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Overview

Name: Prof. Dr. Manfred Gey; Prof. of Analysis/Bioanalysis
Company: University of Applied Sciences Zittau/Görlitz
Location: Zittau, Germany
Industry: Education
Product: Corel DESIGNER® Technical Suite

Detectives in white coats

The University of Applied Sciences Zittau/Görlitz has 3,800 students, 130 professors and 100 researchers, but only a few licenses for Corel DESIGNER® Technical Suite. This is in spite of the fact that that powerful technical illustration software is vital in many disciplines at the university, says Prof. Dr. Manfred Gey, professor of analytical and bioanalytical chemistry.

Analytical and bioanalytical chemistry made headlines in Germany in 2000 in the midst of one of the biggest German soccer scandals in recent history. One of the top candidates to head the German national soccer team, Christoph Daum, was accused of using cocaine. He protested his innocence but was found guilty, losing his job and tarnishing his reputation. He was convicted based on evidence compiled from a hair sample by analysts and toxicologists working behind the scenes.

Enough evidence to determine the use of an illegal substance can be drawn from a hair sample the size of a penny. Hair is, in a way, an archive of what a person has consumed, allowing toxicologists to detect cocaine or toxic substances, such as arsenic, months after consumption.

Visualisation of research findings is crucial in bioanalysis.

The initiation of future toxicologists and bioanalysts into laboratory work starts early.

Getting to the bottom of things
One of these behind-the-scenes researchers is Prof. Dr. Manfred Gey. He works closely with other organisations that specialise in analysis and toxicology, including the Institute of Forensic Medicine. Whether looking for dioxin in fodder, the vitamin C level in fruit juices, pesticides in tomatoes or lead in toys, Prof. Dr. Manfred Gey and his students use cutting-edge analytical methods to determine and illustrate quantities and substances, making the invisible visible. "What we can't analyze at the university, our students process in specialised laboratories during internships or while working on their thesis," says Prof. Dr. Manfred Gey.

They often search for minuscule traces. The sensitivity of the analytical devices allows them to measure a substance in parts per billion (ppb). For example, a sugar cube dissolved in a tanker of water would yield 1 ppb of sugar.

Graphics are often used to illustrate the search results. "If you look at my lecture notes, trial documentation or my books, you will see that graphics are an indispensable tool for my teaching and research. In my textbook about instrumental analysis and biological analysis alone, there are almost 500 graphics."

Making the invisible visible
Even though Prof. Dr. Manfred Gey is not a computer expert, he uses Corel DESIGNER® Technical Suite to create these graphics. "Ninety percent of the time, I work with Corel DESIGNER® Technical Suite. I also use it in the overall design of my textbooks, including the cover and layout," he explains. "I can't even remember when I started to use Corel. It must have been over 20 years ago when the program's name was Designer 4.1."

Prof. Dr. Manfred Gey took a hands-on approach to learning Corel DESIGNER® Technical Suite and now finds it a critical part of his workflow. One factor that makes it invaluable is the software's compatibility. "In my day-to-day work, I constantly have to visualise measurements from analytical devices.

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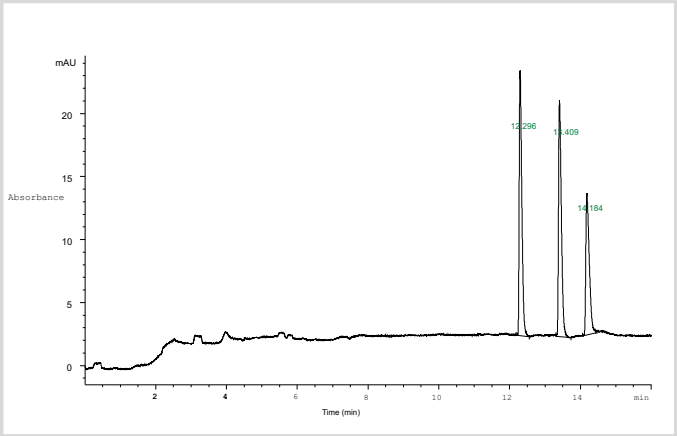
Supporting various formats, Corel DESIGNER® Technical Suite allows me to directly import and edit WMF files from analytical device software programs. I can quickly and intuitively enhance curves and lines, add descriptive text or colours and much more." He also uses Corel DESIGNER® Technical Suite for converting black-and-white graphics from his books to colour, and importing chemical formulae. Although Corel DESIGNER® Technical Suite supports 3D visualisation, Prof. Dr. Manfred Gey works primarily in 2D.



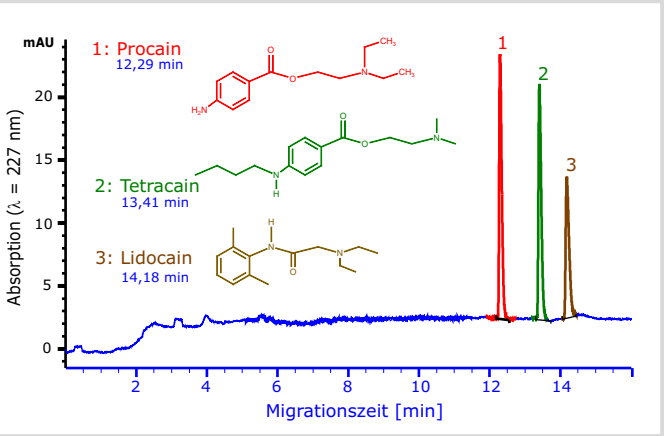
Raw electropherogram from the software of the measuring apparatus.

In addition to the identification of molecular processes, his area of research also focuses on the design, optimisation and development of reliable devices such as liquid chromatography systems and spectrometers, which detect chemicals in the presence of other chemicals. "It is crucial to explain to the students how such devices work. Corel DESIGNER® Technical Suite helps me to create flow diagrams to explain processes or to illustrate the design of these complex high-tech devices."

A tool for future scientists

Prof. Dr. Manfred Gey wants to see an end to his students using obsolete methods to create their lab reports. "It is extremely time-consuming if students outline and paste the results of their bioanalytical tests or tests in genetics or microbiology by hand. Using a Corel DESIGNER® Technical Suite licence, they could drastically streamline their workflow."

The University of Zittau/Görlitz already benefits from a Corel licencing agreement, and Prof. Dr. Manfred Gey is confident



Electropherogram edited with Corel DESIGNER® Technical Suite

that the university will soon increase the number of Corel DESIGNER® Technical Suite licences it holds. And he considers it especially important that students are allowed to use Corel DESIGNER® Technical Suite at home as well as in the computer lab. After all, he's developing the researchers of tomorrow who, whether working at universities or in the pharmaceutical industry, will look for new ways to make people healthier.

Prof. Dr. Manfred Gey
papa-gey@gmx.de | www.papa-gey.de

Corel Corporation
1600 Carling Ave.
Ottawa, ON
Canada K1Z 8R7

Corel UK Limited
Sapphire Court
Bell Street
Maidenhead
Berkshire SL6 1BU
United Kingdom

Corel GmbH
Edisonstraße 6
85716 Unterschleißheim
Germany