

2014 Curt Stern Award Introduction: Mark Daly<sup>1</sup>Aarno Palotie<sup>2,3,4,5,6,7,\*</sup>

It is a great pleasure to introduce my close friend and colleague Mark Daly, the 2014 recipient of the Curt Stern Award, which is presented yearly for outstanding scientific achievements in human genetics over the past decade.

David Altshuler recently told me the following: “If aliens were to invade the earth and humankind had to turn to one computational geneticist to figure out the alien DNA in order to save everyone, I’d want Mark Daly to defend us from the apocalypse.”

David Goldstein, meanwhile, said this: “Mark is a deep and original thinker, honest beyond measure, fearless in interpretation, and one of the best people you will ever meet.”

Indeed, we all know that Mark is smart, but the standard definition alone doesn’t apply: he seems to be on a different planet. What is truly unique about him, however, is the fact that he can afford to be humble. He is that exceptional.

Mark grew up right outside of Boston and stayed in the area throughout school, university, and later, his career.

He went to the Massachusetts Institute of Technology for his undergraduate degree, but not with aspirations to focus on genetics: his early top career choices were either professional poker player or lawyer (looking back, this might actually have been a useful combination). As a physics undergraduate, he chose to join Eric Lander’s lab at the Whitehead Institute—connections between this decision and a possible poker career are unclear.

Mark’s fascination with data dates back to his early years in science. “Mark always leaves a dataset better off than how he found it,” says Andrew Kirby, Mark’s longtime colleague. Not much has changed in that respect: he still enjoys feeling immersed in raw data. If he is only dealing with higher-level data, he feels blind.

While diving into data in Whitehead, he also met his future wife, Mary Pat Reeve, now the mother of their four wonderful children. Their romance was sparked while they were staring at sequence data in monochrome monitors displaying gray dashes. In these monochrome monitors they, together with Jonna Hästbacka, found the diastrophic dysplasia mutation. Subsequently, their life would change from shifts of gray to full color and blossom.

Mark’s team has developed or contributed significantly to the development of numerous methods that have become industry standards. Among these are GeneHunter, Haploview, PLINK, GATK, GRAIL, and DAPPLE. The leading philosophy of each of these methods has always been sharing, disseminating, and developing.

Mark’s passion for developing new, modern tools that break boundaries does not seem fitting when one looks at the devices preferred by Mark himself: his personal gadgets are always a minimum of two versions behind. It took quite a bit of wrangling behind the scenes to get him an iPhone. It appears that progress sometimes needs a fine balance between keeping a foot in the past and reaching for the moon.

But, there is more to success than just sticking to the old while striving for the next scientific discovery. It’s about being able to see what is immediate and what can wait and having the stamina to make decisions on these grounds.

<sup>1</sup>This article is based on the address given by the author at the meeting of The American Society of Human Genetics (ASHG) on October 20, 2014, in San Diego, CA, USA. The audio of the original address can be found at the ASHG website.

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In spite of the fact that he once wished to become a lawyer, Mark displays a monumental dislike for administrative formalities. Sure, he doesn't get a kick out of filling out conflict-of-interest documents or reports—few of us do—but he does not even care about his own academic rank. Mark, who is among the ten most cited scientists in genetics and genomics and has produced 17 papers that have all been cited more than 1,000 times, has not bothered to apply for a full professorship at Harvard.

"It is too much administrative hassle. You have to bother so many colleagues to write uninteresting letters," he says. "We should concentrate on producing exciting results instead."

Pat Sullivan crystallizes this tendency as follows: "Mark simply cannot be bothered to do the self-promotion and self-aggrandizing that can typify some in the field. He would rather turn his formidable intelligence to the next major problem in genomics."

Mark has been the driving force in some of the most remarkable recent success stories of modern human disease genetics. Just to mention a few, he has led genome-wide association studies in inflammatory bowel disease and schizophrenia and been one of the pioneers in exome sequencing in neuropsychiatric diseases, most

prominently in autism. He has led these large consortia with enthusiasm and good spirit, an appreciation and respect for his peers, and a passion to move the field forward.

As Mark has shown, being the statistical geneticist of our time is about enthusiasm, data, and joy of solving challenges. It is not about self-promotion or building defense barriers. It is also about setting priorities. One thing is even more important to Mark than science: his family. He is an excellent father—a fact confirmed by Mary Pat—and his office hours are worked around his schedule of dropping off and picking up his kids. He spends his weekends with their hobbies, minimizes his travel in order to not be away from home, takes holidays with his family, and whenever possible, takes his family with him when work-related travel takes more than a couple of days.

Yes, Mark is exceptionally smart—so smart that he can afford to be humble, joyful, giving, helpful, and devoted to his family life. He is a true model for the next generation of scientist.

As our mutual friend and colleague Ben Neale says: "Mark's sparkling intellect and imagination is only matched by his kind and caring nature. To possess either quality is rare, but to have both is truly unique."