

Wil van der Aalst and a New BPM Program

I've been following the business process market for the past 20 years, and I've been impressed by its varied twists and turns. One of the more interesting twists has been the development of an academic business process program at several leading universities. Academic BPM studies have taken two basic forms. One version has arisen in conjunction with Information Technology (IT) and positioned BPM as a systematic approach to introducing and using IT to improve business processes. The other variety has located BPM in business schools and emphasized that process improvement is a natural concern of business people. The best academic programs have emphasized a combination of these two approaches.

In addition to undergraduate and graduate BPM programs in major universities, there is now a well-established, annual BPM conference, where academics and researchers gather to share new insights and network, and there are a number of academic journals that publish new findings.

One of the international scholars who has been consciously associated with the growth of an academic BPM tradition is Dr. Wil van der Aalst. Professor van der Aalst has, for years, headed the BPM program at Technical University at Eindhoven, in the Netherlands. Dr. van der Aalst initially established his reputation with his research into workflow management systems. His book, *Workflow Management*, co-authored with Kees van Hee in 1997, became the definitive guide to workflow software and defined how one might catalog and evaluate the types of processes that workflow systems could model. In the Zeros, when organizations were exploring what BPM software tools could do, many relied on Aalst's and Hee's work to help define the limits of BPMS systems.

Recently Dr. van der Aalst has focused his research on Process Mining, and his 2011 book, *Process Mining*, has played a prominent role in the development of this exciting new software domain. In addition, by defining one use of AI technology in expanding our understanding of business processes, van der Aalst has also led a broader movement aimed at applying AI to BPM. Besides these major contributions, Dr. van der Aalst has written or edited many other books and hundreds of research papers. In fact, Dr. van der Aalst is the 10th most cited computer science researcher in the world.

In addition to his work as a BPM researcher, Professor van der Aalst has found time to be on the editorial board of the leading process journal, to serve as the co-chair of the international BPM Conference, and to participate in hundreds of BPM events.

Given this brief introduction, it is perhaps no surprise to hear that Professor Wil van der Aalst has recently been awarded the Alexander von Humboldt professorship, Germany's most valuable research award. In addition to the 5-million-euro prize, he will become the special chair at RWTH Aachen University in Germany. In addition, the Fraunhofer Institute for Applied Information Technology has made a major commitment to invest to help Dr. van der Aalst bring process mining innovations to market.

In essence, Dr. van der Aalst has been asked to create a new Process and Data Science Group at the university. In the months ahead he is being asked to fill some 18 research positions and create a new center of research in BPM.

When I heard the news, I couldn't resist writing to Wil to ask him about his new undertaking. Here are his responses:

- **How do you feel about setting up a new university program focused on business process at this time?**

In the new Process and Data Science (PADS) group we will focus on the interplay between process management and data processing. The scope of PADS includes all activities where discrete processes are analyzed, reengineered, and/or supported in a data-driven manner. It is great opportunity to set up a new high-profile research group. The main research focus will be on Process Mining (including process discovery, conformance checking, performance analysis, predictive analytics, operational support, and process improvement). This is combined with neighboring disciplines such as operations research, algorithms, discrete event simulation, business process management, and workflow automation. We will develop several new courses in the area of BPM and process mining and will seek to play a leading role in developing data science education at RWTH Aachen.

- **What do you see as the main skills that students need to learn to prepare them for business process careers in business or university in the next decade?**

- *Clearly, all jobs are becoming more data-driven and I do not see why this would change in the coming years. At conferences one can witness that the lion's share of BPM research is already data-centric. See for example the uptake of process mining in BPM and the way that AI and machine learning are changing business processes. Education programs and also daily BPM practices are lagging behind. Therefore, data science skills are very important for anyone involved in process management, controlling, automation, auditing, and consulting. At the same time, we should make sure that people are able to ask the right questions and have an open mind. Process improvement requires an understanding of the business context and the ability to realize changes that are less obvious but supported by the people involved.*

- **Do you see business process work as primarily a business skill, or as an IT skill at this point?**

Traditionally, there were two clear BPM camps: business-oriented people and IT people. Due to the omnipresence of data, this classical divide is disappearing. Data is connecting both camps because it is real. Managers that did not care about process modeling before, are now interested in process mining because it provides a reflection of reality showing the real bottlenecks and compliance issues. IT specialists that were disconnected from the actual processes and business questions now have a way to feel the real challenges of managers and end-users. The value of people that connect the real business questions with IT solutions is amazing. One of the dangers of the current development is that people may think BPM is no longer needed because of advances in data science. (BPM is dead, long live BPM!) It is very important that BPM professionals embrace data-driven approaches like process mining. Big data initiatives tend to neglect process aspects. Therefore, data science and process management need to be connected in a better way.

- **You say you are looking for teachers and researchers for your new department -- what skills do you think will be most important and hardest to find?**

*Currently, there are 18 vacancies in the new Process and Data Science (PADS) group. 11 PhD, 5 PostDoc, and 2 Software Engineer positions are available starting in January 2018. It will be very difficult to fill these positions because, also in academia, we are looking for sheep with five legs. People should have excellent analytical skills and be able to develop software based on their latest research ideas. At the same time interactions with students and external organizations require excellent communicative skills. Fortunately, young people are very excited about topics such as process mining. Also the working conditions at RWTH Aachen are very good compared to many other universities. Students at RWTH are excellent and motivated to continue in science. Nevertheless, it will take some time to create the right ecosystem to develop enough talented sheep with five legs. Therefore, we encourage people to apply via <http://www.pads.rwth-aachen.de/applications/>. **

Like many others involved in BPM I am happy to hear of the recognition that has been awarded to professor van der Aalst. It is undoubtedly deserved for his individual achievement, and, indirectly, it represents part of the growing recognition accorded to Business Process Management as an academic discipline.

If I were a BPM researcher, I would certainly be excited about the possibility of obtaining a position in what is sure to evolve as one of the leading centers of BPM research in the world.

* Researchers will need to speak English. Teaching will be mixed.

Author

Paul Harmon



Executive Editor and Founder, Business Process Trends In addition to his role as Executive Editor and Founder of Business Process Trends, Paul Harmon is Chief Consultant and Founder of Enterprise Alignment, a professional services company providing educational and consulting services to managers interested in understanding and implementing business process change. Paul is a noted consultant, author and analyst concerned with applying new technologies to real-world business problems. He is the author of *Business Process Change: A Manager's Guide to Improving, Redesigning, and Automating Processes* (2003). He has previously co-authored *Developing E-business Systems and Architectures* (2001), *Understanding UML* (1998), and *Intelligent Software Systems Development* (1993). Mr. Harmon has served as a senior consultant and head of Cutter Consortium's Distributed Architecture practice. Between 1985 and 2000 Mr. Harmon wrote Cutter newsletters, including *Expert Systems Strategies*, *CASE Strategies*, and *Component Development Strategies*. Paul has worked on major process redesign projects with Bank of America, Wells Fargo, Security Pacific, Prudential, and Citibank, among others. He is a member of ISPI and a Certified Performance Technologist. Paul is a widely respected keynote speaker and has developed and delivered workshops and seminars on a wide variety of topics to conferences and major corporations throughout the world. Paul lives in San Francisco. Paul can be reached at pharmon@bptrends.com