City of Dortmund
Economic Development

On the trail of carcinogens

Dortmund Stiftung supports participants in the "Jugend forscht" Young Researchers Competition through the Dortmund mentoring programme

Currently working on a test for detecting formaldehyde in room air: Jonas Baumann.

Dortmund, 22 December 2006. With the help of an innovative process it may be possible to determine within a few minutes whether room air contains traces of formaldehyde, a carcinogenic substance. This revolutionary process is currently being "researched" in Dortmund - not by a renowned research institute, but by a pupil in Dortmund.

Jonas Baumann is in his 13th and final year of school at Europaschule Dortmund. Even when he is not at school, he has a passion for research. Currently the up-and-coming young scientist is working on a test for detecting formaldehyde in room air at low cost and within a few minutes. If he should succeed, this would be tantamount to a sensation since at present all processes that enable detection of the carcinogenic substance in the air are expensive and time-consuming.

"Frequently formaldehyde gets into the room air through contaminated furniture, floor coverings or textiles," explains Jonas Baumann, who has applied to the "Jugend forscht" Young Researchers Competition with his project. Cigarette smoke also contains relatively large quantities of the toxic substance. According to the Federal Office of Public Health, the formaldehyde concentration in indoor areas may not exceed a level of 0.12 milligrams per cubic metre. The problem: those who want to know whether the contamination at the workplace, in the classroom or in the living room exceeds the legal limit have to dig deep into their pockets.

"That is why I wanted to develop a method with which it is possible to determine - for less than ten euros per analysis - whether the formaldehyde limit has been exceeded," says the pupil.

Jonas Baumann is currently working on implementation of his idea with the support of the Institute for Environmental Research of the University of Dortmund, where he is conducting the necessary comparative and calibration measurements. The institute's experts are helpful whenever he has questions about the electronic control of the device. The professional assistance was initiated by the Dortmund mentoring programme, which was set up jointly by dortmund-project and Dortmund Stiftung (Dortmund Foundation), This programme arranges for contact between Dortmund participants in the "Jugend forscht" Young Researchers Competition and experienced scientists.

Like Jonas, several pupils from Dortmund receive support every year from renowned researchers, who provide them with access to modern laboratories, among other things. Dortmund Stiftung also stands by the young tinkerers when, for example, technical equipment is lacking for financial reasons. Jonas Baumann, for instance, was provided with the notebook on which the 20-year-old evaluates his tests, among other things, by Dortmund Stiftung. "Without all this support," says Jonas, "it would not have been possible for me to realize the project idea."

dortmund-project is the location initiative for the new Dortmund. With broad acceptance it has been consolidating forces from the city, industry and science in a unique network since 2000. The goal is to push forward development of the city into a leading technology and business location in Europe on a long-term basis. A key feature is the methodological approach: acting rapidly, investing, building up self-supporting systems as well as concentrating on themes and processes. The project, which is supported by EU funds in individual subprojects, focuses on the future-oriented sectors of information technologies, logistics, microsystem technology, nanotechnology and biomedicine. dortmund-project is a division of the City of Dortmund Economic Development Agency.

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