Upcoming funded project - 2026 -2027 cycle

Artificial Intelligence Models to Unravel Facial Skin Aging Variation The Rotterdam Study: Implement XAI methods to generate skin aging features & Identify Main Determinants of Variation in Facial Skin Aging

The primary goal is to apply XAI to uncover clinically interpretable skin aging sub-phenotypes—such as wrinkles, pigmented spots, perceived age, and skin laxity—and annotate the photo dataset accordingly. These annotations will support epidemiological analyses and tracking of skin aging progression across follow-up visits.

This project will develop and validate explainable AI (XAI) algorithms to identify and characterize facial sub-phenotypes of skin aging using standardized digital facial photos from the Rotterdam Study (RS). The RS is a population-based cohort of individuals aged 40+ who undergo health assessments every 3–5 years, with linked regional and national healthcare data. The dataset includes clinical and biological information, including OMICs, and nearly 10,000 standardized facial images, many from the same participants over time, enabling longitudinal analysis of skin aging.

MEET THE RESEARCHER

DR. LUBA MILENA PARDO CORTES

Luba Milena Pardo Cortes, MD, PhD, is an Assistant Professor of Dermatology at Erasmus Medical Center, Rotterdam. A genetic epidemiologist, she leads large-scale OMICs research on genetic and environmental determinants of skin biology, especially skin aging. She coordinates dermatological epidemiology in two major population-based cohorts at Erasmus MC and has coauthored over 50 publications on skin aging. She supervises PhD students in dermatological genetics and has recently contributed to machine learning studies in top dermatology journals, including work featured in the top 10% of dermatological publications.

RESEARCH CONDUCTED BY

Erasmus MC
University Medical Center Rotterdam

Upcoming funded project - 2026 -2027 cycle

#**Skinclusive Futures:** A Gamified Pilot Project to Protect Teens in India from Skin Bleaching, Harmful Skincare Practices, and Digital Beauty Pressure

India, home to the world's largest adolescent population, faces a rising crisis in which teens (ages 12–18) are exposed to both chemical and digital harms as a result of aggressive marketing and promotion of skin lightening products.

Despite global calls to restrict or fully eliminate ingredients such as mercury and corticosteroids, these products remain readily available due to a lack of regulation. The result is a double harm: 1. Chemical harm: dermatological sequelae such as steroid acne, rosacea-like eruptions, atrophy, and exogenous ochronosis. 2. Psychological harm: body dissatisfaction, stigma, shame, and erosion of self-worth. Yet, systematic evidence on the prevalence of harmful skincare among teens, their clinical outcomes, and the psychosocial drivers remains absent in India and across LMICs.

This project directly addresses this gap. It will generate the first teen-focused dataset in India, document complications clinically, and explore social and digital pressures through focus groups. Most importantly, it will pilot gamification as a prevention strategy — a method proven in other areas of teen health (nutrition, hygiene, sexual health) to improve engagement, recall, and behavior change. By designing interactive workshops, peer-led challenges, and digital quiz campaigns, the project will test whether gamification can dismantle toxic beauty ideals and promote healthier, more inclusive attitudes toward skin. This India-based pilot is intended as a proof-of-concept, laying the foundation for global scale-up. Through dissemination at IMCAS and ILDS platforms, findings will inform international guidelines, community interventions, and policy advocacy —positioning our work as an important step in global skin health safety.

MEET THE RESEARCHER

DR. MONISHA MADHUMITA

Dr. Monisha Madhumita is a board-certified dermatologist and Assistant Professor at Saveetha Medical College & Hospital, Chennai, specializing in pigmentation biology, skin of color, and global skin health. Her research lies at the intersection of dermatology, ethics, and digital health, with a strong focus on vulnerable populations—particularly children and adolescents—and on developing locally grounded, globally relevant, youth-friendly interventions, including gamification, to address harmful skincare practices and toxic beauty ideals.

RESEARCH CONDUCTED BY

ESCAD
European Society for Cosmetic And Aesthetic Dermatology

Ongoing funded projects
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2024 -2025 cycle

Prospective Evaluation of CELT: Integrating Laboratory Analyses and 3D Imaging to Assess a Novel Fat Grafting Method

The CELT (Cell-Enriched Lipotransfer) project is a collaboration between Caritas Hospital St. Josef, University of Regensburg, and the Department of Plastic Surgery led by Prof. Dr. Lukas Prantl. This study investigates a next-generation fat grafting method that enriches adipose tissue with adipose-derived stem cells (ADSCs) to improve graft retention and promote tissue regeneration.

Research Purpose and Strategy

The CELT technique combines water-jet-assisted liposuction, centrifugation, and intersyringe processing to produce a stem cell–enriched fat graft. The graft material undergoes extensive laboratory analysis, including:

- Metabolic vitality testing
- Growth factor expression profiling
- Histological characterization
- Colony-forming unit (CFU) assessment

These analyses are designed to assess the regenerative potential of the enriched grafts. A central component of the study is the use of Vectra 3D surface imaging, enabling precise volumetric measurement of graft retention and remodeling over time. The integration of advanced 3D imaging with laboratory-based metrics provides a robust, objective, and quantifiable assessment of graft performance.

Goals and Expected Outcomes

CELT aims to optimize regenerative fat transfer by correlating measured indicators of graft quality with clinical outcomes. The study seeks to define the biological and clinical advantages of ADSC-enriched fat grafts, including improved retention rates and enhanced tissue regeneration.

Current Status

All regulatory requirements have been fulfilled, and patient recruitment has commenced, marking the start of the clinical phase. The research team plans to present interim results at the upcoming IMCAS World Congress in January 2026, reflecting the first clinical translation of this evidence-based, regenerative fat transfer method.

MEET THE RESEARCHER

DR. KONSTANTIN FRANK

Dr. Konstantin Frank is a plastic surgeon and researcher, currently in his final year of residency. He trained at the University Hospital of Munich, completed a facial fellowship in Spain, and now divides his work between reconstructive and aesthetic surgery. He has long been interested in facial anatomy, publishing extensively in the field. His current research focuses on “fat grafting” — optimizing how fat is harvested, prepared, injected, and assessed, aiming to better quantify outcomes via 3D imaging and lab analysis.

Ongoing funded projects
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2024 -2025 cycle

EXOCOMPARE: Biological and Physico-Chemical Comparison of Available Exosomes Products Available on the Market

The EXOCOMPARE project, conducted at Aix-Marseille University in collaboration with the C2VN research unit (Prof. Dignat-George) and the Pharmaceutical Bioengineering Department (Prof. Piccerelle), addresses the need for independent, evidence-based evaluation of exosome-based products. Despite their increasing commercial availability, robust and impartial evidence of their biological efficacy and safety remains scarce.

Research Purpose and Strategy

EXOCOMPARE aims to generate independent in vitro data on exosome products currently available on the market. The project objectives are:

- Characterization: Define size distribution, zeta potential, surface marker phenotype, and RNA cargo via sequencing.
- Biological Efficacy: Evaluate anti-inflammatory properties using a keratinocyte inflammation model and assess impact on skin aging using a fibroblast premature aging model. Results will be benchmarked against established active compounds with known anti-inflammatory or pro-collagen activity.

This approach provides a rigorous, evidence-based assessment of whether exosomes act as a novel biologically active ingredient or if their effects are overstated.

Goals and Expected Outcomes

The project aims to deliver independent, reproducible results that can guide clinical practice and regulatory decisions. It seeks to provide a clear scientific basis for the composition, safety, and efficacy of exosome-based products.

Current Status

- Nearly ten exosome products from human, plant, and bovine sources have been collected, reflecting market diversity.
- Standardized in vitro protocols have been established, with validated induction conditions for inflammation and premature aging models in human primary cells.
- Next steps include exhaustive characterization, RNA sequencing, and functional testing. Results will be presented at the IMCAS Congress in January 2026, followed by a peer-reviewed publication later that year.

Support from IMCAS Fund has enabled acquisition of specialized equipment, recruitment of a dedicated research engineer, Analucia Conca, and assembly of a diverse product pool, ensuring scientific rigor and continuity.

MEET THE RESEARCHER

PROF. JEREMY MAGALON

Professor Jeremy Magalon is an Associate Professor in pharmaceutical bioengineering at the Faculty of Pharmacy, Aix-Marseille University, and a hospital practitioner at the Cell Therapy Center of AP-HM. He holds a PharmD, a Master's in Tissue, Cellular and Genetic Biology, and a PhD focused on vascular stromal fraction from adipose tissue. A regenerative medicine specialist, he has authored over 80 publications and is a prominent figure in cell-based regenerative therapy research.