



Pr.Chokri Hammouda, UTM,SDG 3 Ambassador

1. UTM' strategy and politics to promote ODD3 implementation

Université Tunis El Manar is actively committed to advancing Sustainable Development Goal 3 (SDG 3) «Good Health and Wellbeing" by fostering education, research and community outreach programs aimed at improving public health, healthcare access, and overall well-being in Tunisia.

UTM counts four leading academic institutions that provide comprehensive training across diverse health disciplines, notably the Faculty of Medicine of Tunis. UTM also encompasses one of Tunisia's most prestigious health research centers, the Pasteur Institute of Tunis, recognized for its significant contributions to medical research and public health advancements. Through collaborations with health institutions and initiatives focused on medical research, the university prioritizes a healthier society as part of its academic and social mission. UTM is also committed to guarantee a healthy environment for its staff, students, and visitors through applying a smoke free politic. In fact, the university is dedicated to ensuring a smoke-free campus environment to prevent the risks of second hand smoke, respecting individuals' right to smoke while minimizing tobacco-related harm. Its politic includes prohibiting smoking, tobacco advertising, promotion, and sales in university-controlled spaces, and refusing funding from the tobacco industry.

UTM is welling to provide its students, teachers, administrates and workers with access to health services through the medical center "Tawhida Ben Cheikh" located at the Faculty of Mathematical, Physical and Natural Sciences in Tunis. It is intended for the students, teaching and administrative staff of the Farhat Hached University Campus of El Manar. Under the dual supervision of the Ministry of Higher Education and the Ministry of Health, a team of health professionals (general practitioners, dentists, ophthalmologists, psychiatrists and nurses).





provide reception, consultations, prevention and awareness-raising activities, mornings and afternoons, every working day of the week

The center also plays an active role in promoting health in the university environment, by setting up stands to publicize its services and carry out screening tests for chronic diseases such as hyperglycemia or hypertension, and for mental health problems

2. SDG3 actions in UTM

University Tunis El Manar includes six higher education and structures providing teaching in different health sectors as well as medical research structures: Faculty of Medicine of Tunis, Institut Pasteur of Tunis, Higher Institute of Applied Biological Sciences of Tunis, Higher Institute of Medical Technologies of Tunis, Higher School of Health Sciences and Techniques of Tunis. Besides, four university hospitals are affiliated to University Tunis El Manar: Charles Nicolle hospital, Al Rabta hospital, Béshir-Hamza Children's Hospital and the Military Hospital.



2.1. Events promoting Health and wellbeing:

• UTM Barrier-free University

The University of Tunis El Manar is the only Tunisian university to offer two academic training courses in Physiotherapy for the visually impaired and blind, taught at the Higher School of Health Sciences and Techniques of Tunis, as well as sign language training at the Higher Institut of Human Sciences of Tunis.

For an inclusive university, and to raise awareness among all those involved of the need to take action on behalf of the beneficiaries of the program, a "UTM Barrier-Free University" day was held on Thursday May 26, 2022 at the Tunis Faculty of Medicine. Link







• Survey on the prevalence of healthcare-associated infections in La Rabta and Charles Nicolle hospitals



With the aim of establishing a plan to monitor healthcare-associated infections and prevent their health and financial impact, the Ministry of Health, in collaboration with the World Health Organization (WHO), intends to conduct a survey of healthcare-associated infections in

hospitals.



To this end, a training course was organized for staff at La Rabta and Charles Nicolle hospitals (UTM), from May 23 to 25, 2022. It was given by Dr Sara Tolba and Dr Engy Hamed, experts from the WHO Regional Office for the Eastern Mediterranean.

Several points were covered during the course:

- Surveillance of healthcare-associated infections in low- and middle-income countries
- 2. An introduction to point survey techniques
- 3. Roles and responsibilities of the data collection team
- 4. A presentation of the tools required for the survey

link

Launch of the "Béshir-Hamza Children's Hospital: a tobaccofree healthcare facility" initiative

The "Béchir-Hamza Children's Hospital: a tobacco-free healthcare facility" initiative was launched on July 2, 2022. To bring this project to fruition, several parties joined forces, namely:

- The Ministry of Health;
- Béchir-Hamza Children's Hospital;
- The World Health Organization in Tunisia;
- The Tunisian Alliance against Tobacco;
- The Tunisian Association for the Defense of Children's Rights;
- The Tunisian Red Crescent.

link









• Tunisia (Charles Nicolle Hospital and Hédi Chaker Hospital) receives support from Canada and WHO to strengthen neonatal health care in Tunisia in the context of COVID-19.

With the support of the Government of Canada, WHO is working to strengthen neonatal health care in Tunisia as part of its ongoing work in the field of reproductive health. This essential support of 500,000 Canadian dollars will boost ongoing efforts to build the capacity of health workers using specialized medical equipment for neonatal services. It will also support neonatal healthcare services in Tunisia's maternity and neonatal center, the neonatal unit at **Charles Nicolle Hospital (UTM)** and the neonatology unit at Hédi Chaker Hospital in Sfax.

Support for the maternity and neonatal center includes an ambulance equipped for newborn care, 12 resuscitation incubators, four neonatal ventilators, six syringe pumping stations and four surveillance monitors. link







• The WHO mission for the mRNA Technology Transfer Initiative in Tunisia

Tunisia is one of 6 African countries (Egypt, Kenya, Nigeria, Senegal, South Africa and Tunisia) selected to receive technology transfer for the production of messenger RNA vaccines, as part of a World Health Organization (WHO) initiative.

In this connection, a team of WHO experts visited Tunisia from August 23 to 25, 2022 to meet with the project's various stakeholders, namely the Institut Pasteurof Tunis (UTM), the national drug regulatory authority, the national drug control laboratory, the pharmaceutical inspectorate, the Sidi Thabet technology park and other departments of the Ministry of Health



By improving access to quality medical products, local production can lead to global health coverage and help meet the health challenges of the sustainable development goals.

As a result, the world will be healthier and more resilient, and moreover, the creation of jobs and economic opportunities will be promoted.

link





• Celebration of World No-Tobacco Day

To celebrate World No Tobacco Day 2022, several activities were organized throughout the week of May 31 to June 3, 2022 by the Ministry of Health and the Basic Health Care Department in partnership with the World Health Organization in Tunisia, the WHO Framework Convention on Tobacco Control, **the Tunis Faculty of Medicine** (UTM) and the Tunisian Alliance against Tobacco.



• Hearing Health Awareness Day (Thursday, MARCH 31, 2022)

As part of World Hearing Day, the Ichara Association, in collaboration with the Laboratoire de Génomique Biomédicale et Oncogénétique, the Association Amicale des Syndicats des Surveillants de la Santé Publique, the Specialized Unit "Communication, Science et Société UNISS", and other ENT clinicians and para-clinicians in audiology and speech therapy; organized a hearing health awareness day for staff and researchers at the Institut Pasteur de Tunis.

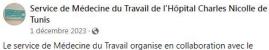


In this context, a visit to the ENT specialist for an ear check-up was organized, followed by a visit to the audiologist for hearing measurements, and a consultation with the speech therapist. <u>link</u>

• The Rabta University Hospital organized a deafness screening day on Saturday, June 10, 2023 from 9 a.m. to 1 p.m. Link



Diabetes screening for afternoon and night on-call staff at Charles
 Nicolle Hospital, from 04/12/2023 to 27/12/2023 Link



syndicat de l'Hôpital Charles Nicolle, l'administration et la pharmacie interne, une campagne de dépistage du diabète au profit des personnels de soins titulaires de l'Hôpital Charles Nicolle du 04/12/2023 au 27/12/2023.

Heure: de 10h à 12h.

Lieu : Planning par service et par date (voir ci-joint). Soyez nombreux.



 A medical team from the Cardiovascular Diseases Unit at Rabta University Hospital recently performed a left ventricular assistance device transplant operation on a patient suffering from acute heart failure. LINK







• A team of rhythm cardiologists of the cardiology department of La Rabta hospita placed a pacemaker on the heart of a patient who was twelve weeks pregnant and suffering from a complex congenital heart defect. This is the world's first implantation of a physiological left-branch pacing system in a 30-year-old pregnant woman with complete atrioventricular block and corrected transposition of the great vessels. Link







2.2. Awards and Honours

 Professor Abdellatif Chabbou, Professor in the Department of Respiratory Diseases, Faculty of Medicine, Tunis El-Manar University, received an award from the World Health Organization (WHO) for his major contribution to tobacco control and to the success of World No Tobacco Day and its chosen theme.

This award reflect WHO's recognition of the time and effort they have devoted to tobacco control and campaigning.

In 2022, seven prizes were awarded on the occasion of World No Tobacco Day, one of which went to Professor Abdellatif Chabbou, Professor in the Department of Respiratory Diseases, Faculty of Medicine, El-Manar University, Tunis, and Secretary General of the Ligue nationale de lutte contre la tuberculose et les maladies respiratoires (Tunisia).

link

• Rym Kefi, senior lecturer at Pasteur of Tunisia (UTM) wins the "Sadok Besrour" 2022 Prize

On Saturday November 13, 2022, Rym Kefi, senior lecturer at the Laboratoire de Génomique Biomédicale et Oncogénétique, Pasteur Institute of Tunisia, was awarded the Sadok Bessrour prize for excellence in research



Awarded by the Université de Montréal, the Sadok Besrour Foundation and the Ministry of Higher Education and Scientific Research, the prize recognizes excellence in research in medicine and the health sciences. The prize is awarded annually to candidates or teams who have distinguished themselves through their achievements in these fields in

Tunisia. link



Dr. Erij Messadi (Psteur Institute of Tunisia, UTM) wins 1st
 Prize in the Institutinal Research Caterory of the 1st World
 Cup of Invention and Scientific Research-Tunisia 2022 Expo
 TICAD INNOVATION

Dr. Erij Messadi, researcher at the Biomolecules, Venoms and Theranostics Applications Laboratory, won the 1st prize in the Institutional Researcher category of the 1st World Cup of Invention and Scientific Research - Tunisia 2022_Expo TICAD Innovation, for her invention entitled: "lebecetin, a venom-derived c-type lectin, as a treatment of ocular neovasculatization». link



• Pr. Ridha Barbouche Appointed Emro Representative and member of the steering committee of the WHO Global Nitags Network.



Pr. Ridha Barbouche, Head of the Transmission, Control and Immunopathology of Infections Research Laboratory, Pasteur Institute of Tunisia (UTM), has been appointed representative of the EMRO Region 'Easten.

Mediterranean) and member of the Steering Committee of the WHO Global NITAGs Network (GNN).

He is also an observer and GNN representative on the WHO's Strategic Advisory Group of Experts (SAGE), the highest advisory authority on immunization. link



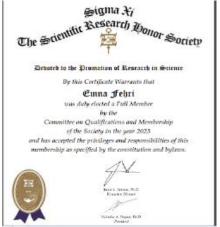


• Dr. Emna FEHRI a member of the prestigious American society "SIGMA Xi"

Dr. Emna FEHRI, a post-doctoral researcher in the Laboratory of Molecular Epidemiology and Experimental Pathology, as well as in the Laboratory of Human and Experimental Pathological Anatomy in Institut Pasteur de Tunis, has been officially named a member of the prestigious American society "SIGMA Xi".

This society, founded in 1886, is the oldest international multidisciplinary scientific association. Dr Emna FEHRI's scientific work focuses on the identification of molecular and immunohistochemical markers involved in cancer diagnosis, prognosis and progression. link







• Dr. Lilia ROMDHANE honored with the prestigious Sadok Besrour Prize for Excellence in Medicine and Health Sciences for the year 2023

Dr. Lilia ROMDHANE, lecturer at the Faculty of Sciences in Bizerte and Researcher at the Biomedical Genomics and Oncogenetics Laboratory at the Institut Pasteur in Tunis, was recently honored with the prestigious Sadok Besrour Prize for Excellence in Medicine and Health Sciences for the year 2023.

This distinction, awarded by the Sadok Besrour Foundation, the Université de Montréal and the Ministry of Higher Education and Scientific Research, aims to promote excellence and innovation in research development and knowledge transfer.

The award also aims to stimulate excellence and innovation in the training of students in medicine and the health sciences. link

- 2.3. Courses, Workshops and events dedicated to researchers and health staff in the different sectors of scientific research in health:
- "Introduction of Bioinfomartics to Arab education Systems" 21-22 novembre Course 2022. Organized by Pasteur Institute of Tunisia, the Arab German Young Academy and the Faculty of Sciences of Bizerte. link
- Training in the fondamentals of bioethics and preparation of a submission to the biomedical ethic committee organized by the ethics committee of Pasteur Institute of Tunisia. link
- Conference: Strategies for eliminating canine rabies



To mark World Rabies Day, the Institut Pasteur in Tunis organized a conference on Wednesday, September 28, 2022, entitled "Strategies for eliminating canine rabies", presented by Dr Florence CLIQUET, international expert and member of the ANSES rabies and wildlife laboratory. link





• Seminar: AIDS and COVID-19: asyndemic in Africa (August2022)

Pasteur Instituteof Tunisia organized an exceptional seminar entitled: AIDS and Covid-19: A Syndemic in Africa. This seminar was presented by Pr. Quarraisha Abdool Karim, and Pr. Salim S. Abdool Karim, from the Centre for the AIDS Programme of Research in South Africa (CAPRISA), Durban & Columbia University, New York. link



• Lecture: "DEVELOPMENTAL OR ADAPTIVE MYELINIZATION: A HISTORY OF EFFICACY", May 2022.

Odile Boespflug-Tanguy, Professor of Medical Genetics, University of Paris, Head of the "NeuroDev" UMR INSERM 1141 NeuroDiderot team, Neuropediatrician-Neurogeneticist, gave a talk entitled "Developmental or adaptive myelination: a history of efficiency" link

• Practical training workshop in allergology: interactive clinical cases (May 2022)

The Pasteur Institute of Tunisia (UTM), in collaboration with Stallergenes-Greer Laboratories, organized a practical training workshop in Allergology: CLINICAL CASES.

This workshop aimed at the links in the care chain for allergy sufferers.







• WHO/TDR_Massive open online course on IR_Arabic session

Pasteur Institute of Tunisa (UTM)and the TDR-supported Regional Training Centre for WHO-EMRorganized a session in Arabic of the TDR Massive Open Online Course (MOOC) on Implementation Research (IR) for countries from the WHO EMR region

This free course is a step-by-step online training for public health researchers and decision-makers, disease control programme managers, academics and others, that focuses on how to design and demonstrate robust IR projects to improve control of infectious diseases of poverty and generate better health outcomes. link

• Webinar "Therapeutic updates for Infantile Spinal Muscular Atrophy (February 2022)

On the occasion of the 15th International Day of Rare Diseases, a webinar was organized by the newly-created "SMA Tunisia" Association in collaboration with the Tunisian Association of Child and Adolescent Neurology (ATNEA), the Association la Recherche en Action (REACT), as well as the Pediatric Neurology Department of the Institut National Mongi Ben Hmida de Neurologie in Tunis and the research laboratories LR18SP04 and LR20IPT05, the Institut Supérieur de Biotechnologies de Sidi-Thabet and Tunivision Club (ISBST). The program for this webinar includes a lecture entitled "Therapeutic news for infantile spinal muscular atrophy", presented by Dr BOESPFLUG TANGUY, Professor of Neuropediatrics, geneticist and Director of I-Motion, followed by a discussion session with representatives of the SMA Tunisia Association.link



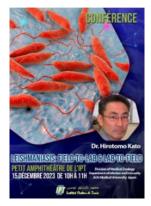




• Lecture "Leishmaniasis: Field-to-Lab & Lab-to-Field" (15/12.2023):

Dr. Hirotomo Kato, Division of Medical Zoology, Department of Infection and Immunity, Jichi Medical University, Japan, presented a lecture about "Leishmaniasis: Field-to-Lab & Lab-to-Field".

link



• International Measles/Rubella Serology Training for Somalia (November 27 to December 1, 2023):

The Clinical Virology Laboratory at the Institut Pasteur de Tunis, serving as the WHO Regional Reference Laboratory (RRL) for Poliomyelitis and Measles/Rubella surveillance, in collaboration with the World Health Organization's Eastern Mediterranean Office organized the International Measles/Rubella Serology Training for Somalia

The training program included both theoretical and hands-on laboratory sessions, allowing Somali participants to conduct serological tests in accordance with practical recommendations provided by the WHO, while adhering to biosafety and biosecurity requirements. It aimed to:

-guide participants from Somalia on the accreditation criteria established by the World Health Organization (WHO) for National and sub-national Measles/Rubella Laboratories.

-impart best practices in confirming suspected cases of measles/rubella, aligning with the standards set by the Global Measles/Rubella Laboratory

Network.

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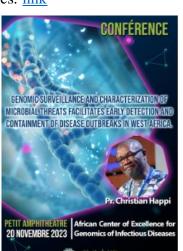
World Diabetes Day (14 November 2023):

As part of World Diabetes Day, the research team led by Dr. Rym Kefi at the Laboratory of Biomedical Genomics and Oncogenetics (LR16IPT05) at the Institut Pasteur de Tunis (IPT), in partnership with the Association des Jeunes Chercheurs (AJC) and the Unité Spécialisée Communication Science et Société (UNISS), organized a scientific morning that addressed crucial aspects of diabetes research and awareness. link



Conference: "Genomic Surveillance and Characterization of **Threats Facilitates Early** Microbial **Detection** and Containment of Disease **Outbreaks** in West Africa" (20 November 2023):

The conference, entitled "Genomic Surveillance and Characterization of Microbial Threats Facilitates Early Detection and Containment of Disease Outbreaks in West Africa", was moderated by Professor Christian T. Happi, Director of the African Centre of Excellence for Infectious Disease Genomics. link







• Conference: "How do CD8+ T-cells contribute to protect in human tuberculosis?" (16 november 2023)

The conference took place at Institut Pasteur de Tunis and was moderated by Professor Steffen Stenger, Director of the Institute for Medical Microbiology and Infection Control at Ulm University Hospital, Germany. Link



• Launch meeting of the WHO-TAG-G in Geneva (5 and 6 October 2023):

Dr. Yosr Hamdi, Biologist and Researcher at the Biomedical Genomics and Oncogenetics Laboratory at the Pasteur Institute of Tunis, and coordinator of the PerMediNA project, has recently joined the World Health Organization's (WHO) Technical Advisory Group on Genomics (WHO-TAG-G).

Composed of several international experts in the field, the WHO-TAG-G was created in September 2023 to provide WHO with technical advice and to accelerate access to genomic knowledge and technologies, particularly in low- and middle-income countries. Over the next two years, the group will focus primarily, but not exclusively, on human genomics. link



• Special day in honor of Pink October (14 October 2023):

The PerMediNA project, in collaboration with the Association des malades du cancer (AMC) and the Association des Jeunes Chercheurs de l'Institut Pasteur de Tunis, organized a special day in honor of Pink October, breast cancer awareness month.





The day highlighted the importance of genetic testing in the fight against breast cancer. <u>link</u>



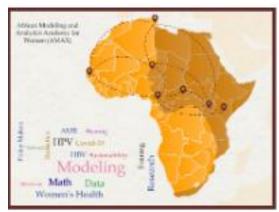
• Scientific day about genetics in hearing health (28 September 2023):

The Institut Pasteur de Tunis, in partnership with the Institut Français de Tunisie, organized a scientific day, as part of the ISSMA project "Interest and Contribution of Exome Sequencing in the Diagnosis of Deafness in Tunisia: from Research to Medical Practice in Hearing Health".

The aim of this scientific day is to put forward an exchange of experiences with a multidisciplinary panel of national and international experts in the field of genetics in hearing health, in order to assess the current situation of research on genetic deafness in Tunisia and its impact on the management of childhood deafness. link

• AMAX Project (African Modeling and Analytics Academy for Women):

The AMAX project at the Institut Pasteur de Tunis is an innovative initiative aimed at improving women's health in Africa through advances in mathematical modeling and data analysis.



Project's mission: Women in Africa face significant barriers to accessing healthcare, including financial, cultural and social challenges.





The AMAX project is committed to addressing these challenges. by creating an African network focused on mathematical modeling and data analysis, with an emphasis on the specific health needs of women. The project focus on four key infectious disease research questions: human papillomavirus (HPV), hepatitis B virus (HBV), COVID-19 and antimicrobial resistance (AMR). link

- Violence in the hospital environment day organized by the ethic committee, Faculty of Medecine of Tunis, UTM. link
- Biohazard crisis communication training (29, 30 and 31 March, 2022)

Organized by the Communication Committee of the Faculty of Medicine of Tunis in collaboration with the Directorate General of Military Health and GIZ, as part of the biosafety-biosecurity project. link

- Transversal training: Announcement of bad news link
- Workshop seminar of the Tunisian Society of Clinical Biology<u>link</u>
- DIU pharmaco-génétique et médecine personnalisée<u>link</u>



• CNEM Scientific Day: Racial discrimination in health: science and ethics in perspective (16 June 2023)

The scientific day tackle racism, xenophobia and discriminatory discourse issues in medecine from 4 angles: ethical from the perspective of healthcare professionals, scientific, historical and legal. link





• Faculty of Medecine of Tunis Master classes

The Faculty of Medicine of Tunis provided during 2022 a wide range of masterclasses to promote the skills of healthcare professionals and medical scientific research, and consequently improve the quality of care offered to patients. These advanced training courses in various areas of medical practices are destinated to doctors, residents, health technicians and laboratory experts, hygienists, nurses, and the juxtamedical professions.

- -The essential tools for thorax exploration <u>link</u>
- Pediatric Hematology link
- -Tobacology and smoking cessation assistance link
- -Hematology imaging <u>link</u>
- -Organ retrieval and transplantation from a brain-dead donor <u>link</u>
- -EARLY WARNING AND RESPONSE LINK
- -Skin cancers: diagnostic and therapeutic approach <u>link</u>
- -Oncogenetics and therapeutic application <u>link</u>
- -ONCO-NÉPHROLOGIE LINK
- -Early detection of psychosis<u>link</u>
- -Vitreoretinal pathology and surgery <u>link</u>
- -Screening and management of mental disorders by non-psychiatrists link
- -Skin cancers: diagnostic and therapeutic approach <u>link</u>
- -MANAGEMENT OF ACQUIRED AND CONGENITAL HAEMORRHAGIC DISEASES OF HAEMOSTASIS LINK
- -THERAPEUTIC NEWS IN CERVICAL CANCER LINK
- -POSITRON EMISSION TOMOGRPAHY COUPLED TO SCANNER AND ADULT LYMPHOMA LINK
- -Improvement of the management by external fixators in orthopedic surgery <u>link</u>
- -Hematology Emergencies <u>link</u>
- -Hemoglobinopathies <u>link</u>
- -Minimally invasive surgery for gynecological cancers link
- The Faculty of Medecine of Tunis provided several courses and postgraduate education in different aspects of medecine:
- -15 october 2023: webinar bacterial infections link
- 07 july 2023: characterization of colorectal adenocarcinomas with microsatellite instability (cmcu23go813) annual meeting <u>link</u>
- -16 june 2023: cnem scientific day: racial discrimination in health: science and ethics in Perspective $\underline{\text{link}}$





31 May 2023: 5th COURSE DISSECTION OF TEMPORAL BONElink

-02-03 Mars 2023: MASTERCLASS DE CHIRURGIE LAPAROSCOPIQUE<u>link</u>

- 3 Mars 2023: « ADVANCED EP COURSE » link
- -25 February 2023 : EPU: Amputation du membre inferieurlink
- -25 February 2023 : EPU: Les nystagmus link
- -25 February 2023 : EPU: Les purpurasEPU Purpura link
- -11 February 2023 : EPU : Retard de croissance chez l'enfantlink
- -11 February 2023 : EPU : Les vertigeslink
- -11 February 2023 : EPU : Tuberculose neuro-méningée et sur terrains particuliers link
- -11 February 2023 : EPU Insuffisance rénale aigue<u>link</u>
- -11 February 2023 : EPU : Reflux gastro-oesophagienlink

• Pasteur Institute of Tunisia's seminars 2022-2023

- -Pharmacological properties of dromaserpine, an antihemistatic serpin derived from the salivary glads of the tick *Hyalomma dromedarii*.
- -Molecular pathology and oncogenetics for a better management strategy for cancer patients in Tunisia. <u>link</u>
- -Genetic diversity of Tunisian mycoplasma Galliseptium isolates and clonal dissemination of their antibioresistance. link
- -Study of the immune response in neuro-immunological diseases: Multiple Sclerosis and Neuro-Behçet. link
- -Artificial intelligence in the search for therapeutic molecules against infectious diseases: COVID-19 as a case study.
- -The role of modified cells in sickle cell disease: therapeutic perspectives.
- -Toxoplasmosis: design and production of innovative therapeutic and immunodiagnostic tools. link
- -AATS-1, the first tetrapeptide from the scorpion venom *Androctonus australis*, and its analogues inhibit the proliferation of U8 glioblastoma cells. <u>link</u>
- -Mathematical modelling for biology: sexual allocations, cancer and COVID-19.
- -Genetic variability and molecular monitoring of SARS-COV2. <u>link</u>
- -From promise to reality: obstacles and opportunities for implementing precision medicine in Tunisia.
- -Immune response and vaccination against SARS-COV-2 and its variants
- -Targeting alpha-synuclein aggregation for the treatment of Parkinson's disease.





CONSTITUTIONAL MEDULLARY APLASIA: PLACE OF GENETICS

- -Cumulative incidence of SARS-COV-2 infection among the staff of InstitutPasteur de Tunis, March 2021.
- -DIAGNOSIS AND MOLECULAR MONITORING OF LEUKEMIAS
- Leishmania Eucaryotic Initiation Factor (LeIF): as a potential immunomodulatorof human macrophages
- -Brucellosis: a re-emerging health risk
- -Genomic and metagenomic analysis of microorganism diversity
- -Research into active biomolecules from snake venom as a therapeutic alternative for human health <u>link</u>
- -Risk analysis of emerging zoonotic diseases caused by climate change <u>link</u>

