THE COUNCIL'S NEWSLETTER

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Number 27, Volume 13, Issue 22,
July, 2025

AMAHLS VI Conference Announcement
Call for Abstracts and Registration Now Open!

The High Council of Moroccan American Scholars and Academics (HC-MASA) is pleased to announce the **Sixth International American Moroccan Agricultural, Health, and Life Sciences Conference (AMAHLS VI)** to be held on March 25–27, 2026, in the beautiful city of Agadir, Morocco.

Co-organized by HC-MASA, University Ibn Zohr, and INRA Morocco, this international conference will bring together leading researchers, academics, students, industry experts, and policymakers from Morocco, the United States, and across the globe. The conference will serve as a dynamic platform for exchanging knowledge, advancing interdisciplinary research, and fostering innovation at the intersection of agriculture, health, and life sciences.

This year's theme focuses on:
"Harnessing Advanced Technologies, AI, and Machine Learning for Agricultural Resilience in the Face of Climate Change."

Call for Abstracts: Oral and Poster Presentations:

We invite scientists, scholars, and graduate students to submit abstracts in the following thematic areas:

- Precision Agriculture and Smart Farming
- Genomics and Crop Improvement
- Health and Biomedical Sciences
- One Health and Zoonotic Diseases
- Bioinformatics and Artificial Intelligence
- Climate-Smart Agricultural Policy
- Sustainable Development and Food Security
- Marine and Arid Region Biotechnology
- Science Education, Equity, and Capacity Building

Submit your abstract and register at:
https://amahls.org

Deadline for Abstract Submission:
January 31, 2026

Accepted abstracts will be presented either as oral presentations or posters. Awards will be given for the best student contributions.

Registration will be open soon!

Early registration is encouraged. The website provides full details on registration categories, travel information, accommodation, and sponsorship opportunities.

Register Today: https://amahls.org

We look forward to welcoming you to Agadir in March 2026 for this impactful and inspiring international gathering! Please share this announcement widely within your networks.

For inquiries, contact: abdelmajidk@gmail.com.

The Organizers:
Prof. Khalid Meksem
Prof. Moulay Abdelmajid Kassem

IN THIS ISSUE…

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The Council's Members Published Articles (January - July 2025)

Dr. Abdelhafid Bendahmane's Group:

Slavković F, **Bendahmane A.** Plants, Pollinators and Pheromones: Promises and Lies of Semiochemicals. Plant Cell Environ. 2025 Jun 4. doi:10.1111/pce.15670.

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Dr. Khalid Meksem's Group:

Naoufal Lakhssassi, Sushil Satish Chhapekar, Vikas Devkar, **Dounya Knizia, Abdelhalim El Baze,** Heng Ye, Tri Vuong, Gunvant B Patil, Henry T Nguyen, **Khalid Meksem.** Discovery of two tightly linked soybean genes at the qSCN10 (O) locus conferring broad-spectrum resistance to soybean cyst nematode. Communications Biology, 2025 Feb 18;8(1):259. doi: 10.1038/s42003-025-07633-8.

Knizia D, E Anil, **Y Salhi**, H Shi, **A El Baze**, **MA Kassem, N Lakhssassi**, HT Nguyen, and **K Meksem.** Improving Soybean Seed Sucrose Content Using TILLING-By-Sequencing Analyses of the Soybean Sucrose Synthase Family. Front. Plant Science 16:1606321. https://doi.org/10.3389/fpls.2025.1606321.

Dr. Kassem's Group:

Bradford D, K Lodhi, J Yuan, D Graham, J Graham, M Maldani, E White, A Arhin, and **MA Kassem**. Genomic Diversity, Pathogenicity, and Microbial Forensics of Foodborne Bacteria: A Comparative Analysis. Atlas Journal of Biology, 2025, 846-855. https://doi.org/10.5147/ajb.262.

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Dr. Boutjdir's Group:

Lazzerini PE, **Boutjdir M**. Autoimmune cardiac channelopathies and heart rhythm disorders: A contemporary review. Heart Rhythm. 2025 Jun;22(6):1541-1561. doi: 10.1016/j.hrthm.2025.03.1879.

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Kang B, Chin L, Camacho-Rivera M, Garza M, de Jesús Espinosa T, Cong X, Fraser M, **Boutjdir M**, Ramos SR. Intervention mapping for systematic development of a community-engaged CVD prevention intervention in ethnic and racial sexual minority men with HIV. Front Public Health. 2025 Feb 26;13:1529152. doi: 10.3389/fpubh.2025.1529152.

Dr. Elamrani's Group:

Tikent A, Bouaouda K, Laaraj S, Chebaibi M, Choubbane H, Loukili EH, Elfazazi K, Bouhrim M, Mothana RA, Noman OM, Eto B, **Elamrani A,** Addi M. Nutritional value antioxidant strength and antimicrobial efficacy of fig pastes from eastern morocco. Sci Rep. 2025 Apr 5;15(1):11693. doi: 10.1038/s41598-025-93173-4.

Allay A, Benkirane C, Ben Moumen A, Fauconnier ML, Bouakline H, Nkengurutse J, Serghini Caid H, **Elamrani A,** Mansouri F. Optimizing ethanol-modified supercritical CO_2 extraction for enhanced bioactive compound recovery in hemp seed oil. Sci Rep. 2025 Mar 12;15(1):8551. doi: 10.1038/s41598-025-91441-x.

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Dr. Mohamed Bendahmane's Group:

Nicolas M Doll, Yannick Fierlej, Thomas Eekhout, Lisa Elias, Clément Bellot, Geng Sun, Carolin Grones, Stijn Aesaert, Griet Coussens, Riet De Rycke, Maria Šimášková, Emilie Montes, Chloé Plagnard, Peter M Rogowsky, Yemisrach Melkie Abebaw, **Mohammed Bendahmane,** Bert De Rybel, Laurens Pauwels, Thomas Widiez, Moritz K Nowack. KIL transcription factors facilitate embryo growth in maize by promoting endosperm elimination via lytic cell death. Plant Cell, 2025 Jun 20:koaf162. doi: 10.1093/plcell/koaf162.

Abdelghani Chakhchar's Group:

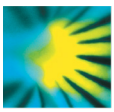
Lamaoui M and Chakhchar A (2025). Genetic and epigenetic alterations associated with somatic embryogenesis in Argania spinosa. Plant Biotechnol Rep (2025). https://doi.org/10.1007/s11816-025-00999-5.

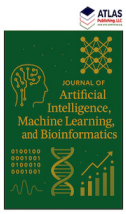
Kichchou I, Idahmed K, Farouk S, El Modafar C, and Chakhchar A (2025). Effects of cadmium, copper, and zinc on germination and post-germination growth of chia seeds. Journal of Central European Agriculture (JCEA) (Accepted).

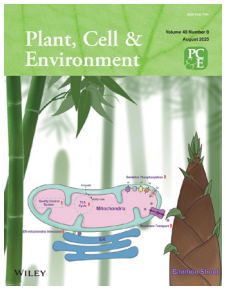
Dr. Abdelhi Dihazi's Group:

Dihazi A, Y Jouihri, A Tadlaoui-Ouafi, MN Alfeddy, C El Modafar, H Dihazi, A El Meziane, M Sayari, and F Daayf (2025). "Secreted in Xylem" Genes (SIX Genes): Relationship to the Aggressiveness of Fusarium oxysporum f. sp. albedinis. Plants, 2025, 14(11):1721. https://doi.org/10.3390/plants14111721.

Congratulations Council Members!
Keep Up The Good Work!t







Welcome to the Council's New Members

We are delighted to welcome two outstanding young scholars who have recently joined the Council. Their fresh perspectives and vibrant research will undoubtedly enrich our community.

Dr. Ez-zouhra El Maaiden

Dr. Ez-zouhra El Maaiden is an accomplished scientist specializing in biochemistry, cellular and molecular biology, and cosmeceutical innovation. She earned her Ph.D. from Hassan I University, Morocco, where she focused on the protective effects of natural biomolecules against iron-induced toxicity. Dr. El Maaiden has held research and leadership positions at Mohammed VI Polytechnic University, where she established and managed advanced laboratories, led national and international research projects, and supervised Ph.D. and master's students. Her work encompasses bioactive compound extraction, formulation science, and the development of therapeutic and cosmetic products derived from natural resources. Now based in the United States, Dr. El Maaiden remains dedicated to advancing research that bridges traditional medicine, sustainability, and innovation in health sciences.

Bridging Innovation and Sustainability – Spotlight on Dr. Ez-zouhra El Maaiden

By Moulay Abdelmajid Kassem

The Council is proud to highlight Dr. Ez-zouhra El Maaiden, a scientist whose work exemplifies the integration of advanced research with sustainable development. Dr. El Maaiden's expertise spans biochemistry, molecular biology, and cosmeceutical innovation, with a focus on harnessing natural resources for therapeutic and cosmetic applications.

Her research journey has included leading the extraction and purification of bioactive compounds from plants and camel-derived materials, developing innovative extraction technologies, and formulating dermo-cosmetic products evaluated for their efficacy and safety. At Mohammed VI Polytechnic University, Dr. El Maaiden managed interdisciplinary projects addressing conditions such as diabetes, inflammation, and neurodegenerative diseases, while supporting local cooperatives in adopting advanced biotechnological methods for sustainable product development.

In addition to her research leadership, Dr. El Maaiden has contributed significantly to academic teaching and mentoring, training students and professionals in advanced laboratory techniques, molecular biology, and cosmetic formulation. She has also played a pivotal role in organizing workshops and conferences aimed at fostering scientific knowledge and community engagement.

Dr. El Maaiden's work has led to multiple patents and the certification of innovative product lines, reflecting her commitment to translating scientific discovery into real-world impact. Her contributions align with the Council's mission to promote research that benefits both science and society.

We commend Dr. Ez-zouhra El Maaiden for her dedication to sustainable health sciences and look forward to her continued contributions to research and innovation.

Welcome Ez-zouhra!
Keep Up The Good Work!

Welcome to the Council's New Members

Dr. Fouzia Mamouch is a medical biologist with expertise in laboratory management, clinical research, and patient coordination. She holds a Ph.D. in Medical Biology, Experimental Pathology, and Environment from Mohammed V University, Morocco, and a Master's in Neurobiology, Pharmacology, and Genetics from Ibn Tofail University. Dr. Mamouch's work spans molecular biology, virology, and oncology, with a strong commitment to advancing patient care and clinical research. She has authored several peer-reviewed publications, including studies on inflammatory breast cancer, and received recognition at the BGICC in Cairo for her research contributions. Currently based in Apex, North Carolina, Dr. Mamouch is dedicated to applying her expertise to improve patient outcomes and foster scientific progress.

Dr. Fouzia Mamouch

Advancing Cancer Research and Patient Care – Spotlight on Dr. Fouzia Mamouch

By Moulay Abdelmajid Kassem

The Council is pleased to spotlight Dr. Fouzia Mamouch, a dedicated medical biologist whose career bridges the worlds of clinical research and patient care. Dr. Mamouch has made significant contributions in oncology, particularly in the study of inflammatory breast cancer, a rare but aggressive form of the disease. Her work, including the study "ALDH1 expression in inflammatory breast cancer tumor using Real-time RT-PCR gene expression quantifications," has provided valuable insights into biomarkers that could improve diagnosis and treatment strategies.

Dr. Mamouch's professional journey includes roles as a methodological and scientific supervisor, specialized analysis technical manager in a COVID-19 laboratory, and clinical study coordinator at the National Institute of Oncology in Morocco. Her commitment to Good Clinical Practices and ethical patient engagement underscores her dedication to advancing healthcare while ensuring patients receive compassionate and thorough care throughout their treatment journeys.

Beyond her research and laboratory leadership, Dr. Mamouch is passionate about mentoring students and young scientists, having trained and guided them in scientific writing and research methodology. Her vision aligns with the Council's mission of promoting excellence in scientific research and fostering collaboration across disciplines.

We congratulate Dr. Mamouch on her achievements and look forward to seeing her continued impact in medical biology and oncology research.

Welcome Fouzia!
Keep Up The Good Work!

Welcome to the Council's New Members

Dihazi Abdelhi,
Professor of Plant Biochemistry and Phytopathology
Faculty of Sciences and Technology
Cadi Ayyad University
Marrakech, Morocco

Dr. Abdelhi Dihazi

Abdelhi Dihazi is an academic and researcher with a notable career in the field of biotic and abiotic stresses in plants. He taught high school for over than 20 years before becoming a professor at Cadi Ayyad University Marrakech. His expertise encompasses several studies including plant-pathogen interaction, salinity and drought, as well as the use of biostimulant and microorganismes to control these stresses. He has a particular interest in date palm bayoud disease which has devasted the majority of date palm crops at the southern region of Morocco. He has published more then 20 articles in reputable journals. Dihazi's research interests focuses on understanding Fusarium oxysporum albedinis aggressiveness trough proteomic and SIX genes, the antifungal properties of various plant extracts, the genomic characterization of pathogenic bacteria, the biochemical analysis of plant responses to stress and the use of bacteria to mitigate plant stresses. His publications highlight innovative approaches to combat bayoud disease in date palms and to elucidate the involvement of phenolic compounds in date palm defense reaction. He is also involved in several projects including Mediterranean vineyards protection face to climate change, plant-based antimicrobial packaging, isolation and evaluation of Moroccan enthomopathogenic fungi againt insects pests, etc.

Innovating in Plant Stress Research – Spotlight on Dr. Abdelhi Dihazi:

Dr. Abdelhi Dihazi, Professor of Plant Biochemistry and Phytopathology at the Faculty of Sciences and Technology, Cadi Ayyad University in Marrakech, continues to make significant contributions to plant research, especially regarding plant responses to biotic and abiotic stresses. His extensive research, spanning more than 20 publications in reputable scientific journals, addresses crucial issues facing agriculture in Morocco and beyond.

Dr. Dihazi's work notably includes groundbreaking studies on date palm bayoud disease, a devastating condition caused by Fusarium oxysporum albedinis, which severely impacts date palm production in southern Morocco. His research explores innovative solutions, such as the antifungal properties of plant extracts, genomic and proteomic characterization of pathogens, and the role of phenolic compounds in plant defense.

Beyond his influential work on bayoud disease, Dr. Dihazi participates in several impactful projects, including Mediterranean vineyard protection against climate change, development of plant-based antimicrobial packaging, and leveraging Moroccan entomopathogenic fungi to manage insect pests sustainably.

We are proud to recognize Dr. Dihazi's continued dedication and meaningful contributions toward advancing agricultural sustainability and resilience.

Welcome Abdelhi!
Keep Up The Good Work!

The Council's New Graduates!

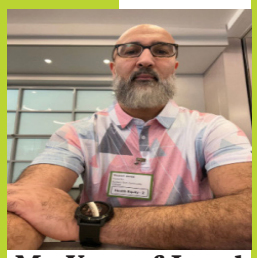
Celebrating Our Recent Graduates!

We proudly extend heartfelt congratulations to our esteemed members, Prof. Abdelmajid Kassem of Fayetteville State University and Mr. Youssef Jouad of Wake Technical Community College, who recently graduated with a Master of Science in Data Science from Eastern University. The commencement ceremony took place on Friday, May 9th, 2025, at 2:00 p.m. ET, at the prestigious Mann Center in Philadelphia, PA.

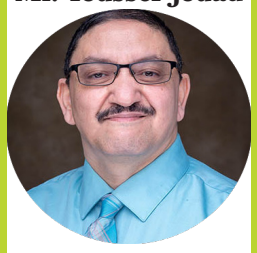
This achievement carries special significance for Prof. Kassem, who returned to graduate school 20 years after earning his Ph.D., exemplifying his unwavering dedication to lifelong learning.

Congratulations to Prof. Kassem, Mr. Jouad, and all other recent graduates for your exceptional commitment and outstanding academic accomplishments! Your continued dedication inspires us all.

The Council's Newsletter Team



Mr. Youssef Jouad



Prof. Abdelmajid Kassem

The Council's Upcoming Elections
Proposed Board of Directors: Term: 2026-2028

Raleigh, NC — The Council is preparing for an important election cycle to select our leadership team for the next three-year term (2026–2028). Elections will be held from September to December 2025, with the new board officially taking office in January 2026. Your participation is vital to shaping the future direction of our organization.

The current board is pleased to propose the following candidates for election to the upcoming board:

Position	Proposed Candidate
President	Prof. Khalid Meksem
VP-USA	Prof. Abdelmajid Kassem
VP-MENA Region	Dr. Badr Benjelloun
VP-Europe	Dr. Adnane Boualem
Secretary	Dr. Dounya Knizia
Member at Large	Dr. Naoufal Lakhssassi
Member at Large	Dr. Mohamed Boutjdir
Member at Large	Dr. Abdeslem El Idrissi

Election Timeline:

Voting Period:	September–December 2025
Announcement of Results:	Late December 2025
New Term Begins:	January 2026

Detailed instructions about voting procedures and participation eligibility will be communicated soon.

We strongly encourage all members to actively participate in these elections. Your vote and input are crucial in guiding the future leadership of our Council and ensuring continued success and growth. Stay tuned for additional updates and voting details!

The Council's Team

Research Spotlight: Unraveling the Giant Y Chromosome in *Silene latifolia*

Dr. Abdelhafid Bendahmane, a cherished member of our Council and Research Director at INRAE's Plant Sciences Institute, is a key contributor to a groundbreaking study recently published in *Science*.

Biologists have long known that the dioecious plant *Silene latifolia* harbors unusually large sex chromosomes. In this new research, Dr. Bendahmane and colleagues employed a hybrid long- and short-read genome sequencing strategy to decode the male plant's genome, uncovering for the first time a high-quality, chromosome-level assembly of its massive ~550 Mb Y chromosome.

Key Discoveries:

1. Recombination Suppression Drives Chromosome Gigantism:

The Y chromosome exhibits extensive non-recombining regions, accumulating repetitive DNA across evolutionary strata approximately 11 and 5 million years ago. The X chromosome's pericentromeric region also expanded, mirroring the Y's growth.

2. Chromosomal Rearrangements and Degeneration:

Comparative genomic analysis revealed the Y to be highly rearranged and degenerated compared to its X counterpart, shedding light on long-term evolutionary processes.

3. Candidate Sex-determining Genes Identified:

Through profiling sex-phenotype mutants, the team pinpointed candidate genes on the Y correlating with historical recombination suppression events—potential master regulators of sex determination.

These insights deepen our understanding of sex chromosome evolution in plants, placing Silene latifolia among the few angiosperms with heteromorphic sex chromosomes. The results elucidate:

- How recombination suppression shapes genomic architecture
- How repetitive sequences contribute to chromosome enlargement
- Genetic underpinnings of sex determination in plants

This landmark research also sets the stage for further exploration of do age compensation mechanisms, epigenetic patterns, and evolutionary innovation in sex chromosomes.

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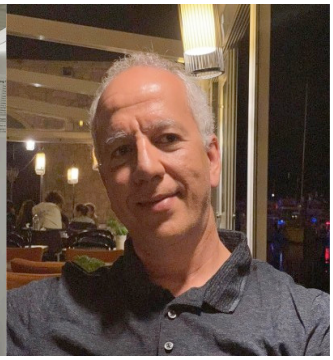
Research Spotlight: Dual-Gene Defense Against Soybean Cyst Nematode (SCN)





Our esteemed member, **Dr. Khalid Meksem**, co-led a groundbreaking study published in *Communications Biology* (PMID: 39966671) that identifies two powerful genes in soybeans, offering broad-spectrum resistance to the devastating soybean cyst nematode (SCN), a pathogen responsible for multibillion-dollar annual crop losses.

SCN (Heterodera glycines) is the foremost threat to soybean production globally. Traditional resistance, mostly via the rhg1 locus, has gradually lost effectiveness due to evolving nematode virulence. The study focused on an exotic soybean line, PI 567516C, which harbors a unique resistance locus known as qSCN10 (O), offering distinct defense mechanisms compared to rhg1 and Rhg4.

Discovery: Two Key Genes

By refining the qSCN10 region to a 142 kb segment containing 20 genes, the team pinpointed two candidates demonstrating strong nematode defense when overexpressed:

- A TGA1-related transcription factor (GmTGA1-10)
- A Shugoshin C-terminus protein (GmSCT-10)

Transgenic soybeans (the susceptible Williams 82 cultivar) expressing these genes showed dramatic reductions in nematode cysts—by 84.6% and 81.2%, respectively. In contrast, loss-of-function mutants exhibited high cyst numbers, underscoring the genes' essential roles.

Agricultural Implications

These two genes provide a new, durable resistance toolkit against SCN—independent of previously used loci, thereby diversifying breeding strategies and reducing the risk of resistance breakdown. Their discovery opens a pathway to developing soybean cultivars with more sustainable nematode defense.

Future Directions

- Field trials to evaluate performance across SCN populations and environments
- Breeding integration into commercial lines via marker-assisted selection
- Mechanistic studies to unravel how these genes activate plant defense and nematode resistance

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Board of Directors

The Current Board of Directors Were Elected For a 3-Year Term (2023-2025)

President:
Khalid Meksem, SIU, Carbondale, IL, USA
VP-USA:
Abdelmajid Kassem, FSU, Fayetteville, NC, USA
VP-Europe:
Adnane Boualem, INRA, France
VP-MEA (Middle East/Africa):
Badr Benjelloun, INRA, Morocco
Secretary & Treasurer:
Dounya Knizia, SIU, Carbondale, IL, USA
Member at Large:
Mohamed Boutjdir, SUNY, NY, USA
Member at Large:
Abdeslem El Idrissi, CUNY, NY, USA
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