

Georgios Koronis, Ph.D.

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Assistant Professor, Concept & Preliminary Product Design

Academic experience

2022-Present. Course lead for Product Design I & II and Detailed Product Design in the Undergraduate Design Studios (winter-spring semesters) | University of the Aegean (Greece)

Lecturing Master's courses for the Integrated Product and Design & Innovation Program: <https://ipdi.aegean.gr/>

2021-Present. Design Theories & Methodologies | University of the Aegean (winter semester)

2021-Present. Ideation and Preliminary Design | University of the Aegean (winter semester)

2021-Present. Detailed Product Design (spring semester)

Assisting, lecturing, managing student assignments, and organizing class material for graduate students

2020 - Design Science | Singapore University of Technology and Design (Singapore)

2018 - Introduction to Design | Singapore University of Technology and Design (Singapore)

Research Fellow at SUTD-MIT International Design Centre, Singapore

Execute research in areas of design creativity, innovation, and composite materials design and development

- Explore the impact of design brief framing and input data on creative outcomes in inclusive design research
- Deliver frameworks for design innovation methods and principles using specific opportunity statements
- Examine composite material design, focusing on modifications, cost drivers through simulation modeling, and materials screening via experimental testing for environmental performance

Duties and Achievements

- Actively engaged as an affiliate of the Design Innovation team, facilitating design thinking workshops in collaboration with industry, military, and Design Education Summits.
- Planned and executed workshops on composite manufacturing, incorporating simulation and testing components
- Esteemed scholar in engineering design with diverse research interests, spanning design science, creativity, ideation, material and technology selection, composite characterization, sustainable design, and cost modeling
- Accumulated 1900 citations for published works in the fields of design creativity and material science

Research Interests

Design thinking and design creativity

Collaborative design

Design theories and ideation methodologies

Inclusive design

Materials characterization and technology selection

Sustainable Design

Manufacturing cost and environmental footprint modeling

Education

03/2014

PhD Degree in Engineering Design and Advanced Manufacturing | MIT Portugal, Portugal

Received a full scholarship in collaboration with the Massachusetts Institute of Technology and three major Engineering oriented Portuguese institutions. Publications that followed my dissertation on "Green composites for automotive applications" attracted significant interest from the scientific community.

02/2009

Diploma in Product Design Engineering | University of the Aegean, School of Design, Greece

Throughout my academic curriculum, I gained exposure to methodological tools for product development and detailed engineering design for commercial products. My diploma thesis, focusing on "Ergonomic analysis and optimization of a dental unit" received the highest grade honor.

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Professional Experience

05/2014 - 12/2015

Industrial Designer at Stand Art Design S.A, Athens Greece

Oversaw end-to-end product development, encompassing concept generation, image rendering, sample preparation, production planning, and the design of instructional manuals. Ensured the commercial scalability of display, custom exhibition stands, and point-of-sale stands.

02/2013 - 05/2013

Research Intern - Ancel Tecnologia em Compositos Plasticos, Brasil

Carried out simulation and fabrication of composite parts for assembling

06/2013 - 09/2013

Process Cost Modeling Analyst - Massachusetts Institute of Technology, USA

Carried out research on projecting cost drivers and overall budgets for structural automotive parts

11/2007 - 11/2008

2D & 3D Modeler at Talent S.A, Athens, Greece

Designed and developed CAD models and realistic rendered images for conference exhibits. Generated synthesized images, including photorealistic 2D and 3D models, utilized in virtual museum tours and private art collections.

10/2005 - 7/2006

R&D Design Engineer Eval S.A, Athens Greece

Lead the R&D department to design and develop naval equipment currently used in shipping industry. Generated potential concepts and prototypes using 2D drafting and 3D modeling, assuring commercial viability for manufacturing. Liaised with manufacturers the mold suppliers to control revisions and obtain tooling.

Competences

Product Development

Inclusive and ergonomic design, detailed technical design and prototyping of injection, blow, and resin transfer molded parts

Research Approaches

Experienced investigator in knowledge-based manufacturing, understanding and solving of design associated problems and materials performance

Project Economic Evaluation

Constituents cost assessment, cost drivers identification throughout simulation modeling techniques

Materials Screening

Support of materials selection and substitution decisions and experimental testing for mechanical behavior acquisition

Environmental Analysis

Overall energy/CO² footprint via software simulation

Skills



3D Modeling and Simulation

SolidWorks: Expert
AutoCAD: Expert
PTC Creo: Intermediate
COSMOSworks FEA: Basic Knowledge
ANSYS: Good Knowledge
CES Material Selector: Intermediate



Image Processing

Cinema 4D: Good Knowledge
3DS Max: Good Knowledge
Photoshop: Good Knowledge
Illustrator: Good Knowledge
InDesign: Good Knowledge



Languages

English: Fluent
Portugues: Fluent
French: Intermediate
Greek: Mother tongue

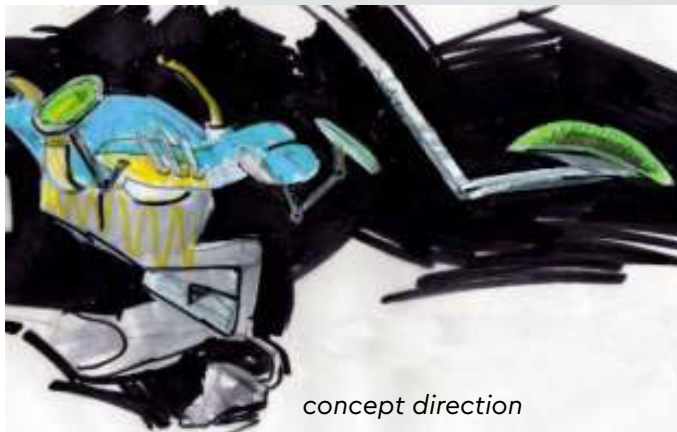
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DESIGN ENGINEER, RESEARCHER AND PAINTER

Transform ideas into products by integrating new technologies, science, and the arts, developing engineering solutions in both product and industrial design across various applications. Additionally, I am keen on exploring how individuals generate innovative solutions

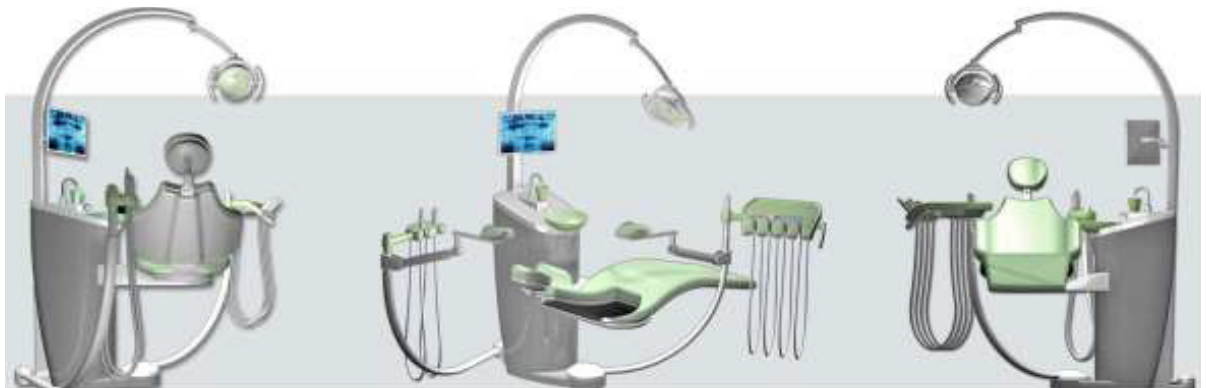
POR
TFOL
LIO

Ergonomic analysis and optimization of a dental unit

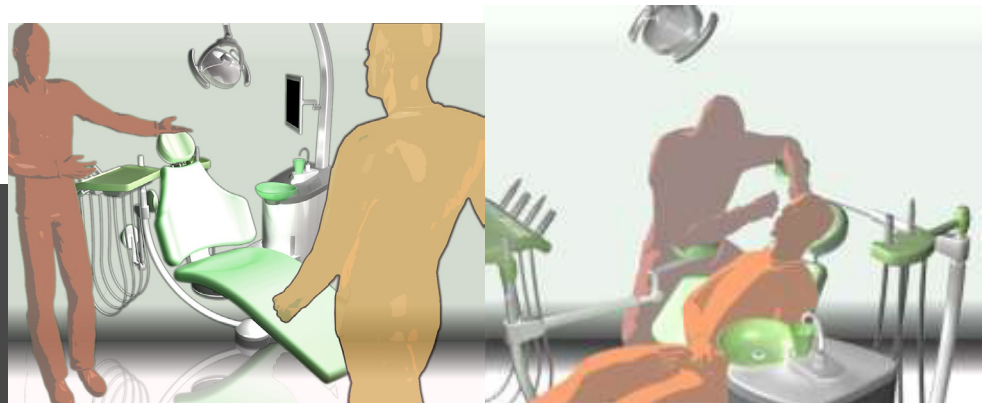


Concept: Ergonomic analysis and design proposal

A novel engineered dental unit designed to tackle musculoskeletal issues of doctors' bad posture. A set of hydraulic supports were designed for dentist's forearms. The innovative design significantly reduced static load on trapezoid and forearm muscles, validated through video recordings and visual observations in diverse dental office settings.



Rendering Views



Storyboard

RESEARCH

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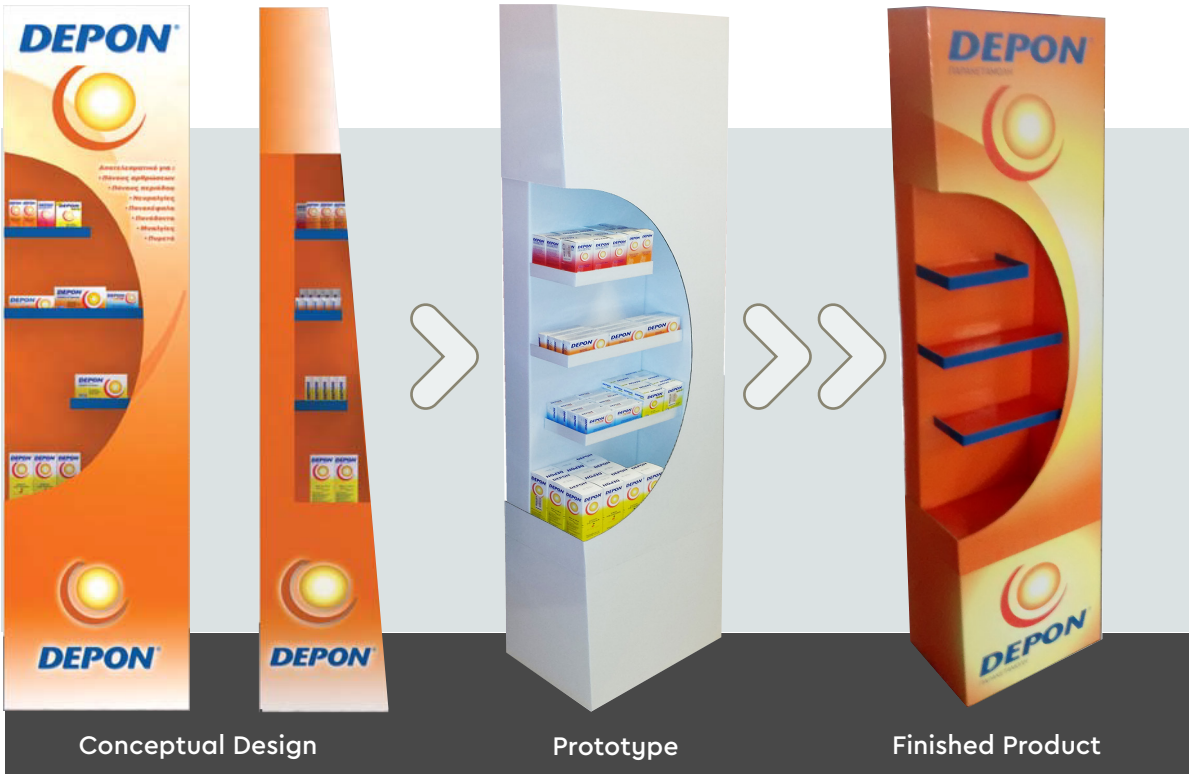
Exhibition Stand Displays

Design-Print-Exhibit

Concept: Floor and Counter point of sale

Materials: Cardboard, polystyrene, wood

POS display stands for F&B and supermarkets (wood, plastic, cardboard), and customized exhibition stands for modular and scalable applications. Customized displays to help brands capture customers' eye while also combining maximum retail space. The following images showcase real life products manufactured for supermarkets and pharmacies.



Developed Stand Display

PRODUCT DESIGN



Showcasing expertise in creating visually compelling representations of dock stations from various angles.

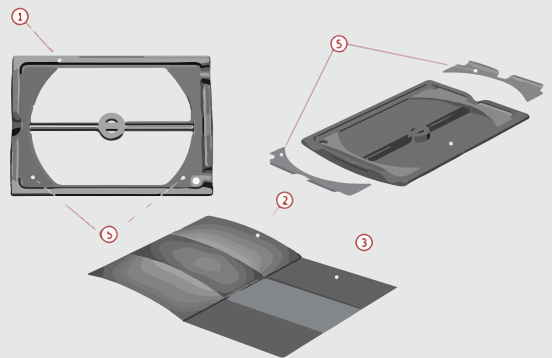


Tablet Dock Station

Turning your iPad into a natural extension of your body

Concept: Curved back with iconic lighting port
Materials: Polycarbonate, leather, stainless steel

A new generation of alternative personal accessories (tablet cases, folders, wallets, etc). The design brief required a streamlined premium product using high-end and lightweight materials over a lifetime.



The shell case transforms how you use your iPad. It fits the contours of your body, adapting to every position to give you complete freedom in how you work, play and relax with your iPad. It is not just a case or a stand – it is a protective, ergonomic shell that gives you the optimal iPad experience. Anytime. Anywhere.



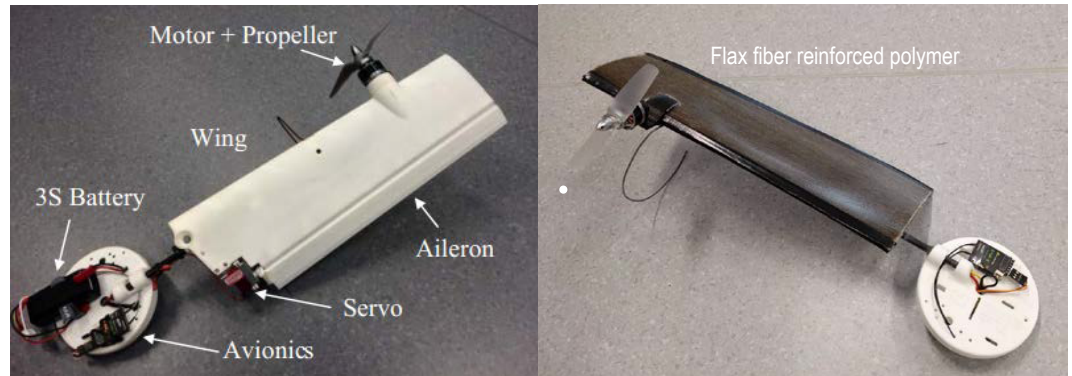
Executed landing page advertisements, incorporating variant color schemes to enhance visual appeal and user engagement.

Aerial Craft Design

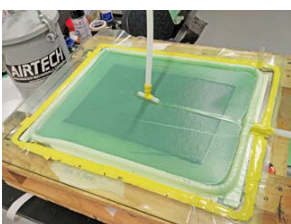
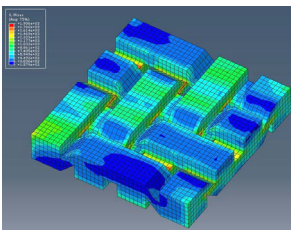
Design for mechanical properties optimization

Concept: Composite for replacing 3D printed plastic
Materials: Reinforced flax polymer

A prototype using natural fibers to replace a plastic counterpart was designed, fabricated and test flown. The fiber composites implemented on the structural frame/wing of a novel nature-inspired aerial craft. A styrofoam block has been machined into a two-set mold to obtain the appropriate cavities for producing the two halves of the monocopter blade.



Additive manufacturing wing (left) and composite wing via vacuum infusion (right)

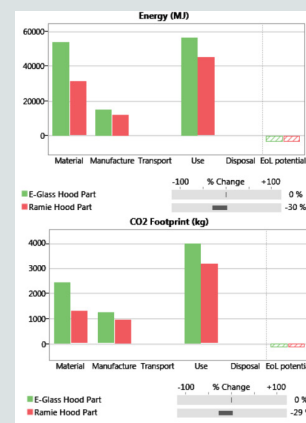


Conducted tensile and bending tests to assess the impact of varying volume fiber loading, coating applications, and weathering effects on the material properties.

Composite Hood Manufacturing

Concept: Green biobased hood
Materials: Epoxy and natural fibers

Conducted the development of composite sheet panels utilizing thermosetting Resin Transfer Molding (RTM) techniques. Employed polyester and innovative bio-polyester resin, incorporating ramie woven fabrics for enhanced structural



Environmental performance



Scientific book editing

The outcome of this study attracted attention in the scientific community- and I was invited to prepare an edited book on the field of composite materials by Elsevier Publishers.



Naval Accessories

Design for manufacturing
Materials: ABS, stainless steel , nylon

At EVAL S.A, I spearheaded the design and engineering of multiple products, specializing in marine equipment and yacht accessories. In addition to the creative process, I took on the responsibility of liaising to secure tooling and overseeing revisions

Design for manufacturing 3D models

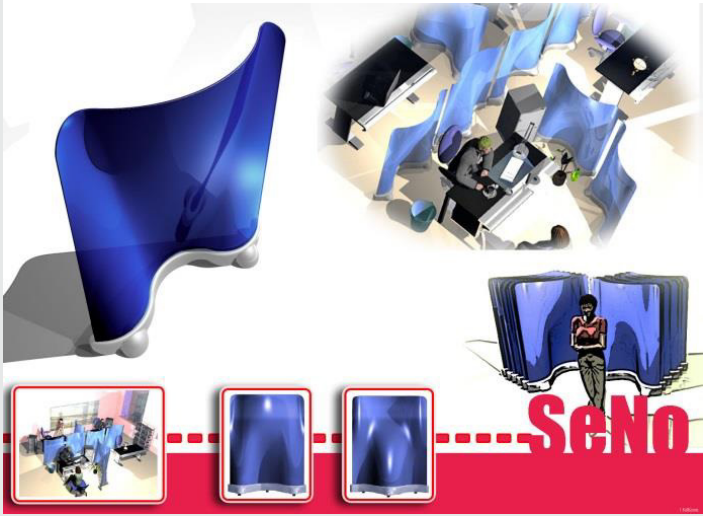


Sketch idea and finalized 3D model

Consumer products

Conceptual designs
Materials: Polycarbonate plastic, wood, stainless steel, fabric

Conceptual ideas development for international office and house furniture design competitions. Working within student teams, our efforts were awarded a 2nd prize and laudation. I consistently contributed to successful projects in teams of two to three individuals.

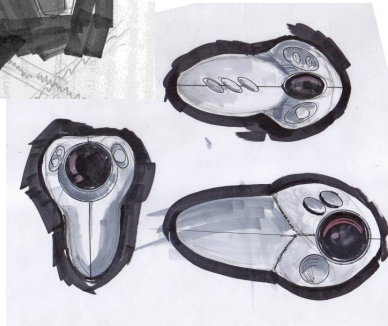




Oil Painting in canvas

Interests and Hobbies

One of my passions is painting and hand sketching. My art pieces have been featured and sold in solo and group exhibitions.



Hand Sketching / Drawing