# Advances in kidney cancer research & care

New insights into the biology of kidney cancer, including those informed by scientific discoveries that earned a Nobel Prize, have led to advances in treatment and increased survival rates, according to a review by UNC Lineberger Comprehensive Cancer Center's William Kim, MD, and Tracy Rose,

"The Nobel Prize in Medicine or Physiology in 2019 was awarded for the discovery of how mammalian cells sense oxygen," said Kim, the Rush S. Dickson Distinguished Professor of Medicine at UNC School of Medicine and co-leader of the UNC Lineberger Cancer Genetics Research

"One of the key components of this oxygen sensing pathway is the von Hippel-Lindau tumor suppressor gene, which is mutated

in approximately 90% of kidney cancers. This deep understanding of kidney cancer biology has led to several important therapeutic advances in recent years?

Kim trained as a post-doc with William G. Kaelin, Jr., MD, who was jointly awarded the 2019 Nobel Prize for demonstrating how the von Hippel-Lindau gene influences cellular responses to changing oxygen levels.

The American Cancer Society estimates that more than 81,500 people will be diagnosed with kidney cancer in the United States this year, and the disease will cause 14,300 deaths.

While the incidence of kidney cancer has been increasing by approximately 1.5% annually in recent years, deaths have decreased by about 2% each year from 2016 to 2020.

This decline in deaths is largely due to improved treatments and early detection.

"The majority of kidney cancer cases are now detected incidentally, often before symptoms appear," said Kim.

He noted that the widespread use of abdominal imaging for unrelated issues has led to the incidental diagnosis of kidney cancer.

"More cases are being identified in earlier stages when the cancer is typically more responsive to treatment."

Cigarette smoking and being overweight are major risk factors for kidney cancer and are linked to nearly half of the cases in the United States.

Other risk factors include high blood pressure, a family history of kidney cancer, workplace exposure to certain chemicals, and hereditary conditions, such as von Hippel-Lindau disease.

Current treatment approaches include surgery to remove part or all of the kidney, ablation using targeted heat or cold to destroy the tumor, or active surveillance with imaging technologies to monitor the tumor.

For cancers that have metastasized, or spread beyond the kidney, newer treatment options include immune checkpoint inhibitors, tyrosine kinase inhibitors, or a combination of the two approaches.

"Advanced, metastatic kidney cancer is highly treatable with targeted therapy, immunotherapy or a combination of these newer therapies," said Rose, associate professor of medicine at UNC School of Medicine. "Understanding the science underlying the disease has allowed for the rational development of therapies that have positively affected many patients the past two decades.'

#### VR headsets could be life changing intellectually disabled

Immersive virtual need additional time reality could open up to grasp and visualise a whole new world for people with intellectual enabled participants disability, enabling them to experience realistic to learn practical life skills much faster without relying on caregivers, according to a new study.

Australian researchers compared the effectiveness of immersive VR headsets and non-immersive virtual environments to teach 36 adults with an intellectual disability how to separate general waste from recycling, garden, and food organics.

The study, undertaken by University of South Australia and UNSW Sydney researchers, involved 12 virtual training sessions. The VR group using the immersive head-mounted displays scored significantly better in real life than those who used a tablet device for training.

with intellectual disability

concepts, and VR headsets worlds and learn from hands-on experience.

"Research shows that 'learning by doing', otherwise known as experiential learning, seems more effective for this group compared to passive methods of learning," Assoc Prof Loetscher says.

"In our study, the VR group not only demonstrated real-world improvements in correctly sorting waste immediately after the VR training; they were able to sustain this improvement up to a week afterwards, in comparison to the nonimmersive group."

UNSW Research Fellow Dr Stefan Michalski says immersive virtual reality allows individuals to UniSA Associate experience activities in Professor Tobias a safe, controlled, and Loetscher says people repeatable environment.

"Opportunities for

people with an intellectual disability to participate in hands-on learning are often minimal due to concerns around risk of injury, time constraints and lack of staff training," Dr Michalski says.

"However, immersive VR simulates real-world experiences, giving the sensation of being physically present in an environment without realworld risks?

Most people with intellectual disability experience significant challenges in performing basic life skills such as cooking, showering, and cleaning without caregiver assistance.

"Difficulties in performing these life skills prevents them from living independently and enjoying a better quality of life, so it's important we find effective methods for developing life skills in this population," according to first author, UniSA honours student Andrew Franze.

### Ultrasound shows promise for treating chronic pain

Pain is a necessary biological signal, but a variety of conditions can cause those signals to go awry. For people with chronic pain, the root is often faulty signals emerging deep within the brain, giving false alarms about a wound that has since healed, a limb that has since been amputated, or other intricate, hard-to-explain scenarios.

of life-altering pain are new treatment options; now a new device from the University of Utah may represent a practical long-sought solution.

Researchers at the university's John and Marcia Price College of Engineering and Spencer Fox Eccles School of Medicine have published promising findings about an experimental therapy that has given many participants relief after a single treatment session. They are now recruiting participants for a final round of trials.



Patients with this kind chronic pain.

Kubanek, a professor in Biomedical Engineering, and Thomas Riis, a postdoctoral researcher in his lab. They collaborated with Akiko Okifuji, professor of Anesthesiology in the School of Medicine, as graduate student in the departments of Biomedical Engineering and Psychiatry, and laboratory technician Adam Losser.

The randomised sham-controlled study At the core of this recruited 20 participants research is Diadem, a with chronic pain, who new biomedical device each experienced two that uses ultrasound to 40-minute sessions with a therapeutic technique pain treatment options, noninvasively stimulate Diadem, receiving either deep brain regions, real or sham ultrasound potentially disrupting the stimulation. Patients

faulty signals that lead to described their pain a day and a week after The study was their sessions, with 60% constantly looking for conducted by Jan of the experimental group Price's Department of reporting a clinical meaningful reduction in symptoms at both points.

"We were not expecting such strong and immediate effects from only one treatment,"

"The rapid onset well as Daniel Feldman, of the pain symptom improvements as well as their sustained nature are intriguing, and open doors for applying these noninvasive treatments to the many patients who are resistant to current treatments," Kubanek

> Diadem's approach is based on neuromodulation, that seeks to directly regulate the activity of certain brain circuits.

Other neuromodulation approaches are based on electric currents and magnetic fields, but those methods cannot selectively reach the brain structure investigated in the researchers' recent trial: the anterior cingulate cortex.

After an initial functional MRI scan to map the target region, the researchers adjusted Diadem's ultrasound emitters to correct for the way the waves deflect off the skull and other brain

The team is now preparing for a Phase 3 clinical trial, the final step before approval from the Food and Drug Administration to use Diadem as a treatment for the general public.

"If you or your relatives suffer from chronic pain that does not respond to treatments, please reach out to us; we need to recruit many participants so that these treatments can be approved for the general public. "ith your help, we think chronic pain can be effectively silenced. And with new we can tackle the opioid crisis, too," Kubanek

#### Climate change increases foodborne illness risk from raw produce

Climate change will increase the risk of the foodborne illness from Salmonella enterica, according to a new study. S. enterica causes disease in 1.2 million people in the United States every year. In recent years, the most common route of infection has been the consumption of contaminated fresh produce.

Salmonella survives on multiple agricultural crops and persists in the soil for extended periods of time.

On plants, researchers have found that Salmonella exploits changes to the plant environment imparted by other organisms.

Plants infected with bacterial phytopathogens (organisms that cause disease in plants) result in increased persistence for this human enteric pathogen.

"It's not surprising that a host is altered by disease. What's interesting is how these changes affect other members of the bacteria community, in addition to the pathogen causing the disease. Furthermore, the impact of increased humidity on healthy plants also supported Salmonella's survival on plants, which

Particular



change a food safety or by timing of arrival issue," said corresponding during disease progress of study author Jeri Barak, bacterial leaf spot. PhD, a professor in the Department of Plant Pathology, University of Wisconsin-Madison.

"Controlling plant disease such as bacterial leaf spot of lettuce is also important for food safety. Climate change will increase the risk of foodborne illness from consumption of raw produce."

Bacterial leaf spot caused by Xanthomonas hortorum pv. Vitians is a common threat to leafy green production.

In the new study, the researchers set out to investigate whether the fate of Salmonella is

would make climate impacted by humidity

The researchers conducted experiments with lettuce with bacterial leaf spot and Salmonella. The experiments varied the days when plants were infected with X. Vitians and when S. enterica arrived in a water droplet on the leaf to mimic arrival via irrigation or splash dispersal from the ground.

The researchers also varied high and low humidity periods and how many days they waited after Salmonella was introduced to measure

the internal Salmonella population. These are Salmonella cells that have moved from the leaf surface to the leaf interior, where the bacteria is safe from solar UV exposure or post-harvest sanitszation treatments. The researchers found

that bacterial leaf spot of lettuce caused by X. vitians can promote Salmonella survival and internalization within romaine lettuce. Salmonella's success is dependent on the timing of arrival during infection with bacterial leaf spot. If it arrives too early in bacterial leaf spot infection, the plant defense raised against the plant pathogen limits Salmonella growth and survival. Too late, and the host environment has succumbed to the plant disease which also curtails Salmonella growth and survival. High humidity exposure and the watersoaking symptom caused by X. vitians also enhance the ability of Salmonella to rapidly grow in lettuce, and climate change is predicted to increase humid periods.

## Drug may stop migraines before headache starts

first signs of a migraine, before headache pain begins, a drug called ubrogepant may be effective in helping people with migraine go about their daily lives with little or no symptoms, according to a new study, which focussed on people with migraine who could tell when an attack was about to happen, due to early symptoms such as sensitivity to light and sound, fatigue, neck pain or stiffness, or dizziness.

Ubrogepant is a calcitonin gene-related peptide receptor antagonist, or CGRP inhibitor. CGRP is a protein that plays a findings are encouraging,

process.

"Migraine is one of the most prevalent diseases worldwide, yet so many people who suffer from this condition do not receive treatment or report that they are not satisfied with their treatment," said study author Richard B. Lipton, MD, of Albert Einstein College of Medicine in Bronx, New York, and Fellow of the American Academy of Neurology.

"Improving care at the first signs of migraine, even before headache pain begins, can be a key to improved outcomes. Our

When taken at the key role in the migraine suggesting that ubrogepant received a placebo for may help people with migraine function normally

and go about their day." The study involved 518 participants who had migraine for at least one year and two to eight migraine attacks per month in the three months before the study.

All of the participants regularly experienced signs that a migraine would be starting within the next few hours. Participants were asked to treat two attacks during a two-month

Researchers divided participants into two groups. The first group

their first set of preheadache symptoms of migraine, followed by taking 100 milligrams (mg) of ubrogepant for their second instance of symptoms. The second group took ubrogepant for the first instance and placebo for the second Participants evaluated

limitations on their activity in their diary using a scale ranging from zero to five, with 0 meaning "not at all limited - I could do everything"; 1, "a little limited"; 2, "somewhat limited"; 3, "very limited"; or 4, "extremely limited."

#### Ank KOTAK MAHINDRA BANK LIMITED Regd. office: 27 BKC, C 27, G-Block, BandraKurla Complex, Bandra (E) Mumbai, Maharashtra, Pin Code-400051, Branch Office.: Kotak Mahindra Bank Ltd, #185, 2nd Floor, Mount Road, Anna Salai,

Sale Notice For Sale of Immovable Properties

E-auction sale notice for sale of immovable assets under the securifisation and reconstruction of financial assets and enforcement of security interest act, 2002 under rules 8(5) and 8(6) of the security interest senforcement rule, 2002. Subsequent to the assignment of debt in favour of Kotak Mahindra Bank Limited by "PNB Housing Finance Limited" (interinafter referred to as "PNBHFL") the authorised officer of PNB Housing Finance Limited (hereinafter referred to as "PNBHFL") has taken the possession of below described immovable property (hereinafter called the secured asset) mortgaged/charged to the secured creditor on 18.11.2019. Notice is hereby given to the borrower (s) and guarantor (s) in particular and public in general that the bank has decided to sale the secured asset through e-auction under the provisions of the sarfaesi act, 2002 on "As is where is". As is writted is, and "Whatever there is" basis for recovery of Rs.46.48.372/- (Rupees Forty Six Lakh Forty Eight Thousand Three Hundred And Seventy Two Only) outstanding as on 0.20 9.2024 along with future applicable interest till realization, under The Loan Account No. HOU/CHE/0717/408845, loan availed by Mr. J. Pushpanathan & Mrs. Jayanthi PAs Per Below Details.

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Sale Notice For Sale of Immovable Properties

Date of Auction 07.10.2024 Time of Auction Between 12:00 pm to 1:00 pm with unlimited extension of 5 Minutes Reserve Price Rs. 13,00,000/- (Rupees Thirteen Lakh Only Last Date For Submission of EMD with KYC | 05.10.2024 up to 5:00 p.m. (IST) Description | Schedule of Property-A: All that piece and parcel of land comp

"Phoenix City at no. 127, Pannti Village, Sriperumpudir Taluk, Kancheepuram District Lyng with the registration district of Kancheepuram District Lyng with the registration district of Kancheepuram and the registration sub-district of Walajabad. Schedule of Property-B: All that piece and parcel of vacant house site bearing plot no. 61, measuring to an extent of 2100 sq.ft. Phoenix City At Pannuti Village, Sriperumpudur Taluk, Kancheepuram district comprised in Survey No.224/23, 24 DTCP No. Lp/ddtcp(cr) No. 54 of 2016 dated plot no.61 Bounded on The: East by: Plot No.62, West by: Plot No.63, and having a linear measurement of East to West on The Northern side – 30', East to West on The Southern side-30', Vorth to South on The Seathern side-30', North to South on The Western Side-70', totaling in all to an extent of 2100 sq.ft and within the sub-registration district of Walajabad and in the registration district of Kancheepuram.

the borrowers' attention is invited to the provisions of sub section 8 of section 13, of the act, in spect of the time available, to redeem the secured asset. Borrowers in particular and public in neral may please take notice that if in case auction scheduled herein falls for any reason atsoever then secured creditor may enforce security interest by way of sale through private whatsoever their secured clearly the control of the Place: Chennai, Date: 05.09.2024 Authorized Officer: Kotak Mahindra Bank Limited

Conta Mahindra Bank Regd. Off.: 27BKC, C-27, G-Block, Bandra Kurla Complex, Bandra (E) Mumbai- 400051, Branch Office:#185, 2nd Floor, Mount Road, Anna Salai, Chennai 600 006 Mumbai- 400051, Branch Office:#185, 2nd Floor, Mount Road, Anna Salai, Chennai 600 006
Whereas, the undersigned being the authorized officer of Kotak Mahindra Bank Ltd., under the
securitization and reconstruction of inancial assets and enforcement of, security interest act,
2002 (54 of 2002) and in exercise of powers conferred under section 13/12) read with rule 3 of
the security interest (enforcement) rules 2002; issued demand notices to the borrowers a
detailed herefunder, calling upon the respective borrowers to repay the amount mentioned in the
said notices with all costs, charges and expenses till actual date of payment within 60 days from
the date of receipt of the same. The said borrower(s) borrower(s) having failed to repay the
amount, notice is hereby given to the borrowers ob borrowers and the public in general that the
undersigned has taken possession of the property described hereunder in exercise of powers
conferred on him under section 13/4) of the said act riv rule 8 of the said rules on the dates
mentioned along-with. The borrowers in particular and public in general translated to deal with the properties and any dealings with the properties and any dealings with the properties of the act, for the amount specified therein with fluture interest, costs and
charges from the respective dates. The borrowers attention is nivited to provisions of sub-section
(8) of section 13 of the act, in respect of time available to redeem the secured assets. Details of
he borrowers, scheduled property, outstanding dues, demand notices sent under section 3(2)
and amounts claimed there under, date of possession is given herein below.

Name and Address of The | Details of The Immovable Property | 1. Date of Possession Inte porrowers, scheduled property, outstanding dues, demand notices sent under section 13(2) and amounts claimed there under, date of possession is given herein below:

Name and Address of The Borrower, Co-Borrower, Loan Account Mount on 1038, Annaporani Nagar, 2nd Martin Albert Mr. N Egathipathy S/o Mr. N Egathipathy S/o Mr. N Egathipathy S/o Mr. N Hand ag op al & Mrs. N Good 2010 of Madura Lakshmipuram Village, Madu

KOTAK MAHINDRA BANK LIMITED POSSESSION NOTICE

Twenty Five Thousand Only). | Egathipathy | payment in tuil. |

Mrs. B Darshini W/o Mr. Baskaran & Mr. Baskaran & Mr. Baskaran by S/o Mr. Velayudhan | Plot No. 14B situated at Sarathy 2. Symbolic |

Nada Street, Kovur, Chennai, Tamil Nadu- (Corporation of Chennai comprised in New (Surjee) | No. 14B, Sarath | No. 621, No. 641, 18, 18, 16, 16, 526/- (Chennai Chennai Nagar Extension, Kolathur, land bounded on the: North: Plot No.14A, Chennai, Tamil Nadu- South: Plot No.13, East: Vacant land, West: 24 Feet Road Measuring, East to West on the Northern Side: 40 Feet. East to West on the Loan Account Number Loan Account Number: Notine 11 Side: 40 Feet, North to South on the About 17375613 Southern Side: 40 Feet, North to South on the Japplicable 21,00,000/- (Rupees Western Side: 27 Feet, North to South on the Mortgagor: Mrs. B Darshini and 29.08.24 philips and 20.000/- (Rupees Western Side: 27 Feet, Name of the Mortgagor: Mrs. B Darshini and 20.000/- (Name of the Mortgagor: Mrs. B Darshini American State 1900).

For any query please Contact Mr. Velmuurgan K (Mob- +919884718338) & Mr. Svam Namburi (Mob- +919677288418)

Place: Chennai, Date: 05.09.2024 Authorised Officer: For Kotak Mahindra Bank Ltd.