

THE INTERVIEW COLUMN

BY

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KNOW THE PERSON BEHIND THE PAPERS

Today: Monika Henzinger

Bio: *Monika Henzinger is a Professor at the University of Vienna, Austria, heading the research group of Theory and Applications of Algorithms. She received her PhD in 1993 from Princeton University and was an assistant professor at Cornell University, a researcher at Digital Equipment Corporation, the Director of Research at Google and a professor at EPFL, Switzerland, before moving to the University of Vienna. Professor Henzinger received a Dr. h. c. degree from the Technical University of Dortmund, Germany, two ERC Advanced Grants (2014 and 2021), the Wittgensteinpreis of the Austrian Science Foundation, the Carus Medal of the German Academy of Sciences, a SIGIR Test of Time Award, a Netidee SCIENCE Award of the Internet Foundation Austria, a European Young Investigator Award, an NSF CAREER Award, and a Top 25 Women on the Web Award. She is a fellow of the ACM and of the EATCS and a member of the Austrian Academy of Sciences and the German Academy of Sciences Leopoldina. She is an editor of the Journal of the ACM and the SIAM Journal on Computing and a member of the Swiss Science Council.*



EATCS: We ask all interviewees to share a photo with us. Can you please tell us a little bit more about the photo you shared?

MH: I like this picture from Wikipedia - I was on a panel of the Austrian Science Foundation and didn't even notice when this picture was taken. In the panel I was describing how much the German Academic Scholarship Foundation has helped me to decide that I want to become a researcher and in the meantime the Austrian Academy of Sciences has started an Austrian Academic Scholarship Foundation. I think such a foundation is an excellent tool to inspire students to pursue an academic career.

EATCS: Can you please tell us something about you that probably most of the readers of your papers don't know?

MH: Starting spring 2023 I will transfer as professor to IST Austria.

EATCS: Is there a paper which influenced you particularly, and which you recommend other community members to read?

MH: As a Phd student I particularly liked the paper on Amortized Computational Complexity by my PhD advisor, Bob Tarjan.

EATCS: Is there a paper of your own you like to recommend the readers to study? What is the story behind this paper?

MH: This is the hardest question for me to answer. The paper with the best story is certainly the paper Faster Shortest-Path Algorithms for Planar Graphs. J. Comput. Syst. Sci. 55(1): 3-23 (1997) with Philip N. Klein, Satish Rao, and Sairam Subramanian. We proved the main result on the phone (it was 1996!) working through the night, the night before the STOC deadline. We showed how to exploit the power of the planar separator theorem to give a linear-time algorithm for shortest paths in graphs. It sparked a lot of follow-up work.

EATCS: When (or where) is your most productive working time (or place)?

MH: I work best in the morning and need a quiet place to work. That's why I love to work from home.

EATCS: What do you do when you get stuck with a research problem? How do you deal with failures?

MH: I revisit problems that I get stuck on periodically, sometimes with a different PhD student or collaborator than before. But I don't consider that a failure - if it didn't happen, I would worry that the problems I work on are not ambitious enough. Instead, I consider it a failure to write a paper that is not read. (As I don't know what other researchers read, I use the number of citations as a potentially poor replacement.)

EATCS: Is there a nice anecdote from your career you like to share with our readers?

MH: In high school I liked all sciences and I really didn't know what to study. It was my mother, who was not an academic, but who saw my passion for programming, she was the one who advised me to study Computer Science. Luckily, I listened to her.

EATCS: Do you have any advice for young researchers? In what should they invest time, what should they avoid?

MH: Work on problems that you think will be important for the future.

EATCS: What are the most important features you look for when searching for graduate students?

MH: I look for students who are highly motivated to work on algorithms and are creative thinkers.

EATCS: Do you see a main challenge or opportunity for theoretical computer scientists for the near future?

MH: Staying relevant. I am concerned that a large part of our community is working too much on problems that the community likes and too little on problems that have an impact in other areas of Computer Science or other fields. However, on the positive side, there is also a part of our community that is really concerned about impact.

EATCS: How was your research affected by the pandemic? How do you think it will affect us as a community?

MH: As I said above I like working from home and, thus, the pandemic was helpful for my research. It also increased the online research collaboration, even between continents. I just hope that conferences will stay hybrid as it enables researchers who, for various reasons, cannot travel (for example because they have small children) to participate in conferences at least online.

Please complete the following sentences?

- *My favorite movie is...* no specific one, but I like movies that make me laugh.
- *Being a researcher...* is a vocation for me, one of my favorite things to do.
- *My first research discovery...* was a lower bound for a problem related to the dictionary problem. It was my master thesis which was supervised by Kurt Mehlhorn and the collaboration with him got me hooked on research.