1. Introduction

The 4th International Electronic Conference on Cancers (IECC 2024), organized by the MDPI journal *Cancers*, was an online event held on 6–8 March 2024. This conference aspired to bring together clinicians and scientists with diverse expertise and perspectives in cancer research to interact, exchange ideas, and form new collaborations that may lead to new advancements in scientific understanding and ultimately impact patient outcomes. IECC 2024 was dedicated to the following topics:

- Brain Metastases;
- Cancer Biomarkers;
- Cancer Immunology and Immunotherapy;
- Tumor Microenvironment;
- Molecular Cancer Biology;
- Cancer Epidemiology and Prevention;
- Cancer Therapy;
- Cancer Pathophysiology.

Advancing cancer research requires a multi-disciplinary approach involving new ideas and collaborations across various specialized areas. (i) **Brain metastases** present unique challenges, emphasizing the need for innovative therapeutic strategies. Research in this area focuses on understanding how cancer cells invade and survive in the brain and developing therapies that can cross the blood-brain barrier to target these metastatic cells effectively. Advances in treating brain metastases can significantly improve the quality of life and survival rates for cancer patients with this severe complication. (ii) **Cancer biomarkers** are important for early detection and personalized treatment. Identifying and validating these biomarkers enables the development of precise diagnostic tools and targeted therapies, which can lead to better patient outcomes and reduce the side effects of treatment. Research in this field is continually evolving, leading to more refined biomarkers that can guide therapeutic decisions and monitor disease progression and response to treatment. (iii) The evolving landscape of **cancer immunology and immunotherapy** promises breakthroughs in using the immune system to treat and manage cancer. This approach includes therapies like checkpoint inhibitors, CAR T-cell therapy, and cancer vaccines, which have shown remarkable success in treating several types of cancers. Understanding the immune system...
enables an understanding of how to effectively stimulate and sustain the immune response against cancer, overcome immune evasion by tumors, and predict which patients are most likely to benefit from immunotherapy. This field is rapidly expanding, with new discoveries continually enhancing the efficacy and scope of cancer immunotherapies. (iv) Understanding the tumor microenvironment is important for developing therapies that disrupt cancer growth. The tumor microenvironment includes immune cells, soluble factors, and the extracellular matrix, which play crucial roles in tumor growth and metastasis. Tumor cells manipulate these elements to generate a favorable environment for their progression and immune evasion. (v) Molecular cancer biology provides insights into genetic and molecular underpinnings, guiding targeted treatments. This area of research identifies mutations and signaling pathways unique to cancer cells. These insights enable the development of targeted therapies that precisely attack cancer, improving treatment effectiveness and minimizing harm to healthy tissues, thereby enhancing patient outcomes. (vi) Cancer epidemiology and prevention focuses on reducing cancer incidence through risk factor identification. By reducing the incidence of cancer through preventive measures, the overall burden of the disease can be decreased and improve public health outcomes. Epidemiological studies also provide insights into disparities in cancer incidence and outcomes, guiding efforts to address these inequities. (vii) Enhanced cancer therapy options offer hope for improved patient outcomes, while insights into (viii) cancer pathophysiology help identify mechanisms of disease. Together, these disciplines drive progress toward more effective cancer management and treatments.

2. Program and Schedule

The conference included 40 poster presentations and 21 oral presentations on these topics. The details can be found at https://sciforum.net/event/IECC2024?section=#IECC2024Program. In brief, oral presentations presented in each session provided valuable insights and opened up discussions into various aspects of cancer research, including: (i) In Brain Metastases, discussions focused on the challenges and strategies for managing cancer spread to the brain. (ii) Cancer Biomarkers session presentations included predictive tools and correlational analyses, such as the FDG PET radiomics for early chemoradiation response in cervical cancer, nomograms for gastric cancer survival, and the role of oxidative stress in renal cell carcinoma. They also highlighted genetic and galectin correlations in breast cancer. (iii) Cancer Immunology and Immunotherapy presentations included innovative approaches, such as the NLRP3 inflammasome’s role in colorectal cancer, diverse strategies in cancer immunotherapy, new agents against gliomas, CAR T-cell therapy for mantle cell lymphoma, and the impact of cholinergic signaling on immune checkpoints in colorectal cancer. They also examined differential gene expression in colitis-associated cancers. (iv) In the Tumor Microenvironment session, a pilot study analyzed infrared molecular responses in craniofacial squamous cell carcinoma. (v) Molecular Cancer Biology sessions identified critical genes and pathways, such as HSD17B12’s role in neuroblastoma susceptibility, mitochondrial metabolism in glioblastoma progression, and how simvastatin affects medulloblastoma cell migration. (vi) Cancer Epidemiology and Prevention highlighted the potential risks of polycyclic aromatic hydrocarbons in grilled marshmallows, emphasizing the link between everyday exposures and cancer risk. (vii) Cancer Therapy discussions evaluated the survival impact of lymph node removal in gastric cancer, the safety of boron neutron capture therapy for gliomas, and the promise of BNCT for metastatic spinal tumors. They also addressed noncoding regulatory mutations driving neuroblastoma. Lastly, (viii) Cancer Pathophysiology research presented new findings on USP16’s role in lung cancer, providing deeper insights into the mechanisms driving cancer development and progression.
3. Committee Members

3.1. Event Chairs

- Prof. Dr. Angeliki Magklara, University of Ioannina and Foundation of Research and Technology-Hellas, Greece;
- Dr. Shinji Kawabata, Osaka Medical and Pharmaceutical University, Japan;
- Prof. Dr. Vasso Apostolopoulos, Victoria University, Australia;
- Prof. Dr. Alfredo Conti, IRCCS Istituto delle Scienze Neurologiche di Bologna, Italy.

3.2. Session Chairs

- Prof. Dr. Alfredo Conti, IRCCS Istituto delle Scienze Neurologiche di Bologna, Italy;
- Prof. Dr. Mario Capasso, Università Degli Studi di Napoli, Italy;
- Prof. Dr. Vasso Apostolopoulos, Victoria University, Australia;
- Prof. Dr. Robert-Alain Toillon, Université de Lille, France;
- Dr. Farrukh Aqil, University of Louisville, USA;
- Dr. Ulrich Pfeffer, IRCCS Ospedale Policlinico San Martino, Italy;
- Prof. Nicola Amodio, University Magna Graecia di Catanzaro, Italy;
- Prof. Stephen G. Ward, University of Bath, UK;
- Prof. Giuseppe Viglietto, Università degli Studi “Magna Graecia” di Catanzaro, Catanzaro, Italy.

3.3. Event Committee

- Prof. Dr. Adegboyega K. Oyelere, Georgia Institute of Technology, USA;
- Prof. Dr. Ajay Pratap Singh, University of South Alabama, USA;
- Dr. Cataldo Doria, Temple University, USA;
- Prof. Dr. Georg Hempel, University of Muenster, Germany;
- Dr. Javier Rodriguez, Universidad de Navarra, Spain;
- Prof. Dr. Lisardo Bosca, CSIC-UAM, Spain;
- Prof. Dr. Rosa Maria Pascale, University of Sassari, Italy;
- Prof. Dr. Martin Hagedorn, INSERM/University of Bordeaux, Bordeaux, France;
- Professor Christos Papadimitriou, Aretaieion University Hospital National and Kapodistrian University of Athens, Greece;
- Professor Stephen Geoffrey Ward, University of Bath, UK;
- Professor Marco G. Alves, University of Aveiro, Portugal;
- Dr. Marina Pinheiro, Universidade do Porto, Portugal.

4. Speakers

4.1. Keynote Speakers

- Professor Magdalena Plebanski, RMIT University, Melbourne, Australia;

4.2. Invited Speakers

- Dr. Michela Croce, IRCCS Ospedale Policlinico San Martino, Italy;
- Dr. Giovanni Nassa, University of Salerno, Italy;
- Dr. Bruno Simoes, University of Manchester, UK;
- Dr. Annamaria Gullà, Candido Cancer Institute-IRCCS-FPO, Italy;
- Dr. Giuseppina Augimeri, University of Calabria, Italy;
- Dr. Zachary R Hunter, Harvard Medical School, USA;
- Dr. Marilena V. Iorio, ondazione IRCCS Istituto Nazionale dei Tumori, Italy;
- Professor Banafshé Larijani, University of Bath, UK;
- Professor Rajamaran Eri, RMIT University, Australia;
- Professor John Trant, University of Windsor, Canada;
- Professor Andreas Tzakos, University of Ioannina, Greece;
- Assoc. Prof. George Alexiou, University of Ioannina, Greece;
- Prof. Dr. Vivek Chavda, L.M. College of Pharmacy, India;
• Dr. Schleiermacher Gudrun, PSL Research University and Institut Curie Hospital Group, France;
• Professor Ramin Massoumi, Lund University, Sweden;
• Dr. Cirino Botta, University of Palermo, Italy.

4.3. Abstract-Selected Speakers
• Dr. Yoshiki Fujikawa, Osaka Medical and Pharmaceutical University, Japan;
• Dr. Kohei Tsujino; Osaka Medical and Pharmaceutical University, Japan;
• Valentina Serratore, “Magna Graecia” University of Catanzaro, Italy;
• Dr. Nyanbol Kuol, University of Nevada, USA;
• Ramya Ephraim, Victoria University, Australia;
• Ella Markalunas, Brown University, USA;
• Dr. Kamila Wolnica, Medical University of Silesia (SUM), Poland;
• Dr. Vincenzo Aievola, University of Naples Federico II, Italy;
• Dr. Teresa Maiorino, University of Naples Federico II, Italy;
• Dr. Maciej Maciejczyk, Medical University of Silesia in Katowice, Poland;
• Dr. Maria Victoria Niklison-Chiou, University of Bath, UK;
• Dr. Cameron K. Tebbi, Children’s Cancer Research Group Laboratory, USA.

5. Statement of Peer Review
In submitting conference proceedings to *Proceedings*, the volume editors of the *Proceedings* certify to the publisher that all papers published in this volume have been subjected to peer review administered by the volume editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a *Proceedings* journal.

• Type of peer review: single-blind;
• Conference submission management system: Sciforum;
• Number of submissions sent for review: 82;
• Number of submissions accepted: 61;
• Number of submissions published: 24;
• Acceptance rate (number of submissions accepted/number of submissions received): 74%;
• Average number of reviews per paper: 149;
• Total number of reviewers involved: 1.8.

6. Peer review Criteria and Process

7. Conclusions
The conference was a great success, featuring 40 poster presentations and 21 insightful oral presentations that discussed various aspects of cancer research. From innovative approaches in immunotherapy to novel insights into cancer biomarkers, each session enriched our understanding of cancer. We anticipate your participation in next year’s conference, where we will continue to explore groundbreaking advancements in cancer research.

Conflicts of Interest: The authors declare no conflicts of interest.

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