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## Patent Search

Invention Title	ECO-FRIENDLY CONSTRUCTION: INTEGRATING BIODESIGN WITH ADDITIVE MANUFACTURING
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### Inventor

Name	Address	Country	Nat
Dr. Laxmi Biban	Department of Botany, Pt. C.L.S. Govt. College, Karnal, Haryana (India), Pin Code - 132001, India.	India	Indi
Dr. Deepak Sundrani	Associate Professor, School of Construction, Nicmar University Pune, Maharashtra, India.	India	Indi
Lakshmi Kanth Moganti	Assistant Professor, Department of Civil Engineering, Aditya College of Engineering and Technology, Surampalem, Kakinada District, Andhra Pradesh, India.	India	Indi
Karthick B	Assistant Professor, Department of Mechanical Engineering, SNS College of Technology, Coimbatore - 641035, Tamil Nadu, India.	India	Indi
Dr.G.Prabhakaran	Dean For Student Welfare & Professor/Civil Engineering, Siddharth Institute of Engineering & Technology, Puttur, 517583, Tirupati District, Andhra Pradesh, India.	India	Indi
Dr. Mohd Faizan Hasan	Associate Professor, Department of Mechanical Engineering, Integral University Lucknow 226026, Uttar Pradesh, India.	India	Indi
Siddhardhan R	Assistant Professor, Electrical and Electronics Engineering, St Joseph'S College of Engineering, Chennai - 600119, Chengelpattu, Tamil Nadu, India.	India	Indi
Dr.C.Ramesh	Professor, Department of Mechanical, M.Kumarasamy College of Engineering, Karur, Tamilnadu, India.	India	Indi
Dr R.Ramya Swetha	Assistant Professor, Department of Civil Engineering, Institute of Aeronautical Engineering, Hyderabad -500043, Medchal, Telangana, India.	India	Indi
Anthony Savio Herminio Da Piedade Fernandes	Founder Owner, Trading Equations, 54/C, Xell, Bastora, Bardez, Goa (403507), North Goa, India.	India	Indi
Pratik Mahadeo Londhe	Assistant professor, Dr. D. Y. Patil Institute of Technology Pimpri Pune - 18, Maharashtra, India.	India	Indi
Prashantha Kumar K	Department of Civil Engineering, Nitte (Deemed To Be University), Nnam Institute of Technology (Nmamit), Karkala 574110, Udupi, Karnataka, India.	India	Indi

### Applicant

Name	Address	Country	Nat
Dr. Laxmi Biban	Department of Botany, Pt. C.L.S. Govt. College, Karnal, Haryana (India), Pin Code - 132001, India.	India	Indi
Dr. Deepak Sundrani	Associate Professor, School of Construction, Nicmar University Pune, Maharashtra, India.	India	Indi
Lakshmi Kanth Moganti	Assistant Professor, Department of Civil Engineering, Aditya College of Engineering and Technology, Surampalem, Kakinada District, Andhra Pradesh, India.	India	Indi
Karthick B	Assistant Professor, Department of Mechanical Engineering, SNS College of Technology, Coimbatore - 641035, Tamil Nadu, India.	India	Indi
Dr.G.Prabhakaran	Dean For Student Welfare & Professor/Civil Engineering, Siddharth Institute of Engineering & Technology, Puttur, 517583, Tirupati District, Andhra Pradesh, India.	India	Indi
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Siddhardhan R	Assistant Professor, Electrical and Electronics Engineering, St Joseph'S College of Engineering, Chennai - 600119, Chengelpattu, Tamil Nadu, India.	India	Indi
Dr.C.Ramesh	Professor, Department of Mechanical, M.Kumarasamy College of Engineering, Karur, Tamilnadu, India.	India	Indi
Dr R.Ramya Swetha	Assistant Professor, Department of Civil Engineering, Institute of Aeronautical Engineering, Hyderabad -500043, Medchal, Telangana, India.	India	Indi
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Prashantha Kumar K	Department of Civil Engineering, Nitte (Deemed To Be University), Nnam Institute of Technology (Nmamit), Karkala 574110, Udupi, Karnataka, India.	India	Indi

**Abstract:**

The method for the development of the convergence of additive manufacturing with biodesign in the field of environmentally sustainable building. It is now essential for the construction sector to integrate sustainable materials and procedures as demand to lessen its environmental impact grows. While additive manufacturing provides effective resource-saving fabrication techniques, biodesign makes use of natural systems and organisms to inform and enhance building ideas. This emphasizes case studies that show how these technologies are successfully applied, highlighting how they can eliminate waste, lower carbon emissions, and increase biodiversity. This project intends to pave the path for a more sustainable future in building by providing a framework for collaboration between additive manufacturing and biodesign principles, fostering resilience in harmony with the natural environment. Modular components made of mycelium are being created to satisfy the geometric constraints necessary to create a lightweight structure without the need for extra reinforcement. A series of interlocks is used to connect the modules. Different configurations of the modules are realized by means of form-finding techniques and computational design. FIG.1

**Complete Specification**

Description:ECO-FRIENDLY CONSTRUCTION: INTEGRATING BIODESIGN WITH ADDITIVE MANUFACTURING

**Technical Field**

[0001] The embodiments herein generally relate to a method for eco-friendly construction: integrating biodesign with additive manufacturing.

**Description of the Related Art**

[0002] The Designers can find a wealth of innovative inspiration from nature. A vast variety of intricate geometries with distinct mechanical functions can be seen in natural, biological structures, such as the skeleton, teeth, sutures, and bones. Real-world load circumstances can be used to assess the performance of these structures, which are mechanisms with engineering principles for various structural applications. Since biomimicry is efficient, sustainable, and elegantly designed, a lot of its ideas and concepts have been put to use in real life. The fashion business, akin to other industrial sectors, has embraced the perpetual development paradigm, disregarding the limited nature of resources, the intricacy of human labor, and the plethora of environmental concerns that are associated with it.

[0003] However, businesses in this sector appear to be most in disarray right now due to a supposed shift toward sustainability, with the public's attention being drawn to the poorly handled environmental and social issues associated with the fashion industry. To create a sustainable and environmentally friendly environment, a variety of medications and materials are synthesized using three-dimensional (3D) and four-dimensional (4D) printing technologies. The 1980s saw the invention of 3D printing (3D) technology, which involved layer-by-layer deposition of materials using computer-aided design (CAD) software.

[0004] Building habitats is becoming more and more necessary as the population increases. Incentives to increase material efficiency take into account the full life cycle

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