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Interview with a serial inventor

IBM Master Inventor Omer Tripp explains what lies behind reaching the 31st patent plateau level

While in the past, hackers attacked financial institutions in an effort to steal money, today they are after our information. [Omer Tripp](#), IBM Master Inventor, having filed over 150 patents to date—many of them security-related, sheds light on this trend and his work at the [IBM Israel Software Lab \(ILSL\)](#).



Omer Tripp, [IBM Master Inventor](#)

“Today we have constant connectivity, seamless collaboration platforms, and dynamic web pages, among other benefits. All of these features expand the attack surface of web and mobile applications.”

How do your inventions impact the world?

The attacks you read about in the newspapers on mobile applications and websites are exactly what I've been addressing in my research and patent work. My overall goal is to build testing and analysis tools that allow effective discovery of software security vulnerabilities, either through static scanning of a program's

code or by testing it dynamically.

These capabilities are meant to ensure the safety of billions of people around the world when shopping or otherwise exchanging personal or confidential information online. This not only helps users directly, but enables the development and use of more applications that use mobile information such as location-based services.

Tell a little about yourself.

I joined IBM in November 2007—just as I was finishing up my master's degree and a month before my second daughter was born. It was a fresh beginning in many ways. My degree was in multi-agent systems, which at the time did not seem connected to the work I would do at IBM, but is now proving very valuable.

Now I work on the [Application Security team](#), which is part of [ILSL](#), and focus on web application security. My second daughter was born just as I began my PhD studies in computer science at [Tel Aviv University](#), which I expect to complete in July. And we recently had a son—another new beginning.

What are some challenges you face in your research?

Keeping up with the rapid pace of technology is our biggest challenge.

Omer filed 63 US patents last year – almost 1% of IBM's total for 2012.

Did you know?

When a patent is filed within SWG, it is routed to an Invention Development Team (IDT) for evaluation.

Based on several factors such as business value, novelty, discoverability, obviousness, and others, the patent will be rated search, publish, or close. Those rated search are given a ranking of a 1, 2, or 3 to depict value: search-1 is considered high value.

If the patent is included in one of the strategic areas, such as those for Watson, the inventor receives an additional \$1,000.

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Today, we have constant connectivity, seamless collaboration platforms, and dynamic web pages, among other benefits. All of these features expand the attack surface of web and mobile applications.

How did your research in security analysis result in so many patents?

Attacks to web applications, including banking apps, have pushed organizations to seek out solutions that can protect and secure their sites. Over the last few years, instead of hacking in from the outside, we look from the inside out and check a site's code. We look for parts where information comes in from a user, then we check if it flows out from the code and ensure that such paths are mediated by security measures, yet not all code is reachable or easy to check. Many of our solutions to tackle these challenges end in patents.

How did you get started filing patents?

The patenting culture in IBM is unique—as you can see by the numbers. There's a lot of encouragement and support to get started and to keep going.

One of the first lessons I learned at IBM, when I came as a student to orientation day, was that IBM values innovation, new initiatives, and ideas that can be turned into valuable patents. This resonated with my desire to be inventive and eventually brought me here.

What inspires you?

A lot of my inspiration comes from being in the right place at the right time. A challenging project can lead me to think outside the box. This field is really about what you cannot do. As Sherlock Holmes put it, “when you rule out the impossible, what's left is the possible”, and many times going through this process of understanding what you can do to solve a hard problem leads to interesting research directions, and often to new innovations.

What do you like to do outside work?

My wife and I enjoy hiking and just being in nature with our kids; we try to do it often as possible. I also cherish my own private geeky world of technology, algorithms, and research.

What advice do you have for fellow creative thinkers?

Start with something promising and then do the work: 1) to connect the pieces and 2) to generalize. Recently in Yorktown, someone showed me a demo. We started discussing related work and then bounced around thoughts about how to generalize. We came up with ideas for six different patents that I'm starting to draft. Even if no patent comes out of it, the process is great exercise for the mind.

For more information, please contact [Chani Sacharen](#) (sacharen@il.ibm.com).

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[Corville O. Allen](#)

23 Jul 2013 at 13:15 PM EDT

Very nice article and suggestions for creative thinking. Congrats on your prolific inventing in area that matters.



[Omer Tripp](#)

24 Jul 2013 at 05:41 AM EDT

Thank you for this kind feedback! It's a feeling of great satisfaction, and equally importantly, a lot of fun, to work on innovation that matters.



[Ravi K. Kumar](#)

24 Jul 2013 at 23:21 PM EDT

You are awesome! Is there any way I could work directly with you?



[Sathis R. Marudanayagam](#)

29 Jul 2013 at 00:35 AM EDT

Inspiring one. Thanks for sharing your experience!



[Omer Tripp](#)

31 Jul 2013 at 03:23 AM EDT

Thank you, Sathis! It's great to learn that this experience can be of value to others.



[Eric Fernandez](#)

30 Jul 2013 at 21:31 PM EDT

Thanks for that encouraging story. Sometime it's just what we need to get back on the patent bandwagon amidst the hectic schedule. Shalom



[Omer Tripp](#)

31 Jul 2013 at 03:28 AM EDT

Thank you, Eric! If my story will make even one person (you? :-)) write one new patent, then it's already a great success to me! It's indeed tricky to find the time to work on patents given our busy routine, and so my personal goal is to make innovation an integral and organic part of my schedule: Connect it to product features I'm working on, and try to think out of the box to inspire new product features. It's indeed a challenge to draw these connections, but a fun one :-)