EDITORIAL

This BPM newsletter primarily looks at Vienna, the host city of BPM 2019!

Driven by General Chairs Jan Mendling and Stefanie Rinderle-Ma, the BPM 2019 machinery runs at full speed. To get you even more excited about BPM 2019, in this newsletter you will find a welcome message, an in-depth look at the organizing teams, and invitations to submit to the main conference and to the workshops.

The Workshop Chairs managed to attract an impressive number of workshops, ranging from traditional BPM Workshop topics such as the BPI workshop to workshops on topics like requirements engineering and digital transformation, which provide a different research angle on topics discussed at the BPM conference. I am very happy to see that after opening the main conference to the broad field of BPM last year, this year, the workshops follow.

The BPM 2019 General Chairs came up with several innovative ideas, including a closing party on Thursday Sept 5. Please take this into account when planning your trip to Vienna, since you don’t want to miss the party, do you?

Innovation does not stop at the BPM newsletter. To make it even more exciting, we have introduced a few new columns, which are driven by members of the BPM Steering Committee. Stefanie Rinderle-Ma and Boualem Benatallah take over the Interview Column and Barbara Weber manages the Group Column. In the previous newsletter already, Marlon Dumas started with the People Column. Thanks, dear colleagues, for your support for the BPM newsletter!

Best regards,
Mathias Weske
Vienna is situated in the North-East of Austria and lies on the banks of the majestic Danube river. Surrounded by the natural beauty of the Wachau region, the Vienna Woods and the numerous green expanses and parks makes Vienna an exceptionally agreeable city. According to the Economist Intelligence Unit’s 2018 rankings, Vienna is the most livable city in the world. More than half of the metropolitan area is made up of green spaces. 280 imperial parks and gardens enrich the cityscape. In spring, 400 species of rose bloom in the Volksgarten alone. The nearby recreation areas of Prater, Vienna Woods and Lobau invite visitors to go on walks, day trips, hikes and bicycle tours.

Vienna is a city where postmodernist and contemporary architectural designs contrast and fuse with the monumental and historic. The MuseumsQuartier is a perfect example, with modern museum architecture integrated into a public space created around former stables for the Habsburgs’ horses. Vienna is packed with imperial history, at the same time it has exciting contemporary museums, lively eating and a vibrating nightlife, but also many quiet corners to explore. This makes Vienna a dream city for anyone with a romantic streak or an interest in history. Sightseeing opportunities are to be found in abundance. Wander along narrow, medieval alleyways or across imperial squares, view Schönbrunn Palace or the Imperial Palace (Hofburg) in the footsteps of Sissi and Emperor Franz Josef, and marvel at the majestic architecture along the Ring boulevard. Get a sense of the luster and glory of the old empire by visiting St. Stephen’s Cathedral, the Spanish Riding School, and the Giant Ferris Wheel at the Prater, as well as the sarcophagi in the Imperial Vault. Be inspired by an atmosphere steeped in history - which also boasts the comforts and infrastructure of a modern city.

Vienna possesses a lively and vast array of cultural attractions. Whether classical or experimental theatre, film or dance festivals, opera or ballet, or exhibitions and concerts - no matter when you come and how long you stay, there is sure to be something exciting for you to discover. Or if your tastes are not quite so culturally refined, then visit one of Vienna’s famous coffee houses or traditional wine taverns (Heurige) and work your way through famous culinary specialties.

Vienna is known as one the most musical cities in the world. Visiting Austria’s capital means experiencing the works of Mozart, Haydn, Schubert, Beethoven, Strauss and many others in venues like the Staatsoper and Musikverein. The music of Bach and Händel continues to be performed in Vienna’s historic churches today, and Vienna’s Collection of Ancient Musical Instruments, paired with a visit to the Haus der Musik, takes you deeper into the texture of music and how it is created. Down the centuries, Vienna has always produced and nurtured world-famous artists. The collecting passion of art-loving rulers and monarchs has made Vienna a treasure house par excellence. The Museum of Fine Arts, for instance, is one of the world’s largest and most distinguished museums, housing priceless works of art.

Vienna also hosts several international events such as the famous Opernball that takes place every year in February in the Staatsoper. The Life Ball, one of the biggest AIDS charity events worldwide, also takes place in Vienna and is held in the city hall. Each Life Ball is attended by stars, designers and politicians from all over the world such as Bill Clinton, Katy Perry, Charlize Theron and Jean Paul Gaultier. Also festivals such as Rock in Vienna and Donauinselfest are both taking place annually at the Danube island.

Sources: www.wien.info, www.aboutvienna.org

Jan Mendling, Stephanie Rinderle-Ma (BPM 2019 General Co-Chairs)
A MESSAGE BY THE BPM 2019 PC CHAIRS

The BPM 2019 main conference is based on three tracks that cover not only different phenomena of interest and research methods but, consequently, also different evaluation criteria.

Track I invites papers that follow computer science research methods. This includes papers that investigate the underlying principles of BPM systems, computational theories, algorithms, semantics, and methods for modeling and analyzing business processes. This track also covers papers on novel languages, architectures, and other concepts underlying process aware information systems, as well as papers that use conceptual modeling techniques to investigate problems in the design and analysis of BPM systems. Papers in Track I are evaluated according to computer science standards, including sound formalization, convincing argumentation, and, where applicable, proof of concept implementation, which shows that the concepts can be implemented as described.

Track II invites papers that focus on engineering aspects of information systems research. The focus is on the investigation of artifacts and systems in business environments. Papers in this track are expected to have a strong empirical evaluation that critically tests criteria like usefulness or added value of the proposed artifact. This track covers business process intelligence, including process mining techniques, and the use of process models for enactment, model-driven engineering, as well as interaction with services and deployment architectures like the Cloud. Empirical evaluations are important to show the merits of the artifact introduced. Where applicable, artifacts should be compared to state-of-the-art in a reproducible manner. A self-critical discussion of threats to validity is expected.

Track III invites papers that aim to advance our understanding of how BPM can deliver business value or competitive advantage, for instance by developing capabilities to improve, innovate, or transform organizations or to tackle the challenges and opportunities of digitalization. Papers that study process thinking, organizational routines, process innovation, and the application and impact of BPM methods and tools in use contexts based on empirical observation are highly welcome, too. Areas of interest include a wide range of capability areas that are relevant for BPM. Papers will be evaluated according to management and information systems standards.

Authors of selected papers will be invited to submit an extended version to special issues in Elsevier’s Information Systems (Tracks I and II) and in Springer’s Business & Information Systems Engineering (Track III).

On top of exciting workshops, BPM 2019 will feature the 1st International Blockchain Forum and the 1st Central and Eastern European Forum, the latter celebrating Vienna’s vicinity to its Eastern European neighbors. Moreover, the tradition of BPM Forum, Demos, and Industry tracks will be followed. Together with the keynotes and the research track, BPM 2019 will offer a rich, diverse, and exciting program.

Best keep in mind the following deadlines:

- 1 March 2019 Abstract submission Main Conference
- 8 March: Full paper submission Main Conference
- 1 April 2019 Proposal Submission for Tutorials
- 30 April 2019 Nomination Submission BPM Dissertation Award
- 24 May 2019 Paper submission Blockchain Forum, CEE Forum, Industry Track, and BPM Workshops
- 14 June 2019 Submission for Doctoral Consortium and Demo
- 1 Sept—6 Sept 2019: BPM 2019

Further details can be found at https://bpm2019.ai.wu.ac.at/?page_id=233.

BPM 2019 will be the first BPM conference that includes a closing party. We have already booked a place in close-by Prater. So make sure you do not leave before FRI 6 September 2019!

Thomas Hildebrandt, Boudewijn van Dongen, Maximilian Röglinger, Jan Mendling (BPM 2019 PC Chairs)
BPM 2019 WORKSHOPS: NOW IT’S UP TO YOU!

Workshops allow you to engage a select community of people who are working on the latest ideas in a particular area of business process management. While the main conference focuses on papers that present finished work, workshops attract papers that present ideas and preliminary research. They facilitate presentations on such preliminary research and inspire new (joint) research in existing domains.

A large number of workshop organizers have made the effort to propose a workshop for the BPM conference. For you as a researcher in the area of BPM, this is the ultimate opportunity to submit your own or your students’ preliminary work on novel topics. It will enable you to discuss the work in a focused session and further develop your ideas together with your fellow researchers from around the world.

Monday, September 2, 2019, is reserved for the workshops at the BPM Conference. We are proud that BPM 2019 will have an unprecedentedly rich spectrum of workshops that reach out into neighboring domains of computer science, software engineering, information systems research, production engineering, management, healthcare and social sciences including:

- Workshop Adaptive Case Management
- Workshop Value and Quality of Enterprise Modelling
- Workshop on the Interrelations between Requirements Engineering & Business Process Management
- Workshop on DEClarative, DECision and Hybrid approaches to processes
- Workshop on Process Querying
- Workshop Process-Oriented Data Science for Healthcare
- Workshop Ontological and Foundational Perspectives in Business Process Modelling
- Workshop on Methods for Interpretation of Industrial Event Logs
- Workshop on Social and Human Aspects of Business Process Management
- Workshop on BPM in the era of Digital Innovation and Transformation: New Capabilities and Perspectives
- Workshop on Business Process Intelligence
- Workshop on Business Processes Meet the Internet-of-Things
- Workshop on Artificial Intelligence for Business Process Management
- Workshop Digital Production

Keep in mind the submission deadline for the workshops, which is 24 May. More information can be found at https://bpm2019.ai.wu.ac.at/?page_id=737.

Chiara Di Francescomarino, Remco Dijkman, Uwe Zdun
(BPM 2019 Workshop Chairs)
It has been a tradition at BPM conferences to open each day with a keynote presentation that—to some extent—sets the scene for the respective conference day. BPM 2019 is proud to announce three outstanding keynote speakers for the main conference. The keynotes represent complementing views on business process management, ranging from an industrial perspective to a computer science view, all the way to a management research perspective.

**Pat Geary** is the Chief Evangelist at Blue Prism. Pat has over 30 years international marketing experience across a range of large multinational software and hardware businesses. Pat joined Blue Prism in 2008 as CMO when it was a startup, he invented the term Robotic Process Automation (RPA) in 2012, it’s now a global IT software category, which Blue Prism is the market leader of. Pat is a member of the Advisory Board of the CMO Council, winner of CMO of the Year 2016, a member of the NOA “A list” 2016 and holds an honours degree in Computer Science.

**Monika Henzinger** is Professor at the University of Vienna, Austria, heading the research group of Theory and Applications of Algorithms. She received her PhD from Princeton University and was an assistant professor at Cornell University, a researcher at Digital Equipment Corporation, the Director of Research at Google and a professor at EPFL, Switzerland, before moving to Vienna. Professor Henzinger received a Dr. h. c. degree from the Technical University of Dortmund, Germany, an ERC Advanced Grant, a SIGIR Test of Time Award, a European Young Investigator Award, an NSF CAREER Award, and a Top 25 Women on the Web Award. She is a Fellow of the ACM and of the EATCS, and she is a member of the Austrian Academy of Sciences and the German Academy of Sciences. She published over 150 articles and co-invented over 80 patents.

**Kalle Lyytinen** (PhD, Computer Science, University of Jyväskylä; Dr. h.c. Umeå University, Copenhagen Business school, Lappeenranta University of Technology) is Distinguished University Professor and Iris S. Wolstein professor of Management Design at Case Western Reserve University, and a distinguished visiting professor at Aalto University, Finland. Between 1995 and 2015 he was the 3rd most productive scholar in the IS field when measured by the AIS basket of 8 journals; he is among the top five IS scholars in terms of his h-index (84); he is the LEO Award recipient (2013), AIS fellow (2004), and the former chair of IFIP WG 8.2 “Information systems and organizations”. His Erdos number is 3. He has published over 350 refereed articles and edited or written over 30 books or special issues. He conducts research that explores digital innovation especially in relation to nature and organization of innovation processes and outcomes, design work, requirements in large scale systems, diffusion and assimilation of digital innovations, and emergence and growth of digital infrastructures.

Furthermore, the Industry Track and the Blockchain Forum will have keynotes by Petr Novotny (IBM Research) on Hyperledger Fabric and its applications: Technical perspectives, Max Pucher (Papyrus) on Adaptive Case Management with Converse, and Stefan Schulte (TU Wien) on Process Verification based on the Bitcoin Blockchain.
Interview with Max J. Pucher

Max J. Pucher, Chief Architect at ISIS Papyrus Software, was interviewed by Stefanie Rinderle-Ma.

Max J. Pucher started his career with IBM, working in hardware engineering, consulting, and sales. In 1988, he founded the nucleus that became today’s ISIS Papyrus Group with more than 350 employees and 2,800 customers worldwide.

The ISIS Papyrus headquarters are located in the very vicinity of Vienna, so we had the pleasure to speak to Max in person about the newest trends at ISIS Papyrus, challenges in ACM and BPM, and the journey of founding and running a successful company.

What is ISIS Papyrus currently up to?

The basis of our platform has been Adaptive Case Management (ACM) since 2009, where I prefer the term adaptive and goal-oriented collaboration. The central piece is the document which is linked to a well-defined data model which can be used throughout the process. One of our customers is BNP Paribas where 35,000 users work on our platform, handling all tasks related to documents and collaborative processes. Our platform empowers an integrative approach in a company, which can be also become a hurdle if departments and people lack the interest to share the same technology and platform.

My vision is augmentation of human work and collaboration and not automation to replace manpower. Work realities are and will change for example through the iPhone. It is a powerful platform that offers a myriad of possibilities. However, nowadays companies often separate customer and internal platforms. I am not advocating that the entire business should run on a smartphone, but there should be also no systemic break between the end user on a PC and on a Smartphone.

Our current development in this direction is Papyrus Converse which is a complementary service to our existing platform. It is intended to support conversational processes. The basic idea is to create and support “WhatsApp-Like processes”. Almost everyone uses WhatsApp and is running several chats at the same time. These conversations represent collaborative processes. The goal is to document and drive these processes in a transparent and auditable way. A first application was based on WeChat in China with banks and insurance companies where transactions were automatically created out of the chats. One challenge is to do this in an unambiguous way. Here we use ontologies and dictionaries. This also enables, for example, a search started out of a chat for documents connected with a specific customer. Then I can also directly work with this document. Another trend is to enable users to structure processes their rules in context rather than flow-diagrams. Based on these rules, together with the goals, the process structure is defined. On top, an agent constantly analyzes the processes and makes recommendations using machine learning. Also users can rate the processes and give feedback. The
latter is currently still more in an explorative phase as it is unknown how interactive users will be.

What interconnections do you see between ACM/Collaboration Management and BPM? What are the most pressing BPM challenges?

A collaboration becomes a process through defined goals. Taking a collaborative point of view inherently allows to incorporate interactions with other processes. Incorporating all these possibly nested interdependencies in a flow diagram quickly leads to spaghetti code program models. In my opinion, it is very hard to model collaborations with flow diagrams. The second aspect is goal-orientation, leading to effective processes and decisions (efficient is not equal to effective). The third aspect is agility. We have to move away from rigidly pre-defined processes as they result in a non-maintainable structure. The fourth aspect is the existence and growth of silo solutions. They have to be integrated in a process-oriented way. The lack of such support creates a lot of programming effort which users without technical background cannot cope with. Of course, the challenges of digital transformation such as integration, standardization, and security are more than relevant for BPM as well, asking for the connection with new technologies such as blockchain.

Which advice would you give to start-ups and what was your own road to success?

First of all I would advise against being an entrepreneur (*laughs*). But if you have the entrepreneur spirit, then it is the best thing you can do. The most important abilities are courage and stamina. Moreover, you have to have a clear vision and that you can live and fully embrace. There are two ways to establish your company in the market. One way is to invest a lot of money into a lot of advertising. The other way is to start with more of a niche product and to grow into the market. Or even better: recognize the needs and create your own market that you can dominate. This was my strategy that I recognized and grew from working for IBM in the first place. Starting from document management I observed the need for supporting document-based communication and collaboration. In principle, there is no document without a process and vice versa. So we started to work on electronic support for document flows, already considering machine learning and AI techniques for document recognition.

What are the ingredients to make a company a success?

One essential ingredient is the partnership with your customers. I am proud that ISIS Papyrus have not gone through any legal dispute in 30 years. Only one time we took a product back from a big customer and returned the money – without being our fault – and now this customer is one of our biggest. This shows that creating a trustful relationship with your customers and partners is crucial for a company’s success.

What do you think is missing in successful technology transfer between companies and universities?

Technology transfer is an extremely important topic and should be extended. We have a separate department for this, called Academy, and run several projects with universities. I am convinced that both parties benefit from such projects. Particularly, the controversial discourse is essential for progress and innovation. However, existing funding models are partly too complex, i.e., requiring too much bureaucracy. I am an absolute opponent of patents, which are too much effort, too complex, too many regulations, and only manageable by big companies, again hindering progress.

Stefanie Rinderle-Ma (Interview Editor)
GROUP COLUMN: FOCUS ON VIENNA

For the first time the BPM Newsletter features a group column that has the goal to introduce different BPM groups with their specific research foci and highlights. This group column introduces the two groups that will jointly organize BPM 2019 in Vienna, Austria.

The Workflow Systems and Technology Group (WST) at the Faculty of Computer Science, University of Vienna is led by Stefanie Rinderle-Ma and focuses on process-driven digitalization. This requires fundamental research in the areas of flexible and distributed process technology, process compliance and intelligence, and human-oriented process design, as well as application-oriented research in areas such as smart manufacturing, (health) care, and customer journeys.


- Smart manufacturing with centurio.work: WST is scientific partner of the Austrian Center of Digital Production. The production processes are modeled, implemented, executed, and changed through the manufacturing orchestration engine centurio.work developed at WST. This enables the integrated collection of process and machining data (avoiding data silos) and provides exciting data sources for process and data science.

2018 was a good year for WST, receiving two best paper awards at CAISE 2018 and EDOC 2018, respectively. The CAISE 2018 paper proposes an approach for anomaly detection in process behavior based on association rule mining. The EDOC 2018 paper - in collaboration with D. Ritter and the team of M. Montali – provides a formalization of application integration patterns.

The Institute for Information Business at WU Vienna focuses its research efforts in Business Process Management, Knowledge Management, and Data Management. The BPM group is led by Jan Mendling. The group covers various BPM-related research topics. These range from formal computer science to information systems research. The BPM group has 12 members, including three assistant professors and eight PhD students. Each of the assistant professors directs a line of research.

The research of Cristina Cabanillas focuses on process modeling, execution and analysis with a strong emphasis on the organizational perspective, aiming at optimizing the management of human resources along with the business processes of an organization. She is currently coordinating the FWF PRAIS project on Process- and Resource-Aware Information Systems.

The research interests of Claudio Di Cicco revolve around process mining, formal methods in business process analysis, and process execution on the blockchain. He is currently involved in the FFG project CitySPIN, on cyber-physical social systems for smart city infrastructures.

Monika Malinova Mandelburger’s main research interests are related to conceptual modeling, process innovation and method mining. She is a Hertha Firnberg Fellow funded by the FWF Austrian Science Fund for coordinating a project on Process Exploration.

Barbara Weber (Group Column Editor)
A NEW BPM MOOC: HPI, SIGNAVIO AND CAMUNDA JOIN FORCES!

This online course introduces concepts of business process modeling and decision modeling using the industry standards Business Process Model and Notation, BPMN, and Decision Model and Notation, DMN. Participants will learn the elements of process models and decision models and their precise meaning. To strengthen the practical value of this course, two BPM tool vendors will join this online course. Signavio will provide practical aspects related to decision modeling and simulation of business processes. Camunda will cover process execution by providing concepts and methods to develop executable business processes.

The MOOC runs from May 15—June 27, 2019:

- Week 1: Introduction to Business Process Management
- Week 2: Basic Business Process Modeling
- Week 3: Analyzing the Behavior of Process Models
- Week 4: Business Decision Modeling
- Week 5: Signavio Process Analytics
- Week 6: Camunda Process Execution

More details including enrollment information can be found at https://open.hpi.de/courses/bpm2019

If you would like to enroll for this course, there are no formal prerequisites or limitations. The course is free and open for everyone.

Mathias Weske (HPI), Gero Decker (Signavio), Jakob Freund (Camunda)

PROCESS SCIENCE AND DATA SCIENCE MEET IN AACHEN

In the last week of June three conferences will take place in the soccer stadium of Aachen in Germany: the 40th International Conference on Applications and Theory of Petri Nets and Concurrency (Petri Nets 2019), the 19th International Conference on Application of Concurrency to System Design (ACSD 2019), and the first International Conference on Process Mining (ICPM 2019).

The first two conferences have a long tradition focusing on “process science” (in particular concurrency theory). ICPM 2019 is a new conference focusing on process data. Hence, it is a unique opportunity where process science and data science meet. Currently, the reviewing process is in full swing.

There is also a huge industrial interest in the event. This is illustrated by the impressive list of sponsors (https://icpmconference.org/sponsors/) including Celonis, Deloitte, ProcessGold, SAP, myInvenio, Fluxicon, Accelera, Minit, Puzzle Data, Software AG, SterioLogic, BrightCape, Logpickr, Mehrwerk, QPR, KPMG, Lana, Wintec, and Fraunhofer.

Next to the three conferences, there are several co-located events including several contests, tutorials, and workshops. See https://icpmconference.org/ and http://www.petrinets2019.de/ for more information.

Wil van der Aalst (ICPM General Chair)
This newsletter is an activity related to the BPM conference series. The goal is to further strengthen the BPM community that formed over the last decade. This newsletter will appear twice per year. Input for the next newsletter is welcome (e.g. activities related to the BPM conference, interviews, contests, new datasets, tools, etc.).

EVENTS AND ACTIVITIES OF THE COMMUNITY

Due to a shift in research interests, long-time SC members Schahram Dustdar and Michael zur Mühlen have left the BPM Steering Committee. Dear Schahram and Michael, thanks for your support and dedication over the years, and thanks for great BPM conferences in Vienna and New York!

BPM-related Paper Wins ICDT test-of-time Award: The International Conference on Database Theory (ICDT) awards the ICDT test-of-time award to the ICDT 2009 paper “Automatic verification of data-centric business processes” by Alin Deutsch, Richard Hull, Fabio Patrizi, and Victor Vianu. The paper has been a cornerstone in the research on artifact-centric and data-aware processes. It has generated impact not only on database and business process communities, but also influenced artificial intelligence, verification and Web services.

In its volume 78 from November 2018, Information Systems published a special section on BPM 2016 best papers with Marcello la Rosa, Peter Loos, Oscar Pastor, and Manfred Reichert as guest editors. The special section contains extended versions of six papers presented at BPM 2016. The selected papers, which cover different topics in the BPM field, distinguished themselves for the significance and novelty of their ideas:

The article Checking Process Compliance against Natural Language Specifications using Behavioral Spaces by Han van der Aa et al. introduces the notion of behavioral space to deal with behavioral ambiguity in textual process descriptions. The article Guided Process Discovery – A Pattern-based Approach by Felix Mannhardt et al. deals with the problem of abstraction mismatch between low-level events and activities. The article extends the paper that won the Best Student Paper Award at BPM 2016. In To Aggregate or to Eliminate? Optimal Model Simplification for Improved Process Performance Prediction, Arik Senderovich et al. present a technique to control model reduction of generalized stochastic Petri nets. The article Semantics, Analysis and Simplification of DMN Decision Tables by Diego Calvanesse et al. focuses on decision tables. This article extends the paper that won the Best Paper Award at BPM 2016. In Dynamic Skipping and Blocking, Dead Path Elimination for Cyclic Workflows, and a Local Semantics for Inclusive Gateways, Dirk Fahland and Hagen Voelzer formalize dynamic versions of the classical flexibility constructs of task ‘skipping’ and ‘blocking’ in a process model. Finally, the article On the Relevance of a Business Constraint to an Event Log by Claudio Di Ciccio et al. formally defines a notion of relevance of a constraint with respect to an event log.

The book Conformance Checking – Relating Processes and Models introduces readers to the field of conformance checking and outlines the fundamental relation between modelled and record-ed behaviour. Conformance checking interrelates the modelled and recorded behaviour of a given process and provides techniques and methods for comparing and analysing observed instances of a process in the presence of a model, independent of the model’s origin. Its goal is to provide an overview of the essential techniques and methods in this field at an intuitive level, together with precise formalisations of its underlying principles. Further details about the book including hands-on tutorials can be found at http://www.conformancechecking.com