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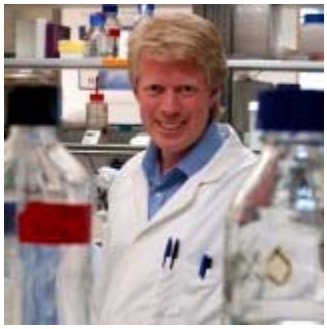

# Young Swedish Scientist Reveals Fast-Track Career Secrets

Lucas Laursen
Sweden
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**T**homas Helleday (pictured left) was precocious long before he started supervising Ph.D. students as he finished his own doctorate. His mother, a banker, bought him his first stock at age 7. At age 16, the Swedish native volunteered in a cancer ward with his older brother and "was terrified" by the harsh side effects of radiation therapy he saw there. Vowing to do something about it, potentially in the pharmaceutical industry, Helleday studied business and molecular biology as an undergraduate.

He has demanded much from himself and his colleagues ever since he was young.

By the time he turned 35, Helleday was a full professor and laboratory head at two institutions in two countries. He had hunted Soviet subs in the Baltic Sea, lost a small fortune in the 2000 stock market crash, racked up a series of awards for young investigators, and authored numerous papers in top journals.

Helleday shrugs off his achievements, smiling. He is too busy moving his Oxford research group into new facilities to spend much time looking back. He arrived at the University of Oxford just over a year ago, and his new lab, surreally pristine, will house his seven-strong research team. He returns to Sweden monthly to supervise his other research group of 15 at Stockholm University. Between commuting, conferences, and lectures, Helleday says, he is on an airplane almost every week.

He has demanded much from himself and his colleagues ever since he was young. "I wanted to make a difference," he says, but it's possible he didn't anticipate how much his success would demand of him. "If I don't do my job, the people working for me will not have papers and their careers will be spoiled. So everybody's pushing the leader, ... so I have to work harder."

### STUDENT OF BIOLOGY

By the time Helleday finished his twin undergraduate degrees at Stockholm University, he was reconsidering his plans for a career in the pharmaceutical industry. "They wanted me to sell pills, told me everyone started like that," he says. At that point, he "realized I needed a Ph.D. to pursue my own ideas." One of his professors, Dag Jenssen, persuaded Helleday to join his lab

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in the Department of Genetics, Microbiology, and Toxicology at Stockholm University to investigate the importance of recombination in somatic cells, tumor cells, and cancer initiation.

When Helleday began his graduate studies, Jenssen was working half-time at the university, devoting the rest of his time to a commercial venture. Helleday stepped in and supervised other Ph.D. students in the lab, and he also obtained funding for his own independent project. Helleday wears his can-do attitude on his sleeve, which some of his peers found frustrating. "He was almost too enthusiastic," Jenssen says, "and people thought that was a little hard to take." But others embraced Helleday's knowledge and willingness to share. "He is like a book," Jenssen says. "Other people asked for supervision from him because he knows a lot." Jenssen did his part to strengthen Helleday's managing style by "inform[ing] him about the unwritten laws within academic life."

So, Helleday was already comfortable as a supervisor by the time he landed in Mark Meuth's lab at the University of Sheffield in 1999 as a postdoc. There, Helleday began investigating inhibitors of an enzyme called PARP, which contributes to DNA repair. Inhibiting this enzyme in certain defective cancer cells prevents them from replicating. Meuth calls PARP-inhibitor research a "graveyard of investigators," but Meuth indulged his ambitious postdoc.

Within a year, though, Helleday says he wanted do his "own thing" with PARP, so he obtained start-up funding from the medical research charity Yorkshire Cancer Research and applied for an opening at Sheffield to start his own lab while continuing to supervise the Stockholm lab he founded as a graduate student. Meuth says that Helleday's success at Sheffield was partly luck but that he was definitely qualified for the job.

Helleday's groups focus on finding novel treatments that target the DNA damage usually found in tumor cells but not in healthy cells. One of Helleday's projects focuses on cancers caused by a rare defect in a tumor-suppressor gene; women with defective versions of the gene have up to an 80% increased risk of breast or ovarian cancer. "It's a tragedy for these families," says Helleday. "Some of the women die very young." In lab experiments, his group found that PARP inhibitors killed tumors with the defect. The results were published in *Nature* in 2005 with Helleday as senior author, and PARP inhibitors are now being tested in clinical trials. The PARP-inhibiting drug "doesn't have many side effects because it's a protein that's normally not required by the rest of the body," Helleday says. So in that case at least, Helleday achieved his childhood goal of alleviating the side effects of cancer treatment.

Helleday is motivated by the practical benefits of his research, but he also points to the pleasure of cracking biological mysteries. "You come up with a really simple model ... and then you see that it all fits and it's all so beautiful and you just know that it's correct."

## STUDENT OF LIFE

Helleday's early willingness to learn lessons firsthand has contributed to his scientific success. He calls those first years running his own labs "the most eye-opening time of my career." He says he's glad he took on responsibility early in his career and worries that some students and postdocs "are kind of spoon-fed, and I think that is not a good thing if you want to develop an independent career."

The laboratory didn't provide Helleday with his first lessons in leadership. He was fresh out of high school when he volunteered as a sonar operator in the Swedish navy for his national service at the tail end of the Cold War. He was disappointed when his "alcoholic" shipmates couldn't keep the sonar from listing long enough for him to get an accurate sonar ping. "How the hell was I going to find a sub?" he growls, recalling the incident.

"I was irritated by these kinds of things and I shouldn't have been. I was questioning ... how the boat was run." The old hands didn't appreciate his interference and treated him like an outsider. Helleday still puts a lot of enthusiasm into his work, but those past experiences taught him not to overwhelm his junior colleagues. "What I do is that if they have developed an area and become very good at it, then I step aside. I have so much cooking," says Helleday, "that I can leave that pot to someone else."

One area that is a bit of a challenge for Helleday is his work-life balance: His wife, Clara, says neither of them has had time for hobbies since the birth of their 17-month-old daughter. "I've

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always said to my wife that I should probably not work too hard and have a little more time with family, but it's always gone in the other direction," muses Helleday. He used to sail and go salsa dancing with his wife, but he only gets out on the water about once a year now, and he's not completely happy about it. "I want to be dancing," he chuckles. "I want to enjoy life!"

With two tenured academic appointments, many widely cited papers, and five European young researcher awards, Helleday could probably sit back and enjoy life a little more. But he points out that those awards didn't walk in the door. "I think that a lot of people are sitting there waiting to be discovered," he says, but that waiting isn't enough. "You have to promote yourself, and that's hard." Helleday's diligence has been a big part of his success, but he also advises new managers not to try to be an overcommitted "superpostdoc" by trying too hard to do lab science and science management. He says, "A young manager needs to get away from the lab and free up time to think instead of working in the lab themselves."

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| Lucas Laursen is a freelance writer in Cambridge, U.K. | Comments, suggestions? Please send your feedback to our editor. |
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