

Table of Contents

3D Food Printing in Museum Makerspaces: Creative Reinterpretation of Heritage

Kaja Antlejš, Robert Leen, Angelina Russo

Pages 1-7, dx.doi.org/10.18502/keg.v2i2.588

3D Printed Medical Model to Resolve Cleft Alveolus Defect: A Case Study

Santosh Kumar Malyala Kumar Malyala

Pages 8-14, dx.doi.org/10.18502/keg.v2i2.589

3D Printing of a Photo-thermal Self-folding Actuator

Ali Zolfagharian, Abbas Z. Kouzani, Bijan Nasri-Nasrabadi, Scott Adams, Sui Yang Khoo, Michael Norton, Ian Gibson, Akif Kaynak

Pages 15-22, dx.doi.org/10.18502/keg.v2i2.590

3D Printing of Food for People with Swallowing Difficulties

Abbas Z. Kouzani, Scott Adams, Daniel J. Whyte, Russell Oliver, Bronwyn Hemsley, Stuart Palmer, Susan Balandin

Pages 23-29, dx.doi.org/10.18502/keg.v2i2.591

Aboriginal Voices and Inclusivity in Australian Land Use Country Planning

Gareth Powell, Shay McMahon, David Jones

Pages 30-36, dx.doi.org/10.18502/keg.v2i2.592

Advanced Auricular Prosthesis Development by 3D Modelling and Multi-Material Printing

Mazher Iqbal Mohammed, Joseph Tatineni, Brenton Cadd, Greg Peart, Ian Gibson

Pages 37-43, dx.doi.org/10.18502/keg.v2i2.593

Application of Emotional Design to the Form Redesign of a Midwifery Training Aid

Jianqiu Mao, Ben Horan, Helen Forbes, Stephen Smilevski, Tracey Bucknall, Cate Nagle, Diane Phillips, Ian Gibson

Pages 44-50, [dx.doi.org/10.18502/keg.v2i2.594](https://doi.org/10.18502/keg.v2i2.594)

Authenticity in Product Development

Per Kristav, Olaf Diegel

Pages 51-58, [dx.doi.org/10.18502/keg.v2i2.595](https://doi.org/10.18502/keg.v2i2.595)

Biophilic Design Applications: Putting Theory and Patterns into Built Environment Practice

Paul Downton, David Jones, Josh Zeunert, Phillip Roös

Pages 59-65, [dx.doi.org/10.18502/keg.v2i2.596](https://doi.org/10.18502/keg.v2i2.596)

Building a Case for an International Design Centre in Geelong

Meghan Kelly, Russell Kennedy

Pages 66-72, [dx.doi.org/10.18502/keg.v2i2.597](https://doi.org/10.18502/keg.v2i2.597)

Shape Optimisation of a Snowboard Binding Highback. A Case Study of Generative Design Process Comparison

Robert Leen

Pages 73-83, [dx.doi.org/10.18502/keg.v2i2.598](https://doi.org/10.18502/keg.v2i2.598)

Critical Buckling Load for Lattice Column Elements with Variable Dimensions

Ahmad Alghamdi, Martin Leary, Ma Qian, Wei Xu, Milan Brandt

Pages 84-90, [dx.doi.org/10.18502/keg.v2i2.599](https://doi.org/10.18502/keg.v2i2.599)

Critical Design Aspects of Maternity Support-Garments and its Contemporary Perspective

Carolina Quintero Rodriguez, Anna Anisimova, Sean Ryan, Olga Troynikov

Pages 91-97, dx.doi.org/10.18502/keg.v2i2.600

Custom Design & Fabrication of 3D Printed Cast for Ankle Immobilisation

Guruprasad Kuppu Rao, Tanmay Shah, Vijay Dayanand Shetty, B. Ravi

Pages 98-103, dx.doi.org/10.18502/keg.v2i2.601

Customised Design of a Patient Specific 3D Printed Whole Mandible Implant

Mazher I. Mohammed, Angus P. Fitzpatrick, Ian Gibson

Pages 104-111, dx.doi.org/10.18502/keg.v2i2.602

Depth Estimation of an Underwater Object Using a Single Camera

Benjamin Champion, Mo Jamshidi, Matthew Joordens

Pages 112-119, dx.doi.org/10.18502/keg.v2i2.603

Design and Fabrication Considerations for Three Dimensional Scaffold Structures

Mazher Iqbal Mohammed, Parminder Singh Badwal and Ian Gibson

Pages 120-126, dx.doi.org/10.18502/keg.v2i2.604

Design of 3D knitted Structures for Impact Absorption in Sportswear

Rajkishore Nayak, Sinnappoo Kanesalingam, Arun Vijayan, Lijing Wang, Rajiv Padhye, Lyndon Arnold

Pages 127-134, dx.doi.org/10.18502/keg.v2i2.605

Design of a Patient Specific, 3D printed Arm Cast

Angus P Fitzpatrick, Mazher Iqbal Mohammed, Paul K Collins, Ian Gibson

Pages 135-142, [dx.doi.org/10.18502/keg.v2i2.607](https://doi.org/10.18502/keg.v2i2.607)

Design & Manufacturing of Implant for reconstructive surgery: A Case Study

Manmadhachary A, Santosh Kumar Malyala, Ravi Kumar Y., Haranadha Reddy M., Adityamohan Alwala

Pages 143-149, [dx.doi.org/10.18502/keg.v2i2.608](https://doi.org/10.18502/keg.v2i2.608)

Detection of Large Bodies of Water for Heterogeneous Swarm Applications

Benjamin Champion, Patrick Benavidez, Mo Jamshidi, Matthew Joordens

Pages 150-157, [dx.doi.org/10.18502/keg.v2i2.609](https://doi.org/10.18502/keg.v2i2.609)

Digital Laboratory Experiences: Creating Videos for Undergraduate Engineering Practical Sessions

Liam Lyons, Matthew Joordens

Pages 158-164, [dx.doi.org/10.18502/keg.v2i2.610](https://doi.org/10.18502/keg.v2i2.610)

Generative Design: What it is? How is it being used? Why it's a game changer

Matthew McKnight

Pages 176-181, [dx.doi.org/10.18502/keg.v2i2.612](https://doi.org/10.18502/keg.v2i2.612)

Healing the "Scar" of the Landscape: Post-Mining Landscape in Anglesea

Yang Su, David Jones

Pages 182-189, [dx.doi.org/10.18502/keg.v2i2.613](https://doi.org/10.18502/keg.v2i2.613)

Hybrid Environmental-Media Facades

Jules Moloney, Anastasia Globa, Rui Wang

Pages 190-196, dx.doi.org/10.18502/keg.v2i2.614

IOT, Industry 4.0, Industrial IOT... Why Connected Devices are the Future of Design

Matthew McKnight

Pages 197-202, dx.doi.org/10.18502/keg.v2i2.615

Knowledge of Making Life: Design Pattern for Regenerative-Adaptive Design

Phillip Roös, David Jones

Pages 203-210, dx.doi.org/10.18502/keg.v2i2.616

To Develop and Evaluate Children's Cognitive Development through An AR-Playful-Learning Approach

Xinyi Yang, Stephen Jia Wang

Pages 211-218, dx.doi.org/10.18502/keg.v2i2.617

Micro-Robotic Cell Injection Training in a CAVE

Syafizwan Faroque, Ben Horan, Michael Mortimer, Mulyoto Pangestu

Pages 219-226, dx.doi.org/10.18502/keg.v2i2.618

Recoding Product Design Education: Visual Coding for Human Machine Interfaces

James Novak, Jennifer Loy

Pages 227-233, dx.doi.org/10.18502/keg.v2i2.620

A Low Carbon Footprint Approach to the Reconstitution of Plastics into 3D-Printer Filament for Enhanced Waste Reduction

Mazher Iqbal Mohammed, Meera Mohan, Anirudra Das, Mitchell D. Johnson, Parminder Singh Badwal, Doug McLean, Ian Gibson

Pages 234-241, [dx.doi.org/10.18502/keg.v2i2.621](https://doi.org/10.18502/keg.v2i2.621)

Relevé: An at-home Ballet Self-Learning Interactive System

Cenzi Wang, Stephen Jia Wang

Pages 242-248, [dx.doi.org/10.18502/keg.v2i2.622](https://doi.org/10.18502/keg.v2i2.622)

Scaled Physical Prototyping of Construction Processes Using 3D Printing

Mitchell D. Johnson, Paul K. Collins

Pages 249-257, [dx.doi.org/10.18502/keg.v2i2.623](https://doi.org/10.18502/keg.v2i2.623)

Scheduling Algorithm for Real-Time Embedded Control Systems using Arduino Board

Gokul Sidarth Thirunavukkarasu, Ragil Krishna

Pages 258-266, [dx.doi.org/10.18502/keg.v2i2.624](https://doi.org/10.18502/keg.v2i2.624)

Segmentation and Feature Extraction of Human Gait Motion

Nicholas de Boer, Hamid Abdi, Michael Fielding, Saeid Nahavandi

Pages 267-273, [dx.doi.org/10.18502/keg.v2i2.625](https://doi.org/10.18502/keg.v2i2.625)

Smart Chair for Monitoring of Sitting Behavior

Mengjie Huang, Ian Gibson, Rui Yang

Pages 274-280, [dx.doi.org/10.18502/keg.v2i2.626](https://doi.org/10.18502/keg.v2i2.626)

Smartphone-Based Wireless Operated Milliliter-Scale Bioreactor

Daniel John Whyte, Scott Adams, Muhd Nazrul Hisham Zainal Alam, Abbas Z. Kouzani

Pages 281-288, dx.doi.org/10.18502/keg.v2i2.627

Striving for a Cleantech Future, One Product at a Time

Tina Perfrement, Kevin Foard, Robert Pascoe, Stefan Maric

Pages 289-296, dx.doi.org/10.18502/keg.v2i2.628

Thermal Stress Flow Analysis in Fabrication of Acetabular Shells Using SLM

Amir Mahyar Khorasani, Ian Gibson, Moshe Goldberg, Mohammad Masoud Movahedi, Guy Littlefair

Pages 297-307, dx.doi.org/10.18502/keg.v2i2.629

Urbanheart Surgery – a Collaborative Interdisciplinary Design Studio

Rollo J., Esteban Y.

Pages 308-318, dx.doi.org/10.18502/keg.v2i2.631

Astronaut Training using Virtual Reality in a Neutrally Buoyant Environment

Timothy Everson, Christopher McDermott, Aaron Kain, Cesar Fernandez, Ben Horan

Pages 319-327, dx.doi.org/10.18502/keg.v2i2.632

Wearable Smart Device Incorporating Real-Time Clock Module and Alcohol Sensor

David Ng

Pages 328-333, dx.doi.org/10.18502/keg.v2i2.633

Whose Job is it? 3D Scanning Design for Innovation

Chris Little, Jennifer Loy

Pages 334-341, [dx.doi.org/10.18502/keg.v2i2.634](https://doi.org/10.18502/keg.v2i2.634)

Qualitative Observations on the Design of Sports Bras for Wear Under Body Armour

Sara Elizabeth Niemczyk, Lyndon Arnold, Lijing Wang

Pages 342-352, [dx.doi.org/10.18502/keg.v2i2.634](https://doi.org/10.18502/keg.v2i2.634)