TUNISIAN SUCCESS
NORTH AMERICA

PROFILES · SCIENCE · TUNIS–LAVAL

Emna Harigua, the Tunisian scientist teaching AI to invent new medicines

On November 4, in Laval, the Pasteur Network presented its first award devoted to artificial intelligence to a researcher from Tunis. Behind the honour lie fifteen years of patient work to treat a disease the world forgets.

BY THE **EDITORS** · NOVEMBER 30, 2026 · 5 MIN READ



Dr. Emna Harigua, team leader at the Laboratory of Molecular Epidemiology and Experimental Pathology of the Institut Pasteur de Tunis. Photo: Pasteur Network.

Some awards honour a career. The one Dr. Emna Harigua received on November 4, 2026, in Laval, Quebec, honours an idea: that a Tunisian laboratory can use artificial intelligence to invent the medicines the world needs. That day, before the institutes of the Pasteur Network gathered for their annual meeting, the researcher from the Institut Pasteur de Tunis became the winner of the 2026 Pasteur Network Talent Award, the very first edition of the prize devoted to artificial intelligence.

The winning project has a no-nonsense title: designing, through AI-guided medicinal chemistry, a new generation of drugs against leishmaniasis. The award, funded by the Institut Pasteur in Paris, carries €20,000: €4,000 for the winner and €16,000 for her research unit. Each institute in the network may submit only one candidate, chosen by its leadership. The jury assesses the quality, originality and impact of the work, as well as the researcher's ability to carry a vision.

A disease the world forgets

To grasp what this work represents, one has to talk about leishmaniasis. Transmitted by the bite of a small insect, the sand fly, it causes between 700,000 and one million new cases each year, according to the World Health Organization. Its cutaneous form leaves lifelong scars; the Mediterranean basin, Tunisia included, is one of the regions where it is most present. Its visceral form, left untreated, is fatal in more than 95 percent of cases.

It is what is known as a neglected disease: it strikes mostly poor populations and draws little interest from the pharmaceutical industry. Existing treatments are old and harsh. That is precisely where Emna Harigua chose to take up the fight.

HER JOURNEY AT A GLANCE

2008	Engineering degree in analytical chemistry and instrumentation, Université de Tunis El Manar.
2010	Master's degree in Information Processing and the Complexity of Living Systems, Université de Tunis El Manar.
2012	L'Oréal-UNESCO For Women in Science International Fellowship.
2016	PhD in structural bioinformatics, jointly supervised by the Université de Carthage and the Institut Pasteur in Paris.
2022	Takes the lead of a multidisciplinary team at the Institut Pasteur de Tunis. BIND project funded by the African Academy of Sciences.
2025	First national prize for the best scientific research by a woman.
2026	Pasteur Network Talent Award, artificial intelligence edition, in Laval.

From chemistry to the computing of life

Nothing, at first, pointed her toward algorithms. Emna Harigua graduated in 2008 as an analytical chemistry engineer from the Université de Tunis El Manar. It was her master's degree, in 2010, that opened an unexpected door. “The master's program allowed me to explore computer science,” she told Tunisie Numérique. There she discovered bioinformatics, the discipline that makes molecules speak through computation.

She then went on to a PhD jointly supervised by the Université de Carthage and the Institut Pasteur in Paris, thanks to a four-year international scholarship. Her subject, already: molecules capable of neutralizing the Leishmania parasite. She defended her thesis in 2016. In the meantime, in 2012, she had been recognized with the L'Oréal-UNESCO For Women in Science International Fellowship. Then she made the choice that gives her path its full meaning: returning to Tunis, to the Laboratory of Molecular Epidemiology and Experimental Pathology at the Institut Pasteur de Tunis.

Putting the machine to work

Since 2019, Emna Harigua has applied artificial intelligence to drug discovery. The principle is simple to state and formidable to carry out: rather than testing thousands of molecules one by one in the lab, you train models to predict which ones stand a chance of working, then synthesize and test only the most promising. Years of work can thus be reduced to a few months.

Since 2022, she has led a team that brings together biologists, chemists, technicians and engineers. Through the BIND project, funded by the African Academy of Sciences under the ARISE program, which is supported by the European Union, her team has identified nine new candidates against leishmaniasis, three of which have entered preclinical studies. She has also opened a database, CidalsDB, to everyone, so that other researchers can benefit from these results.

> **“We have already identified promising molecules.”**
>
> EMNA HARIGUA, TUNISIE NUMÉRIQUE, AUGUST 2025 (TRANSLATED FROM FRENCH)

The same platform is being used against other microbes, including coronaviruses. It is what earned her, in August 2025, the first national prize for the best scientific research by a woman, awarded by Tunisia's Ministry of Family, Women, Children and Seniors on the occasion of the country's Women's Day. Her work has now been cited nearly five hundred times in the scientific literature.

Science open to every woman

Emna Harigua's journey is also that of a woman who chose to do world-class science from her own country. A former participant in the American TechWomen program and, in 2018, a fellow of the U.S. National Academy of Sciences' Women in Science mentoring program, she champions mentoring for young women researchers and the open sharing of data.

> **“Every day, they show that science is open to all women.”**
>
> EMNA HARIGUA, ON TUNISIAN WOMEN, AUGUST 2025 (TRANSLATED FROM FRENCH)

In Laval, then, it was a laboratory from Tunis that was honoured by one of the world's most prestigious public health networks, present in more than twenty-five countries. For the Tunisian diaspora in North America, which saw this honour presented just a few kilometres from Montreal, the symbolism is powerful: Tunisian talent does not always need to leave to shine. It can rise from Tunis and travel all the way to Quebec to collect its reward.

TUNISIAN PRIDE

Emna Harigua proves that a Tunisian laboratory can stand at the forefront of global research. Her victory belongs to an entire generation of Tunisian women scientists.

SOURCES

1. Institut Pasteur, Pasteur Network Talent Award: www.pasteur.fr/fr/international/pasteur-network-talent-award?language=fr
2. Kapitalis, November 5, 2026: kapitalis.com/tunisie/2026/11/05/ipt-dr-emna-harigua-remporte-le-pasteur-network-talent-award-2026/
3. Business News, November 6, 2026: businessnews.com.tn/2026/11/06/la-tunisienne-emna-harigua-remporte-un-prix-international-pour-avoir-mis-lia-au-service-de-la-decouverte-de-medicaments/1427600/
4. Managers, November 7, 2026: managers.tn/2026/11/07/la-chercheuse-tunisienne-emna-harigua-recompensee-par-le-pasteur-network-au-canada/
5. World Health Organization, leishmaniasis fact sheet: www.who.int/news-room/fact-sheets/detail/leishmaniasis
6. African Academy of Sciences, ARISE program: arise.aasciences.africa/grantees/dr-emna-harigua
7. African Scientists Directory: africanscientists.africa/business-directory/harigua/
8. Tunisie Numérique, August 13, 2025: www.tunisienumerique.com/13-aout-la-science-au-feminin-brille-avec-emna-harigua-meilleure-chercheuse-2025/
9. Tunisie Numérique, message to Tunisian women: www.tunisienumerique.com/aux-femmes-tunisiennes-le-message-fort-demna-harigua/
10. WebManagerCenter, August 11, 2025: www.webmanagercenter.com/2025/08/11/550287/tunisie-emna-hariga-primee-pour-une-plateforme-dia-accelerant-la-decouverte-de-medicaments/
11. National Academies, PEER program: sites.nationalacademies.org/PGA/PEER/PEERscience/PGA_382237

Facts checked by the Tunisian Success editors in November 2026. Spotted an error? Write to us at contact@tunisiansuccess.com.