

Technology

Scientists create bee vaccine to fight off 'insect apocalypse'

More than 40% bees, butterflies face extinction

HELSINKI: Scientists in Finland have developed what they believe is the world's first vaccine to protect bees against disease, raising hopes for tackling the drastic decline in insect numbers which could cause a global food crisis. Bees are vital for growing the world's food as they help fertilize three out of four crops around the globe, by transferring pollen from male to female flowers. But in recent years bee populations around the world have been dying off from "colony collapse disorder", a mysterious scourge blamed on mites, pesticides, virus, fungus, or some combination of these factors. UN-led research in 2016 found that more than 40 percent of invertebrate pollinators, particularly bees and butterflies, are facing extinction. The study also found that 16.5 percent of vertebrate pollinators, such as birds and bats, are under threat. Scientists warn that the die-off will result in higher food prices and the risk of shortages.

Medical breakthrough

The vaccine, developed by a team at Helsinki University in Finland, works by giving bees resistance to fight off severe microbial diseases that can be fatal for pollinator communities. "If we can save even a small part of the bee population with this invention, I think we have done our good deed and saved the world a little bit," lead researcher Dalia Freitak said. "Even a two-to-three percent increase in the bee population would be humongous," she told AFP.

Vaccinating insects was previously thought to be impossible because the creatures lack antibodies, one of the key mechanisms humans and other animals use to fight disease. But a breakthrough came in 2014 when Freitak, a specialist in insects and immunology, noticed that moths who are fed certain bacteria can in fact pass on immunity

to their offspring. "They could actually convey something by eating. I just didn't know what the mechanism was," Freitak said. "I met with Heli Salmela, who was working on honey bees and a protein called vitellogenin. I heard her talk and I was like, 'OK, I could make a bet that it is your protein that takes my signal from one generation to another.'"

The pair started to collaborate and created a vaccine against American foulbrood, the most globally widespread and destructive bee bacterial disease. The treatment is administered to the queen bee via a sugar lump, similar to the way many children are given polio vaccines. The queen then passes the immunity to her offspring, spreading it through the bee community. As well as working on vaccines against further diseases, the team has also begun trying to raise funding to make the vaccine commercially available,

with "very positive" feedback so far, according to Freitak. "There are many regulatory hurdles. Four to five years until reaching the market is an optimistic estimate," she said.

Crop growth affected

Diseases are believed to be just one of a number of reasons for the loss of pollinators, alongside pesticides and intensive farming, which reduces the diversity of insects' nutrition. But the team believes that protecting bee populations against disease will make them stronger, and therefore better able to withstand the other threats.

The European Union and Canada have voted to introduce bans on insecticides based on neonicotinoids after studies showed the chemicals harmed the ability of bees to reproduce. UN-backed research in 2016 estimated that up to \$577 billion (511 billion

euros) worth of food grown every year relies directly on pollinators. The study said the volume of food produced that depends on pollinators has risen by 300 percent in the last half century.

As pollinator numbers have declined, some farmers have turned to either renting bees or pollinating by hand-as with fruit trees in some parts of China-in order to replace the processes that nature previously provided free of charge. In Helsinki the project relied on external funding, but the team has now taken up a more secure tenure at Graz University in Austria, where further research on vaccinations will begin early next year. Graz is also the previous seat of noted zoologist Karl von Frisch, whose discovery that honey bees communicate by performing the figure-of-eight "waggle dance" won him the Nobel Medicine Prize in 1973. — AFP

ITS named Critics' Choice Best Digital Banking Solution

KUWAIT: International Turnkey Systems Group (ITS) is a key player in the provision of advanced financial technology solutions (FinTech) and services that are designed to transform banks and financial institutions (Islamic & conventional) to the new digital age. The Company was named the winner of the Critics' Choice Best Digital Banking Solution 2018 for its innovative 'ETHIX' product range at the 4th Islamic Retail Banking Awards (IRBA). The award presented during a prestigious ceremony held at the JW Marriott Marquis Hotel, Dubai, on 21, November 2018.

Esam Alkhashnam, Chief Executive Officer of International Turnkey Systems Group (ITS), received the award during the grand Gala Dinner which was attended by VVIPs, CEO's from Islamic financial institutions from the GCC, the Far East, Africa and the Western hemisphere and members of the press. Winners of the Critics' Choice Awards are selected by the Critics' Choice Committee, which comprises of leading Islamic banking experts from around the world.

Commenting on the announcement, Esam Alkhashnam, said: "It is an honor to be awarded the Critics' Choice 'Best Digital Banking Solution' from IRBA. This award is a testimony to our continued success in delivering on the commitment and to continue



empowering banks and financial institutions to succeed in today's digital banking age". He added: "The ETHIX Digital Suite delivers next generation online banking services to corporate and retail banking customers and provides financial institutions with competitive advantage."

ITS ETHIX is the Company's award-winning and innovative solutions package that drives the digital transformation of Islamic financial institutions. The ETHIX suite of solutions includes ETHIX (Core, Finance, Branch, 360, Portfolio, Fund, Treasury, Trade Finance, Salary Domiciliation, FATCA, Bad Debts Collection, ETHIX Digital, and Profit Calculation and Distribution), in addition to other extensions that together create an evolved financial operation.

5G: A revolution not without risks

PARIS: The recent diplomatic dust-up over Chinese telecoms company Huawei, one of the leaders in developing equipment for fifth-generation mobile networks, has demonstrated that this technology which promises to enable an internet of things and self-driving vehicles also poses risks. What is 5G, what will it be able to do, and what are the risks?

What is 5G?

5G stands for the fifth generation of mobile network technology, which should begin to be rolled out in 2020 in Asia and the United States. Each generation has offered improvements in data transmission speed and capacity, and with 5G the networks are really set to make the transition from telephony to other objects.

What will it be able to do?

The much vaunted internet of things has so far been hobbled by the limitations of mobile networks, both in terms of transmission speeds of handsets and the fact the backbone of networks hadn't been expanded sufficiently in many cases to handle huge volumes of data. With 5G, transmission speeds should accelerate sufficiently to allow for self-driving cars to take to the roads or for doctors to conduct operations remotely. It will also cut the cord on augmented and virtual reality. The ability to connect more sensors will help make many services "intelligent", such as helping manage traffic flow and telling the sanitation department when garbage bins need to be emptied. Industry is in particular looking forward to 5G to reinvent manufacturing and allow it to monitor all sorts of processes.

Why does 5G pose security risks?

The first reason is that more data and more types of data will be travelling across 5G networks. Much of the data transmitted by sensors could be sensitive, such as information about manufacturing processes that business rivals would be interested in acquiring. Or the data from our homes that could be gleaned to determine all sorts of things about us. The treasure chest of data for hackers is getting much, much bigger.

A second reason is that an increased reliance on the mobile network means its disruption would have even more serious consequences, both in terms of safety and economic activity. A failure during a remotely guided operation could lead to the death of a patient or a crash of a self-driving car. A longer outage could disrupt an economy. This poses national security risks.

While the diplomatic spat over the arrest of Huawei's chief financial officer was based on accusations the firm violated US sanctions on Iran, the United States has long-standing concerns about Chinese telecommunications equipment being a Trojan horse for Beijing's intelligence and military. Huawei is a major manufacturer of equipment used to build 5G networks, and the US defense establishment fears it could enable it to disrupt American military communications or otherwise wage asymmetrical warfare in a confrontation. The United States has essentially barred use of Huawei equipment in domestic networks, as have Australia and New Zealand, with other countries considering following suit. The promises are always hyped, but the delivery is often a disappointment. Early buyers of 4G smartphones were often let down: their handsets could handle nippy speeds but the backbone of networks was often not yet bulked up to handle the higher data flow. Operators have now built up the capacity of their backbone networks, but if 5G is to keep its promise the number of base stations needed is enormous. — AFP

CLINIC
PAGE

248 33 199

WELCOME

Dr Tammam Abou Ali
Consultant ENT, Head & Neck, Facial Plastic Surgeon.

Fellowship of the royal college of surgeons in UK and Ireland.
10 years work experience in Zain Hospital WDK Kuwait.

In Head of ENT Department in European Hospital WDK Kuwait
10 years work experience in UK and Ireland.

- Endoscopic Sinus Surgery
- Septoplasty and turbinate reduction surgery by laser or RF
- Snoring and OSAP Surgery
- Rhinoplasty with open and closed techniques
- Microscopic Middle Ear Surgery and Tympanoplasty
- Salivary gland and parotid surgery
- Thyroid and parathyroid surgery
- Micro laryngeal surgery

1 888 883

www.qmc-kuwait.com

qmc Kuwait

To advertise on this Page

Call: 24833199 ext:101,102

or Direct line: 24835616 / 24835617

or email: ads@kuwaittimes.com

Dr. Husain Alenezi

-Board Certified Urologist.
-Endourology Society-Approved Fellowship in Endourology And Robotic Surgery At Western University, Ontario, Canada.

Expert in diagnosing and treating:

- 1- Urinary Stones (Kidney, Ureter & Bladder) By Endoscopy & Laser
- 2- Prostate Cancer And Benign Prostatic Hyperplasia
- 3- Lower Urinary Tract Symptoms in Males And Females
- 4- Tumors And Malignancies Of The Urinary Tract (Kidney, Adrenals, Ureter, Bladder And Testes)
- 5- Male Factor Infertility And Varicoceles (Microscopic Surgery)
- 6- Erectile Dysfunction

Contact Taiba Hospital: 1806088

94449452

Twitter: @DrHusain_Urol

Our Doctors Provide care For the entire Family

Book your appointments today!

Dr. Kiran Turaka
Ophthalmologist

Dr. Zareena Zahir
Ophthalmologist

Dr. Hasan Khan
Senior Cardiologist

Dr. P. Seshendra Nath
Orthopedic Consultant (AUSTRALIA)
Specialist in Neck, Shoulder Hip and Knee

50721507

24551555

www.exircenterku.com

EXIR MEDICAL SUBSPECIALITIES CENTER

Block No.4 Jahra - Kuwait

WE ACCEPT ALL MAJOR INSURANCES

Tel : 24568857 / 24568859 info@exircenterku.com www.exircenterku.com