

# **Pedorthic Information Modeling: Revolutionizing Orthopedic Footwear with 3D Printing and Computational Design**

Developed by footwear engineer Daniel Petcu, Pedorthic Information Modeling (PIM) revolutionizes the design of orthopedic footwear by combining parametric design principles with 3D printing. This innovative approach allows for fully customizable, functional, and stylish medical footwear, overcoming the limitations of traditional hand-made methods.

---

# **The Katajanokan Laituri Façade: Computational Design Meets Nordic Timber**

The Katajanokan Laituri in Helsinki showcases a groundbreaking fusion of timber construction and computational design, with Geometria Architecture crafting a complex, curved façade that ensures both structural integrity and aesthetic continuity while optimizing the fabrication process.

---

# **The Yamma Pedestrian Bridge: Enhancing Urban Infrastructure Through Rhino.Inside.Revit**

Spearheaded by Robert Bird Group, the Yamma Pedestrian Bridge in Brisbane exemplifies cutting-edge engineering and urban connectivity driven by parametric design. This project sets a new standard for efficiency and collaboration in urban infrastructure, revolutionizing bridge design with dynamic, adaptable models and seamless data exchange through Rhino.Inside.Revit.

---

# **The Aether Concept Car's Revolution in Electric Vehicle Design**

Aether, a full-scale electric concept car designed by SCAD students, combines intricate parametric design with advanced additive manufacturing to craft its interior and exterior components. Using tools like Rhino 8, Grasshopper, and Multi-Jet Fusion technology, the team created flexible, resilient structures and intricate lattice patterns.

---

# Bringing Concepts to Life: Parametric Wall Creations at UDLAP

Students at Universidad de las Américas Puebla drew inspiration from oceanic and solar themes to transform abstract concepts into striking wall pieces using parametric design.

---

# Optimizing with Grasshopper and DefinitionLibrary: Arup's Solar-Efficient Community

Arup's sustainability team utilized digital tools like Grasshopper and DefinitionLibrary to optimize house placements for a gated community, enhancing passive solar performance and creating a data-driven master plan that balances design preferences with energy efficiency.

---

# Sea N See: Where Parametric Design Meets CNC

# Craftsmanship

The Sea N Sea project showcases the creative potential of combining parametric design with CNC technology, using Grasshopper and RhinoCAM to transform visual inspiration into a striking, textured panel.

---

## Vintersol: Redefining the Relationship Between Architecture and Nature

Originally designed for the Hello Wood Argentina festival, this installation reimagines architecture's interaction with its environment, blending computational design with a responsive, fluid aesthetic.

---

## Parametric Paving: A New Layer of Design

The Parametric Paving project by LANDAU, in collaboration with Crowley Cottrell, uses parametric tools to create complex yet constructible paving designs within strict constraints.

---

# Vortex Facade for ExpoCamacol Medellín 2024

The Vortex project by Doblamos for ExpoCamacol Medellín 2024 features a striking facade with circular waves. Using Grasshopper to manipulate metal sheet sections, its innovative design showcases the potential of computational tools in creating visually dynamic architectural surfaces.