



Università
di Catania

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SCIENZE BIOMEDICHE
E BIOTECNOLOGICHE

BIOMETEC
a research for life

2023



Section of Anatomy, Histology and Movement Sciences

Faculty members



Velia D'AGATA
Full Professor
Section Coordinator



Carla LORETO
Full Professor



Giuseppe MUSUMECI
Full Professor



Paola CASTROGIOVANNI
Associate Professor



Salvatore GIUNTA
Associate Professor



Rosa IMBESI
Associate Professor



Alessandra AMATO
Assistant Professor



Michelino DI ROSA
Assistant Professor



Claudia LOMBARDO
Assistant Professor



Grazia MAUGERI
Assistant Professor



Luca PETRIGNA
Assistant Professor

Section of Anatomy, Histology and Movement Sciences

Laboratory of Functional Organ Anatomy

- Asbestos exposure correlated organ-diseases;
- Temporomandibular joint (TMJ) disorders;
- Biomolecular mechanisms alterations in Peyronie's disease (PD);
- Surgical anatomy of male urethra

Laboratory of Clinical Chinesiology

- Postural analysis through digital and markerless instruments to detect paramorphism and dysmorphism in healthy and pathological people;
- Performance analysis through infrared thermocamera, dynamometer, gas analyzer, and video-analysis for athletes, para-athletes, and people with pathology of different ages;
- Training and conditioning research adopting an iso-inertial machine, the whole body vibration, and other techniques for the prevention, reathletization and intervention programs

Laboratory of Neurobiology

- Molecular mechanisms involved in Neurodegenerative disease such as Parkinson Disease and Amyotrophic Lateral Sclerosis;
- Pathophysiological role of VIP family members in the brain;
- Molecular mechanisms involved in retinal degeneration during diabetic retinopathy development

Laboratory of Tissue Engineering

- Osteoarthritis and musculoskeletal conditions and the relative effects of diet, ageing and physical activity;
- Tissue engineering for tissue regeneration using mesenchymal stem cells and mechanobiology

Laboratory of Molecular Histology and Cellular Morphology

- Immune cellular differentiation;
- Molecular pathways regulation during monocyte differentiation



Section of Anatomy, Histology and Movement Sciences



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INTERNATIONAL COLLABORATIONS

Section of Anatomy, Histology and Movement Sciences



GRANTS

- PRIN 2017. New therapeutic tools to prevent diabetic retinopathy. Grant number: PRIN 2017TSHBXZ_003
- 2018 - 2028. Developing Chinese-Foreign Collaborative Undergraduate Education Program in Physical Education. Ministero dell'Istruzione della Repubblica Cinese.
- 2022. Lo sport: una meravigliosa palestra di valori. Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR). Grant number: ctrh03000c.



Section of Anatomy, Histology and Movement Sciences

Research paper selection of Biometec (2020-2023)

Modulatory activity of ADNP on the hypoxia induced angiogenic process in glioblastoma

D'Amico AG, **Maugeri G**, Magni B, Giunta S, Saccone S, Federico C, Pricoco E, Broggi G, Caltabiano R, **Musumeci G**, Reglodi D, **D'Agata V**. - Int J Oncol. 2023 Jan;62(1):14. doi: 10.3892/ijo.2022.5462. Epub 2022 Dec 9. PMID: 36484392.

Activity-Dependent Neuroprotective Protein (ADNP)-Derived Peptide (NAP) Counteracts UV-B Radiation-Induced ROS Formation in Corneal Epithelium

Maugeri G, D'Amico AG, **Giunta S**, Giallongo C, Tibullo D, Bucolo C, Saccone S, Federico C, Scollo D, Longo A, Avitabile T, **Musumeci G**, **D'Agata V**. - Antioxidants (Basel). 2022 Jan 7;11(1):128. doi: 10.3390/antiox11010128. PMID: 35052632; PMCID: PMC8773440.

Attenuation of High Glucose-Induced Damage in RPE Cells through p38 MAPK Signaling Pathway Inhibition

Maugeri G, Bucolo C, Drago F, Rossi S, **Di Rosa M**, **Imbesi R**, **D'Agata V**, **Giunta S**. - Front Pharmacol. 2021 May 7;12:684680. doi: 10.3389/fphar.2021.684680. PMID: 34025440; PMCID: PMC8138305.

Differential Vulnerability of Oculomotor Versus Hypoglossal Nucleus During ALS: Involvement of PACAP

Maugeri G, D'Amico AG, Morello G, Reglodi D, Cavallaro S, **D'Agata V**. - Front Neurosci. 2020 Aug 11;14:805. doi: 10.3389/fnins.2020.00805. PMID: 32848572; PMCID: PMC7432287.

Thermography and rasterstereography as a combined infrared method to assess the posture of healthy individuals

Roggio F, **Petrigna L**, Trovato B, Zanghì M, Sortino M, Vitale E, ... & **Musumeci G**. (2023). Scientific Reports, 13(1), 4263.

Infrared thermography for the evaluation of adolescent and juvenile idiopathic scoliosis: A systematic review

Roggio F, **Petrigna L**, Filetti V, Vitale E, Rapisarda V, & **Musumeci G**. - (2023). Journal of Thermal Biology, 103524.

Molecular Assessment of Healthy Pathological Articular Cartilages in Physically Active People: A Scoping Review

Petrigna L, Trovato B, **Roggio F**, Castorina A, & **Musumeci G**. - (2023). International Journal of Molecular Sciences, 24(4), 3662.

Running Footwear and Impact Peak Differences in Recreational Runners

Roggio F, Trovato B, Zanghì M, **Petrigna L**, Testa G, Pavone V, & **Musumeci G**. - (2022). Biology, 11(6), 818.

MacroH2A1 Immunoexpression in Breast Cancer

Broggi G, Filetti V, Ieni A, Rapisarda V, Ledda C, Vitale E, Varricchio S, Russo D, **Lombardo C**, Tuccari G, Caltabiano R, **Loreto C**. - Front Oncol. 2020 Aug 21;10:1519. doi: 10.3389/fonc.2020.01519. eCollection 2020. PMID: 32974186 Free PMC article.

ATG7 immunohistochemical expression in malignant pleural mesothelioma. A preliminary report

Rapisarda V, Broggi G, Caltabiano R, **Lombardo C**, Castorina S, Trovato A, Ledda C, Filetti V, **Loreto C**. - Histol Histopathol. 2021 Dec;36(12):1301-1308. doi: 10.14670/HH-18-396. Epub 2021 Nov 11. PMID: 34761371

Home Working and Physical Activity during SARS-CoV-2 Pandemic: A Longitudinal Cohort Study

Rapisarda V, **Loreto C**, De Angelis L, Simoncelli G, **Lombardo C**, Resina R, Mucci N, Matarazzo A, Vimercati L, Ledda C. - Int J Environ Res Public Health. 2021 Dec 10;18(24):13021. doi: 10.3390/ijerph182413021.

Dysregulation of microRNAs and tRNA-derived ncRNAs in mesothelial and mesothelioma cell lines after asbestiform fiber exposure

Filetti V, La Ferlita A, Di Maria A, Cardile V, Graziano ACE, Rapisarda V, Ledda C, Pulvirenti A, **Loreto C**. - Sci Rep. 2022 Jun 2;12(1):9181. doi: 10.1038/s41598-022-13044-0.

Resistin-like beta reduction is associated to low survival rate and is downregulated by adjuvant therapy in colorectal cancer patients

Di Rosa M, Di Cataldo A, Broggi G, Caltabiano R, Tibullo D, **Castrogiovanni P**, **Imbesi R**, Lanteri R, Salomone F, Raciti G, Li Volti G. - Sci Rep. 2023 Jan 27;13(1):1490. doi: 10.1038/s41598-023-28450-1. PMID: 36707698; PMCID: PMC9883247.

Chitinase domain containing 1 increase is associated with low survival rate and Mo macrophages infiltrates in colorectal cancer patients

Castrogiovanni P, Barbagallo I, **Imbesi R**, **Musumeci G**, Sanfilippo C, Broggi G, Caltabiano R, Tibullo D, Giallongo C, Forte S, Li Volti G, **Di Rosa M**. - Pathol Res Pract. 2022 Sep;237:154038. doi: 10.1016/j.prp.2022.154038. Epub 2022 Jul 22. PMID: 35932496.

GNG13 Is a Potential Marker of the State of Health of Alzheimer's Disease Patients' Cerebellum

Sanfilippo C, **Musumeci G**, Kazakova M, Mazzone V, **Castrogiovanni P**, **Imbesi R**, **Di Rosa M**. J Mol Neurosci. 2021 May;71(5):1046-1060. doi: 10.1007/s12031-020-01726-1. Epub 2020 Oct 15. PMID: 33057964.

Network perturbation analysis in human bronchial epithelial cells following SARS-CoV2 infection

Nunnari G, Sanfilippo C, **Castrogiovanni P**, **Imbesi R**, Li Volti G, Barbagallo I, **Musumeci G**, **Di Rosa M**. - Exp Cell Res. 2020 Oct 15;395(2):112204. doi: 10.1016/j.yexcr.2020.112204. Epub 2020 Jul 28. PMID: 32735892; PMCID: PMC7386311.