The Lord is like a strong tower, where the righteous can go and be safe.
Proverbs 18:10

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Nagmamalasakit sa lalawigan

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Be alert, stand firm in the faith, be brave, be strong.
1 Corinthians 16:13

New PH attack planes move to Sangley air base

The six turboprop A29B Super Tucanos the country bought from Brazil last year has found a home at the Air Force's Danilo Atienza Air Base in Sangley Point in Cavite City.

The fixed-wing light attack planes officially moved last Oct. 20 to the airbase named after Maj. Danilo Atienza died in preventing coup plotters from gaining air power during the infamous 1989 coup attempt.

The aircraft, made by Empresa Brasileira de Aeronautica (Embraer SA), cost P4.97 billion and were delivered in September and October last year to replace

Turn to page 2

Barako farmers to benefit from RIIC initiative

Barako coffee farmers and processors will greatly benefit from the Regional Inclusive Innovation Center (RIIC) initiative in Calabarzon, Department of Science and Technology Region IV-A Director Emelita Bagsit said.

"Kapeng barako is the focus commodity of RIIC as this is an important commodity in the region. It would also help re-establish the branding and reintroduce barako coffee," she said last Oct. 22.

Barako coffee (Coffea liberica) has a strong taste and popularly grown particularly in the provinces of Batangas and Cavite.

RIIC in Calabarzon is a partnership initiative of the DOST, Department of Trade and Industry, Batangas State University (BatStateU), NEDA, PCCI, with support from USAID STRIDE. The DOST-Calabarzon has committed PHP1.4 million to strengthen this.

Turn to page 2

DIYARYO KABITENYO
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Publisher - Editor
GENER BARCO
Operations Manager

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PAPI
Publishers Association of the Philippines, Inc.

New study characterizes the gut virome

A new study has added numerous previously uncharacterized viral genomes and genes to the ever-increasing worldwide pool of human gut viromes. The study, published in mSystems, an open-access journal of the American Society for Microbiology, will prove helpful in investigating the role of the gut virome in human health and disease.

"The human gut virome is still vastly underexplored and many novel viruses are to be discovered, some of which could have important influences on processes impacting human health and disease," said study principal investigator Jelle Matthijnssens, Ph.D., a professor in the Department of Microbiology, Immunology & Transplantation, Rega Institute, Division of Clinical & Epidemiological Virology, Laboratory of Viral Metagenomics, KU Leuven, Leuven, Belgium.

The human gut contains a complex ecosystem of microorganisms, of which bacteria have been broadly studied. Dr. Matthijnssens said studies on viruses in the gut are lagging. The goal of the MicrobLiver project is to obtain understanding of the interaction between the host and gut microbiome in humans and the role of the gut-liver axis in early stages of alcoholic and non-alcoholic fatty liver disease. "In the framework of the MicrobLiver project, we aimed to generate a catalogue of virus genomes, which could be used in subsequent studies on several cohorts of people with early stages of alcoholic and non-alcoholic fatty liver disease," said Dr. Matthijnssens.

In the new study, researchers used 254 fecal samples from 204 Danish subjects to generate the Danish Enteric Virome Catalog (DEVoC).

(NEW... from page 1)

Air Force's fleet of eight aging OV-10 Brooco turboprops.

Like the OV-10 Bronco, the Embraer A29B Super Tucano was also designed for light attack but has newer avionics and weapons systems and could be used for combat close air support, aerial reconnaissance operations, and pilot training.

The aircraft is currently being used by 13 air forces around the world, including that of the United States which uses it for special operations, particularly in Afghanistan.

In 2017, Defense Secretary Delfin Lorenzana signed the contract for the purchase of the six Super Tucanos as part of the Armed Forces of the Philippines' modernization program.

During the delivery of the Super Tucanos last year, Lorenzana said the military was considering acquiring another batch of A29Bs, 12 more in 2022 and another six turboprops later.

The new planes were commissioned in October to be part of the Air Force's 15th Strike Wing, led by Brig. Gen. Aristotle Gonzalez.

On arrival at their new headquarters, the fleet, under 16th Attack Squadron commander Maj. Jonathan Barawed, performed a formation low pass before landing.

The aircraft were then given the traditional water cannon salute and were blessed.

(BARAKO... from page 1)

DOST-Calabarzon and its partner agencies eye the RIIC to be a dynamic one-stop-shop for prospective innovators in the region, with the goal of increased utilization and uptake of innovation programs and services, as well as research and development (R&D) outputs among micro, small, and medium enterprises (MSMEs).

While the DOST has a NICER (Niche Centers in the Regions for R&D), Bagsit said RIIC has a broader scope.

"Both NICER and RIIC promote innovation. They can be interrelated, but there are still differences. In fact, NICER could be a subcomponent of RIIC," she remarked.

Bagsit explained that NICERs focus on specific commodity or research areas that are of prime importance to the regions, such as pili nuts (Region V), vector diseases, lakes, etc. On the other hand, RIIC in Calabarzon will initially focus on coffee, but will also cater to other innovation projects.

EXTRAJUDICIAL SETTLEMENT OF ESTATE OF THE DECEASED DANILO TAPAWAN REYES

NOTICE is hereby given that the estate of the deceased **DANILO TAPAWAN REYES** who died intestate on August 24, 2021 at Imus City, Cavite, consisting of bank account with the **PHILIPPINE NATIONAL BANK (PNB-Imus Branch)** under **Savings Account No. 243310145340 with a balance of P292,589.70 as of June 30, 2021** has been adjudicated and extrajudicially settled by and among his heirs with waiver rights and interests in favor of CLARITA L. REYES solely and exclusively; and for and in consideration of the said withdrawal release/transfer of said fund, they, the heirs above-mentioned, hereby expressly and absolutely remise, release and forever and discharge the PNB, its administrators and assigns and/or any of its officers or employees from any and all claims, suits, actions or causes of action which their successors or assigns now have, or in the future may have against the said Bank in connection with said deposit and they hereby further obligate themselves jointly and severally, to indemnify the said Bank, its administrator and assigns and/or its officers or employees for any loss or damages which they may sustain arising out of any claim, suit or proceedings initiated by any third person or entity whether private or governmental including, but not limited, to claims by excluded heirs or tax claims by the government on September 22, 2021 at Imus City, Cavite before Notary Public Atty. Carlos Emmanuel C. Montoya and entered in his Notarial Register as Doc. No. 71; Page No. 15; Book No. XIV; Series of 2021.

(Sgd.) **All Heirs**

Publication : DIYARYO KABITENYO
Dates : October 11, 18 & 25, 2021

EXTRAJUDICIAL SETTLEMENT OF ESTATE OF THE DECEASED ROBERTO DE SAHAGUN GONZALES

NOTICE is hereby given that the estate of the deceased **ROBERTO DE SAHAGUN GONZALES** who died intestate on June 28, 2012 at Bacoor, Cavite, consisting of real property with improvements situated in the Barangay of Salinas, Municipality of Bacoor, Province of Cavite, Island of Luzon, containing an area of TWENTY FOUR (24) SQUARE METERS, with TECHNICAL DESCRIPTION Lot 17, Block 9, Psd-04-197704 SALINASVILLE II HOMEOWNERS ASSO. has been adjudicated and extrajudicially settled by and among his heirs on October 4, 2021 at the City of Imus, Cavite before Notary Public Atty. Carlos Emmanuel C. Montoya and entered in his Notarial Register as Doc. No. 269; Page No. 54; Book No. XIV; Series of 2021.

(Sgd.) **All Heirs**

Publication : DIYARYO KABITENYO
Dates : October 11, 18 & 25, 2021

New cancer treatment may reawaken the immune system

Immunotherapy is a promising strategy to treat cancer by stimulating the body's own immune system to destroy tumor cells, but it only works for a handful of cancers. MIT researchers have now discovered a new way to jump-start the immune system to attack tumors, which they hope could allow immunotherapy to be used against more types of cancer.

Their novel approach involves removing tumor cells from the body, treating them with chemotherapy drugs, and then placing them back in the tumor. When delivered along with drugs that activate T cells, these injured cancer cells appear to act as a distress signal that spurs the T cells into action.

"When you create cells that have DNA damage but are not killed, under certain conditions those live, injured cells can send a signal that awakens the immune system," says Michael Yaffe, who is a David H. Koch Professor of Science, the director of the MIT Center for Precision Cancer Medicine, and a member of MIT's Koch Institute for Integrative Cancer Research.

In mouse studies, the researchers found that this treatment could completely eliminate tumors in nearly half of the mice.

Yaffe and Darrell Irvine, who is the Underwood-Prescott Professor with appointments in MIT's departments of Biological Engineering and Materials Science and Engineering, and an associate director of the Koch Institute, are the senior authors of the study, which appears today in Science Signaling. MIT postdoc Ganapathy Sriram and Lauren Milling PhD '21 are the lead authors of the paper.

One class of drugs currently used for cancer immunotherapy is checkpoint blockade inhibitors, which take the brakes off of T cells that have become "exhausted" and unable to attack tumors. These drugs have shown success in treating a few types of cancer but do not work against many others.

Yaffe and his colleagues set out to try to improve the performance of these drugs by combining them with cytotoxic chemotherapy drugs, in hopes that the chemotherapy could help stimulate the immune system to kill tumor cells. This approach is based on a phenomenon known as immunogenic cell death, in which dead or dying tumor cells send signals that attract the immune system's attention.

Several clinical trials combining chemotherapy and immunotherapy drugs are underway, but little is known so far about the best way to combine these two types of treatment.

The MIT team began by treating cancer cells with several different chemotherapy drugs, at different doses. Twenty-four hours after the treatment, the researchers added dendritic cells to each dish, followed 24 hours later by T cells. Then, they measured how well the T cells were able to kill the cancer cells. To their surprise, they found that most of the chemotherapy drugs didn't help very much. And those that did help appeared to work best at low doses that didn't kill many cells.

The researchers later realized why this was so: It wasn't dead tumor cells that were stimulating the immune system; instead, the critical factor was cells that were injured by chemotherapy but still alive.

"This describes a new concept of immunogenic cell injury rather than immunogenic cell death for cancer treatment," Yaffe says. "We showed that if you treated tumor cells in a dish, when you injected them back directly into the tumor and gave checkpoint blockade inhibitors, the live, injured cells were the ones that reawaken the immune system."

DEED OF EXTRA JUDICIAL SETTLEMENT OF ESTATE OF THE LATE GUILLERMO LEE

NOTICE is hereby given that the estate of the late **GUILLERMO LEE** who died intestate on April 28, 2020 at Gen. Trias City, Cavite, consisting of interest, title and participation over TWENTY ONE (21%) PERCENT share over each and every parcels of land situated in Cavite City, some with improvements erected thereon, and more particularly described as follows:

(1) Transfer Certificate of Title No. T-19733
A parcel of land situated in the Dist. of Caridad, City of Cavite, containing an area of ONE HUNDRED EIGHTY (180) SQUARE METERS, more or less;

(2) Transfer Certificate of Title No. T-19734
A parcel of land situated in the Dist. of Caridad, Cavite City, containing an area of ONE HUNDRED EIGHTY (180) SQUARE METERS, more or less;

(3) Transfer Certificate of Title No. T-19735
A parcel of land situated in the Dist. of Caridad, Cavite City, containing an area of ONE HUNDRED NINETY SEVEN (197) SQUARE METERS, more or less;

(4) Transfer Certificate of Title No. T-19736
A parcel of land situated in the Dist. of Caridad, Cavite City, containing an area of TWO HUNDRED (200) SQUARE METERS, more or less;

(5) Transfer Certificate of Title No. T-19737
A parcel of land situated in the Dist. of Caridad, Cavite City, containing an area of ONE HUNDRED FIFTY (150) SQUARE METERS, more or less;

(6) Transfer Certificate of Title No. T-19738
A parcel of land situated in the Dist. of Caridad, Cavite City, containing an area of ONE HUNDRED FIFTY (150) SQUARE METERS, more or less;

(7) Tax Declaration No. 02-0037-00290

A two-storey building
Location: Cabuco St.,
Barangay: Brgy. 37 (Cadena de Amor), Caridad, Cavite City

(8) Tax Declaration No. 02-0037-00291
A two-storey building
Location: Cabuco St.,
Barangay: Brgy. 37 (Cadena de Amor), Caridad, Cavite City

and in Las Piñas City, the following properties:

(1) Transfer Certificate of Title No. T-62592

A parcel of land situated in the Bo. of Talon, Mun. of Las Piñas, Prov. of Rizal (Metro Manila) Island of Luzon, containing an area of FOUR HUNDRED SIX (406) SQUARE METERS, more or less;

(2) Transfer Certificate of Title No. T-62593
A parcel of land situated in the Bo. of Talon, Mun. of Las Piñas, Prov. of Rizal (Metro Manila) Island of Luzon, containing an area of ONE THOUSAND FIVE HUNDRED SIXTY EIGHT (1,568) SQUARE METERS, more or less;

(3) Tax Declaration No. F-016-6450
A two-storey commercial building
Location of Property: Alabang-Zapote Road
Barangay: Talon Cuatro, Las Piñas City
Lot No: 1-E-1-A

(4) Tax Declaration No. F-016-00564
A ground floor store
Location of Property: Alabang-Zapote Road
Barangay: Talon Cuatro, Las Piñas City
Lot No. 1-E-1-B

(5) Tax Declaration No. F-016-00564
A two-storey warehouse
Location of Property: Alabang-Zapote Road
Barangay: Talon, Cuatro, Las Piñas City
Lot No 1-E-1-B

That likewise, the above named deceased, GUILLERMO LEE, as widower, left several parcels of land, some with improvement erected thereon, located at Cavite City and more particularly described as follows:

(1) Transfer Certificate of Title No. T-19739
A parcel of land situated in the Dist. Of Caridad, Cavite City, containing an area of THREE HUNDRED TWENTY ONE (321) SQUARE METERS, more or less;

(2) Transfer Certificate of Title No. T-19740
A parcel of land situated in the Dist. of Sta. Cruz, Cavite City, Island of Luzon, containing an area of SIXTY EIGHT (64) SQUARE METERS, more or less;

(3) Transfer Certificate of Title No. T-19743
A parcel of land situated in the City of Cavite, containing an area of ONE HUNDRED NINETY THREE (193) SQUARE METERS, more or less;

A parcel of land situated in the City of Cavite, containing an area of SIXTY ONE (61), more or less;

(4) Transfer Certificate of Title No. T-19744
A parcel of land situated in the City of Cavite, containing an area of ONE HUNDRED EIGHTY SIX (186) SQUARE METERS, more or less;

(5) Tax Declaration No. 01-2009-00240
A two-storey building
Location of Property: Bennet St.,
Barangay: Brgy. 9 (Kanaway)/ Sta. Cruz/Dalahican Cavite City

(6) Tax Declaration No. 01-2009-00240
A one-storey building
Location of Property: 524 F. Dela Cruz St.,
Barangay: Brgy. 39 (Jazmin) Caridad Cavite City

That, moreover, the above named deceased, GUILLERMO LEE, married to Eufrocina Glino Lee (the said wife having died on February 22, 1997, at Manila, and which estate of said deceased, Eufrocina Glino Lee, has already been extra-judicially settled in 1997 by all the heirs), left several parcels of land, without improvement, located at Cavite City and San Mateo, Rizal, and more particularly described as follows, to wit:

(1) Transfer Certificate of Title No. T-13923
A parcel of land situated in the Barrio of Sta. Cruz, Cavite City, Island of Luzon, containing an area of ONE HUNDRED SEVENTY (170) SQUARE METERS, more or less;

(2) Transfer Certificate of Title No. N-493109
A parcel of land situated in the Barrio of Ampid, Municipality of San Mateo, Province of Rizal, containing an area of FOUR HUNDRED FIFTY (450) SQUARE METERS, more or less;

has been adjudicated and extra-judicially settled by and among his heirs on equal shares on March 26, 2021 at Tagaytay City before Notary Public Atty. Valerion C. Guerrio and entered in his Notarial Register as Doc. No. 97; Page No. 21; Book No. CLXXX; Series of 2021.

(Sgd.) **All Heirs**

Publication: DIYARYO KABITENYO
Dates: October 11, 18 & 25, 2021

Genomic study revealing among diverse populations with inherited retinal disease

An international team of researchers, led by scientists at University of California San Diego and Shiley Eye Institute at UC San Diego Health, has broadened and deepened understanding of how inherited retinal dystrophies (IRDs) affect different populations of people and, in the process, have identified new gene variants that may cause the diseases.

The findings published in the October 18, 2021 issue of PLOS Genetics.

IRDs are a group of diseases, from retinitis pigmentosa to chorioderema, that result in progressive vision loss, even blindness. Each IRD is caused by at least one gene mutation, though mutations in the same gene may lead to different IRD diagnoses.

IRDs are rare, but they affect individuals of all ages, progressing at different rates, even within families afflicted with the same disease. Specific diagnosis depends on finding the genetic causative mutations.

Republic of the Philippines
OFFICE OF THE MUNICIPAL CIVIL REGISTRAR
Indang, Cavite

In the matter of Change of First Name in the Certificate of Live Birth (SECPA) of

EDGAR V. CONSTANTE

CFN-0004-2021

EDGARDO V. CONSTANTE
Petitioner

NOTICE OF PUBLICATION

There is a petition filed for the change of first name in Civil Registry Form No. 1A **(SECPA) of EDGAR V. CONSTANTE** from "**EDGAR**" to "**EDGARDO**"

NOTICE IS HEREBY GIVEN that any interested person is cited to notify this office and show cause why the same should not be granted.

Let this NOTICE be published at least once a week for two (2) consecutive weeks in a newspaper of general circulation as required under Section 5 of Republic Act No. 9048.

(Sgd.) **MERCI A. CHAVEZ**
Municipal Civil Registrar

DIYARYO KABITENYO - October 18 & 25, 2021

Research reveals potential new strategy to combat urinary tract infections

Identifying the dynamic events occurring during urinary tract infections (UTI) has revealed a new potential strategy to combat this condition, considered the most common type of infection. Researchers at Baylor College of Medicine and Washington University School of Medicine have discovered that the sequence of events taking place during UTI sustains a delicate balance between the responses directed at eliminating the bacteria and those minimizing tissue damage that may occur in the process.

The NRF2 pathway stood out as a key contributor to this balance, by regulating both the potential damage to tissues and the elimination of bacteria. Treating an animal model of UTI with the FDA-approved, anti-inflammatory drug dimethyl fumarate (DMF), a known NRF2 activator, reduced tissue damage and bacterial burden, opening the possibility that DMF could be used to manage this condition in the future.

Republic of the Philippines
Province of Cavite
Municipality of Maragondon
-oOo-
Office of the Municipal Civil Registrar

NOTICE TO THE PUBLIC

CFN-003-2021 Date: February 3, 2021

In Compliance with the publication requirement and pursuant to OCRG Memorandum Circular No. 2013-1, Guidelines in the Implementation of the Administrative Order No. 1, Series of 2012 (IRR on R.A 10172), Notice is hereby served to the public that the Name of Document Owner has filed with this Office, a petition for CHANGE OF FIRSTNAME from **"CORNELIA"** to **"NELIA"**, in the certificate of live birth of **CORNELIA ESEQUE PESCASIO** who was born on **September 14, 1957** at **Maragondon, Cavite** and whose parents are BERNARDO OGOT PESCASIO and LAPAZ GALLARDO ESEQUE.

Any person adversely affected by said petition may file his written opposition with this Office not later than **November 2 , 2021**

(Sgd.) **LEONORA V. LOYOLA**
Municipal Civil Registrar

DIYARYO KABITENYO - October 18 & 25, 2021

DEED OF EXTRAJUDICIAL SETTLEMENT OF ESTATE OF LATE PEDRO YABUT WITH SPECIAL POWER OF ATTORNEY

NOTICE is hereby given that the estate of the late **PEDRO YABUT** consisting of parcels of land located at BRGY. KAYBAGAL, TAGAYTAY CITY, containing an aggregate area of 268,674 square meters, covered by Transfer Certificate of Title Nos. 076-2019003651 and 076-2019003652 of the Registry of Deeds of Tagaytay City has been adjudicated and extrajudicially settled by and between his heirs; that the parties likewise agreed to name, appoint and constitute ATTY. BRIDIE O. CASTRONUEVO as their attorney-in-fact, in their names, place and stead to do and perform the following acts and things:

1. To negotiate and facilitate the sale of the aforesaid properties under the terms and conditions of the MEMORANDUM OF AGREEMENT;

2. To execute and sign the documents necessary thereto including the Deed of Absolute Sale after full payment;

3. To do and perform all other acts and things necessary to carry into effect the foregoing

on October 2021 at Imus, Cavite before Notary Public Atty. Oliver P. Agustin and entered in his Notarial Register as Doc. No. 66; Page No. 15; Book No. 11; Series of 2021.

Thumbmarked and signed by Heirs and Attorney-in-Fact

Publication : DIYARYO KABITENYO
Dates : October 18, 25 and November 1, 2021

REPUBLIC OF THE PHILIPPINES
REGIONAL TRIAL COURT
FOURTH JUDICIAL REGION
BRANCH 4-FC
CITY OF IMUS, CAVITE

NATIONAL HOME MORTGAGE FINANCE CORPORATION,
Mortgagee/Assignee,

-versus-

EXTRA-JUDICIAL FORECLOSURE OF REAL ESTATE MORTGAGE UNDER ACT 3135 AS AMENDED BY ACT 4118

F.C. No. 17122-21

NILO A. JACUTINA married to HELEN S. JACUTINA,
Mortgagors.

AMENDED NOTICE OF EXTRA-JUDICIAL SALE

Upon extra-judicial petition for sale under Act 3135, as amended by Act 4118 filed by **NATIONAL HOME MORTGAGE FINANCE CORPORATION (NHMFC)**, mortgagee, with principal place of business at 104 Amonsolo St., Legaspi Village, Makati City, against NILO A. JACUTINA married to HELEN S. JACUTINA, mortgagors, with residence and postal address at MBLA Imus Subd. Lot 24 Blk. 1 Brgy. Anabu 2, Imus, Cavite and or 2007) Kahilum II, Pandacan, Metro Manila to satisfy the mortgage indebtedness which as of December 31, 2020 amounts to **ONE MILLION FOUR HUNDRED SEVENTY THREE THOUSAND SIX HUNDRED FORTY TWO PESOS AND 69/100 (Php1,473,642.69)**, Philippine Currency, excluding interest, penalties, attorney's fees, sheriff's fees and all other charges incidental to this foreclosure and sale, the undersigned will sell at public auction on November 25, 2021 at 10:00 o'clock in the morning or soon thereafter at the main entrance of the Office of the Clerk of Court, RTC-Imus Hall of Justice, Aguinaldo Highway, Imus City, Cavite to the highest bidder, for CASH and in Philippine Currency, the following property with all improvements thereon, to wit:

TRANSFER CERTIFICATE OF TITLE No. T-314772

"A parcel of land (Lot 24, Blk. 1 of the cons.-subd. plan Pcs-04-003646, being a petition of the cons. of Lots 2518-C-1 & 2516-C-2, Psd-04-024334, LRC Rec. No.), situated in the Bo. of Anabu 2, Mun. of Imus, Prov. of Cavite, Is. of Luzon. Bounded on the SW., along line 1-2 by Lot 25, Blk. 1, of the cons.-subd. plan; on the NW., along line 2-3 by Lot 2518, Imus Estate; on the E., along line 3-4 by Lot 23, Blk. 1; on the E., along line 4-5 by Road Lot 2 (6.50 m. wide); on the SE., along lines 5-6-1 by Road Lot 3 (6.50 m. wide), all of the cons.-subd. plan x x x containing an area of EIGHTY SIX (86) SQ. METERS. xxx"

All sealed bids must be submitted to the undersigned on the above stated time and date.

In the event the public auction should not take place on the said date, it shall be held on **December 7, 2021** at 10:00 o'clock in the morning without further notice.

Prospective bidders/buyers are hereby enjoined to investigate for themselves the title to the said property and encumbrance thereto if any there be.

Imus, Cavite, Philippines, October 20, 2021.

(Sgd.) **EMMANUELLE H. FRANCISCO**
Sheriff IV

APPROVED

(Sgd.) **ARMIE A. FRANCISCO**
Clerk of Court VI

COPY FURNISHED:

NATIONAL HOME MORTGAGE FINANCE CORPORATION
104 Amonsolo St., Legaspi Village, Makati City

NILO A. JACUTINA married to HELEN S. JACUTINA
MBLA Imus Subd. Lot 24 Blk 1 Brgy. Anabu 2, Imus, Cavite
2007) Kahilum II, Pandacan, Metro Manila

Publication : DIYARYO KABITENYO
Dates : October 25, November 1 & 8, 2021

Republic of the Philippines
Local Civil Registry Office
Province: CAVITE
City/Municipality: IMUS

NOTICE FOR PUBLICATION

In compliance with Section 5 of Republic Act No. 9048, a notice is hereby served to the public that **BERNARDO PEDROSO QUIAO, JR.** has filed with this Office a petition for change of first name from **BERNARDO** to **BERNARDO, JR.** in the birth certificate of **BERNARDO PEDROSO QUIAO** who was born on **05 APRIL 1963** at **COMPOSTELA, DAVAO** and whose parents are **BERNARDO QUIAO, SR.** and **MAXIMINA PEDROSO**.

Any person adversely affected by said petition may file his/her written opposition with this Office not later than **08 November 2021**.

(Sgd) **ATTY. PATRICK M. LEGASPI**
City Civil Registrar

DIYARYO KABITENYO – October 25 and November 1, 2021

Republic of the Philippines
Local Civil Registry Office
Province: CAVITE
City/Municipality: IMUS

NOTICE FOR PUBLICATION

In compliance with Section 5 of Republic Act No. 9048, a notice is hereby served to the public that **EFREN ESPIRITU MALLARI** has filed with this Office a petition for change of first name from **NICANOR** to **EFREN** in the birth certificate of **NICANOR ESPIRITU MALLARI** who was born on **28 SEPTEMBER 1950** at **IMUS, CAVITE** and whose parents are **WILIADO MALLARI** and **GREGORIA ESPIRITU**.

Any person adversely affected by said petition may file his/her written opposition with this Office not later than **08 November 2021**.

(Sgd) **ATTY. PATRICK M. LEGASPI**
City Civil Registrar

DIYARYO KABITENYO – October 25 and November 1, 2021

Republic of the Philippines
Province of Cavite
OFFICE OF THE CITY CIVIL REGISTRAR
Trece Martires City

R.A. Form No. 10-1 (LCRO)

NOTICE FOR PUBLICATION

In compliance with Section 5 of Republic Act No. 9048, a notice is hereby served to the public that **TERESITA S. EGUALAS** has filed with this office a **PETITION FOR CHANGE OF FIRST NAME** from **"TESSIE"** to **"TERESITA"** on the Certificate of Live Birth of **TESSIE TAPIA SAQUIDO** who was born on **APRIL 20, 1979** at **Calabuegos, Camarines Sur** and whose parents are **SERAFIN B. SAQUIDO and MYRNA B. TAPIA.**

Any person adversely affected by said petition may file his/her written opposition with this office not later than **November 8, 2021.**

(Sgd.) **MAXIMO JR. L. LONTOC**
City Civil Registrar

DIYARYO KABITENYO – October 25 and November 1, 2021

Republic of the Philippines
Local Civil Registry Office
Province: Cavite
City/Municipality: Rosario

Publication Notice
R.A. 10172
CCE-0034-2021 RA 10172

NOTICE FOR PUBLICATION

In compliance with Section 5 of Republic Act No. 9048, a notice is hereby served to the public that **RAUL SAMONTE SALES** has filed with this Office a petition for Correction of Entry in the Date of Birth from **28 APRIL 1963** to **02 FEBRUARY 1963** in the birth certificate of **RAUL SAMONTE SALES** at **ROSARIO, CAVITE** and whose parents are **PEDRO M. SALES** and **FLORA P. SAMONTE**.

Any person adversely affected by said petition may file his written opposition with this Office not later than **8 November 2021**.

(Sgd.) **MARIA ROSARIO C. SORIANO**
Municipal Civil Registrar

DIYARYO KABITENYO – October 25 and November 1, 2021

Scientists show how AI may spot unseen signs of heart failure

A special artificial intelligence (AI)-based computer algorithm created by Mount Sinai researchers was able to learn how to identify subtle changes in electrocardiograms (also known as ECGs or EKGs) to predict whether a patient was experiencing heart failure.

"We showed that deep-learning algorithms can recognize blood pumping problems on both sides of the heart from ECG waveform data," said Benjamin S. Glicksberg, PhD, Assistant Professor of Genetics and Genomic Sciences, a member of the Hasso Plattner Institute for Digital Health at Mount Sinai, and a senior author of the study published in the Journal of the American College of Cardiology: Cardiovascular Imaging. "Ordinarily, diagnosing these type of heart conditions requires expensive and time-consuming procedures. We hope that this algorithm will enable quicker diagnosis of heart failure."

The study was led by Akhil Vaid, MD, a postdoctoral scholar who works in both the Glicksberg lab and one led by Girish N. Nadkarni, MD, MPH, CPH, Associate Professor of Medicine at the Icahn School of Medicine at Mount Sinai, Chief of the Division of Data-Driven and Digital Medicine (D3M), and a senior author of the study.

Affecting about 6.2 million Americans, heart failure, or congestive heart failure, occurs when the heart pumps less blood than the body normally needs. For years doctors have relied heavily on an imaging technique called an echocardiogram to assess whether a patient may be experiencing heart failure. While helpful, echocardiograms can be labor-intensive procedures that are only offered at select hospitals.

However, recent breakthroughs in artificial intelligence suggest that electrocardiograms – a widely used electrical recording device – could be a fast and readily available alternative in these cases.

For instance, many studies have shown how a "deep-learning" algorithm can detect weakness in the heart's left ventricle, which pushes freshly oxygenated blood out to the rest of the body. In this study, the researchers described the development of an algorithm that not only assessed the strength of the left ventricle but also the right ventricle, which takes deoxygenated blood streaming in from the body and pumps it to the lungs.

"Although appealing, traditionally it has been challenging for physicians to use ECGs to diagnose heart failure. This is partly because there is no established diagnostic criteria for these assessments and because some changes in ECG readouts are simply too subtle for the human eye to detect," said Dr. Nadkarni.

Form 1B (Revised June 2014)

CAVITE UNITED RURAL BANK CORP

Name of Bank

PUBLISHED BALANCED SHEET

(Head Office and Branches)

As of September 30, 2021

CONTROL PROOFLIST

	Account Code	Current Quarter	Previous Quarter
Cash and Cash Items	108000000000000000	6,604,284.11	4,620,896.74
Due from Bangko Sentral ng Pilipinas	105150000000000000	4,050,782.74	8,050,782.74
Due from Other Banks	105200000000000000	59,275,585.07	99,297,383.98
Financial Assets at Fair Value through Profit or Loss	112000000000000000	0.00	0.00
Available-for-Sale Financial Assets-Net	195200000000000000	0.00	0.00
Held-to-Maturity (HTM) Financial Assets-Net	195250000000000000	64,531,880.97	29,741,045.49
Unquoted Debt Securities Classified as Loans-Net	195300000000000000	0.00	0.00
Investments in Non-Marketable Equity Security-Net	195350000000000000	0.00	0.00
Loans and Receivables - Net	195400000000000000	219,026,250.50	240,421,846.54
Other Financial Assets	148000000000000000	34,235,829.42	41,864,968.44
Equity Investment in Subsidiaries, Associates and Joint Ventures-Net	195452500000000000	0.00	0.00
Bank Premises, Furniture, Fixture and Equipment-Net	195500500000000000	17,741,393.87	18,655,290.54
Real and Other Properties Acquired-Net	195501000000000000	41,376,633.56	42,110,762.94
Non-Current Assets Held for Sale	150150000000000000	0.00	0.00
Other Assets-Net	152000000000000000	68,675,883.73	67,446,383.58
Net Due from Head Office/Branches/Agencies, if any (Phil. branch of a foreign bank)	155250000000000000	0.00	0.00
TOTAL ASSETS	100000000000000000	[illegible]	[illegible]
Financial Liabilities at Fair Value through Profit or Loss	208000000000000000	0.00	0.00
Deposit Liabilities	215000000000000000	86,015,716.01	127,938,760.23
Due to Other Banks	220050000000000000	0.00	0.00
Bills Payable	220100000000000000	0.00	0.00
Bonds Payable-Net	295201500000000000	0.00	0.00
Unsecured Subordinated Debt-Net	295202000000000000	0.00	0.00
Redeemable Preferred Shares	220250000000000000	0.00	0.00
Special Time Deposit	220300000000000000	0.00	0.00
Due to Bangko Sentral ng Pilipinas	230350000000000000	0.00	0.00
Other Financial Liabilities	240050000000000000	4,495,448.91	5,130,460.71
Other Liabilities	240100000000000000	37,322,324.80	37,861,625.56
Net Due to Head Office/Branches/Agencies (Philippine branch of a foreign bank)	130850000000000000	0.00	0.00
TOTAL LIABILITIES	[illegible]	[illegible]	[illegible]
TOTAL STOCKHOLDERS' EQUITY	[illegible]	[illegible]	[illegible]
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	[illegible]	[illegible]	[illegible]
TOTAL CONTINGENT ACCOUNTS	[illegible]	[illegible]	[illegible]
ADDITIONAL INFORMATION			
Gross total loan portfolio (TLP)	[illegible]	400,991,805.74	414,736,695.94
Specific allowance for credit losses on the TLP	[illegible]	148,741,796.74	141,323,425.23
Non-Performing Loans (NPLs)			
a. Gross NPLs	[illegible]	217,413,169.56	236,427,952.55
b. Ratio of gross NPLs to gross TLP (%)	[illegible]	54.22	47.83
c. Net NPLs	[illegible]	77,980,819.53	70,429,587.83
d. Ratio of Net NPLs to gross TLP (%)	[illegible]	[illegible]	[illegible]
e. Ratio of total allowance for credit losses to gross NPLs (%)	[illegible]	[illegible]	[illegible]
f. Ratio of specific allowance for credit losses on the gross TLP to gross NPLs (%)	[illegible]	[illegible]	[illegible]
Capital Adequacy Ratio (CAR) on Solo Basis, as prescribed under existing regulations			
a. Total CAR (%)	[illegible]	46.18	41.76
b. Tier 1 Ratio (%)	[illegible]	46.18	41.76
c. Common Tier 1 Ratio (%) [1]	[illegible]	46.18	41.76

[1] Common Equity Tier 1 is only applicable to all universal and commercial banks and their subsidiary banks.

I hereby certify that all matters set forth in this Published Balance Sheet are true and correct to the best of my knowledge and belief.

RHUSHEL U. VIGAL
Accounting & HR Head

JEFFRE D. BAGARINAO
Compliance Coordinator

Publication: DIYARYO KABITENYO
Date: October 25-31, 2021

Form 2B (Revised June 2014)

Balance Sheet
(Head Office and Branches)

IMUS RURAL BANK, INC.
(Name of Bank)

40510
(Bank Code)

As of 09/30/2021
(MM/DD/YYYY)

ASSETS	Account Code	Current Quarter	Previous Quarter
Cash and Cash Items	[illegible]	15,377,155.92	15,307,414.21
Due from Bangko Sentral ng Pilipinas	[illegible]	37,380,015.33	22,711,019.35
Due from Other Banks	[illegible]	446,742,610.50	480,208,445.93
Financial Assets at Fair Value through Profit or Loss	[illegible]	0.00	0.00
Available-for-Sale Financial Assets-Net	[illegible]	0.00	0.00
Held-to-Maturity (HTM) Financial Assets-Net	[illegible]	885,871,801.34	453,548,779.45
Unquoted Debt Securities Classified as Loans-Net	[illegible]	0.00	0.00
Investments in Non-Marketable Equity Security-Net	[illegible]	0.00	0.00
Loans and Receivables - Net	[illegible]	[illegible]	[illegible]
Loans to Bangko Sentral ng Pilipinas	[illegible]	0.00	0.00
Interbank Loans Receivable	[illegible]	0.00	0.00
Loans and Receivables - Others	[illegible]	268,018,295.43	144,436,100.88
Loans and Receivables Arising from RA/CA/PR/SLB	[illegible]	0.00	0.00
General Loan Loss Provision	[illegible]	2,467,024.63	2,288,325.57
Other Financial Assets	[illegible]	537,352.35	278,642.43
Equity Investment in Subsidiaries, Associates and Joint Ventures-Net	[illegible]	0.00	0.00
Bank Premises, Furniture, Fixture and Equipment-Net	[illegible]	24,475,315.45	27,001,706.72
Real and Other Properties Acquired-Net	[illegible]	11,783,875.35	11,818,126.88
Non-Current Assets Held for Sale	[illegible]	0.00	0.00
Other Assets-Net	[illegible]	11,936,894.24	22,974,580.52
Net Due from Head Office/Branches/Agencies, if any (Philippine branch of a foreign bank)	[illegible]	0.00	0.00
TOTAL ASSETS		[illegible]	[illegible]

LIABILITIES	Account Code	Current Quarter	Previous Quarter
Financial Liabilities at Fair Value through Profit or Loss	[illegible]	0.00	0.00
Deposit Liabilities	[illegible]	1,094,151,700.30	1,077,733,296.81
Due to Other Banks	[illegible]	0.00	0.00
Bills Payable	[illegible]	0.00	0.00
a) BSP (Rediscounting and Other Advances)	[illegible]	0.00	0.00
b) Interbank Loans Payable	[illegible]	0.00	0.00
c) Other Deposit Substitute	[illegible]	0.00	0.00
d) Others	[illegible]	0.00	0.00
Bonds Payable-Net	[illegible]	0.00	0.00
Unsecured Subordinated Debt-Net	[illegible]	0.00	0.00
Redeemable Preferred Shares	[illegible]	0.00	0.00
Special Time Deposit	[illegible]	0.00	0.00
Due to Bangko Sentral ng Pilipinas	[illegible]	0.00	0.00
Other Financial Liabilities	[illegible]	1,084,171.64	2,302,889.47
Other Liabilities	[illegible]	24,606,410.06	25,721,891.58
Net Due to Head Office/Branches/Agencies (Philippine branch of a foreign bank)	[illegible]	0.00	0.00
TOTAL LIABILITIES		[illegible]	[illegible]

Stockholders' Equity	Account Code	Current Quarter	Previous Quarter
Capital Stock	[illegible]	99,950,200.00	98,850,300.00
Other Capital Accounts	[illegible]	1,282,763.08	403,178.81
Retained Earnings	[illegible]	98,612,103.47	90,721,343.13
Assigned Capital	[illegible]	0.00	0.00
TOTAL STOCKHOLDERS' EQUITY		[illegible]	[illegible]
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY		[illegible]	[illegible]

CONTINGENT ACCOUNTS	Account Code	Current Quarter	Previous Quarter
Guarantees Issued	[illegible]	0.00	0.00
Financial Standby Letters of Credit	[illegible]	0.00	0.00
Performance Standby Letters of Credit	[illegible]	0.00	0.00
Commercial Letters of Credit	[illegible]	0.00	0.00
Trade Related Guarantees	[illegible]	0.00	0.00
Commitments	[illegible]	0.00	0.00
Spot Foreign Exchange Contracts	[illegible]	0.00	0.00
Securities Held Under Custodianship by Bank Proper	[illegible]	0.00	0.00
Trust Department Accounts	[illegible]	0.00	0.00
a) Trust and Other Fiduciary Accounts	[illegible]	0.00	0.00
b) Agency Accounts	[illegible]	0.00	0.00
c) Advisory/Consultancy	[illegible]	0.00	0.00
Derivatives	[illegible]	0.00	0.00
Others	[illegible]	0.00	0.00
TOTAL CONTINGENT ACCOUNTS		0.00	0.00

ADDITIONAL INFORMATION

[illegible]

Publication : DIYARYO KABITENYO
Date : October 25-31, 2021

DIYARYO KABITENYO

Form 39 (Revised June 2014)

IMUS RURAL BANK, INC.
Name of Bank

PUBLISHED BALANCED SHEET

(Head Office and Branches)
As of September 30, 2021

CONTROL PROOFLIST

	Account Code	Current Quarter	Previous Quarter
Cash and Cash Items	1080000000000000000	15,377,135.92	15,807,41
Due from Bangko Sentral ng Pilipinas	1051500000000000000	32,380,813.33	32,711,01
Due from Other Banks	1052000000000000000	446,743,630.50	480,258,54
Financial Assets at Fair Value through Profit or Loss	1120000000000000000	0.00	
Available-for-Sale Financial Assets-Net	1952000000000000000	0.00	
Held-to-Maturity (HTM) Financial Assets-Net	1952500000000000000	393,671,801.94	353,548,77
Unquoted Debt Securities Classified as Loans-Net	1953000000000000000	0.00	
Investments in Non-Marketable Equity Security-Net	1953500000000000000	0.00	
Loans and Receivables - Net	1954000000000000000	365,551,240.82	342,137,775
Other Financial Assets	1480000000000000000	197,552.38	278,643
Equity Investment in Subsidiaries, Associates and Joint Ventures-Net	1954525000000000000	0.00	
Bank Premises, Furniture, Fixture and Equipment-Net	1955005000000000000	24,475,115.46	27,001,706
Real and Other Properties Acquired-Net	1955010000000000000	11,783,874.28	11,819,328
Non-Current Assets Held for Sale	1501500000000000000	0.00	
Other Assets-Net	1520000000000000000	22,936,894.34	22,974,590
Net Due from Head Office/Branches/Agencies, if any (Phil. branch of a foreign bank)	1552500000000000000	0.00	
TOTAL ASSETS	1000000000000000000	[illegible]	[illegible]
Financial Liabilities at Fair Value through Profit or Loss	2080000000000000000	0.00	
Deposit Liabilities	2150000000000000000	1,094,152,750.26	1,077,795,096
Due to Other Banks	2200500000000000000	0.00	
Bills Payable	2201000000000000000	0.00	
Bonds Payable-Net	2952015000000000000	0.00	
Unsecured Subordinated Debt-Net	2952020000000000000	0.00	
Redeemable Preferred Shares	2302500000000000000	0.00	
Special Time Deposit	2203000000000000000	0.00	
Due to Bangko Sentral ng Pilipinas	2303500000000000000	0.00	
Other Financial Liabilities	2400500000000000000	1,084,775.84	1,902,689.4
Other Liabilities	2401000000000000000	20,600,610.06	21,721,891.4
Net Due to Head Office/Branches/Agencies (Philippine branch of a foreign bank)	2308500000000000000	0.00	
TOTAL LIABILITIES	[illegible]	[illegible]	
TOTAL STOCKHOLDERS' EQUITY	[illegible]	[illegible]	
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	[illegible]	[illegible]	
TOTAL CONTINGENT ACCOUNTS	[illegible]	0.00	
ADDITIONAL INFORMATION			
Gross total loan portfolio (TLP)	[illegible]	384,530,183.76	373,755,916.21
Specific allowance for credit losses on the TLP	[illegible]	16,505,918.27	27,319,815.25
Non-Performing Loans (NPLs)			
a. Gross NPLs	[illegible]	9,515,364.09	9,037,150.69
b. Ratio of gross NPLs to gross TLP (%)	[illegible]	2.47%	2.42%
c. Net NPLs	[illegible]	92,980.36	1,783,017.84
d. Ratio of Net NPLs to gross TLP (%)	[illegible]	0.02%	0.48%
e. Ratio of total allowance for credit losses to gross NPLs (%)	[illegible]	599.35	527.74
f. Ratio of specific allowance for credit losses on the gross TLP to gross NPLs (%)	[illegible]	173.43	302.31
Capital Adequacy Ratio (CAR) on Solo Basis, as prescribed under existing regulations			
a. Total CAR (%)	[illegible]	21.55%	20.15%
b. Tier 1 Ratio (%)	[illegible]	19.43%	19.86%
c. Common Tier 1 Ratio (%) *	[illegible]	0.00%	0.00%

* Common Equity Tier 1 is only applicable to all Universal and Commercial Banks and their subsidiary banks.

I hereby certify that all matters set forth in this Published Balance Sheet are true and correct to the best of my knowledge and belief.

ROBERTO T. DE GUZMAN
Manager

Publication: DIYARYO KABITENYO
Date: October 25-31, 2021

Long-term exposure to toxins in operating rooms could increase COPD risk

Disinfectants and surgical smoke -- the gaseous by-product produced by heat-generating surgical instruments -- are among the hazardous chemicals to which physicians, nurses, and other hospital staff are exposed in operating rooms (OR) during electrosurgery and laser procedures.

Long-time exposure to these chemicals in the OR may significantly increase one's risk of developing chronic obstructive pulmonary disease (COPD), according to a new study led by Boston University School of Public Health (BUSPH) researchers.

Published in the journal JAMA Network Open, the study focused on nurses and found that COPD risk among these nurses varied by nursing job type and duration in the OR. Nurses who worked in the OR for 15 or more years were 69 percent more likely to develop COPD, compared to nurses who had never worked in an OR and worked in an administrative or nursing education role, or a non-nurse job.

The study was an international collaboration with researchers from BUSPH, Harvard Medical School, Brigham and Women's Hospital, and Inserm National French Institute of Health & Medical Research, and it is the first to assess the role of occupational exposure to surgical smoke and COPD risk. It was funded by the National Institutes of Health and Ethicon, Inc., a subsidiary of the Johnson & Johnson Medical Devices Companies.

For the study, researchers analyzed data on OR employment history and COPD incidence among a cohort of 75,011 nurses working in US hospitals in 1984. The participants are part of the NIH-funded Nurses' Health Study (NHS), an ongoing, prospective study of more than 121,000 US female nurses ages 30-55 who have completed biennial questionnaires since 1976. OR employment duration served as a proxy for nurses' exposure to inhaled agents, and the study adjusted for primary COPD risk factors such as cigarette smoking and chronic disease.

Compared to nurses who had no OR employment and worked in administrative or nursing education roles, or in a non-nurse job, the study found that inpatient and outpatient nurses had higher risks (31 percent and 24 percent, respectively) of developing COPD, and nurses with less than 15 years of OR experience had a 22 percent higher risk. When comparing OR nursing employment only, OR employment for 15 or more years was associated with a 46 percent increased risk of nurses developing COPD compared to nurses with no OR employment.

"One of the inherent challenges with assessing the health risks of disinfectants and surgical smoke is that it is difficult to measure exposure with precision over an extended period of time and among a large population," says study lead author Wubin Xie, postdoctoral association in the Department of Global Health at BUSPH. "Our results, based on data from a large cohort of nurses, show that long-time occupational exposure to these agents in operating rooms leads to a significantly higher risk of developing COPD."

Although the study data reflects working conditions in the OR during the 1980's, the findings are applicable to today's OR environment, the researchers say. Disinfectant use has increased over the past decades, and there is little evidence that the hazard of surgical smoke has reduced.

"Smoke-generating laparoscopic surgery is performed in a broader range of procedures, and protective surgical masks, such as the N95 mask, cannot block the small particulates in surgical smoke," says Xie, and smoke evacuation systems, which capture smoke aerosols and gases emitted during procedures, have not been implemented in many operating rooms.

Today's more diversified nursing workforce and the COVID-19 pandemic are also factors that could possibly impact OR nurses' risk of developing COPD, says study corresponding author Andrew Stokes, assistant professor of global health at BUSPH. The NHS population was predominantly white, reflecting the demographics of registered nurses in 1976.

Scientists identify beacon molecule that prevents vision, behavioral problems in mice

Nestled deep in the middle of the vertebrate brain is a multi-sensory integration and movement control center called the superior colliculus. In rodents, this brain region integrates multi-sensory inputs -- visual cues, sounds, touch information, and smells -- and delivers output signals to a variety of motor control centers in the brain, coordinating the animal's movements in response to its environment.

Although the superior colliculus composes a relatively small portion of the brain's volume in mice, it's a processing powerhouse -- in part, because it's formed by precise cellular layers that organize and refine signaling patterns.

Now, a team of researchers led by Michael Fox, professor at the Fralin Biomedical Research Institute at VTC, have uncovered a key link in how this processing hub's layers develop to decode visual cues from the eye and regulate key survival instincts in mice. The study was published in the Proceedings of the National Academy of Science.

"This brain region is interesting because it integrates data from multiple sensory inputs, helps form a binocular image of the world, and then dictates the animal's innate behaviors -- such as running away from a predator or hunting prey -- based on those data," said Fox, who is also the director of the Virginia Tech College of Science's School of Neuroscience.

During early brain development -- weeks before a mouse opens its eyes for the first time -neurons extend long axonal processes from back of the eye, forming the optic nerve. These growing cells eventually branch off to shape thousands of intricate connections in precise brain regions, including the superior colliculus.

How these cells know where to migrate largely remains a mystery, Fox says. But understanding this key phase of development could potentially provide new information that could help researchers in future studies identify ways to regenerate injured optic nerve fibers.

"If our goal is to one day regenerate damaged brain circuits to restore vision, then first we need to know how to get the cell's axons to grow into a precise destination in the brain," Fox said.

Fox and his team examined how a specific subtype of optic nerve cells -- ipsilateral retinal ganglion cells -- finds its way to the superior colliculus during brain development.

The researchers used a virus to identify which types of neurons the retinal ganglion cells made connections with once inside the superior colliculus. This led them to identify two proteins that chaperone this circuit formation.

One protein, emitted by a type of excitatory neuron in the superior colliculus, lures the optic nerve cell closer like a molecular homing beacon. Once the migrating cell is in the right place, this protein docks into a perfectly fitted receptor protein located on the nerve cell's membrane. This chemical reaction tells the cell it's reached its destination.

When the beacon molecule -- called nephronectin -- is absent, a visual layer of the superior colliculus doesn't form properly, and the mice have trouble hunting prey.

The mouse superior colliculus has been studied extensively for more than 60 years. Though it's present in all mammalian species, in humans this brain region takes up less relative volume and is thought to play a role in stabilizing our image of a moving world by controlling head, neck, and eye movements.

Fox says this study represents an early research collaboration between Children's National Hospital and the Fralin Biomedical Research Institute researchers. He recalls when Virginia Tech's Vice President for Health Sciences and Technology Michael Friedlander connected Fox and Jason Triplett, a principal investigator at Children's National Hospital in Washington, D.C., seven years ago.

"We talked about studying how these neurons project to the colliculus back in 2013, and we've since worked on numerous grant-funded projects together," Fox said.

DIYARYO KABITENYO
Nagmamalasakit sa lalawigan

Vol. 24 No. 36 October 25-31, 2021 P 10.00

Under arrest: Using nanofibers to stop brain tumor cells from spreading

Brain tumors are difficult to contain and often resistant to conventional treatment methods. Predicting tumor cell behavior requires a better understanding of their invasion mechanism. Now, researchers from University of Fukui, Japan, have used high-density nanofibers that mimic the microenvironment of the brain to capture these tumor cells, opening doors to novel therapeutic solutions for aggressive brain cancer.

Our body heals its injuries by essentially replacing damaged cells with new cells. The new cells often migrate to the site of injury, a process known as "cell migration." However, abnormal cell migration can also facilitate the transport and spread of cancer cells within the body. Glioblastoma multiforme (GBM) is one such example of a highly invasive brain tumor that spreads via migration of the tumor cells. The frequency at which such tumor cells spread and grow make conventional tumor removal methods ineffective. Furthermore, options such as radiotherapy and chemotherapy are harmful to healthy cells and cause adverse effects. In order to develop improved therapeutic strategies, a precise understanding of the invasion mechanism of GBM cells is necessary.

An alternative treatment strategy in consideration involves capturing the migrating tumor cells. It turns out that cell migration is dictated by the structure and the orientation of the "extracellular matrix" (ECM) -- fibrous structures surrounding the cells.

Pilot study explores neural mechanisms of balance dysfunction after traumatic brain injury

Using neuroimaging techniques and electroencephalography (EEG), Kessler Foundation researchers compared the neural correlates of balance in individuals with traumatic brain injury and matched controls. This study is the first to report EEG-based functional connectivity measures during a balance perturbation task and show the association with white matter integrity in the brain.

The article, "Graph-theoretical analysis of EEG functional connectivity during balance perturbation in traumatic brain injury: A pilot study," was published online on July 26, 2021 by Human Brain Mapping. The authors are Vikram Shenoy Handiru, PhD, Alalch Alivar, PhD, Armand Hoxha, MS, Soha Saleh, PhD, Easter S. Suviseshamuthu, PhD, Guang Yue, PhD, and Didier Allexandre, PhD, from the Center for Mobility and Rehabilitation Engineering Research at Kessler Foundation.

Postural instability is an understudied complication of traumatic brain injury that hinders progress in rehabilitation, limits independence, and compromises safety. Despite the impact on the daily lives of individuals and their care partners, little research has been done on the neural mechanisms that contribute to balance function.

For this pilot study, researchers in Dr. Allexandre's Neuromuscular and Neurophysiology Laboratory studied 17 adults with traumatic brain injury and 15 matched controls. Using a computerized posturography platform and EEG, scientists delivered random balance perturbations and measured each participant's neural and postural responses. Furthermore, a subset of participants had magnetic resonance imaging (MRI) performed at the Rocco Ortenzio Center for Neuroimaging at Kessler Foundation, to measure brain structural integrity using diffusion tensor imaging (DTI).

DTI studies showed widespread structural damage in the traumatic brain injury group, which had poorer balance performance and reduced brain activity and connectivity during balance tasks. The graph-theoretic measures of brain functional connectivity derived from EEG data show an abnormal brain network response during the balance task, an intriguing finding that warrants further investigation.