
Preface

To detect, quantify, and model biologically significant molecules is getting more and more important in our everyday life, in medicine, industry, and environment.

When a group of enthusiasts like Frieder Scheller started more than 40 years ago to develop biosensors, they would not foresee that biosensors are now available in every drug store, that the human genome sequence is available on the Internet, that DNA tests help in forensic cases, that we can track down the path of our ancestors from Africa...

This all is bioanalytics in practice!

Frieder Scheller is one of the pioneers of this field. So, we did not hesitate for long when Thomas Scheper, the Series Editor, asked us to compile a monograph written by the leading specialist to honor his 65th birthday with a fresh insight into the ever expanding bioanalytical field. Thanks to all contributors and thanks to the staff at Springer Verlag: Birgit Kollmar-Thoni, Ulrike Kreusel and Dr. Marion Hertel for their help!

Even in the 21st century biosensors will continue to play an important role in bioanalytics. By definition biosensors are characterized by a rather close contact of the biocomponent for recognition and the transducing element. Thus, the development of biosensors is a highly interdisziplinary field. Future developments can be particularly seen in sensitivity enhancement down to the molecular level, switchability of the sensing device, miniaturization and integration into microsystems, incorporation of new transduction and characterization methods and the use of artificial recognition elements.

This book tries to cover recent developments in order to illustrate the potential of this rather fascinating area of science.

At the start of the book, you will find a chapter about the history of biosensors and Frieder Scheller's contribution. It gives you an impression what this restless, unselfish and creative scientist has done. To underline the basic biosensor idea we start here with a cartoon about Frieder Scheller's work:



“Aller guten Dinge sind drei” (“all good things are 3”, as Germans believe). They all may partly characterize Frieder:

Chance favors only the prepared mind.

(Louis Pasteur)

The important thing is to create.

Nothing else matters; creation is all.

(Pablo Picasso)

***The only truth that gets through will be
what we force through:***

the victory of reason will be

the victory of people

who are prepared to reason, nothing else.

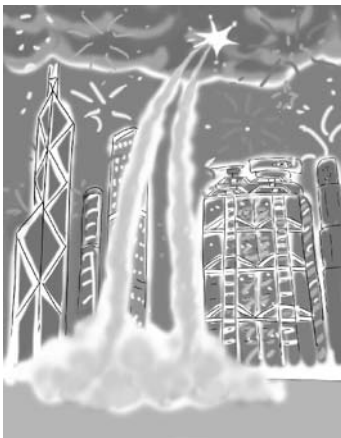
(Bertolt Brecht)

What a long way biosensors have come in such a short time and how fast the time flies.

Now, the prepared mind, the creative, smooth fighter for reason, Frieder Scheller, turns 65 years young...

On behalf of the worldwide biosensor community:

Happy birthday, Frieder!! Here is a special Chinese Firework for your birthday!



Hong Kong and Wildau, August 2007

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