

German-Japanese Workshop in Berlin: Thinking Machine Learning and Big Data Together

At the beginning of the 1990s Klaus-Robert Müller, Professor for Machine Learning at the TU Berlin and head of the [Berlin Center for Machine Learning](#) (BZML), was for the first time for a research stay in Japan. Since then, the cooperation between RIKEN, the largest Japanese research institute, the BZML and the [Berlin Big Data Center \(BBDC\)](#) has grown steadily. In 2017, a [Memorandum of Understanding](#) was signed by Masashi Sugiyama, Director of RIKEN's Center for Advanced Intelligence Project (AIP), and Klaus-Robert Müller, representing the BBDC in Japan.

On 9 and 10 September 2019, a German-Japanese workshop on Machine Learning (ML) and Big Data took place in Berlin. Volker Markl, Klaus-Robert Müller and Masashi Sugiyama had invited scientists from the RIKEN Institute, the TU Berlin, the Fraunhofer HHI, the MDC and the German Research Center for Artificial Intelligence (DFKI) to the workshop in order to promote German-Japanese exchange and cooperation in the intersection of ML and Big Data.

In his welcoming remarks, Klaus-Robert Müller emphasized the importance of exchange across national borders and generations. Volker Markl, who is also Professor of Database Systems and Information Management at the TU Berlin, spoke in favour of working together beyond the boundaries of the disciplines of ML and Big Data Management. Only in this way it is possible to solve the great challenges and open scientific questions of our time and to achieve extraordinary progress in both disciplines.

This goal is not just a demand in Berlin, but is intensively pursued by Klaus-Robert Müller and Volker Markl. At the beginning of September this year, the Federal Ministry of Education and Research announced that the national competence centres BZML and BBDC are to be merged into one large [joint centre](#). This is, as it were, a recognition of the outstanding research achievements of the two centres as well as a strengthening of their sphere of activity. In the future, ML and Big Data will also be more closely integrated at the institutional level and the historically existing separation of disciplines, which are actually two sides of the same coin, will be gradually dissolved.

The head of the Japanese delegation, Masashi Sugiyama, who can look back to several research stays in Germany (some funded by the Alexander von Humboldt foundation), joined this idea and introduced the audience to the Japanese research landscape and the work of AIP, which was created in 2016 for the development of technologies in the field of Artificial Intelligence. AIP's research will also address social issues, such as the care of the elderly, which is one of Japan's most pressing social challenges in its ageing society.

During the two days of the workshop, German and Japanese scientists alternated to present their current research. The speakers discussed newly developed mathematical concepts as well as concrete applications in the natural sciences and in the field of social issues. During the breaks, the scientists had the opportunity to exchange ideas with the next generation of researchers in the foyer, where the latter presented their research with posters.

The two workshop days offered an excellent insight into the complex subject areas of Machine Learning and Big Data and showed how these two disciplines should be more strongly united despite and precisely because of their complexities. Klaus-Robert Müller concluded by thanking all participants for their ground-breaking work. Both days had shown that concrete cooperation in both subject areas could work very well and emphasized that the fruitful cooperation with Japanese colleagues will continue to be intensively pursued in the near future.