OPEN ACCESS

Scientific Letters

Editorial

Progress and Insights in Health and Biomedical Research

Arthur R. G. Cortes[1], Joana Barbosa[2,3], Virgínia Gonçalves[2,3], Bruno Henriques[4,5], Bruno Sarmento[6,7], Célia Fortuna Rodrigues[2,3,8,9], Júlio C. M. Souza[5], Maria Elizabeth Tiritan[10], Nuno Vieira Brito[2,3,11], Quezia Bezerra Cass[12], Ricardo Jorge Dinis-Oliveira[2,3,13,14], Saman Warnakulasuriya[15], Victor M. Bolanos-Garcia[16] and Hassan Bousbaa[2,3,6,*]

[1] Department of Dental Surgery, Faculty of Dental Surgery, University of Malta, Msida, Malta; arthur.nogueira@um.edu.mt
[2] Associate Laboratory i4HB - Institute for Health and Bioeconomy, University Institute of Health Sciences - CESPU, 4585-116 Gandra, Portugal
[3] UCIBIO – Research Unit on Applied Molecular Biosciences, Translational Toxicology Research Laboratory, University Institute of Health Sciences (1H-TOXRUN, IUCS-CESPU), 4585-116 Gandra, Portugal; joana.barbosa@iucs.cespu.pt; virginia.goncalves@cespu.pt; nuno.brito@iucs.cespu.pt; celia.rodrigues@iucs.cespu.pt; ricardo.dinis@iucs.cespu.pt
[4] Department of Mechanical Engineering, Federal University of Santa Catarina (UFSC), Florianópolis, Brazil; bruno.henriques@ufsc.br
[5] Center for MicroElectroMechanical Systems (CMEMS-UMINHO), University of Minho, Guimarães, Portugal; jsouza@dem.uminho.pt
[6] UNIPRO – Oral Pathology and Rehabilitation Research Unit, University Institute of Health Sciences (IUCS-CESPU), 1317, 4585-116, Gandra PRD, Portugal
[7] i3S – Instituto de Investigação e Inovação em Saúde, University of Porto, Porto, Portugal; bruno.sarmento@i3s.up.pt
[8] LEPABE – Laboratory for Process Engineering, Environment, Biotechnology and Energy, Faculty of Engineering, Porto, University of Porto, Portugal
[9] ALiCE – Associate Laboratory in Chemical Engineering, Faculty of Engineering, University of Porto, Porto, Portugal
[10] Interdisciplinary Centre of Marine and Environmental Research (CIIMAR), Faculty of Pharmacy, University of Porto, Porto, Portugal; beth@ff.up.pt
[11] CISAS, Escola Superior Agrária, Instituto Politécnico de Viana do Castelo, Viana do Castelo, Portugal
[12] SEPARARE, Department of Chemistry, Federal University of São Carlos, São Carlos, SP, Brazil; qcass@ufscar.br
[13] Department of Public Health and Forensic Sciences and Medical Education, Faculty of Medicine, University of Porto, 4200-319 Porto, Portugal
[14] FOREN – Forensic Science Experts, Dr. Mário Moutinho Avenue, Nº 33-A, 1400-136 Lisbon, Portugal
[15] The WHO Collaborating Centre for Oral Cancer and Faculty of Dentistry, Oral and Craniofacial Sciences, King's College London, London, UK; s.warne@kcl.ac.uk
[16] Department of Biological and Medical Sciences, Oxford Brookes University, Oxford, UK; vbolanos-garcia@brookes.ac.uk

* Correspondence: hassan.bousbaa@iucs.cespu.pt

Received: 30 January 2026; Accepted: 02 February 2026; Published: 03 February 2026

On behalf of the Editorial Team of *Scientific Letters*, we are pleased to announce the publication of the journal's fourth issue. In 2025, *Scientific Letters* continued its mission of disseminating high-quality open-access research across the fields of biology and medicine. The two review articles and five original research papers published this year highlight both foundational biological mechanisms and pressing clinical and public health issues.

João Carvalho *et al.* performed a systematic integrative review addressing different orthodontic approaches to the traction of impacted canines [1]. Their work critically analyzed existing techniques, highlighting the advantages and limitations of surgical and orthodontic strategies, and emphasizing the importance of individualized treatment planning to optimize functional and esthetic outcomes. This review contributes valuable guidance for clinical decision-making in orthodontic practice.

In a second review, Mayara Yonezaki *et al.* explored the effects of chlorhexidine mouthwash on blood pressure [2]. Their narrative synthesis found that regular use of chlorhexidine may be associated with small but significant increases in systolic blood pressure, highlighting potential cardiovascular implications arising from alterations in the oral microbiota and nitric oxide metabolism. This work opens new perspectives on the safety profile of widely used oral healthcare products and highlights the need for further clinical investigation.

Five original research articles provided novel experimental, clinical, and epidemiological data. Juliana Faria *et al.* investigated the neurotoxic effects of co-administration of 3,4-methylenedioxymethamphetamine (MDMA) with tramadol or tapentadol, demonstrating that combined

exposure leads to significant neurological damage through serotonin-independent mechanisms [3]. Their findings offer important toxicological insights with direct implications for forensic science and public health, particularly in the context of recreational drug use and polydrug intoxication.

In a different topic, Albina Resende *et al.* examined the impact of paraquat exposure on peroxisomal enzyme activity in brown trout liver and kidney [4]. Their experimental work contributes to a deeper understanding of oxidative stress mechanisms induced by environmental contaminants and highlights the ecological and toxicological relevance of pesticide exposure in aquatic organisms.

In a large retrospective study including 10,527 participants, Rui Azevedo *et al.* analyzed the decade-long evolution of diabetes mellitus in a Northeastern Portuguese population and assessed the impact of the COVID-19 pandemic on glycemic control by comparing glycated hemoglobin (HbA1c) values across different time periods [5]. Their results revealed significant disruptions in disease management during the pandemic period, emphasizing the vulnerability of chronic patients to healthcare system disruptions and underlining the need for resilient care models in future public health crises.

In another study on Dentistry, Beatriz Pires *et al.* conducted an exploratory morphological study of mandibular molars in a Portuguese population, assessing their applicability in ancestry estimation [6]. Their findings contribute valuable data to forensic anthropology and support the role of dental morphology as a complementary tool in human identification.

Finally, Ana Veloso *et al.* investigated patient and healthcare professional perspectives on multidisciplinary cardiovascular rehabilitation programs [7]. Their qualitative analysis highlighted facilitators and barriers to program implementation, reinforcing the importance of coordinated, patient-centered strategies in optimizing rehabilitation outcomes and long-term cardiovascular care.

In 2025, *Scientific Letters* also published a special issue in the form of a Book of Abstracts. This publication compiles all abstracts that were accepted for presentation at the IV 1H-TOXRUN International Congress, held on 08-09 May 2025 in Porto, Portugal [8]. The journal will remain a partner for the upcoming edition of the Vth congress, taking place on April 23-24, 2026, in Porto, Portugal (https://1htoxrun.iucs.cespu.pt/congress2026/), this year organized as a One Health joint meeting initiative with the Portuguese Pharmaceutical Society International.

Together, the works published in 2025 illustrate the scientific diversity and clinical relevance that *Scientific Letters* seeks to promote. They reflect a strong commitment to methodological rigor, interdisciplinary research, and social impact. The Editorial Board sincerely thanks all authors, reviewers, and readers who contributed to the journal's growth during this year and looks forward to continuing to foster high-quality scientific research communication in 2026 and beyond.

Conflicts of interest

The authors declare no competing interests.

References

1. Carvalho, J.; Amaral, R.; Rocha, A.S.; Pinho, T. Different Approaches and Effectiveness in Orthodontic Traction of Impacted Canines: An Integrative Systematic Review. *Scientific Letters* **2025**, *1*, 5, doi:https://doi.org/10.48797/sl.2025.276.
2. Yonezaki, M.; Almeida, P.; de Oliveira, E.; Ramos, G.; Bezerra, G.; da Silva, M. V.; Moutinho, R.; Moreira, C.L.; Cruz, A. Evaluation of the Effect of Chlorhexidine Mouthwash on Blood Pressure: A Narrative Literature Review. *Scientific Letters* **2025**, *1*, 6, doi:https://doi.org/10.48797/sl.2025.280.
3. Faria, J.; Barbosa, J.; Queirós, O.; Dinis-Oliveira, R.J. MDMA and Tramadol or Tapentadol Co-Administration Causes Serotonin-Independent Neurological Damage. *Scientific Letters* **2025**, *1*, 3, doi:https://doi.org/10.48797/sl.2025.277.
4. Resende, A.D.; Lobo da Cunha, A.; Rocha, E. Enzyme Activities of Brown Trout Liver and Kidney Peroxisomes after Paraquat Exposure. *Scientific Letters* **2025**, *1*, 4, doi:https://doi.org/10.48797/sl.2025.278.
5. Azevedo, R.; Duro, I.; Aguiar, P.; Duro, M. Decade-Long Evolution of Diabetes Mellitus and the Impact of COVID-19 on Glycaemic Control: A Retrospective Study (2012–2022). *Scientific Letters* **2025**, *1*, 7, doi:https://doi.org/10.48797/sl.2025.290.
6. Pires, B.; Azevedo, A.; Pérez-Mongiovi, D.; Teixeira, A. Morphological Characterization of Mandibular Molars in a Portuguese Population and Its Potential Application in Ancestry Estimation: An Exploratory Study. *Scientific Letters* **2025**, *1*, 8, doi:https://doi.org/10.48797/sl.2025.287.
7. Veloso, A.; Rocha, R.; Macedo, G.; Teixeira, A.; Almeida, V. Cardiovascular Rehabilitation: Perspectives of Patients and Healthcare Professionals on the Implementation of Multidisciplinary Programs. *Scientific Letters* **2025**, *1*, 9, doi:https://doi.org/10.48797/sl.2025.282.

8. Bousbaa, H.; Silva, P.; Azevedo, R.; Gonçalves, V.; Barbosa, J. *IV 1H-TOXRUN International Congress. (2025). No Boundaries for Toxicology: One Health, One Society, One Planet: EMPOWERING THE FUTURE GENERATIONS: THE SYNERGY OF SCIENCE, EDUCATION AND SOCIETY*; CESPU Publishing: Gandra PRD, 2025; Vol. 1(Sup 1), doi:https://doi.org/10.48797/sl.2025.390