

The Era Otto Hutzinger

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We, the authors and series editors, are pleased and honoured to dedicate this case-study series to Prof. Dr. Otto Hutzinger, who was instrumental in initiating Dioxin Research. Apart from the DIOXIN Conference series in 1980, he also founded the journals 'Umweltwissenschaften und Schadstoff-Forschung – Zeitschrift für Umweltchemie und Ökotoxikologie' (*UWSF*) in 1989 as well as 'Environmental Science and Pollution Research' (*ESPR*) in 1994. This year, *UWSF* and *ESPR* celebrate their 20th and 15th anniversary, respectively. We would like to congratulate Otto to these achievements and his personal 75th anniversary on March 14th.

The literature overview (pp. 108–112) on Dioxins and POPs, papers published in *UWSF* and *ESPR*, reflects Hutzinger's influence as Editor-in-Chief on both journals beyond his active time (from 1989 to 2005) into the future.



Laudation of the Authors & Editors

Dear Professor Hutzinger,

As you can see from our Editorial, you have planted a seed with the DIOXIN Conference series (and of course with many of your other activities) which have beard and bears nutritious fruits: The scientific community has paved the way to the Stockholm Convention, and the knowledge for addressing and reducing Dioxins has received a main im-

pulse from the DIOXIN Conference community. The DIOXIN Conference has changed during the last decade to a real POPs Symposium and will contribute to the global reduction of the whole range of POPs in future. Thank you for planting this seed and caring for it for such a long time.

The authors and series editors, Roland Weber, Mats Tysklind and Caroline Gaus

Laudation Alvin L. Young

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The year was 1980. I had just organized the Agent Orange Registry at the Veterans Administration, and had just published as co-author a book on 'The Science of 2,4,5-T and Associated Phenoxy Herbicides.' That summer I received an invitation to give a series of lectures in Europe on dioxin, the studies at Eglin AFB, and the Vietnam veterans concerns. I lectured in Italy, France, and England, and then travelled back to the Continent to meet Professor Otto Hutzinger with the Laboratory of Environmental and Toxicological Chemistry at the University of Amsterdam. Otto had just returned from the Dioxin Conference in Rome. I had a very exciting two days lecturing and interacting with Otto and his staff. We spent many hours talking about our experiences with the Seveso Italy industrial accident. As a Consultant to the Seveso Authority, I shared with Otto my concern about the current research on dioxin and the need to publish what Otto and I called the 'gray literature', i.e., that literature that has negative findings, and hence not frequently submitted to the stan-



dard peer-reviewed journals. He suggested that a series of Dioxin Symposia might be appropriate with subsequent publication in '*Chemosphere*.' Otto invited me to organize the Dioxin Symposium in Washington for the fall of 1981 (DIOXIN 1981). For many years I attended the various Dioxin Symposia and Eco-Inforna Conferences, and served as Co-editor of '*Chemosphere*', and later *ESPR*; always enjoying the opportunity to spend time with Otto and Freda and receiving the 'mentoring' that occurs when in the presence of a truly great scientist. Thus, it was a great honor when Otto invited me to be the Editor-in-Chief of *ESPR* two years ago. I still make my yearly 'pilgrimage' to visit Otto and Freda in Bad Ischl, Austria. It is always a time of sharing stories and basking in the smile of Professor Doctor Otto Hutzinger!

Otto, I will be thinking of you on the 14th of March wishing you and Freda all the best for the future. Looking forward to seeing both of you again in May, I remain Yours, Al

Laudation Henner Hollert



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I knew Otto Hutzinger from his publications, and particularly as Editor-in-Chief of the German language journal *UWSF – Z Umweltchem Ökotox* as well as of *ESPR – Env Sci Pollut Res*, long before we met each other for the first time. Later I learned that the development of curricula in Environmental Sciences was one of Otto Hutzinger's utmost concerns. On behalf of a whole generation of students during the nineties, I would like to thank Otto for that merit. Both journals, *UWSF* and *ESPR*, are widely distributed in department and university libraries, giving students deep insights into Environmental Sciences.

Before Otto Hutzinger founded the *UWSF*, the term 'Umweltwissenschaften' did not exist as official terminus because the requirement was the interdisciplinary, the network thinking that Otto has taught us. And more than that, Hutzinger understands 'Umweltwissenschaften' as longitude and latitude, i.e. across all compartments and simultaneously across all areas connected with the environment. It lasted around ten years until this term was introduced and approved by the scientific community.

The terminus 'Environmental Science' did exist, but not in the sense that Otto Hutzinger had in mind. He influenced the development in such a way that today we talk about 'Environmental Sciences'.

The experience with Otto Hutzinger was one of the reasons for me to choose Environmental Sciences and Ecotoxicology as major topics within my Diploma studies.

As a young PhD-student I had the possibility to hear one of Otto Hutzinger's lectures at a German conference. I was deeply impressed by his sound knowledge and enthusiasm.

Thus it was a great honour to me that, in 2003, Otto invited me to join *UWSF* as Subject Editor, and in 2005, to serve as Editor-in-Chief for *UWSF*, and as Subject Editor for *ESPR*. Thank you, Otto Hutzinger, for your confidence and your support!

I warmly congratulate you on your anniversary. Be convinced that UWSF continues in disseminating your missions and visions.

Laudation Walter Klöpffer



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I knew Otto Hutzinger from his publications long before we met each other for the first time. He invited me to give a workshop presentation in Bayreuth, shortly after his appointment as a full professor at this young and dynamic university. I had never expected to ever 'sing' in Bayreuth, but it happened to become the start of a long and fruitful co-operation, especially in the field of publishing.

Otto belonged to Almut's authors and editors at Springer; in my case it was my first book she made ready for publication in 1984 ('Introduction to Polymer Spectroscopy', Vol. 7 of the book series 'Polymers, Properties and Applications'). When the *UWSF* was founded in 1989, I was invited, for the first time, to join an Editorial Board, even the inner circle,

and I used my new position to submit a (at that time) heretical paper on persistence (Klöpffer 1989). Otto accepted it with a few changes.

The same play happened with *ESPR* in 1994: I became member of the Editorial Board and published papers outside the main path of 'chemicals risk assessment' (I still think that 'hazard' would be a better description). This time it was a series of seven papers (I to IV in *ESPR* (Klöpffer 1994a–d), the last three were published in *Chemosphere* (Klöpffer 1996a–c), also edited by Hutzinger).

At the same time Almut invited me to become the Editor-in-Chief for the new *Int J LCA* at ecomed. From the beginning I suggested to complement the journal by a book series *LCA*

Documents (e.g. for longer reports, full case studies, theses, etc.). This intent was realized by Otto's willingness to publish this book series by his Eco-Infoma Press, in co-operation with ecomed. The series had a good start with 'LCANET', the final report of an EU initiative in 1997. Seven other volumes followed (http://www.scientificjournals.com/sj/lca_documents/startseite). Finally, however, most research reports were published in the Internet, and printed editions of such documents were not needed anymore.

All the time, Otto and I frequently met at conferences in Bayreuth, Munich, Vienna and other places. Finding timely topics for article series in Almut's www.scientificjournals.com was always a chance to meet for brainstorming sessions. One of them I remember with special pleasure was the 'Main station Frankfurt' meeting with Otto, Almut and the late Ian Meerkamp van Embden (Klöpffer 2007). Its original purpose was to discuss a series on 'Climate Change', but instead it turned into a friendly talk about serious and less serious things, driven by Otto's knowledge and his fine humour.

I would like to end this very personal and informal account with the old humanists' saying "ad multos annos" and, less formally, thank you for everything!

Laudation Ulrich Förstner

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During a long time of my career as author and editor, Prof. Hutzinger was on the other side of the trench between the two Divisions of the German Chemical Society (GDCh), namely 'Environmental Chemistry and Ecotoxicology' and 'Water Chemistry'. There was no exchange between them but rather dissociation from each other, much to Hutzinger's and my regret.

While the today 'Society for Water Chemistry' was founded as 'Division for Water Chemistry' in 1926, the 'Division for Environmental Chemistry and Ecotoxicology' came about not before 1990. The reasons for the dissociation were manifold but have been removed in the meantime, fortunately.

The more important contact dates back to 1979 due to Otto Hutzinger's invitation to join the initial group of 50 authors for his work 'The Handbook of Environmental Chemistry'. In fact, this handbook series of five volumes

- The Natural Environment and the Biogeochemical Cycles
- Reactions and Processes
- Anthropogenic Compounds
- Air Pollution
- Water Pollution

with five to twenty sub-volumes each and still going on in 2008, was one of the biggest efforts in environmental science publications.

Starting in 1980, the earlier pioneer papers are still well-readable, such as the overviews by

- John Westall & Werner Stumm 'The Hydrosphere',

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- Alexander Zehnder 'The Carbon Cycle',
- Egon Degens 'Carbon Dioxide: A Biogeochemical Portrait', or the exemplary compilations
- Reaction Types in the Environment (C.M. Menzies),
- QSAR of Environmental Pollutants (J.L.M. Hermens) and
- Detergents (ed. by N.T. de Oude).

In a recent article of our 'Journal of Soils and Sediments', Sabine Apitz and I (Förstner & Apitz 2007) cited a Handbook paper by Danny Reible et al. ('Chemodynamic Models for Transport of Contaminants from Sediment Beds' Vol. 2F, 1991). This article has not lost anything of its freshness, while the author became the leading expert for 'in-situ remediation of contaminated sediments'.

Finally, we should not forget the persons behind the success. It is now nearly thirty years ago, when Otto Hutzinger concluded in the Preface to the first editions: "Special thanks are due to Mrs. A. Heinrich of Springer who has significantly contributed to the technical development of the book through her conscientious and efficient work".

Dear Esteemed Colleague, the best of my wishes for a good life, for the strength and power of overcoming problems as they occur, for your daily wellness and your internal peace. And may you always have a good glass of good wine to toast to all of us. Ulrich Förstner

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Laudation Kristina Voigt

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About twenty years ago, I met Otto Hutzinger in Bayreuth, Germany for the first time. He chaired the newly established conference ECO-INFORMA. At that time he was Professor of Ecological Chemistry and Geochemistry at the University of Bayreuth, the owner of one of the very few chairs for Environmental Chemistry worldwide. The first chair for Environmental Chemistry at all, he owned in Amsterdam, before he moved to Bayreuth, where he was Professor and Director of the Laboratory of Environmental and Toxicological Chemistry, University of Amsterdam, The Netherlands.

Prof. Hutzinger was known as a pioneer in pesticide and dioxin research. In the late nineteen eighties – by the way, this was the time prior to the Internet age when we were searching so-called online databases and CD-ROMs for environmental and chemical information – Otto Hutzinger was the first one who realized that there was an urgent need to combine aspects of Information Science and Environmental Sciences. So he transferred his lifelong interest and extensive experience in shared environmental research into the founding of the ECO-INFORMA Conference in 1989.

An important strength of his is to collaborate with excellent scientists. In this respect I want to name Dr. Heidelore Fiedler (now working at UNEP in Geneva, Switzerland) who largely supported him in his innovative work. Prof. Dr. Hutzinger was also joined in the ECO-INFORMA activities by two renowned American scientists, Prof. Dr. Leo Newland and Prof. Dr. Ken Morgan, both at Texas Christian University. The first ECO-INFORMA Conference took place at the University of Bayreuth. Subsequent ECO-INFORMA Conferences were held in Bayreuth, Germany (1992), in Vienna, Austria (1994), EPCOT Florida, USA (1996), at the GSF – National Research Center for Environment and Health near Munich, Germany

(1997) and at Argonne National Laboratory, Argonne, IL, USA (2001). Since then, the ECO-INFORMA joined the activities of the German Technical Committee.

'Environmental Informatics' of the Gesellschaft fuer Informatik (German Society of Informatics). This means that every year a special ECO-INFORMA event takes place (along with the EnviroInfo conferences), initiated, organized and chaired by Dr. Margaret MacDonnell (Argonne National Laboratories, USA), and supported by Dr. Leo Newland and Dr. Ken Morgan.

In order to strengthen these interdisciplinary activities, Drs. Hutzinger, Newland and Morgan established the non-profit ECO-INFORMA Foundation to support the organization and hosting of educational and scientific conferences, workshops, and seminars that focus on the use of science and technology to develop and share environmental information on a global scale.

In all his great lifetime achievements in the field of Environmental Sciences, Otto Hutzinger remained very natural, friendly and open for new ideas. To my mind, his positive attitude towards interdisciplinary research as well as towards new fields of research is one of Otto Hutzinger's special strengths. According to me, he is one of the most important environmental scientists I have met during my 25 years' experience in environmental and chemical research. Prof. Hutzinger's significant contributions to integrate environmental understanding and partnerships serve as a strong example of how we can and should work together to solve our world's immense environmental challenges.

I wish Otto Hutzinger the very best for the future and hope that he will further support the environmental community with his immense experience in understanding important aspects of environmental research.

Laudation Walter Giger

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When I started my career in environmental chemistry back in 1972, I worked as a postdoctoral fellow at the Woods Hole Oceanographic Institution near Boston. During my stay on the east coast of the USA, it was a must for me to visit Prof. Otto Hutzinger up in Halifax, Nova Scotia, Canada. I was very much impressed by the enthusiasm of

Otto Hutzinger, who at that time already worked on a compound class called PCBs, which is – today, 35 years later – still in the focus of environmental science and politics, in particular as persistent organic pollutants in the Stockholm Convention.

Over the years I met Otto on various occasions, partly at conferences, but also in connection with his editorial activities. Before he founded *UWSF* and *ESPR*, he was a key player

for the journal *Chemosphere*, for which he served during many years as Editor-in-Chief and Editor for Chemistry and Biochemistry. In fact, in the environmental research community, Otto Hutzinger was considered to be 'Mister *Chemosphere*'.

As is the usual procedure today, I have looked up Prof. Hutzinger's record in the Science Citation Index. His very impressive record shows more than 270 scientific publications and an h-index of 41. Four out of five of his best-cited papers were in *Chemosphere*. However, his number three ranking article was a *Science* paper in 1974 on the metabolic behaviour of pure PCB isomers. Considering his citation profile, it is no wonder that he is also included in the very reputable Highly Cited Researcher list. I had one spe-

cial encounter with Otto Hutzinger, which shows very nicely that he was not a dry researcher but rather always cared about personal relations to his scientific colleagues. In the early 1990's it was announced that he would resign from his professor chair at University of Bayreuth. Together with several German colleagues I was among the short-listed candidates, who were invited to deliver test lectures at the University of Bayreuth. However, the real highlight of this exhibition event (called 'Schaulaufen', in the German language) was none of the lectures delivered by the potential successors, but rather the dinner party at the Hutzinger family home.

I congratulate Otto on his 75th anniversary and I wish him all the best for the future.

Laudation Bernd Markert

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... Intuition, motivation and success in science should finally be related to one another. Otto Hutzinger 'pressed' me several times during the 80ies and 90ies to present my scientific results during his EcoInforma Conferences in Bayreuth. Here, he gave me the chance to present my findings, in form of posters and lectures, and, for me, opened the chance of coming in contact with high ranking scientists from all over the world. He taught me, in his typical way, to think internationally and in an interdisciplinary manner. After all meetings, he opened me the possibility of publishing my results

in *UWSF* and later on in *ESPR*, so that I had found a forum for communication and scientific exchange worldwide. Today, I am proud to be active on the editorial board of both journals and to be helpful in the growth in quality and quantity of it

Dear Prof. Hutzinger, here you can clearly reflect, how positively you influenced my scientific career. Please hold the line and support me and my colleagues further on in this way....



Laudation Gerhard Lammel

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I met Otto Hutzinger in 1984 as a student searching for a challenging PhD study in the environmental sciences. Among the professors to whom this student had sent out written applications he stood out as the one returning the most friendly answer. Professor Hutzinger invited me to Bayreuth, took a considerable portion of his time, showed me around in the laboratories and came back to me offering a study in aquatic chemistry linked to an interesting scientific question.

In those years his name stood quite lonely for the obviously appropriate approach: Put the substance into the centre and follow its interactions within and across environmental media. He was, at least in Europe, the founder of substance-based environmental sciences and more convincing and more successful than others. Next time we met was in 1990, when the working group he had founded was turned into the new Environmental Chemistry and Ecotoxicology Section of the German Chemical Society (GDCh). Otto Hutzinger became the first chair. The position paper (as of 1989) marking this foundation made the key statement that the new disciplines of environmental chemistry and ecotoxicology had developed to autonomy to a de-

gree, such that the scientists needed to create an autonomous forum for discussion.

Otto Hutzinger pursued the vision of unified environmental sciences to emerge from the medium-based sub-communities. – by networking and initiating cooperation, e.g. by even organising a World Conference on Remote Sensing in Bayreuth (in 1984). Essential and highly visible instruments for the establishment of a substance-based environmental chemistry initiated by him are the Handbook of Environmental Chemistry (edited since 1980) and the interdisciplinary journals *UWSF* (founded in 1989) and *ESPR* (1994). No wonder that within only a few years *UWSF* was established as the main German-speaking forum for the substance-based environmental sciences. Obviously, the environmental sciences benefited tremendously and with long-term impact from Otto Hutzinger's initiatives and networking. Much progressed ever since, but environmental chemistry is still hard to find on some mental maps nowadays. Therefore, his vision still provides the mission for today and probably also for the years to come.



Laudation John Giesy



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In 1979, when I moved from the University of Georgia to Michigan State University (MSU) as a young Associate Professor, I asked my Director, Fumio Matsumura, what would be suitable research topics for a new Associate. He told me that there were reproductive failures and embryo deformities in fish and birds of the North American Great Lakes, and the cause was unknown. So I selected this as my first research topic. Little did I know that this would lead to a career during which I would have interactions with wonderful students and post docs and travels to interesting places and meetings with interesting and kind individuals and making friends all over the world. Otto Hutzinger was one of the most interesting and certainly one of the most influential on my life. He became my mentor and one of my closest friends.

While I had known Otto since the late 1970s, when he was still a professor in Amsterdam and visited and lectured in his laboratory, it was not until 1984 when he changed my life forever. While at a meeting organized by MSU to which we had invited Otto to speak he pulled me aside and said, "We need to talk". He showed me a picture of a castle and said, "This is my new institute. I have a vision of combining environmental chemistry and ecotoxicology. I am a chemist and I need a good ecotoxicologist and have selected you."

He invited me to come as a visiting professor to the University of Bayreuth where he had just taken up a Chair professorship. I applied for and received a 'Stipendium' from the



Fig. 1: Otto and Freda at DIOXIN 2004 in Berlin, Germany

German Fulbright Commission. So in 1987 and 1988, I lived and studied in Bayreuth. This was an event that would change my life. I learned high resolution GC-MS, and through daily meetings with Otto and many trips to meetings, I learned the best of all, namely the 'art' of being a research scientist. Otto is one of the most insightful and creative minds that I have had the pleasure to know. We went on to develop analytical techniques and applied them to the Great Lakes issue and ultimately determined the cause of the deformities in fish and birds, for which I was recognized with Founder's Award from the Society of Environmental Toxicology and Chemistry (SETAC), a distinction I share with you, Otto, since you have also received the highest award given by SETAC.

But furthermore, from that vision that Otto had of combining environmental chemistry and toxicology, I have fashioned a career in which we almost always combine these two disciplines. In fact, we have developed what we call 'bio-analytical techniques' and effectively combined these with instrumental techniques to answer questions and solve problems. These techniques along with the type of insight that I learned during discussions with Otto, led our group to discover perfluorinated chemicals in the environment, work out their mechanisms of toxic action, develop quantitative predictive relationships, and subsequently suggest much safer alternatives. So I would say, while his scientific discoveries have been monumental and changed not only science, but society, Otto's greatest contribution has been his great attention to the many students and post docs and visiting scientists like myself. While Otto would never take any credit for it, saying "I didn't do anything", this cadre of people he has trained and influenced have truly changed the world. This is a legacy of which Otto can be proud, and we can all aspire.

One day in 1987, Otto came to me and said that he was starting a number of new initiatives and that he needed someone to take over as editor for 'Chemosphere' and that he had been thinking that might be something I could do for him. Eager to assist him in any way, I immediately said YES, even though I had no idea what it meant. Well, I have grown with the journal these last 20 years and it has been a labor of love to nurture the journal which now has a number of sections into one of the premier environmental journals in the world. Yet another opportunity made.

It is indeed a strange world. All of us who know Otto and Freda (Fig. 1) well, know that they do not like the cold. Once Otto and Freda visited me and my wife Sue in Michi-

gan in the fall. It was not particularly cold, but Otto appropriated one of my knit caps and wore it inside and out the entire visit, complaining bitterly about the cold.

Now I am the Canada Research Chair in Environmental Toxicology at the University of Saskatchewan, where Otto began his career many years ago. When I told him that I had been offered this position and sought his advice on whether I should go, his response was, "what are you nuts? It is too damned cold there!" So I think this was the only advise from Otto that I have not taken. I accepted the position, but as I write this, I am sitting in Hong Kong, where I spend the winters, so I guess I did listen, Otto.

I am at a loss for words on the occasion of your 75th birthday to tell you how much I appreciate you for all of the wonderful things you have done for me and given to me. You gave freely off your time, resources, and ideas, never once asking for anything in return. You once told me that your job was "to make opportunities and that mine was to make the most of them". Otto you held up your end of the bargain, and I can only hope that you feel that in some way that I have honored you by my commitment to make the most of these opportunities made.

I remember with fondness the many places that I learned from you and thereby enjoyed your company: mountain walks and talks, Dioxin meetings, the beer garden in Rudendorf; writing proposals late at night; discussions about research projects over strong coffee at the Jean-Paul-Straße in Bayreuth and ideas that poured from you like a torrent, so fast I could hardly write them down; lunches at the Argentinean Steak House, the Wasser Schloss Mittwitz, 'business trips', handwritten notes beginning in English and ending in German, crazy lab parties, and outings to the Fränkische Schweiz and Fichtelgebirge, flights from the Bayreuth 'Flughafen', dinner at your home, last minute details organizing Dioxin meetings, the night that you sent a car all the way to Nürnberg when you learned that my train would be delayed and I refused to get in. I remember flying to Germany to surprise you at your retirement and then back to Michigan for my daughter's high school graduation and then back to Germany all within one week. I remember the love you and Freda share, which is an inspiration to me and Sue to this day. It all seems so long ago, but as I write this, it seems like just an *Augenblick*. Some days, I wish I could turn back time for all of us to be back in the *Lehrstuhl*, but I cannot turn back time. What I can do is remember the respect, esteem, and love everyone from the 'Hutzinger lab' holds for you.

I know I speak for all of us, whose lives you have touched, we have always used you as a role model and aspired to be like you in many ways. You were like a father to us, and we cannot repay you for all you have done for us, but you never expected that. Life is good and we are glad that you came into ours and made us better people for it.

Otto, from all of us who have studied and learned with you and benefitted from your intellect, kindness and friendship,

accept our warm wishes as you celebrate your 75th birthday and enjoy life with Freda back in Bad Ischl in your beloved Oberösterreich.

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See the 'Laudation Frank Karasek' on p. 154, due to the late submission