

## OBITUARY

## Monika Ehrhart-Bornstein, 1959–2015

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Dr. Monika Ehrhart-Bornstein, our dear personal friend and colleague (Heidenheim, 10 February, 1959—Dresden, 24 October, 2015, Figures 1 and 2), completed studies in biology at the University of Ulm and earned a doctorate degree in 1988 on the subject of 'chromogranin A in the endocrine pancreas of cattle: cellular and subcellular distribution, characterization and quantification.' During the course of her studies, she also became acquainted with her future husband, Professor Stefan R. Bornstein.

She further pursued her scientific career as a scholarship holder at the Physiological Institute of the University of Bergen in Norway. In 1989 she was awarded a scholarship at the Panum Institute in Copenhagen, Denmark. This was followed by commitments as a research scientist at the University Hospital in Ulm, at the Department of Biochemistry of the University of Texas in Dallas, and at the University Hospital in Leipzig. Dr. Ehrhart-Bornstein moved to the National Institutes of Health (NIH) in Bethesda, USA in 1998 to study the influence of adenoviral vectors on adrenocortical steroidogenesis. In 2001 she was appointed team leader at the German Diabetes Research Institute in Düsseldorf, studying the adipocyte secretion products on adrenal steroidogenesis. She became laboratory director, University Hospital Carl Gustav Carus Dresden, in 2005. Her publication list comprises 300 articles and contributions to books, which have been cited several thousand times.

In her private life, Monika Ehrhart-Bornstein belonged to and was intensively committed to the Jewish Community in Dresden;



**Figure 1.** Monika Ehrhart-Bornstein, 1959–2015.

she was also a great supporter of Dresden's International School. Her family, including her husband and their two sons, was always her priority. They traveled together considerably and entertained a large circle of friends. As a reflection of her extensive interactions her funeral in Dresden was attended by over 1000 friends and colleagues.

While interacting closely with trainees, mentees and colleagues from all over the world, Dr. Ehrhart-Bornstein often stated: 'my working group is a small UN,' as she referred to the Molecular Endocrinology Laboratory, which she headed at the Medical Clinic and Policlinic III of the University Hospital Carl Gustav Carus since 2005. Her team's line of research was internationally recognized. She collaborated closely with leading scientists, such as Nobel laureate Andrew V. Schally, with whom she co-authored six articles. Her accomplishments in Dresden had worldwide impact: she and her research team were the first to isolate nerve-like stem cells from the adrenal medulla of laboratory animals, an achievement which harbors a great potential for the future, because Ehrhart-Bornstein's studies revealed that the stem cells derived from the adrenal medulla possess biological properties which make them suitable therapy for neural diseases. Only a few years later, she and her team succeeded in transforming stem cells from the adrenal medulla in nerve-like cells by applying a special growth factor. The use of adrenal stem cells is considered as a milestone as a potential new therapeutic option for central nervous conditions such as Alzheimer's and Parkinson's diseases.

As conference president, she brought the 10th Adrenal Conference to Dresden in 2012, in which leading international research scientists examined new diagnostic and therapeutic approaches in the treatment of adrenal diseases.

Dr. Ehrhart-Bornstein directed numerous major research projects on chromaffin progenitor cells from the adrenal medulla and on the microenvironment of the adrenal gland in health and disease, including adrenal tumors and adrenal organ failure. She contributed to the cover of *Molecular Psychiatry* in August 2015, which was dedicated to her paper showing how valproic acid, a treatment for both epilepsy and bipolar disorder, enhances neuronal differentiation of sympathoadrenal progenitor cells.<sup>1</sup> She further extended that work by contributing a Perspective article to the current issue of this journal, in which she and her colleagues discuss the effects of stress on brain and adrenal stem cells, exploring similarities in the way that the progenitor populations of these organs behave under stress, and shedding new light into the potential cellular and molecular mechanisms involved in the adaptation of tissues to stress.<sup>2</sup> That was the last paper that she wrote herself: we are very honored that she chose *Molecular Psychiatry* as the preferred journal for submission of her last article.

Monika passed away on October 24, 2015, after a long battle with colon cancer, during which she maintained her spirits, lucidity and poise to the very end. We talked to Monika by phone on October 23, 2015, a poignant goodbye to a beloved friend who was on her last day as brave, warm and clear-headed as ever. She leaves behind her husband Professor Dr. Stefan R. Bornstein, who is Transcampus Dean, King's College London and the University of Dresden as well as Professor, Chairman of Medicine and Director of the Medical Clinic and Policlinic III at Dresden's University Hospital, and their two sons Alexander (24) and Tobias (22).



**Figure 2.** Monika Ehrhart-Bornstein and Stefan Bornstein in Saint Lucia.

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