at both conferences, as sparking and shaping my research interests in these areas. An ASIS&T 2011 panel session on “shaking it up” also helped increase my interest in communications activities, including social media contributions and website work, which would further guide my place within the home of ASIS&T. The formal and informal social events – from receptions to banquets, from hallway conversations to SIG CON – would solidify a feeling that I was among a group of intelligent, friendly, collegial and interesting researchers and practitioners who would become a key part of my academic and professional life. If you’re new to ASIS&T or to the information field, take a look around: attend an Annual Meeting, IA Summit or RDAP Summit, soak in the experience and see if ASIS&T is the home for you.

3. Networking: As a doctoral student I was encouraged to network with other attendees and not be afraid to talk to those sitting or standing nearby. A fellow doctoral student and ASIS&T volunteer, Chris Landbeck, told us a story of being in an elevator with Marcia Bates and Michael Buckland and finding out that these luminaries of our field were people just like the rest of us. This happy fact may seem common knowledge to more established ASIS&T members – a group I would now count myself among – but at the time to a brand-new doctoral student attending his first conference, such an elevator grouping seemed like it would be quite overwhelming! Nevertheless, in networking with faculty, practitioners and students at my first ASIS&T Annual Meetings in hallways, poster sessions and after panels and paper presentations, I could see and eventually reap the benefits of talking with others no matter their experience level. By the opening plenary of the 2011 Annual Meeting I thought nothing much of talking to Linda Smith sitting two seats down from me. For new members and conference attendees, particularly those on the more introverted side, don’t feel overwhelmed; again, start small and network with a few colleagues to start with; then move on from there as you get more comfortable. You’ll be talking with the famous faces in no time!

Based on these encouraging experiences and a developing interest in social informatics, I made my own small start by attending SIG/SI’s business meeting near the end of ASIS&T 2011, and I became the SIG’s secretary for a year. Later, at ASIS&T 2012, I moved into the communications role, managing SIG/SI’s website, Facebook group, Twitter account and listserv. I started small, but found my service to ASIS&T continued to grow and build as I was invited to peer review posters, panels and papers for the Annual Meeting; to serve on the 2013 jury for the Cretsos award; and to serve on the task force on ASIS&T’s web presence and as an ASIS&T social media contributor (both under Diane Rasmussen Pennington’s leadership.) The latter two activities were, in a sense, a coming together of my interests and service in online communities, social media and communications, along with my feeling of ASIS&T as a home that I wanted to see be a strong place for all, especially new members and those interested in SIGs and chapters.

None of this would have been possible, however, without those initial experiences of starting small: in attending the ASIS&T leadership workshop, in networking with intelligent colleagues sharing common interests, in finding the conference and Association to be a great place to call my scholarly home and in attending one little SIG business meeting. I’ve found the experience in volunteering with and serving ASIS&T to be very rewarding both personally and professionally. Service is an important part of the information science field and of promoting its development, research, teaching and professional activities. In my service to ASIS&T and the field I look to provide these benefits for many others, and it is a great honor to receive the James M. Cretsos Leadership Award and be recognized alongside a long list of amazing and
deserving former winners. I am also thankful to all who had a hand in my nomination, particularly Diane Rasmussen Pennington who was kind enough to nominate me for the award.

I don’t intend to stop serving ASIS&T, of course! But if you are a newer ASIS&T member or first-time conference attendee who is reading this, I’d like to encourage you to find your space, your home, your volunteering role within the Association. At the next Annual Meeting, IA Summit or RDAP Summit take every opportunity you can to network and talk with colleagues, attend events that interest you (including the leadership workshop at the Annual Meeting,) and seek out those meetings and areas that call to you in research, teaching, service and practice. Start small, but keep building, and I think you’ll find the experience in your new home to be quite the ride. I sure have!
As the recipient of the 2016 ASIS&T Outstanding Information Science Teacher Award, I have been asked to share my views and experience about teaching in this field. In some ways writing about my teaching contrasts with my approach to teaching. I don’t think the educator should be at the center of attention. However, I also agree with Gibbs’ statement: “While theorizing without practice is pretty much useless, unreflective practice is also pretty much useless” [1, p.3].

My intention as an educator is to design a learner-centered pedagogy that is responsive, flexible and engaging, developing students’ critical thinking skills as they develop into engaged, ethically reflective information professionals. Grounded by my experience as coordinator of the First Nations Curriculum Concentration (FNCC) at University of British Columbia’s (UBC) iSchool, I encourage students to identify and work with tensions of inequality, marginalization and oppression embedded in dominant information practices, the ways information is organized, shared, stored and managed.

**Philosophy**

I draw inspiration and guidance from the experience focused, ethically grounded, pragmatic philosophy of John Dewey, for example, [2] [3]. In my teaching and mentoring activities I position myself as a facilitator, striving to enhance students’ critical thinking skills as they develop into engaged, ethically reflective information professionals. Grounded by my experience as coordinator of the First Nations Curriculum Concentration (FNCC) at University of British Columbia’s (UBC) iSchool, I encourage students to identify and work with tensions of inequality, marginalization and oppression embedded in dominant information practices, the ways information is organized, shared, stored and managed.
policy), masters students (for example, information practice in support of indigenous initiatives) and doctoral students (for example, doctoral pro seminar). Students I work with develop their aptitude for insightful investigation, critical reflection and thoughtful expression. These competencies provide them with the research, decision-making and communicative expertise they need to function effectively and ethically in an ever-shifting information landscape. I provide experiences in making informed choices in response to problematic situations [3] by assigning provocative course material, crafting demanding design activities and developing real-world assignments (which is to say, not essays). Below I provide examples of activities and assignments I draw upon to support student competencies.

**Reflective Reading**

Students skilled in developing constructive questions in response to readings are well on their way to becoming reflective practitioners.

**Example:** In a blended class on information policy each week I assign a few students to independently craft discussion questions based on the week’s assigned materials. Their classmates respond directly to these questions, and the student who made the initial query facilitates the ongoing discussion thread. Students find this assignment far more challenging than they originally anticipate, and they develop an appreciation for questioning the author’s positioning rather than passively accepting the arguments as presented. Students experience how a reading is valuable not only for the information that it conveys, but for the questions that it elicits within the reflective and critical reader.

**Effective Communication**

Students need to develop competencies in creating multiple expressions of their informed opinions.

**Writing Literacy:** After almost two decades of performing school, the majority of our graduate students enter our program well skilled in writing long, academic essays. Through a topic briefing assignment with multiple support mechanisms, the students develop their skills in conveying information in a concise, structured, highly readable format in alignment with the requirements of the contemporary workplace.

**Oral Literacy:** Many students I work with are resistant to rehearsing and timing their oral presentations. They prefer to wing it and riff on a topic. In my face-to-face and blended courses I incorporate at least one assignment that involves an extremely short (for example, two-minute), timed presentation. Students experience firsthand the benefits of tightening their points and timing their presentations, a key skill as they enter the workforce.

**Class Environment**

In order for any of the above activities to be successful as learning opportunities I find it essential for students to experience a respectful environment. My ongoing collaborations with life-wide educators at the University of British Columbia, such as Kim Lawson, Xwi7xwa reference librarian, and Amy Perrault from the Aboriginal Strategist Center for Teaching and Learning Technology have deeply informed my ability to create an atmosphere of trust, developing activities that encourage students to acknowledge, consider and respect a plurality of positions and practice cultural humility.

**Beyond the Classroom**

In addition to facilitating student engagements in classroom settings, I also support students in a range of experiential learning opportunities. In 2016, I received funds from UBC’s Remote Community Based Learning Fund to take graduate students in the First Nations Curriculum Concentration to work for a week with the Heiltsuk Cultural Education Centre on the island of Bella Bella off the central coast of British Columbia. This collaboration has been years in the making, and I am thrilled that we received a second year of funding to bring another group of students in the spring of 2017. The learning opportunities made possible through this collaboration exemplify the type of experiences that enhance students’ critical thinking skills, supporting their development as engaged, ethically reflective information professionals.
I share my teaching statement above with some discomfort. However, I recognize that I learned so much from those who shared their teaching philosophies with me. The variation across the statements helped me realize how personal teaching is. Educators must develop and reflect on the philosophies and practices that work for them and for their students.

Resources Mentioned in the Article


Information Behavior of Refugees: Viewing Refugee Integration Through an Information Science Lens
by Olubukola Oduntan

The United Nations High Commissioner for Refugees reports 65 million refugees around the world, a 50 percent increase over the last five years and a 75 percent increase over the last 20 years. With over 80 percent of refugees living below the poverty line, new ideas and innovations are desperately needed to assist with refugee integration into host countries. This information behavior investigation is an attempt to identify information needs, both individually and publically, in refugee integration. Concepts considered in this investigation include the hierarchy of needs, social capital, accessibility and quality of information and sense-making. One main goal of the investigation was to determine situations where refugees experienced a lack of information during the integration process. Using the materials for this investigation, Olubukola Oduntan created and submitted the winning video for the first ASIS&T Doctoral Student Research Video competition.

With over 65 million forcibly displaced persons reported by UNHCR (United Nations High Commissioner for Refugees) — an 8% rise from 2014, a 50% increase in five years and an increase of more than 75% in the last two decades — the current refugee crisis represents the most important humanitarian crisis of all time. Over 80% of the displaced live below the poverty line in host countries, and integration of refugees is undoubtedly of global concern.

Of course, host societies prepare integration processes and systems to support refugees; however, to the traumatized refugee in an unfamiliar territory, these processes are complex and complicated. Refugees are therefore unable to navigate them sufficiently for sustenance in the new territory, resulting in their marginalization. It is also likely that the sheer size of the refugee population is a major marginalization factor.

Refugee integration is indeed a complicated phenomenon: it is an attempt to deal with the sociological and psychological consequences of forced displacement. It cuts across legal, economic and socio-cultural dimensions, and it is operationalized as an all-inclusive integration service with numerous processes and systems. How well do these processes and systems match the actual needs of refugees, if at all? This was the question on my mind at the start of my investigation.

During the literature search, I looked through academic literature, practitioners’ reports such as UNHCR, World Bank, Council of Europe, ECRE (European Council on Refugees and Exiles) and those of national refugee councils. I also attended seminars on migration. In the course of this search I
stumbled upon a Scottish refugee council research report that highlighted the need for a person-centered accommodation service as part of its over-arching recommendation. The idea of “person-centered” struck me as a connection: information science has an applied science element used in developing user-centered services, and refugee integration service processes are complex, so there is a need for a person-centered integration services.

My Ph.D. research is a situational level information behavior investigation aimed at identifying personalized information needs during refugee integration. The term person-centered has resonated directly and indirectly through the various stages of the research. For instance, during an interview, when asked what he wished he had known, a participant replied, “There is so much general information but there is nothing specifically to help you live your life as a person.” Viewing refugee integration through an information science lens means deep insight into the complexity of refugee integration.

In this article, I discuss my research, highlighting the key concepts, connections and preliminary findings of my research and emphasizing information behavior at the situational level. I then describe how it was translated into my short video, "Information Behavior of Refugees" (click on link below), submitted for ASIS&T’s Doctoral Student Research Video Contest.

**Why Information Behavior?**

Information behavior is a branch of information science that adds depth and insight to user studies through the discovery, synthetization, application and implementation of facts, theories, principles, techniques and technologies across disciplines toward solving information problems in any given context. In a social context, it focuses on the red thread of information in the social lives of people, its manifestation and use including the processes in the service of information transfer to solve problems. In this research, concepts of information behavior are being related and synthesized with discovered facts, theories and practices in refugee integration to understand the complexity of the refugee integration processes from an information science perspective. But first, what facts, theories and so forth are being synthesized?

**Refugee Integration: What Is It About?**

Refugee integration spans the different end goals of professional practitioners and policy makers; therefore, it has no operational definition. It addresses the changing relationship between refugees and host societies. There are two sides to it, individual features and public features. Individual features pertain to the refugee and public ones to the society. The individual features include identity, belonging, recognition and self-respect, while the societal features include the juridical statutes, social values and economic and political environments. Integration lies in the experience of the societal by the individual; however, in practice, refugee integration is political and not straightforward. The following issues surround refugee integration:

- **Integration type** – for example assimilation or multiculturalism
- **Who** – for example, persecuted wealthy businessmen or refugees
- **Into what** – for example, ethnic minority group or holistic society amidst separatist policies.

Refugee integration is in fact a social process through which the whole population acquires civil, social, political, human and cultural rights for greater equality. It is concerned with social connection and participation within and between communities in the host societies. As a result, its policies are implemented through the practical and functional aspects of the society such that public services accessed by both refugees and citizens of the host
society are used as the measurement tool to evaluate integration services and compare experiences. The services are called indicators of integration.

In the United Kingdom, the place of my study, the public services are set within a broader holistic framework of all aspects of integration. The indicators-of-integration framework is spread through four layers: foundation, facilitators, social connection and markers and means. The markers and means are the public services used to measure progress – employment, housing, education and health. Although the framework stipulates the conditions of integration-service provision, it appears to be a one size fits all situation. The individual circumstances with respect to the processes and systems are not clear: does the framework really model the refugees’ actual integration experiences? These questions were in my mind as I unraveled integration.

At this stage it was clear that integration is about social interactions, connections and relationships and is therefore socio-oriented. In information behavior studies, context determines concepts, so there is a need to examine social science concepts appropriate to integration. The two I considered most carefully were hierarchy of needs and social capital. Hierarchy of needs would have been more applicable if the focus of my interest had been on the individual markers and means of the indicators-of-integration framework, but since my focus is on experiences during interactions, I chose to use social capital.

Social Capital: Why?

Social capital particularly draws attention to relationships and connectedness with respect to the individual and social structure in a society. Its description includes “a resource that can generate a steam of benefits for society over time” [1, p. 39], “the glue that holds the society, facilitates cooperation, exchange and innovation” [2, p. 11], also “a private and a public good” [3, p. 20]. To determine my approach, I examined three common conceptualizations of social capital: those of Bourdieu, Coleman and Putnam.

Bourdieu’s social capital focused on the positions of the individual within the society in gaining access to resources based on his social theory of habitus. He defines social capital as “the aggregate of the actual potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” [4, p. 284].

Coleman focused on social capital as a resource for action controlled by the actors (person or group) to achieve certain ends which in its absence would not be possible, stating that information inheres in social relations and it is important in providing a basis of action. In his words, “social capital is defined by its function; it is not a single entity but a variety of different entities with two elements in common – social aspect of social structures and how they facilitate certain actions of actors (whether persons or corporate actors) within the structure” [5, p. S98].

Putnam’s social capital focuses on political democracy and a civil society. He relates social capital to “civic virtues,” highlighting the importance of a strong network of reciprocal social relations of social capital for a powerful civic virtue. He describes social capital as consisting of “features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives” [6, p.664].

It was consistent among the three approaches that social capital concerns interactions and relationships with benefits. And, like integration, there are two sides to it: an individual aspect and a collective aspect. Three forms of relationships are further identified in the literature:

- **Bonding social capital** refers to relationships with family.
- **Bridging social capital** refers to relationships with friends.
- **Linking social capital** refers to relationships with friends of friends.

Simply put, they are used for getting by, for getting ahead and for getting across, respectively.

The point of departure for my study became Coleman’s views that information inheres in social relations that link the effects of social capital to informational benefits, which suggests that information can be both a resource and a benefit of social capital.

Where Is the Connection?

The initializing concept in information behavior studies is a perceived need for information in a given context, and this need can be related to the “information provides a basis of action within a society” of social capital. Information behavior during refugee integration is therefore in the different levels and aspects of actions and interactions and their corresponding
In our current world, the problem is not a lack of information, but rather of the inadequacy/inappropriateness of information, which means that if information needs are not met, it is not only a result of access/availability but also of what is provided. Addressing in a unified way the issues of information availability and access together with the understanding of information for the design of services is a potential delimiter of marginalization. The insight for these enhancements can be found in the depth information behavior research can provide. Specifically, understanding information for availability/access and service provision can be achieved through a situational level information behavior investigation. Put into context, the actual situations in which refugees find themselves as they transition into the new society are the observable experiences that define the situational need and, ultimately, the information needs.

A situational level information behavior investigation is a bottom-up approach that is embedded in the situation to enable the identification of person-centered information needs. It begins with the situation then continues through to the person to achieve the same information behavior studies goals as individual case studies, but at a larger capacity. The use of a robust methodology that will situate people, time and place with respect to information is a prerequisite, with the ensuing result being the identification of collective/individual information needs, including situational information needs across a range of individual characteristics. Situational level understanding enhances individual level provisions and eliminates the limitation of individual needs findings.

Sense-Making: How So?

Information behavior research puts people in context for the observation of their experiences. In such studies, the situation in which needs arise defines the experiences and information needs. The information science socio-cognitive approach (social environment and individual thinking) seemed appropriate for my research. The observable experiences are in the interactions during transition to the society. But how will the contextual information needs be revealed in these complex interactions, and what is the most suitable information behavior concept for my study? Answering these questions was the goal of the next stage of my research.

The concepts in information behavior that I considered included Wilson’s information behavior model, Savolainen’s everyday life information seeking, Fisher’s information grounds, Marcella and Baxter’s information interchange, Chatman’s information poverty and Dervin’s sense-making [7]. Wilson’s model is good as a conceptual framework, but everyday life, power and structure in information interchange and information sharing locations are not independent occurrences in refugee/society interactions during refugee
integration; they are simultaneous occurrences. Information poverty might have been applicable if refugees were being studied as a closed group, but it was evident that refugee integration must be investigated as a big picture.

Dervin’s sense-making, on the other hand, encapsulated everything. Its simple description as “the behavior both internal (cognitive) and external (procedural) which allows the individual to construct and design his/her move through time space” [8, p 3] literally models the context: the refugee is transitioning in the society, acted upon by internal and external forces (the individual and public features of integration). Information behavior then, lies in what is observed from people’s constructions/experiences highlighted, through Derwin’s situation, gaps, bridges and outcomes metaphor.

But, I wondered, what if the concepts could complement each other in a synergy to explore the phenomenon? With some further digging, I could link the concepts of everyday life, power and structure and information sharing to elements of sense-making, thereby creating a deep construct of information behavior for refugee integration (Figure 2).

Moreover, Savolainen’s everyday life information appears to augment the cognitive aspects of sense-making while Fisher’s information grounds theory extends the cultures and communities in sense-making and Marcella and Baxter’s information exchange expands the power and structures aspects of it. My thought was that this synergy would be particularly useful for the research findings.

The exploitable strength of sense-making for this study lies not only in its concept but also its methodology. It focuses on movement, change and the forces facilitating or constraining them. It acknowledges that individuals may have multiple interpretations of the same situation at different times. In other words, situations remain the same but experiences change. Therefore, for the refugees’ movement across time and space in the host society, it potentially enables the possibility of patterns and characteristics emerging, highlighting phenomena from different refugee experiences at different times in situations.

What Can Be Seen Through the Information Science Lens?

I am currently in the early stage of analysis but one of the research goals was to find the situations of information lack during integration. Ongoing analysis highlights the existence of three categories of situations for refugee integration:

- Those of refugees who are minors: specific to people less than 18 years
- Those of individual refugees: general to anyone in the system
- Those of refugees who are accompanied: specific to people are part of a larger unit such as a family or to a woman who is pregnant

The individual situations are common to all within the protection system, while the minor and company situations are in addition to the individual ones. A situation for an individual includes when a participant is locked out of the provided accommodation and does not know what to do. Or, likewise, when a participant who has spent three years on an English course realizes it is not required. The specific situations include when participants do not know they are not allowed to leave children at home until someone reports them to the police or when a young minor is in need of a prom dress and does not know how to get one.

Refugee integration, as with all social issues, will always be complicated, whether or not there is an increase in forced displacement. Exploiting the depth provided by situational information behavior understandings will continue to reveal the emergent information needs in and from any situations at any given point in time. This insight will provide a fuller capacity for service design, while at the same time providing for access and availability of information to the user in any given context.
The Five-Minute Video: How Would This Be Possible?

I was in the first half of my Ph.D. second year when the doctoral research contest was announced. As the study progressed, the concepts surrounding refugee integration and its relationship to information behavior had appeared convoluted. Doing the video for ASIS&T’s Doctoral Student Research Video competition was a good distraction and an opportunity to make the intricate relationship simple, clear and straightforward for all, including myself.

In this light, the video was made using videos, pictures and diagrams with very few words; as the saying goes, “a picture is worth a thousand words.” I should add that I love movies, so when I saw the video contest, I guess the Hollywood force in me awakened. The listed software in the call for submissions seemed most appropriate for formal presentations, but I was thinking of a movie, so I set out to make one. Some basic knowledge of movie making was by no means guaranteed; I needed software, a plot, a script and music. Film and sound editing skills came naturally.

From my research into movie-making software, I had heard of iMovie by Apple. It is popularly used for putting together personal pictures in a video for friends and family on social media, but I thought I could use it to put my research together for the contest. It is free software, and I use a Mac. My plot and script went hand-in-hand: it was around the refugee crisis and the role of information behavior as I highlighted above. I researched heavily for videos and pictures from refugee organization websites, information science websites and Google, among others. I was looking for intense illustrations to introduce my identified concepts. However, the pictures about concepts and their connections in the video were my illustrations. They are outputs from the literature review, especially the connections briefly described in the sections above. They are also the most recurring pictures in the video.

The first version seemed good, but it had a poor voice recording and lacked music; therefore, I needed music and a good voice recorder. Following some more research, I found free music by Ben Sound and the Blue Snowball Ice microphone. Snowball Ice microphones are not the cheapest on the market, but for the sound quality, I couldn’t complain. Two months later (yes, producing a motion picture is some hard work), the video was ready for submission. I was so delighted when it was announced that my video won the contest for its originality and creativity. It’s such an honor, and I’m thankful for the opportunity.

Resources Mentioned in the Article


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Further Readings


I was sitting in my home office recently, talking with my seven-year-old about our family. She asked me a few details about how we’re related to various relatives, so within 10 minutes I’d drawn out a standard genealogy tree structure on my whiteboard, showing five generations and multiple family branches – divorces, remarriages, adoptions and all. She looked amazed and said, “How do you REMEMBER all that in your head?”

And there it was again, information architecture. Part of the reason I remember all the family information that seems overwhelming to her is that I’ve got 38 years of family reunions and holiday dinners on her, of course. But I also know how to represent those relationships in a structure that enhances my memory of the connections.

She’d heard of the idea of a family tree before, and she’d even drawn one in school. But until she saw my large, many-branched sketch, she hadn’t gotten the idea fully. Once she did, she wanted to draw leaves all over it, because that’s her understanding of a tree.

The metaphors and models we use in information architecture have to make this kind of visceral connection with our audiences. Do they see a tree just because we call it a tree? Or do they need to see the leaves that are “unnecessary” to our information representation – yet essential to their understanding?

Many of us have unconsciously clung to the idea of web “pages” to describe content even when we design models that truly use chunks of content, because that metaphor established by printed works hundreds of years ago has so firmy imprinted itself onto our brains. And frankly, while “chunks” are accurate in terms of describing a block of content that can appear in a number of places on a website or an app, they aren’t a great metaphor to help us envision the role of specific information in a model. A page is a specific place in a book. A chunk could be anywhere or nowhere.

A useful metaphor for information architecture has to establish the relationship, not just the item. When we say web “page,” we imply that the information has a place in a hierarchy or a structure. When we say “chunk,” we have removed the idea of a containing structure entirely.

Of course, that’s part of what makes chunks so powerful. They are structure-independent.

At the same time, that’s what makes them so hard to discuss and explain. Content chunks are like the dozens of relatives my daughter has met without the context of a family tree – interesting in their own right, but the relationships aren’t apparent, and without them, neither is some of their meaning.

When you use content chunks instead of pages to think
of, create and manage your content – and I could go on all day about why you often should – you will still need a metaphor or model to explain how your content will work.

In some cases, this may take the familiar information architecture form of a traditional navigation structure or a taxonomy of related terms. In many other cases, though, we are now designing information models that express content relationships in ways that were never possible before the modern digital experience. These new content relationships don’t fit neatly into those old page or tree metaphors, often because those are static metaphors. Chunks enable mobility and flexibility that aren’t possible for a book (with pages in a set order) or a tree (rooted to the ground with stationary branches).

Our new models are like oceans, where fish are constantly moving and responding to their environments. They are like a disco ball, reflecting light in multiple directions and bringing your attention to things you didn’t see before. They are like the windows and billboards in the 2002 film Minority Report, customizing themselves in response to changes in the environment and the audience.

In this new information architecture, the structure may never be obvious or visible in a way that’s easy to see or draw, because it is not static – it does not hold still or take a single form long enough for us to visually describe it. The facets of context and content describe the possible types of relationships, but the true structure only appears to individual users at the time they use the site or the app.

In my own experience, that can make digital experiences harder to manage as well as design. That’s why some lucky customer service personnel today have the ability to imitate a specific user’s account with permission – because otherwise, there’s no way to see exactly what the user sees.

Counterintuitively, I have also seen that a user can simply be inside a well-designed experience and it will make sense, even if they don’t have the language or the metaphor to describe it. (Note that the adjective well-designed is critical there.) But for many projects under development, this structural flexibility and innovation make experiences difficult for internal teams to discuss.

When we want to convince business executives why they should fund an experience or help programmers understand what to build, the metaphor matters. We have to design not just the experience, not just the structure, not just the metaphor – we have to give them the leaves that make it real to them, so they see the value.

Spend the time you need working on your metaphors. Those leaves reveal your story.