

## Sebastian Wendeborn, PhD

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### Summary

Academic (Professor, Head of Institute) and industrial senior scientist & manager in R&D (PhD in organic chemistry) with extended and proven track record in innovation, interdisciplinary research activities (crop protection, herbicides, fungicides, crop enhancement, computational chemistry, process research, laboratory automation, solid phase synthesis), leading local and international projects and teams towards success. More than 100 publications and patent applications. **skills & interests** • chemistry • biochemistry • managing science & scientists • interdisciplinary collaboration

### Experience

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| <b>2019 – present</b><br>School of Life Sciences         | <b>Head of Institute for Chemistry and Bioanalytics, Professor</b> (MuttENZ / Switzerland)<br>Leading Multidisciplinary institute at the University of Applied Sciences and Arts Northwestern Switzerland. Collaborations, Research, Teaching   |
| <b>2017 – 2018</b><br>Syngenta Crop Protection           | <b>Senior Chemical Expert</b> (Stein / Switzerland)<br>Evaluation and implementation of strategic chemical technologies for R&D, design and synthesis of modern fungicides, university and Contract Research Organization collaborations, photo-redox chemistry   |
| <b>2014 – 2016</b><br>Syngenta Crop Protection           | <b>Head of Chemical Innovation</b> (Stein / Switzerland)<br>Overall responsibility for process research, crop enhancement chemistry, laboratory automation, analytical support and biophysics, identification and evaluation of new research opportunities. Responsible for up to 30 employees: coaching, mentoring, goal setting, performance management. Resource allocations to projects and strategic project portfolio decisions   |
| <b>2012 – 2014</b><br>Syngenta Crop Protection           | <b>Head of Process Research &amp; Crop Enhancement Chemistry</b> (Stein / Switzerland)<br>Overall responsibility for process research, crop enhancement chemistry, laboratory automation, analytical support and biophysics. Evaluation, identification and implementation of strategic collaborations with academic laboratories in the area of crop enhancement. Responsible for recruitment of PhD-level team leaders and organization of internship program for chemical research (since 2004)  |
| <b>2009-2012</b><br>Syngenta Crop Protection             | <b>Head of Process Research</b> (Stein / Switzerland)<br>Establishment of global process research activities in Crop Protection, including recruitment, on-boarding and mentoring of new team leaders. Coordinating process research activities at research centres in Switzerland and India and allocation of resources to support all indications at all research sites (Switzerland, Great Britain, India). Implementation of new chemical technologies in process research (pressure laboratory for hydrogenations and reactions with other gases; react-IR). Transfer of projects from process research to development |
| <b>2004 – 2009</b><br>Syngenta Crop Protection           | <b>Group Leader Chemistry Fungicide Research &amp; Computational Chemistry</b> (Basel / Switzerland)<br>Responsible for chemical research towards new fungicides, education and on-boarding of new co-workers in the area of fungicidal research (fungicide classes, mode of actions, biochemistry, and design). Scientific and managerial responsibility for a team of computational experts working in the area of computer assisted molecular modelling in support of fungicide and insecticide research   |
| <b>2001 – 2003</b><br>Syngenta Crop Protection           | <b>Group Leader Optimization Chemistry</b> (Basel / Switzerland)<br>Responsible for optimization of identified chemical lead-structures in advanced research projects in herbicide and fungicide chemistry  |
| <b>2000 – 2001</b><br>Novartis AG                        | <b>Head of DNA Recognition Project</b> (Basel / Switzerland)<br>Scientific and managerial responsibility for multidisciplinary project to develop chemical agents for site directed mutagenesis as a tool to genetically modify crop plants   |
| <b>1997 – 2000</b><br>Novartis AG                        | <b>Research Scientist</b> (Basel / Switzerland)<br>Solid phase combinatorial chemistry and herbicide research   |
| <b>1994 – 1996</b><br>Ciba-Geigy AG<br>Central Res. Labs | <b>Research Scientist</b> (Basel / Switzerland)<br>Design and synthesis of sugar- and backbone-modified building blocks for antisense oligonucleotides and solid phase combinatorial chemistry  |

## Education

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| <b>1992 – 1993</b><br>ETH-Zürich                           | <b>Postdoctoral fellow</b> (Zürich / Switzerland)<br>Oligonucleotide chemistry, prebiotic chemistry<br>Research director: Professor A. Eschenmoser   |
| <b>1987 – 1992</b><br>U of Pennsylvania<br>U of California | <b>Graduate student, Ph.D 1992</b> (Philadelphia & San Diego USA)<br>Total synthesis of natural products and their analogs. Mode of action studies of DNA cleaving chemicals<br>Research director: Professor K.C. Nicolaou |
| <b>1986 – 1987</b><br>The Wistar<br>Institute              | <b>Research Scholar in Molecular Biology.</b> (Philadelphia. / USA)<br>Cloning and characterization of a tumor associated antigen<br>Research Supervisor: Dr. A. Ross  |
| <b>1984 – 1986</b><br>U of Freiburg.                       | <b>Studies of Chemistry, Vordiplom (equivalent to Bachelor of Science) 1986.</b> (Freiburg / Germany)  |

## Fellowships & Memberships

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- Ciba Geigy postdoctoral fellowship (1992 - 1993) • U of California, San Diego, Graduate Fellowship (1991 - 1992)
  - Doctoral Fellowship from the Verband der Chemischen Industrie (1989 – 1990) • University of Pennsylvania Graduate Fellowship (1987 – 1988) • Member of the IUPAC Division III Sub-Committee on Biotechnology (since 2003) • Member of the Swiss Chemical Society (since 2012) • Member of the European Federation of Biotechnology (since 2019)

## Research topics and research interest

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**Chemistry:** Chemistry of natural product and metabolites. Chemistry of DNA, RNA and their backbone and sugar modifications, antisense technology, combinatorial chemistry, solid phase chemistry, chemistry and mode of actions of herbicides, fungicides, plant growth regulators, plant hormones (in particular abscisic acid, brassinosteroids, cytokinins), chemical reactivity, conformational analysis, stereo-electronic effects, drug design, computational chemistry, process research, photo-redox chemistry. **Molecular Biology:** DNA-sequencing (Sanger, Maxam-Gilbert), familiar with DNA isolation, use of restriction enzymes and general cloning techniques. **Biochemistry:** Biochemistry of DNA, in particular DNA damage and DNA repair. Biochemistry of plants and their pathogens, in particular with respect to mode of actions of fungicides and plant responses to abiotic stress, plant immune responses, regulation of growth, germination. Biological activity, interactions and regulation of plant hormones and other plant metabolites. Ammonium nitrification in soil. **Analytics:** All common analytical tools used in organic chemistry (NMR, IR, MS, UV, HPLC)

## Teaching & supervision & mentoring

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Teaching at University level organic chemistry, medicinal chemistry, structural chemistry. Supervision, training and mentoring of BS, MSc & PhD scientists (chemistry, computational chemistry, analytics, biology), technicians, numerous summer students and project teams. Goal setting and performance management of co-workers. Teaching assistant at the University of Pennsylvania, Philadelphia, USA

## Languages

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- German (native) • English (fluent) • French (good command)

## Other interests

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- Family • outdoor activities • mountain biking • sailing • jazz & classical piano playing • listening to music • literature • photography •