

EDITORIAL SCIRES-IT. A SPECIAL ISSUE DEDICATED TO THE INTERNATIONAL BIODIVERSITY DAY 2025

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Abstract

This Special Issue of SCIRES-IT - SCientific RESearch and Information Technology (vol. 15, SP, 2025) is dedicated to the topics of the Workshop on International Biodiversity Day 2025, held in Cavallino (Lecce, Italy) on May 30, 2025. It contains the contributions of most of the speakers, published in the order of their presentations in the programme.

Keywords

SCIRES-IT, Editorial, International Biodiversity Day, Nature, Biodiversity, Cultural diversity, Gaza

This Special Issue of SCIRES-IT - SCientific RESearch and Information Technology (vol. 15, SP, 2025)) is dedicated to the topics of the Workshop on International Biodiversity Day 2025, held on May 30, 2025 in Cavallino (Lecce, Italy), at the headquarters of CEIT (Euro-Mediterranean Centre for Technological Innovation for Cultural and Environmental Heritage and Biomedicine) of the University of Salento¹.

The Workshop² was organized by CEIT (directed by Virginia Valzano), in collaboration with the “Ennio De Giorgi” Department of Mathematics and Physics and the ISUFI Higher Education School of the University of Salento, with the Polytechnic University of Bari, the City of Cavallino and the Cavallino Museum. Italia Nostra Sud Salento, A.p.s.MusicaInGioco, A.p.s. LeTradizioni Mediterranee, the “Sigismondo Castromediano” Social Centre and CLIOedu also collaborated.

In addition to the speakers and other high-profile experts, the workshop was attended with great interest by political and academic authorities, professors, researchers, musicians,

poets, students and citizens interested in the initiative.

Among the political authorities, the mayor of Cavallino, lawyer Bruno Cicarese Gorgoni, and the president of the Province of Lecce, Dr. Stefano Minerva, spoke, guaranteeing their utmost commitment to safeguarding biodiversity and cultural diversity and to sustainable technological and socio-economic development.

The second part of the afternoon session, dedicated to 3D and VR videos on biodiversity, nature and the functioning of ecosystems, as well as live music whose sounds interacted with images and animal voices, aroused particular interest and wonder, especially among young people.

Here we mention ‘*The spectacle of Nature in VR and the sense of the sublime*’, a video made in VR by journalist and environmentalist Elio Paiano; ‘*Animals: Sound for Inter-species Dialogue*’, a musical dialogue between man and nature by musician and composer Emanuele Raganato, who uses his saxophone to converse with the sounds of owls, wolves, birds, cats and whales, creating a sound conversation that transcends the barriers between species³; ‘*The Sound of Biodiversity*’ by the

¹ CEIT - Centro Euromediterraneo di Innovazione Tecnologica per i Beni Culturali e Ambientali e la Biomedicina. <http://www.ceit-otranto.it/>

² Workshop programme: <http://www.ceit-otranto.it/index.php/notizie/9-notizie/432-giornata-internazionale-biodiversita-2025>

³ <http://www.ceit-otranto.it/images/notizie/biodiversita-corriere-salentino-animals.pdf>

inclusive social orchestra MusicalnGioco -MIG-B, made up of young people with various disabilities and conducted by Maestro A. Gargiulo⁴, who played important pieces, classical and modern music, with references to biodiversity, marine species, animals and plants.

The workshop concluded with the presentation of the award, by the University of Salento and the City of Cavallino, "*The richness of differences*" to the MusicalnGioco Association (*because, over the course of its many years of activity, it has succeeded in making music a genuine experience of inclusion, harmonising differences*), and the awards '*Sounds of Nature: The richness of differences*' to the MusicalnGioco inclusive social orchestra (*the result of intensive work with children and adolescents from all backgrounds, with the aim of promoting diversity*) and to Maestro Andrea Gargiulo (*creator and leader of youth orchestras and choirs that pursue the social goal of inclusion, and experimenter with teaching methods capable of promoting diversity*).

The 'Voice of Culture' Award was also presented to journalist Antonio Della Rocca, author of reports and audiovisuals for television; reciter of poetry and narrator of numerous video documentaries on cultural and environmental heritage (*because he is able to 'draw' with his skilful use of voice the meaning of verses, even the most remote, which words have failed to express*).

This special issue contains the highly interesting contributions of most of the speakers, published in the order of their presentations in the programme, including those of the scientists, such as Ferdinando Boero, a renowned marine biologist, internationally known for his research on marine biodiversity and ocean conservation; Michele Mossa, internationally renowned for his innovative contributions and research on ecohydraulics, a field that combines hydraulics and ecology for the protection of aquatic ecosystems; Salvatore Colazzo, an important

figure in Italian pedagogy, an internationally renowned scholar in the field of experimental pedagogy and music education, and an expert in Public History, an interdisciplinary field that deals with history and cultural heritage encompassing public participation of the community and the sharing of knowledge.

The issue also contains highly interesting interdisciplinary contributions from university professors and engineers of high scientific and professional standing on topics related to biodiversity, addressed from different angles—technological, humanistic, and scientific—highlighting the interconnections for its preservation.

The idea of dedicating a special issue of SCIRES-IT to these topics again this year arose during the Workshop, as it happened in 2024, and was further reinforced not only by the succession of extreme climate changes posing a further threat to biodiversity, but also and above all by the succession of wars and conflicts still ongoing, which have made even more evident and urgent the need to support and disseminate in a concrete manner, including through international open access publications such as SCIRES-IT, the implementation of the United Nations Global Biodiversity Framework, considered as a springboard for supporting the Sustainable Development Goals of the 2030 Agenda, which aims, among other things, to eradicate poverty, protect the planet and ensure prosperity and peace for present and future generations (Valzano, 2024).

The papers presented at the 2024 Workshop on 'Biodiversity of Sea, Sky and Earth, Research and Technological Innovation', held in Otranto Castle (Lecce, Italy), are available in the special issue of vol. 14 (2024) of SCIRES-IT, at <http://www.sciresit.it/issue/view/844>.

As has been stated on other occasions and reiterated in the editorial of the 2024 special issue,

⁴ MusicalnGioco is a non-profit association inspired by 'El Sistema' founded by A. J. Abreu and affiliated with the national 'Musica e società' system. Since 2010, it has provided lessons and musical instruments to children and young people, mainly in areas of socio-economic disadvantage, personal distress, different abilities or learning difficulties. In Apulia, it has given over 15,000 children/young people (including prisoners) the opportunity to experience the beauty of music. The project aims to positively integrate them into the group, thanks to the innovative "MusicalnGioco network teaching method" and the beauty of orchestral performance, made simple by a practical approach. Over the course of its many years of activity,

MusicalnGioco association has succeeded in making music a genuine experience of inclusion, harmonising differences. The founder and artistic director of MusicalnGioco Association is Maestro Andrea Gargiulo, a teacher at the Niccolò Piccinni Conservatory in Bari, a great creator and animator of youth orchestras and choirs that pursue the social goal of inclusion, and an experimenter in teaching methods capable of giving value to differences. Currently, 17 youth social orchestras have been created, performing interesting musical repertoires in theatres in various Italian cities, schools, conservatories, universities and town squares.

the open dissemination and immediate sharing of knowledge, activities, research results and data are fundamental to the progress of science and innovation and, in this specific case, for a greater understanding and awareness of issues related to Biodiversity, which is increasingly threatened by human activities, climate change and, in recent years, by ongoing wars and conflicts between countries, such as those between Russia and Ukraine, and between Israel and Palestine, which

destroy biological and human diversity as well as tangible and intangible cultural heritage.

Wars cause devastating environmental damage, such as deforestation and pollution, and profoundly affect populations with deep trauma, loss of life, including the lives of defenceless civilians and innocent children, famine, forced migration and loss of their cultures and traditions. (Fig. 1, 2).



Fig. 1: Gaza: Surviving bombs and hunger (Photos MSF, M. Marchiò)



Fig. 2: Gaza City (Photos MSF)

The aid and initiatives of humanitarian organisations, volunteers and doctors who risk their lives alongside their patients and must survive bombs and hunger are not enough.

'It is not just about hunger, says Mohammed Abuma Mughisib (MSF doctor in Gaza)⁵, but about the slow destruction of life, dignity and humanity. ... Using food, water and aid as weapons in this war is absolutely unacceptable.'

'This is how hunger destroys your body: in the first 6–24 hours, your blood sugar level drops. Your body burns stored glycogen to survive.

After 1–3 days, the glycogen is depleted. Fat is converted into ketones to fuel the brain, and the body enters what we call "survival mode".

Within 3–5 days, muscles begin to deteriorate. The body sacrifices its own tissue, even the heart, to survive.

This is when babies stop crying.'

Governments should use every political, diplomatic and economic tool at their disposal to stop these atrocities.

A radical and lasting cultural change is needed to safeguard ecosystems and halt and reverse the loss of biodiversity, which is essential for our very survival.

Conflicts must be prevented through diplomacy and stricter international regulations that should be respected, the environmental impact of warfare should be reduced with more sustainable technologies, and post-war ecosystem remediation and restoration programmes should be implemented.

Global awareness of the environmental consequences of war must be raised, with organisations monitoring and reporting on environmental and human damage.

In this regard, we cite the multidisciplinary research group Forensic Architecture (FA) at Goldsmiths University in London, which includes architects, software developers, filmmakers, investigative journalists, scientists and lawyers, and whose mandate is to develop, employ and disseminate new techniques, methods and concepts for investigating state and corporate violence⁶.

FA is an interdisciplinary agency operating across human rights, journalism, architecture, art and aesthetics, academia and the law.

It has conducted various research projects on conflicts, invasions and colonialism, genocides and environmental disasters in various countries, such as southern Africa, Namibia and elsewhere, drawing on oral testimonies, archival documents and fieldwork.

FA created the interactive Platform "A Cartography of Genocide, Gaza", which documents in unprecedented detail the extent and character of Israel's assault on the Gaza Strip since October 2023.

'The platform compiles evidence of thousands of acts of violence, destruction, or obstruction committed by the Israeli military against all aspects of civilian life in Gaza, including attacks on shelters, hospitals, universities, schools, cemeteries, archaeological sites, mosques and churches, fields and orchards, greenhouses, water wells, bakeries, and aid distribution. It also records Israel's abuse of humanitarian measures such as evacuation orders and 'safe zones' as tools of population displacement.

But individual military actions must be understood as interrelated; sequential or concurrent acts of destruction or displacement may generate an accumulating effect, with every action aggravating the impact of another. Uniquely, this platform invites you to explore those compound impacts by combining and overlaying multiple datasets, including the cumulative destruction of Gaza's agricultural land, to the day-by-day progress of Israel's ground invasion, to attacks on aid distribution and a new system of 'spatial control' across the region.

*Together, these datasets paint a comprehensive picture of more than a year of military assault on the fabric of civilian life in the Gaza Strip.'*⁷

We conclude this editorial by reminding readers that knowledge and protection of cultural and environmental heritage, ecosystems, and biological and human diversity are among the main objectives of the international scientific journal SCIRES-IT - SCientific REsearch and Information Technology, which focuses on multimedia technologies supporting the

⁵ Medici Senza Frontiere (MSF): <https://www.medicisenzafrontiere.it/>

⁶ Forensic Architecture: <https://forensic-architecture.org/>; <https://forensic-architecture.org/about/agency>

⁷ FA – The Cartography of Genocid: <https://gaza.forensic-architecture.org/database>

documentation, conservation, and enjoyment of cultural and environmental heritage, accessible to all.

As stated in its Manifesto, it is an eco-sustainable, diamond open access journal that combines the fundamental principles of the “*Berlin Declaration on Open Access*” with the objectives of

the “*International Convention on Biological Diversity*”; for each issue published, an environmental restoration action is carried out in protected areas through the planting of local ecotypes of native species (SCIRES-IT Manifesto, 2011).

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