Eawag at the 2019 World Economic Forum

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Topics: Biodiversity | Ecosystems

"Innovation from Switzerland, for Switzerland" is the theme of a special feature at this year's World Economic Forum, where Eawag, as part of the ETH Domain will have the opportunity to discuss and share ideas with guests from the Swiss political arena as well as from the public and private sectors.

A walk-through exhibition introduces people to innovative projects from various institutes. Francesco Pomati is presenting Eawag's underwater microscope, which has been developed in collaboration with Jaffe Laboratory for Underwater Imaging at Scripps Institution of Oceanography in California and vastly simplifies the process of monitoring water quality and aquatic biodiversity.

Thanks to the high-resolution images that are automatically processed, in the future there might be no longer any need for the conventional method involving collecting samples and manually classifying them in the laboratory. This saves immense amounts of time and expense. Further work is being done to develop the image analysis and more detailed classification with the help of deep learning and artificial intelligence based on big-data analysis projects from companies like Google and Facebook. This new technology allows the biodiversity and dynamics of plankton in lakes to be monitored automatically in real time. The data can, for example, be used to predict biological water quality on a day-to-day basis as is the norm in weather forecasting, or to understand the processes involved in maintaining high levels of biodiversity.

Related Links

Video about the project

Project

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