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Obituary

HANS JØRGEN GOTTLIEB GUNDERSEN
May 2, 1943 – February 1, 2021

JENS RANDEL NYENGAARD
Core Center for Molecular Morphology, Section for Stereology and Microscopy, Department of Clinical Medicine, Centre for Stochastic Geometry and Advanced Bioimaging, Aarhus University, Aarhus, Denmark
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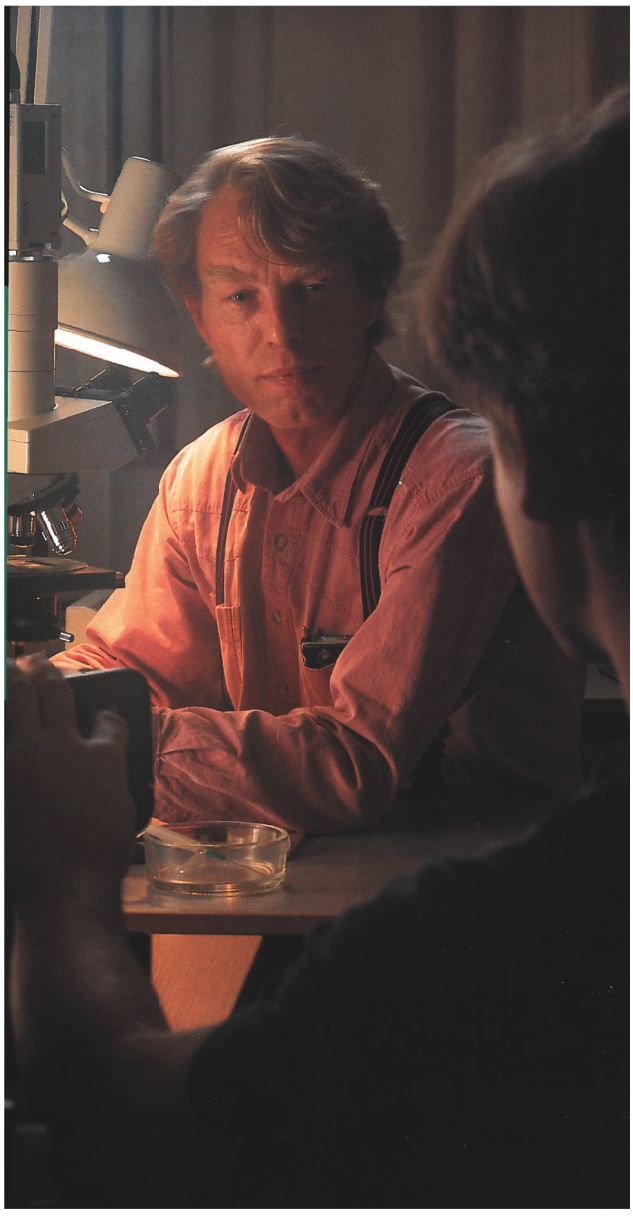
We have lost one of the greatest founders of modern stereology: Hans Jørgen Gottlieb Gundersen, after a short battle with cancer. He graduated as a medical doctor from Aarhus University, Denmark, in 1970 and was already involved in research as a student in diabetic late complications at Aarhus Kommunehospital. Here the seeds were laid for his methodological dissertation work, which he defended in 1981 at Aarhus University and this breakthrough is the foundation of modern stereology. As a professor at the Stereological Research Laboratory at Aarhus University, Hans Jørgen invented a number of revolutionary methods for accurately determining the spatial and structural characteristics such as number, size and connectivity based on spatial sampling principles and methods that he developed: disector, fractionator, proportionator, nucleator, rotator, point-sampled intercepts, orthogonal intercepts, vertical sections, isector, and 2D unbiased counting frame. The complete list of groundbreaking methods is even longer and the impact is much greater. As a true stereologist, Hans Jørgen never counted every single object in a population but rather estimated the structural quantities in a sample of the whole organ/structure. As a result he also made a huge contribution to the mathematical theory of the error variance, (specifically for systematic sampling), i.e. – coefficient of error of the estimate.

Hans Jørgen, through his collaboration with numerous researchers around the world, contributed to research in nearly all structural diseases in the central and peripheral nervous system, kidneys, lungs, bones as well as in diabetes and cancer. Surprisingly, he many times chose only to put his affiliation but not his name on publications with applied stereology, however, his affiliation was highly recognizable, guaranteeing that the readers realized, who was the supervising stereologist. He was a very inspiring and unsurpassed communicator, who taught at a large number of international courses in stereology, motivating thousands of young researchers to implement stereological methods in their projects. Hans Jørgen had the important role of being a biomedical researcher among mathematicians and a mathematician among biomedical researchers – he was a unique and important bridge between the theoretical stereologists and the practical biomedical researchers.



Hans Jørgen Gottlieb Gundersen 1994

This important role together with his very instructive review articles, gave researchers opportunities to produce 'unbiased' data. For his outstanding work, he was honoured with distinguished recognitions, including The Novo Nordisk Prize, the Marie and August Krogh Prize, The Friedman Rescue Award, Honorary Member of the International Society for Stereology and Knight of the Order of Dannebrog.

Countless young researchers have made their way past Hans Jørgen's always open and smoke filled office, and received inspiring guidance in the basic prerequisites for achieving true conclusions. He had a sublime overview and mastered the art of simplification. Sampling in organs and tissues was streamlined through refined but simple stereological measures. Hans Jørgen's ability to quickly become acquainted with diverse scientific hypotheses and biomedical challenges, and his innovative, positive and associative way of thinking, catalyzed a new orientation in many of us who sought his guidance and cooperation. As a young researcher, you quickly became fascinated by Hans Jørgen's intellect and enthusiastic approach to even relatively primitive ideas, which could give rise to many new and better scientific questions. One immediately felt included in Hans Jørgen's research team, and he empathetically followed the many projects over data collection to the analysis and writing phase, even though the manuscript piles on his desk reached above eye level. In a festive layer, Hans Jørgen was the natural center and always the last to retire. Hans Jørgen was a true genius - a uniquely composed and charismatic person who left his mark on a generation of scientists, who now stand on his shoulders.

My thoughts go to Hans Jørgen's daughters Pernille and Signe, whom he loved above all.