

5+5 TWINNING AGREEMENT

Mohamed Cherif Messaadia

University, Algeria

Institute of Agronomic and Veterinary
Sciences (ISAV)

Laboratory of Animal Production,
Biotechnology and Health (PABIOS)



In partnership with



University of Gabes, Tunisia

Faculty of Sciences of Gabes (FSG)

Laboratory of Biodiversity and Valorization
of Bioresources in Arid Zones

1st ALGERIAN-TUNISIAN DAYS

Biotechnologies for Biodiversity, Healthy and Sustainable Food

1st ATD BBHSF

22-23

October

2024

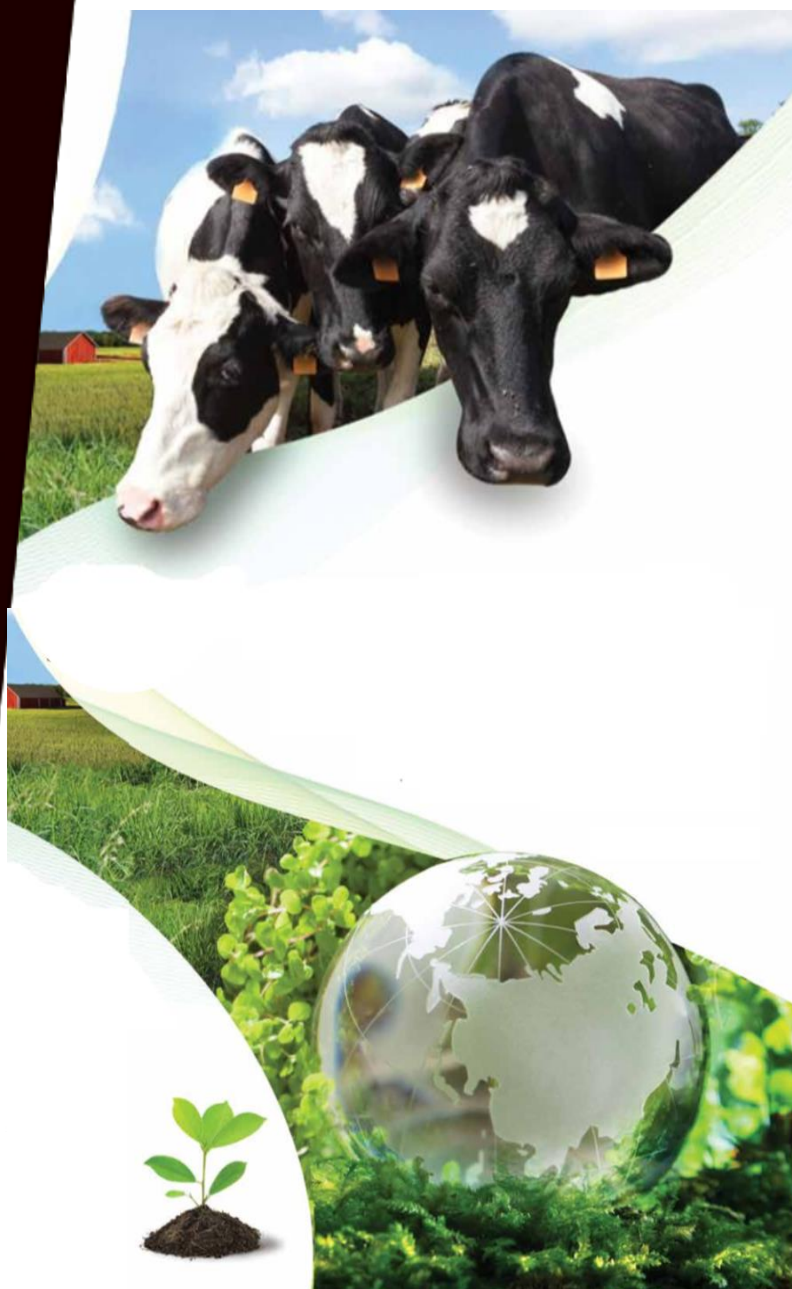
PROGRAM

Edited by:

Dr. Djalel Eddine GHERISSI

Dr. Houria OUENNES

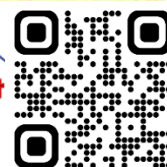
Dr. Samir AYDI



Our Scientific Partner :



GENAPAGIE
Applied genetic in agriculture,
ecology and public health
University of Tlemcen



Dedication

Let us take a moment to honor and remember the dear colleagues: Prof. **Djamel FADEL** and Dr. **Atef AOUADI** who are no longer with us. Their dedication, passion, and contributions have left an indelible mark on our community. Though they have departed, their legacy continues to inspire us in our work. Let us keep their memory alive in our hearts as we move forward together, guided by the values they cherished.

May they rest in peace.



22

October

08.h00 - 08h30

**Opening ceremony**

Address by the Rector of Souk Ahras University
 Address by the Director of the Institute of Agronomic and Veterinary Sciences
 Address by the Tunisian Coordinator of the 1st ATD BBHSF
 Address by the Chairman of the 1st ATD BBHSF

08h30-09h00

**Coffee break / Group photos**

09h00-11h00

**Plenary sessions**

Session chairs: Prof. Lazhar ZOURGUI & Dr. Houria OUENNES

09h00 -10h00 : Prof. Kamel MIROUD (Departement of Veterinary sciences, University of El Tarf, Algeria):

⌘ **Biotechnologies Animales : Moyens d'Amélioration des Productivités de la Vache**

10h00 – 11h00 : Dr. Djalel Eddine GHERISSI (Institute of Agronomic and Veterinary sciences, University of Souk Ahras, Algeria) :

⌘ **2024 International Year of Camelids: Reproduction Management and Biotechnology in Dromedary Camels**

11h00-12h00

**Workshop**

Session chairs: Dr. Anes DADDA & Dr. Noussaiba REGHAISSIA

11h00-12h00 : Dr. Djanette BAROUR & Dr. Sofiane TAMANDJARI (Institute of Agronomic and Veterinary sciences, University of Souk Ahras, Algeria) :

⌘ **Analyses Bactériologiques Visant à Déterminer la Qualité du Lait Cru**

⌘ **Contrôle Sanitaire des Carcasses à l'Abattoir**

**Lunch break**

12h00-14h00

14h00-19h00

**Oral Communications**

Session chairs: Dr. Rami RAHMANI & Dr. Mohamed Nadir MEGUNI

ADVANCEMENTS IN ASSISTED REPRODUCTIVE TECHNOLOGIES FOR LIVESTOCK (ARTL)

⌘ **Theme 01 [14h00-14h10]: A24** **Impact du cholestérol-cyclodextrinesur la congélation du sperme bovindans un milieu à base de lécithine de soja** **DJEMOUAI Boukhalfa**
BENHENIA Karim, SAYAH Asmaa, KOURAT Ahcene, Boubakeur Safsaf

- ☞ Theme 02 [14h15-14h25]: A26 La perte de la gestation chez la jument : La mortalité embryonnaire comme exemple. Boubakeur Batoul Abdelhadi Si Ameur
- ☞ Theme 03 [14h30-14h40]: A33 Préservation de la race ovine Hamra en Algérie : réussite de la cryoconservation du sperme et de l'insémination artificielle SAYAH Asmaa BENHENIA Karim, DJEMOUAI Boukhalfa, ABDELAHMANE Jamel Eddine et REBOUH Boubakeur
- ☞ Theme 04 [14h45-14h55]: A41 The relationship between testes size, sexual behavior and sperm quality in Arabian stallions intended for Artificial Insemination. Hind houssou Farida Bouzebda-Afri, Z. Bouzebda, A.K. Boudjakji, M. Benidir.
- ☞ Theme 05 [15h00-15h10]: A12 Developmental, behavioral and biochemical effects of anthracene and Pb+2 to zebrafish embryos Abdelfettah Gheriba Nabil Charchara, Ala Abdessamed, Oussama Belahmadia et Inês Domingues

BIODIVERSITY PRESERVATION TROUGH BIOTECHNOLOGICAL INTERVENTIONS (BPB)

- ☞ Theme 06 [15h15-15h25]: A20 Hepatoprotective effect of sandfish "Scincus scincus" extract on cadmium-induced hepatotoxicity in rats Ramzi Lamraoui Djelal Eddine Gherissi, Fayçal Chacha
- ☞ Theme 07 [15h30-15h40]: A45 Freezing of human sperm: comparative study on sperm parameters, activation of caspase 3 and mitochondrial membrane potential Fatma BEN ABDALLAH BAHRI Nacira ZRIBI1 and Leila KESKES AMMAR1
- ☞ Theme 08 [15h45-15h55]: A18 Protective Effects of Ginger Oil (Zingiber officinale) against Neurotoxicity Induced by Maneb in Adult Rats: behavioural, biochemical and histological approaches ELWEJ Awatef , BEN SLIMENE Sabrine , BOUKHOLDA Khadija , MHADHBI Abir , and FETOUI Hamadi

Session chairs: Dr. Sameh SASSI AYDI & Dr. Hind HOUSSOU

BIOTECHNOLOGIES IN ANIMAL HUSBANDRY (BAH)

- ☞ Theme 09 [16h00-16h10]: A35 How does the production system affect the longissimus lumborum muscle proteome of dromedary camels (Camelus dromedarius)? Messaouda Lamraoui, Hanane Lamraoui, Imane Lamraoui, Yahia Khelef, Hugo Osório , David M. Ribeiro, André M. de Almeida, Naima Sahraoui
- ☞ Theme 10 [16h30-16h40]: A44 Variations des paramètres sanguins chez la chèvre Arbia pendant la lactation et la période de tarissement Titaouine Mohammed Moussa Chargui, Sassi Koutti, Haroune Boumaraf

- ☞ Theme 11 [16h45-16h55]: A46 Development of a new dietary supplement with high antioxidant and anti-diabetic potential **Rihab BEN ABDALLAH KOLSI Rami RAHMANI; Lotfi FEKI**
- ☞ Theme 12 [17h00-17h10]: A5 Assessment of the viability and survival of free and encapsulated *Lactobacillus plantarum* s10 in simulated buccal-gastro-intestinal conditions using food matrices as probiotic carriers **FERKHI Manel IDOUI Tayeb**
- ☞ Theme 13 [17h15-17h25]: A15 Evolution of the biochemical Profile and body condition score according to cow performance at the postpartum period **CHACHA F., D.E. GHERISSI 2, R. LAMRAOUI2 3, M. DOUH 1, F. AFRI-BOUZEBA2 and Z. BOUZEBA**

FOOD SAFETY (FS)

- ☞ Theme 14 [17h30-17h40]:A1 Analyses physico-chimique et microbiologique du fromage fondu à L'Est Algérien **Hallaci SBarka R, Djamaa F, Haddad S, Houhamdi Moussa**
- ☞ Theme 15 [17h45-17h55]:A16 Food security a Green approach: Comparative Study of the Chemical Composition and in vitro Bioactive Potential of tree Essentials Oils from Lamiaceae plant against germs causing bovine mastitis **DAÏA M E MESSAI A., BOULEBDA N, AYDI S, LADJAILIA Y.**
- ☞ Theme 16 [18h00-18h10]:A23 Identification of lactic acid bacteria isolated from goat's milk and evaluation of their technological characteristics **Rabha AYAD Abed ARABI ; Dyhia SADOU and Rahmoune Yazid1, 3**
- ☞ Theme 17 [18h15-18h25]:A25 "In vitro evaluation of the pathogenicity of avian pathogenic *Escherichia coli* isolates from Algerian poultry farms **DJOUZI Amira BARBERIS Abdelheq, AIT SEDDIK Hamza, LAFRI Smail, DERKAOUI Meriem, RAHAB Hamza**

Session chairs: Dr. Djalel Eddine RAHMOUN & Dr. Abderrahmen BOUAOUICHE

GENETIC CHARACTERIZATION AND MODIFICATION TECHNIQUES FOR ANIMAL AND PLANT IMPROVEMENT (GCMT)

- ☞ Theme 18 [18h45-18h55]:A17 Understanding Genetic Variability in Sheep Reproduction for Better Resource Management in Algeria **MISSOUM B. S. MAHAMMI .F. Z., REDOUANE D., TABET AOUL N.**
- ☞ Theme 19 [19h00-19h10]:A31 "Polysaccharides from *Moringa oleifera*: therapeutic insights and safety features functional food. In vivo study and improvement kidney damage **TROUDI AFEF ELWEJ AWATEF, SASSI SAMEH and SAGUEM Mohamed HEDI**

- ⌘ Theme 20 [19h15-19h25]:A2 Sheep biodiversity management in Algeria: Analysis of genetic polymorphisms of prolificacy Mouffok Sara Mahammi Fatima Zohra, Tabet Aoul Nacera

09h00- 17h00



Poster Session

Session chairs: Dr. Nadia ZGA & Doniazed MEHAMDIA & Dr. Asma LEKOUAGHET

- ⌘ A48 Biotechnology Meets Climate Change: A Comprehensive Study mapping THI Influences on AI Success Rates in mediterranean climate Aziza Ferag Djalel Eddine Gherissib,d, Tarek Khenenoua,d, Amel Boughanemc, Hafida Hadj Moussac, Amina Maamour
- ⌘ A3 Animal feed in difficult periods in the context of integrated soil-plant-animal systems in Algeria FANTAZI K. AHMED CHERIF Cherif M., BENIDIR M., IREKTI H., TAZKA H. et EL-BOUYAHIOUI R.
- ⌘ A7 Azolla: A Cost-Effective Alternative Feed for Livestock SAHI Wassila
- ⌘ A27 Les facteurs de risque de la brucellose chez les humains en Afrique du Nord: Revue systématique BELARBI K BEKARA M. E. A ,MARSOT M
- ⌘ A28 Diagnostic et traitement des mammites de la vache laitière par les vétérinaires de terrain en Algérie Asnour Z Attia K, Dendani Z, Bouzid R
- ⌘ A50 Lice of Domestic animals: prevalence and identification by mass spectrometry (MALDI-TOF/MS) Meguini Mohamed Nadir Righi Souad 2, Sadeddine Rima2, Benakhla Ahmed. GCMT
- ⌘ A42 L'impact de la supplémentation en acide organique sur la production laitière des vaches laitières : REVUE SYSTEMATIQUE Timsit Nassima Hani Fatma Amira, Aïnouz Lynda, Zaouani Mohamed, Khelaf Djamel
- ⌘ A13 Effect of the incorporation of date scraps on the fattening performance of Ouled Djellal lambs in a semi-arid environment (North-East of Algeria) ABAIDIA A. LEBBAL S., MEBIROUK-BOUDECHICHE L.
- ⌘ A34 Prevalence and Risk Factors of Bovine Subclinical Mastitis on Conventional Dairy Farms in Northeast Algeria Maroua Ganaoui Djalel Eddine Gherissi, Nawel Ganaoui, Riad Bouzide, Djamel Khelef
- ⌘ A38 Analysis of the reproductive performance of imported dairy cows raised in a hot Mediterranean climate in Algeria AMAIRIA Razika BENYOUNES Abdelaziz, BOUSBIA Aissam
- ⌘ A32 Pregnancy-Related Changes Of The Blood Biochemical Profile In Ouled Djellal Ewe's Breed Under Semi-Arid Conditions (Algeria) Ramzi Lamraoui Djalel Eddine Gherissi, Farida Afri-Bouzebda, Zoubir Bouzebda, FayçalChacha.

- ⌘ **A4** Artificial intelligence application in Animal Management **OUACHTATI D.**
HOUSSOU H., DJEDDOU BENABID A. , DJEDDI K.
- ⌘ **A36** "Reproduction d'un Poisson Teleostien La Bogue Boops boops dans Le Nort Est Algerien
BOUBAIOU Abla
- ⌘ **A37** "Reproductive cycle of the Sardine *Sardina pilchardus* (Walbaum, 1792) in the bay of
Collo (Algerian East coasts) **BENALDJIA Aicha MEZEDJRI Lyamine , BOUBAYOU Abla**
- ⌘ **A43** Variation of physiological, inflammatory and hematological parameters in a murine
model of experimental asthma **Linda Sabrina Ounaceur Mahfoud Messarah, Amel Boumendje**
- ⌘ **Le sperme epididymaire chez le dromadaire : caracteristiques, methode de collecte et cryoconservation** **Mohamed ARB-CHAABA, Djemouai BOUKHALFA , Karim BENHENIA , Djalel Eddine GHERISSI**
- ⌘ **Study of genetic and phenotypic diversity in Algerian indigenous chicken breeds** **Ayed Soumial , Ghrissi Djalel Eddine 2 and Gaouar Semir Bechir Suheil**
- ⌘ **A14** Evaluation des Effets Insecticides et Biochimiques de l'Extrait Foliaire de *Hyoscyamus albus* sur le Rat Wistar **BOUBLATA Nour El Imène HABBACHI Sarra, RADU Valentin, HABBACHI Wafa, BENHISSEN Saliha, REBBAS Khellaf, TAHRAOUI Abdelkrim**
- ⌘ **A9** Microscopic Study of the Cloacal Bursae of Broiler Chickens during IBD in Algeria Area
Mohammed BOUGHERARA Tarek KHENENOU, Abdelhaq BARBARIS, Ahlem CHOUAIB, Hind HOUSSOU
- ⌘ **A10** Situation actuelle de la contamination des denrées alimentaires par les mycotoxines en Algérie. **Ahmed Messai Sara Redouane-Salah**
- ⌘ **A11** *Diplectanum aequans* (Metazoan, Platyhelminths) gill parasite of *Dicentrarchus labrax* (Linnaeus, 1758) (Teleostei, Moronidae) off the Algerian coast **REBAH Meriem Amira TAZEROUTI Fadila; AYADI Zouhour El Mouna**
- ⌘ **A19** avian pathogenic *escherichia coli* zoonotic risk, antibiotic resistance and how to prevent and control **Ahlem CHOUAIB Tarek KHENENOU, Mohamed BOUGHRARA, Hind HOUSSOU**
- ⌘ **A39** Étude comparative de la présence des résidus des substances à activité antimicrobiennes dans les foies des volailles consommée dans la région de Souk- Ahras **LABIED Ibtissem BERGHICHE Amine, KHENENOU Tarek, BATAH Rima, MELOUAH Khalil**
- ⌘ **A40** Study of the prevalence of different serotypes of salmonella and their profiles of sensitivity and resistance to antibiotics in poultry farms in the eastern region of Algeria.
Oussama KHALOUTA Tarek KHENENOU, Chafik Redha MESSAI, Hind HOUSSOU, Abdelhafid CHORFA

- ⌘ **A22** Hygiène à la traite et impact sur la qualité du lait et la santé de la mamelle
Asnourne Z Attia K, Dendani Z, Bouzid R
- ⌘ **A29** Mycobacteria Strains Isolated from Fish: Ecological and Health Insights **BELLIL**
Dassine GHAROUT-SAIT Alima, DJOUDI Ferhat, BELLIL Zahra, MENDIL Ouidad, MANSEUR Lyticia
- ⌘ **A8** bacteriological quality of raw milk sold in souk ahras region (Algeria)
BAROUR Djanette
- ⌘ **A47** Can food of animal origin pose a microbiological hazard in Souk Ahras ? Sofiane
TAMENDJARI Lina CHAIB, Hebib AGGAD, Zoubir BOUZEKDA, Farida Afri BOUZEKDA
- ⌘ **A1** Analyses physico-chimique et microbiologique du fromage fondu à L'Est Algérien
Hallaci S Barka R, Djamaa F, Haddad S, Houhamdi Moussa
- ⌘ **A 53** Comparative Histological study of Testicles and Epididymis in Domestic Animals (Dogs
and Cats) versus Wild Animals (Genets and Mongooses) Sahi S, Derouiche L, Ouennes H, [Zatra
Y, Ghadbane K and Bouadel A
- ⌘ **A 54** Stress to slaughter and quality of meat in broiler Sabrina Salhi ,
Farida Bouzebda, Zoubir Bouzebda, Amel Djaout
- ⌘ **A 55** Effect of Prickly Pear Extracts (*Opuntia Ficus-indica*) on the Growth of Rabbits
ORYCTOLAGUS Cuniculus Abderrahmene Bounaouich, Faiza Bouguerche
- ⌘ **A56** Impact of intensification on milk parameters in the southeast of Algeria Maria
Chikha, Tarek khenenou, Djalel Eddine Gherissi
-

23

October

09h00-12h00

**Plenary sessions**

Session chairs: Dr. Boubaker RABTI & Dr. Filali LATRECH

09h00 -09h50 : Prof. Lazhar ZOURGUI (Laboratoire de recherche "Biodiversité, Molécules, Application" Institut Supérieur de Biologie Appliquée Médenine, Université de Gabès-Tunisie) :

- ☞ Cactus active biomolecules and their use in cosmetics, agri-food, and pharmaceutical

09h50-10h10

**Coffee break**

10h10-11h00 Dr. Sameh SASSI AYDI (Laboratoire de recherche: Bioressources valorization in arid zones: challenges and strategies. Faculté des Sciences à l'Université de Gabès, Tunisie).

- ☞ Valorisation des bioressources en zones arides

11h00-12h00

**Workshop**

Session chairs: Dr. Sabrina SALHI & Dr. Sara MEARFIA

11h00-12h00 : Dr Rami RAHMANI (Technology, Science, AI & Automation Lab, 63 rue de Tolbiac, 75013 Paris, France) :

- ☞ Bio Analyses phytochimiques: de l'extraction à la modélisation moléculaire



Lunch break

12h00-14h00

14h00- 17h00

**Oral Communications**

Session chairs: Dr. Allaoua BOUMZAOUET & Dr. Dahmen TADJIN

- ☞ Theme 01 [14h00-14h10]: V2 In Vitro Study Of Antioxidant And Anti Inflammatory Properties Of Organic Extracts From Vinica Difformis Lamia ALIOUCHE, Hanène ZATER
- ☞ Theme 02 [14h15-14h25]: V3 Biodegradable Emulsified Films based on Polysaccharides Blend and Microcrystalline Wax: Elaboration and Characterization Djalila AOUI, Nabila BELLOUL, Fayrouz BENHAOUA, Khadoudja LAOUBI
- ☞ Theme 03 [14h30-14h40]: V4 Procédé d'extraction du charbon actif à partir des déchets agricole (grignons d'olives) et son utilisation comme fertilisant des sols sableux dans le milieu aride Fofou Ammar, Bourekeb Salah Eddine

- ☞ Theme 04 [14h45-14h55]: V5 Advancements in Cherry Genetics: Unraveling Key Genes and Genomic Tools for Enhancing Agronomic Traits Rayene Djabourabi, Hana Bouzahouane, MoundjiTouarfia, Abdelkader Djouamaa, KaoutherLaibi, Nour El HoudaBoumaaza, and AzzedineChefrour
- ☞ Theme 05 [15h00-15h10]: V10 Evaluation of Glycerin-Citric Acid-Based NADES for Efficient Green Extraction of Bioactive Compounds BERKATI Asmaâ, BENHAMICHE Nadir
- ☞ Theme 06 [15h15-15h25]: V11 Exopolysaccharides of Extremophilic Bacteria: Effective Agents for Applications in the Food Industry Nadjette Moumene, Wafa Malki, Mounia Arab, Nihel Khelil
- ☞ Theme 07 [15h30-15h40]: V13 In Vitro Antioxidant, Phenolic and Flavonoid Contents of Different Polarity Extracts of an algerian medicinal plant from southern Algeria of (Fabaceae) Aerial Parts. ZATER Hanène, ALIOUCHE Lamia
- ☞ Theme 08 [15h45-15h55]: V14 Influence of other heavy metals on nickel adsorption onto activated carbon prepared from chestnut shell Dounya Khalla, Mouni Boukour, Dalia Ghediri, Mouna Nacef, Omar Khelifi, Karima Belguidoum, Nadjette Bengourna, Chelaghmia Mohamed Lyamin, Abed Mohamed Affoune

Session chairs: Dr. Rami RAHMANI & Dr. Aymen BERGHICHE

- ☞ Theme 09 [16h00-16h10]: V15 Innovation and food safety: biodegradable packaging, a solution for the future Assala Torche, Toufik Chouana
- ☞ Theme 10 [16h15-16h25]: V17 Morphological and molecular characterization of some Algerian male date palm: Identification of “Deglet-Nour” pollinator Asma CHAOUCH KHOUANE, Aziz AKKAK, Hamed HAKKOUM, Amine BELAIDI, Halima BENBOUZA
- ☞ Theme 11 [16h30-16h40]: V22 Phytochemical Elucidation and Antioxidant Activity of Opuntia ficus-indica seeds oil from Tebessa Region, Algeria. Mouna Dib, Amel Benbott, Karima Malaoui ,Elyes Kelai
- ☞ Theme 12 [16h45-16h55]: V26 Evaluating the Role of PGPR Strains in Boosting the Nutritional Quality of Trifolium alexandrinum Debbah Yousra, Bencherchali Mohamed, Messgo-Moumene Saida

09h00- 17h00



Poster Session

Session chairs: Dr. Sameh AYDI SASSI & Dr. Leila TOUATI & Dr. Samia REBEI

- ⌘ V1 Activité antioxydante des extraits phénoliques des parties aériennes de *Laurus nobilis* L BenAlia HalimaGherib Abdelaziz
- ⌘ V6 Comparative analysis of organic extracts bioactivity from two *Limonium*. Mill species growing wild in Tunisian salty marshes Rami Rahmani Mohamed Debouba, Sameh Sassi Aydi, Samir Aydi, and Jalloul Bouajila
- ⌘ V7 Évaluation in vitro de l'effet antiuroolithiasique de quelques extraits de *Cynodon dactylon*(L).Pers Benalia Halima DjeridaneAmar , Yousfi Mohamed
- ⌘ V8 Elucidation of the biosynthetic pathways of bioactive compounds in halophilic actinomycetes Rayene Hamimed Mabrouka Benhadj, Taha Menasria
- ⌘ V9 Étude de l'activité antibactérienne de l'huile essentielle de *Mentha piperita* sur des bactéries de contamination alimentaire Chahrazed BENZAIDManel Lina DJENDI, Lazhari TICHATI
- ⌘ V12 Optimizing the Health Benefits of Green Table Olives production through Advanced Processing Techniques DJELLAL. Amel METTOUCHI. Soraya, TAMENDJARI. Abderrezak
- ⌘ V16 La part de l'agriculture familiale dans l'économie ménagère DABI Fatima zohra FOUFOU Ammar
- ⌘ V18 Landraces and wild *Brassica rapa* L. seeds: morphological characterization and germination F. Aïssiou H. Hadj-Arab
- ⌘ V19 Morphometric Characterization of Some Cherry Varieties in Tlemcen Region MKEDDER Ikram MEZOUAR Meriem, HADDAM Youssef Hadi, SIDHOUM Mohammed, GAOUAR Semir Bechir Suheil
- ⌘ V20 Novel Biogenic Synthesis of a Silver@Biochar of *Punica Granatum* L Nanocomposite as an Antimicrobial Agent and Photocatalyst for Methylene Blue Degradation Telli HAYET
- ⌘ V21 Optimisation des Processus de Production des Huiles d'Olive Extra-Vierge : Qualité et Techniques Innovantes ESMA BOUDEHANE FIRDOUSSE LAINCER-MERDJANE
- ⌘ V23 Predicting the impact of future climate change on the holm oak tree in Algeria under the RCP2.6 - 2070. RAIS Hichem LAALA Ahmed
- ⌘ V24 Parc National d'El Kala (extrême Nord-Est algérien) : Préservation et protection de la biodiversité DERRADJI El Fadel SAADALI Badreddine
- ⌘ V25 Détermination de la Quantité de Vitamine C et de quelques Sels Minéraux présents dans trois Variétés de Pois Chiche cultivées en Algérie Belouad Dalya Nehal Fatima, Amri Wahba
- ⌘ V27 Study of Salmonella in vegetables BELLIL Zahra MEYER Sylvain, TILLOY Valentin, BELLIL Dassiné, MAIRI Assia, De CHAMPS Christophe, BARRAUD Olivier, TOUATI Abdelaziz
- ⌘ V28 Sustainable Valorization of Agricultural By-products for Biodiversity Protection GUERBOUB Lynda SOUFI Ouahiba, OULDSAADI Linda

- ⌚ **V29** Le Figuier De Barbarie (*Opuntia ficus indica*) Valorisation et Perspective pour Le Développement Rural en zone Steppique de l'Est Algérien **Mourad Douh Larbi Karkour, Samia Rebai, and Samir Chekchaki**
 - ⌚ **V30** Characterization of Vine Biodiversity in Khenchela region (North-East Algeria) through a Multidimensional Approach: Implications for Management and Conservation **BELMANAA Radhia LAIADI.Ziane, SIMOZRAG.Ahmed**
 - ⌚ **V31** Harnessing *Azolla pinnata*: Innovations in Sustainable Agriculture and Aquaculture **SIOUDA C DAVIES S.J, MAHMOUDI N**
 - ⌚ **V32** Halotolerant phosphate solubilizing bacteria improve antioxidant systems and photosynthetic activity of cultivated barley under salinity **Saber Kouas Feten Jemli, Samir Aydi, Moez Hanin**
-