

TABLE OF CONTENTS

<p>CULTURE AND ARCHITECTURE “A seed that grow” Ar.S.CHINNADURAI M.Arch Head of the Department</p>	4
<p>BUILDING PLANNING: MULTICULTURAL BELONGINGS Ar.R.REGHU, M.Arch Assistant Professor</p>	5
<p>THE ESTER TOWER Ar.ANAND GODSON, M.Arch Assistant Professor</p>	6
<p>GUGGENHEIM MUSEUM, BILBAO STUDY OF CONTEMPORARY DESIGN PROCESS & ITS RELATION TO COMPUTATION Ar. RAGHAVENDRAN M, M.Arch Assistant Professor</p>	7
<p>EARTH AN ELEMENT OF NATURE AND ITS INFLUENCE TO ARCHITECTURE Ar.N.NISHYA M.Arch Assistant Professor</p>	8
<p>GLASS FIBRE REINFORCED GYPSUM (GFRG) BUILDING PANEL Er.C. JENIL KUMAR ME Assistant Professor</p>	9
<p>GRID CONNECTED INVERTERS Er. JENNER Z. ME Assistant Professor</p>	11
<p>RAINWATER HARVESTING SYSTEM Ar.PRIYADARSHINI M.Arch Assistant Professor</p>	12
<p>SELF-HEALING CONCRETE Er.R.RELIN GEO ME Assistant Professor</p>	13
<p>SUSTAINABLE BUILDING MATERIALS FOR CONSTRUCTION Er.E.M. JERIN SHIBU M.E, Assistant Professor</p>	14
<p>GRAPH THEORY IN ARCHITECTURE Ms.R. MARIA ANUSHIYA . M.SC Assistant Professor</p>	15
<p>CEBICHERIA RESTAURANT Ar.K.KEERTHANA B.Arch Assistant Professor</p>	16

STOCHASTIC MODELLING FOR URBAN DESIGN (III)**17**

Mr.P.S.STEM EDILBER M.Sc,M.Phil
Assistant Professor

SPANISH COLONIAL ARCHITECTURE**18**

Ar.T.JOSEPHINE SABEENA B.Arch
Assistant Professor

ZGF GIVES A FIRST LOOK AT PORTLAND INTERNATIONAL AIRPORT'S NEW MAIN TERMINAL**19**

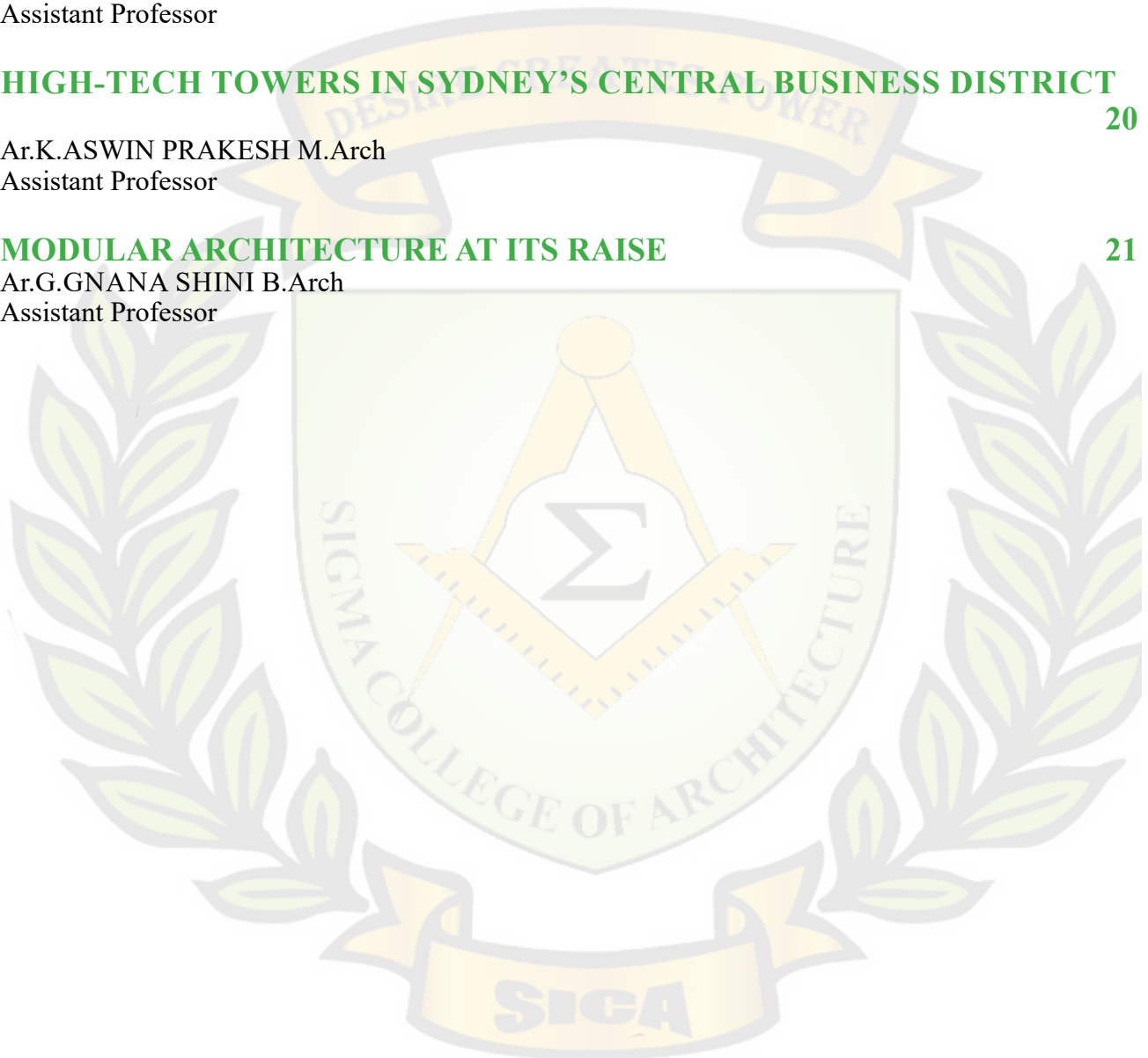
Ar.T.DINESH PANDIAN M.Arch
Assistant Professor

HIGH-TECH TOWERS IN SYDNEY'S CENTRAL BUSINESS DISTRICT**20**

Ar.K.ASWIN PRAKESH M.Arch
Assistant Professor

MODULAR ARCHITECTURE AT ITS RAISE**21**

Ar.G.GNANA SHINI B.Arch
Assistant Professor



CULTURE AND ARCHITECTURE

“A seed that grow”

Ar.S.CHINNADURAI M.Arch
HEAD OF THE DEPARTMENT



Culture shaping architecture is an inherent concept. But we usually tend to overlook this concept or idea. In order to truly understand this concept, let us first try to understand what culture is. Culture is defined as the ideas, customs and social behavior of particular people or society. The behaviors we are accustomed to and have been taught are the factors determining the kind of spaces we need to live in. Now let us try to understand architecture in its basic form. Architecture is the designing of space to fulfill certain functions based on the needs of the users. The user's needs arise based on their activities, which are all well defined by their culture. Their practices and beliefs dictate what their living and gathering spaces should be like. At times, architecture becomes a direct expression of culture and/or beliefs.

Among the foremost things that decide the role of architecture or space, culture plays a very significant role. The location of a space, the size required for that function and the way through which it connects all are aided by the basic cultural significance space is being designed for. Space and culture are interlinked together to the extent that space cannot be analyzed without that factor coming into play. First, space is formed based on certain cultural requirements, later it may even influence some changes in the existing culture.

BUILDING PLANNING: MULTICULTURAL BELONGINGS

Ar.R.REGHU, M.Arch
ASSISTANT PROFESSOR

The standard of highest high temperature increase and lowest amount high temperature loss stand out in structure designs in these regions since of the drizzling and chill conditions. multifaceted and nested centre chairs that maintain the high temperature surrounded by and the chilly air exterior should be planned in wintry ambience regions

For me, vernacular architecture is the built surroundings (city, architecture, and interior spaces) shaped based on the civilization needs. It is build in unity with the ordinary location (geography, topography, site, climate, local building materials, labour knowledge, and construction technique) satisfying people's corporeal, fiscal, public, and enlightening norms. Vernacular architecture is a sign of uniqueness; it is the "mirror" of nation that reflects position, face, and nation. Architecture is built by folks to individuals; it has inhabited through time and made to order itself during testing and error to accomplish society's needs in harmony with the ambient environment.

When important architecture and the built setting, we have to imagine clear of spaces bent by produce and buildings; we need to judge how individuals alter the situation to put up to their wants living conduct, and customs. McClure and Bartuska noted that "The Built Environment is the lot humanly made, straight or maintain to fulfil human purpose needs, wants and values to umpire the largely setting with results that affects the ecological milieu". This can be interrelated to how sustainability is incorporated with architecture.

The word list denotation of the word is, "the temperature and the meteorological setting of a locality". In the context of this paper, "climate" could be substitute with "macro-climate", and "micro-climate". Macro-climate denotes the universal meteorological circumstances of a region or kingdom and account for the most important phenomena of the section. "Micro-climate" denotes the meteorological setting local only to a fastidious position, like the rays, air currents at position level, high temperature, condensation and rainfall abnormal only to a some degree of area. It is the second which architects have to come upon and personally know, so that they do not battle against it, but go along with it and obtain the best grades from its positive virtues, and watch aligned with the havoc of its disagreeable intrinsic worth. It can be said to be the part of nature, which directly background a house and enters it, not just supposedly but shallow into its personality.

Conclusion

The concern for the cultural sustainability, connection of space characteristics, use of local materials and proper responses to nature can be seen in regional approaches of the leading architects, Hassan Fathy from Egypt in addition to Charles Correa from India.

THE ESTER TOWER

Ar. ANAND GODSON, M. Arch
ASSISTANT PROFESSOR

Jerusalem is, not only for me, an enchanting city. In the spring of 2017, my friend Lukáš Příbyl, who is also the head of the Czech Centre in Tel Aviv, approached me with news that he and Mrs. Françoise Cafri from the Jerusalem Municipality possibly found a way to build an artistic object, a tower, in the centre of Jerusalem.

The tower is topped with a platform where, like with the cacti flowers, individual petals of the outer cladding peel up, allowing visitors to take delight in observing the beautiful environs while sheltered from harsh sunlight or inclement weather. We paid a lot of attention to adjusting the parameters of the tower to the fairytale-like setting of the Hansen House and its gardens – so that it wouldn't try to outshine the historical building, but rather be a humble companion to the old olive trees and other plants in the garden, as well as houses in the immediate vicinity of the Hansen compound. To make the project as easy to complete as possible, we manufactured all individual components in the Czech Republic, so they could fit into two large containers. Those were then shipped to Jerusalem and assembled in the Hansen garden according to the design.

The highlight of this entire project is the feeling that our cactus will become a new landmark in a region that is the cradle to the world civilization. Thus, this rather small building will become the embodiment of a deep symbolic message.



GUGGENHEIM MUSEUM, BILBAO

STUDY OF CONTEMPORARY DESIGN PROCESS & ITS RELATION TO COMPUTATION

Ar. RAGHAVENDRAN M, M.Arch
ASSISTANT PROFESSOR

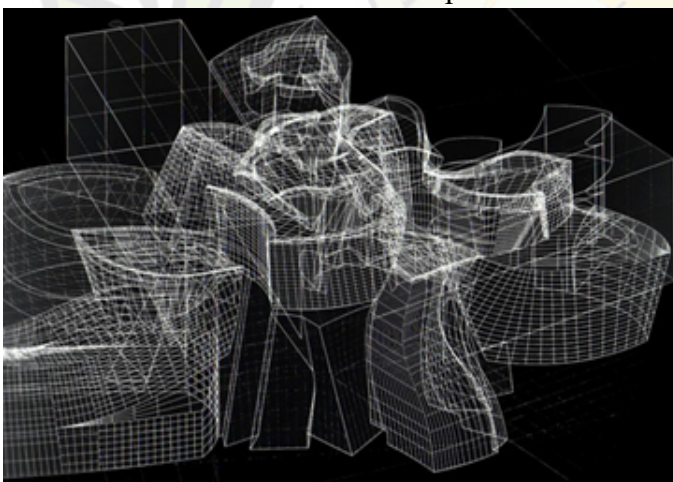
Type of Computational Architecture

Topological architecture

The defining element of the topological architecture is the extensive use of topological, “rubber-sheet” geometry of continuous curves and surfaces, mathematically described as NURBS – (Non-Uniform Rational B-Spline curves and surfaces). In the topological space, geometry is represented not by implicit equations, but by parametric functions, which describe a range of possibilities. The shape of a NURBS curve or surface is controlled by manipulating the location of control points, weights, and knots. Any number of different curves and surfaces could be produced by changing these control points. Bilbao, the largest city in the Basque country, flanked by green hills, spreads along the Nervion River valley, crawling and twisting into an estuary that finally meets Cantabrian Sea. This Natural Topography acted as an inspiration to his computational architecture. The idea is to enhance the organic & dynamic nature of the settlement. Moreover, it became a catalyst for the urban and economic renewal of the city familiarly known as “the Bilbao effect.”

Use of CATIA


The museum’s design process was very complicated and in many respects innovative. Gehry’s team pioneered the use of CATIA (a software used in the airplane industry) in order to generate 3-D volumes of the building and calculate its materials and cost estimate. The program was used in both the design as well as the construction of many building elements and finishing details. No single element is repeated (particularly the titanium plates). Sculptural forms are achieved by means of a structural steel frame which is covered with metal plates, hence the theatrical, and dynamic nature that has characterized Gehry’s works. A metallic volume of horizontal proportions seems to float over them. It is followed by another dramatic volume similar to the bow of a boat. Gehry used a rich repertory of materials and languages, alternating stone, glass and metal in a studied composition that produces different sensations from different places.



EARTH AN ELEMENT OF NATURE AND ITS INFLUENCE TO ARCHITECTURE

Ar.N.NISHYA M.Arch
ASSISTANT PROFESSOR

Five elements of Nature are Earth, Water, Fire, Wind and Sky. These elements integrate with architecture in different ways. Earth integrates with architecture as Materials, Site. Water integrates with architecture by designing the building for rain and humidity condition. More explanation with examples in given in the below table:

Five Elements of Nature	Integration with Architecture	Examples
EARTH	Material	Earth is the primary source of material. Example: clay, rammed earth, sand used in earth bags.
	site	Site is the place where our buildings are built. The building design should respond to the site condition and preserve the Natural Bodies available in the site
	Vegetation	Vegetation is the greenery available in the site.
		
Figure 1 Site showing vegetation and Water bodies		

GLASS FIBRE REINFORCED GYPSUM (GFRG) BUILDING PANEL

Er.C. JENIL KUMAR ME
ASSISTANT PROFESSOR

GLASS FIBRE QUALITY SYSTEM AND QUALITY CONTROL PROCEDURES

Quality of the finished product is assured by a proper quality control system, it is needed to demonstrate the compliance with this specification and to supply products that conform to the full requirements of this specification. Generally, one of the following four quality procedures shall be adopted:-

- Evaluation by means of statistical sampling;
- The use of a product certification scheme;
- Assurance using the acceptability of quality system.

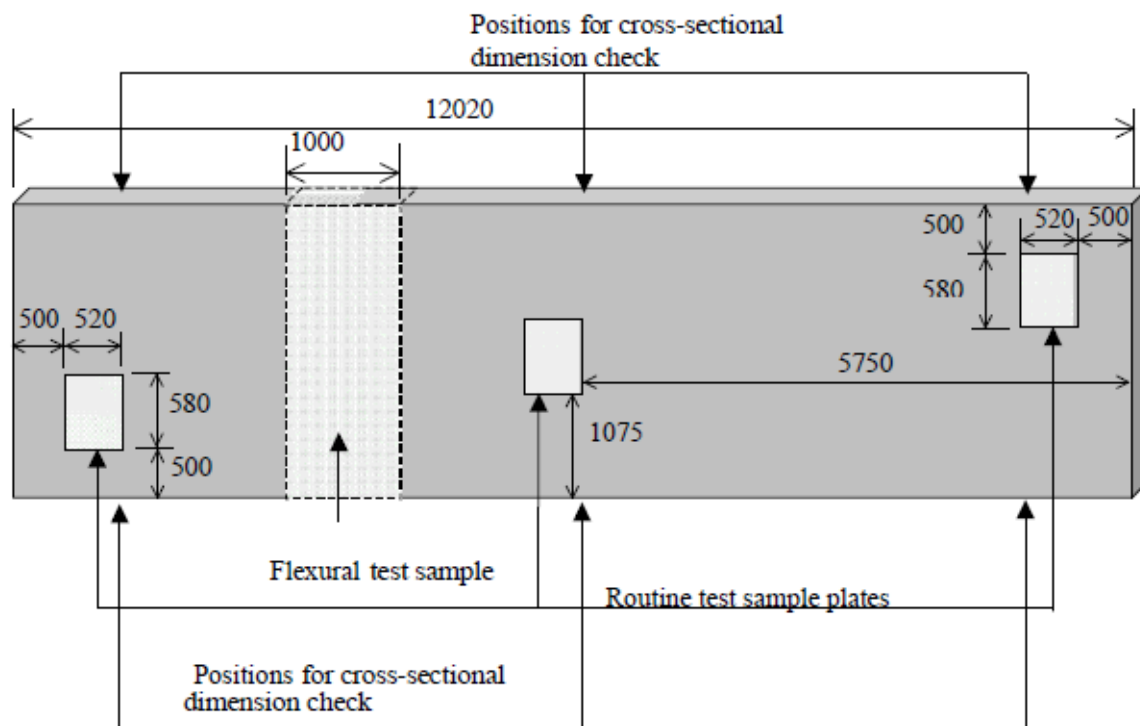
QUALITY PROCEDURE BY STATISTICAL SAMPLING

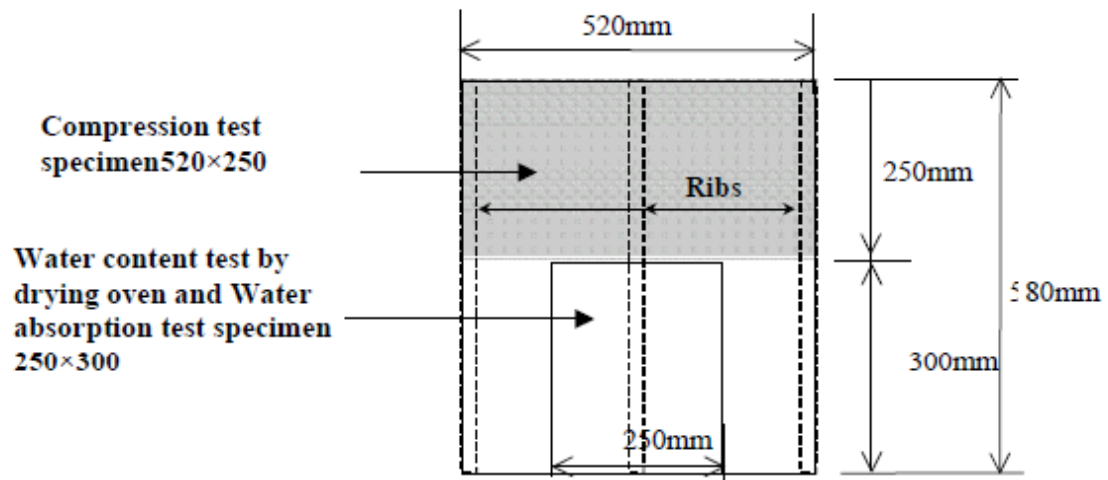
Sampling for Routine Tests

Three GFRG panels should be randomly selected from a batch of panels for tests described in Sections 10.4.1 to 10.4.6. Grouping of panels to form a batch shall follow the following rules: -

- 1). Every 500 panels of same grade classification form a batch, when there's no variation in mix design, ingredient materials, manufacturing conditions, and dryer conditions;
- 2). Two different grade classifications is into two different batches even when the amount of panels during a batch is a smaller amount than 500;
- 3). When the ingredients of gypsum, optical fiber, water and the other additives changes, new batch should be formed whenever such a change takes place. The same principal of forming a different batch applies when any other change is made in the manufacturing and drying process such as change of recipes or any other activity which will affect the property or quality of the finished panels; and
- 4). When significant variations exist in the manufacturing process that may affect the quality or properties of the panels, such as significant variation in the quality of plaster, batch is formed with a much smaller number of panels depending on the magnitude and extent of variations. Forming batch is on daily (or shift) basis in such quite situations, i.e. panels produced within the same day (or shift) are considered as a batch.

Three test sample plates (520×580) are to be cut from each selected panel. The positions for cutting these three test plates are shown in Fig. Two different test specimens are to be cut from each test plate in accordance with the layout of Fig. The specimens shall be machine cut to the dimensions with a tolerance of not more than $\pm 2\text{mm}$.

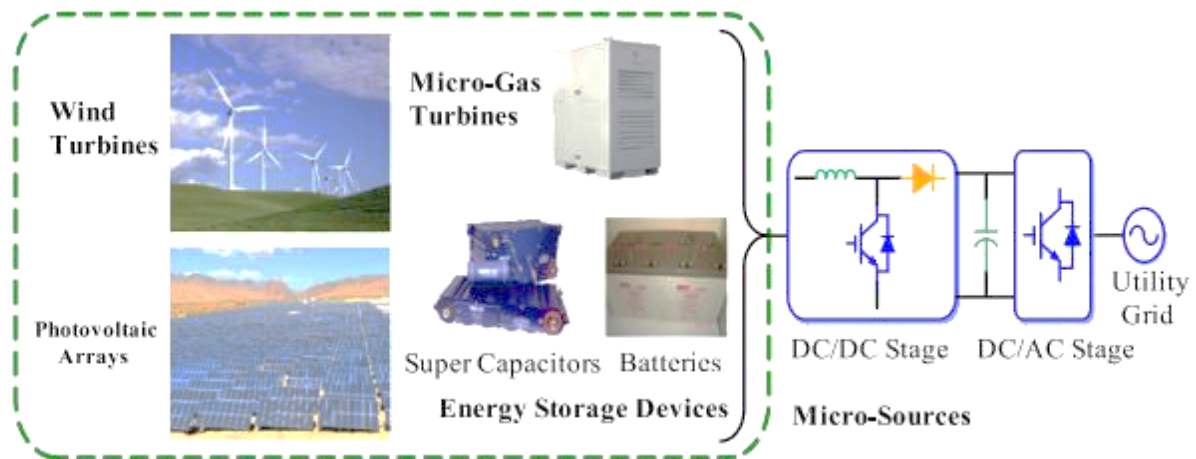




GRID CONNECTED INVERTERS

Er. JENNER Z. ME
ASSISTANT PROFESSOR

Grid connected inverters are key additives in distributed generation and Micro Grids, and act as effective interfaces to attach Non-Conventional resources assets which include photovoltaic arrays, wind generators, electricity storage gadgets, and so forth, to application grid. Grid-connected inverters can be classified as single-stage and a double stage. An ordinary double stage Grid related inverter is comprised of a DC/DC stage and a DC/AC stage, as shown in Fig. The DC/DC stage is commonly used to recognize Maximum Power Point Tracking (MPPT) for Wind turbine or PV packages whereas, the DC/AC level is used to manipulate the energy and inject into utility grid. Therefore, a single stage Grid-connected inverter simply has the DC/AC stage, which need to whole all the functionalities of a double-stage one had. But, a single-stage GCI makes use of few digital additives, and has smaller bulk, higher performance, decrease value, in addition to better reliability, compared with a two-level one. Except, the low dc voltage of the micro supply may be flexibly boosted with the aid of the DC/DC level to fulfill the requirement of the DC/AC stage, which is an advantage of a two-level Grid Connected inverter in comparison with a single-stage one.



RAINWATER HARVESTING SYSTEM

Ar.PRIYADARSHINI M.Arch
ASSISTANT PROFESSOR

Types of Rainwater Filters:

Sand Gravel Filter:

These are commonly used filters, constructed by brick masonry and filled by pebbles, gravel, and sand. Each layer should be separated by wire mesh.

Charcoal Filter:

Charcoal filter are often made in-situ or during a drum. Pebbles, gravel, sand and charcoal should fill the drum or chamber. Each layer should be separated by wire mesh. Thin layer of charcoal is employed to soak up odor if any.

PVC –Pipe filter:

This filter are often made by PVC pipe of 1 to 1.20 m length; Diameter of pipe depends on the world of roof. Six inches dia. pipe is enough for a 1500 Sq. Ft. roof and 8 inches dia. pipe should be used for roofs quite 1500 Sq. Ft. Pipe is split into three compartments by wire mesh.

Each component should be crammed with gravel and sand alternatively. A layer of charcoal could even be inserted between two layers. Both ends of filter should have reduce of required size to attach inlet and outlet. This filter might be placed horizontally or vertically within the system

Sponge Filter:

It is an easy filter made up of PVC drum having a layer of sponge within the middle of drum. It is the simplest and cheapest form filter, suitable for residential units

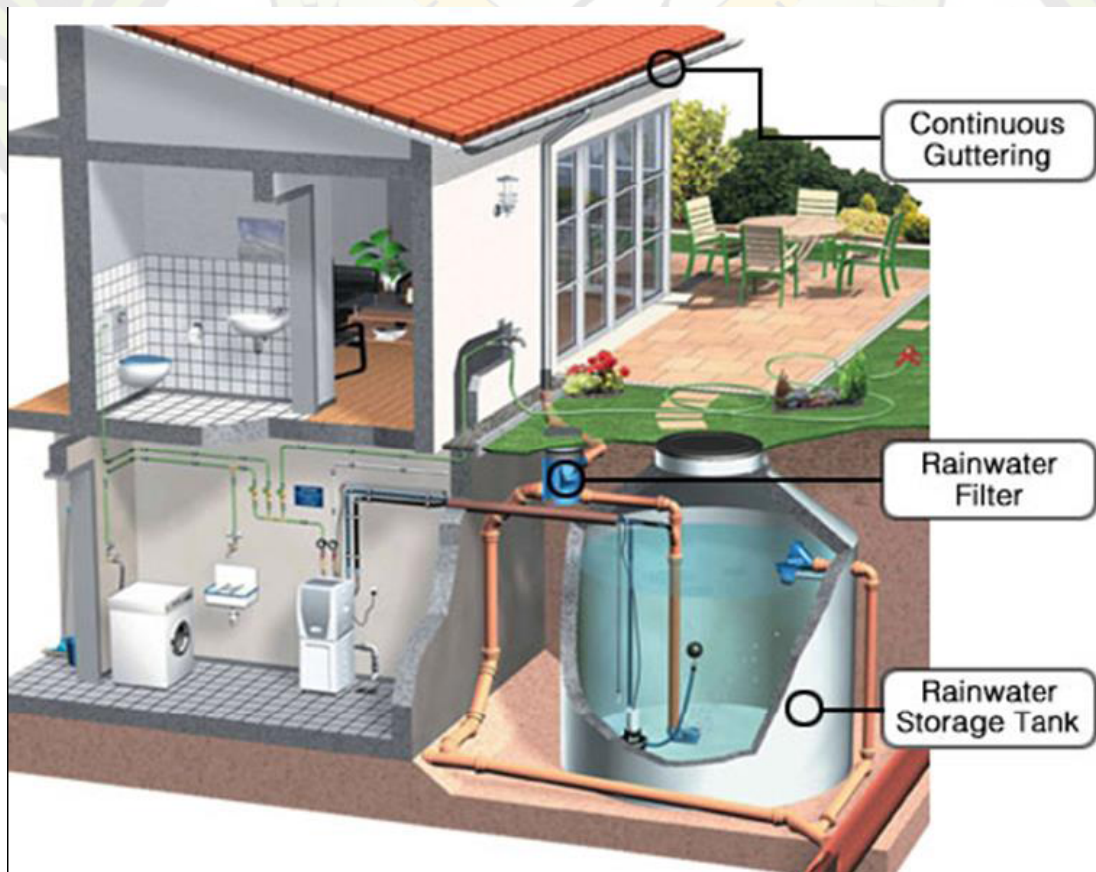
Methods of Rooftop Rainwater Harvesting:

Various methods of using roof top rainwater harvesting are

a) Storage of Direct Use

In this method rainwater collected from the roof of the building is diverted to a tank. The tank has got to be designed consistent with the water requirements, rainfall and catchment availability.

Each drainpipe should have mesh filter at mouth and first flush device followed by filtration system before connecting to the tank. It is advisable that every tank should have excess water over flow system.



SELF-HEALING CONCRETE

Er.R.RELIN GEO ME
ASSISTANT PROFESSOR

This paper reviews on the new way of dealing with the concrete related issues especially cracking, Microbiologically Induced Calcite Precipitation is the method that shall be solving the purpose and how the healing actually occurs with the myriad of chemical reactions involved in the process. Importance of the encapsulation process and the right bacteria to bring about the microbial healing are also discussed along with the advantages and disadvantages of the overall idea.

MECHANISM OF SELF-HEALING

The micro cracks that are developed inside the concrete due to the immoderate tensile forces provides the site for self-healing via bacterial activities. The bacterial spores and calcium lactate that are used as the healing agents, act as the precursors during the process. The spores along with the calcium lactate are embedded and stored into the expanded clay pellets consisting of pores and bubbles. These pellets are then distributed uniformly throughout the concrete during the mixing process. Whenever crevices are formed in such concrete, the pellets rupture thus letting the bacterial spores and chemical precursor out. The moisture and oxygen enters such micro cracks furnishing favorable environment for the multiplication of the bacteria. R. Spinks, in an article for *the Guardian*, comments on the interesting nature of this healing process: "It is only with the arrival of concrete's nemesis – rainwater or atmospheric moisture seeping into cracks – that the bacteria start to produce the limestone that eventually repairs the cracks" (R. Spinks, 2015). The limestone, thus formed in approximately seven days seal the crack as wide as 0.5- 0.8mm (Prachi Patel, 2016). In concrete cracks up to 0.2mm wide are healed autogenously. Such micro cracks are acceptable as these do not directly influence the safety and strength of concrete. The in-built bacteria-based self-healing process was found to heal cracks completely up to 0.5mm (M.V.Seshagiri Rao et al, 2013). Prior, oxygen and water, which were responsible for degrading the quality of concrete, now triggers the process. Fig. 1 and Fig. 2 shows the before and after healing process

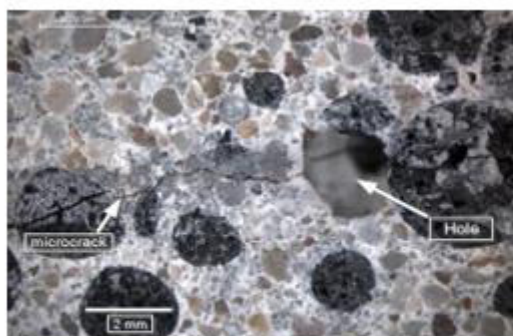


Fig.1 Before the healing process
(P. Patel, 2016)

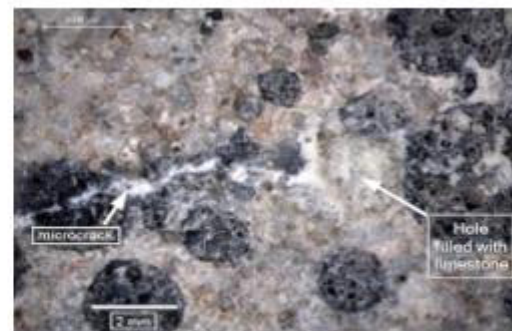


Fig.2 After the healing process
(P. Patel, 2016)

SUSTAINABLE BUILDING MATERIALS FOR CONSTRUCTION

Er.E.M. JERIN SHIBU M.E,
ASSISTANT PROFESSOR



Bagasse is a by-product that remains after the extraction of sugarcane juice. The excess bagasses to produce from sugar mills to left out from boilers to produce energy and sugar processing. But, bagasse is now being used to supplant wood in particle boards that are light in weight and economical. Manufacturers later transform the particle board into a laminated board by using resins as a bonding agent and wax as a dimensional stabilizer. Builders can use the material for various purposes in laminated floor and furniture works.

Solar Roof tiles add to an improved urban environment by reducing heat build-up, and improve air quality. It becomes a must for construction industry to switch to sustainable building material. With the advent of these new materials, a new concept of smart housing is quickly becoming popular among populace and builders.



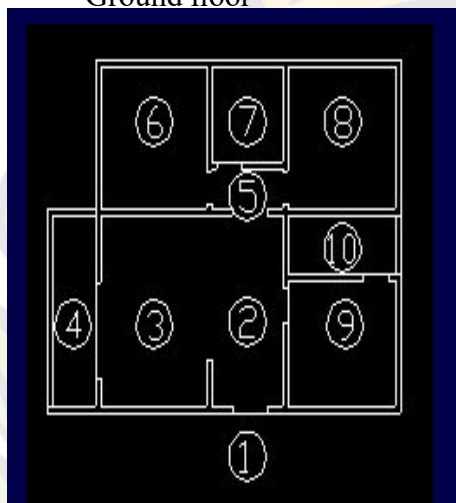
Triple-glazed windows have three layers of glass that stop heat as manufacturers inject argon between each layer to provide insulation. The glass also has fully insulated window frames which uphold the inside temperature. With soaring temperatures and humidity, maintaining a regular room temperature is a big task. To avoid the extra heat and retain normal temperature, builders are increasingly making use of triple-glazed windows.

GRAPH THEORY IN ARCHITECTURE

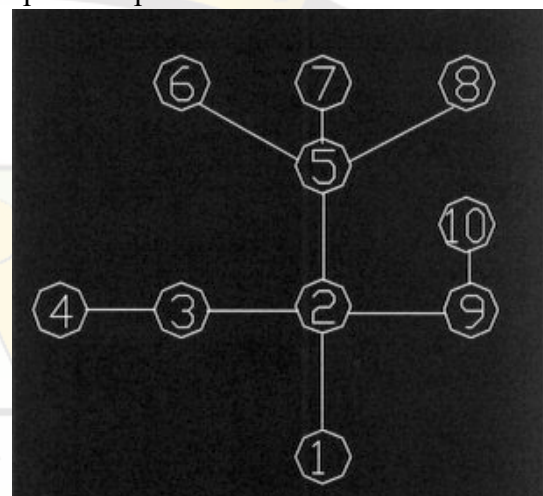
Ms.R. MARIA ANUSHIYA . M.SC
ASSISTANT PROFESSOR

A graph could be a diagram of points and contours connected to the points. It is a minimum of one line connection a group of two vertices with no vertex connecting itself. Graphs is utilized in two different stages of the design. Also many applications of graph theory is found in architecture. In mathematically, the degree of a vertex of a graph is that the number of edges that are incident to the vertex. The centre of a graph is the set of all vertices of minimum eccentricity, i.e. the set of all vertices u wherever the greatest distance $d(u, v)$ to different vertices v is minimal. Let see a way to use this theory within the study of a floor plan. For North American country the vertices will be the rooms and the edges the direct connections between each room. Now we can see the ground plan of a small flat of 90 m² and a graphical illustration of the associated graph, which is a simple graph.

Ground floor



Graphical representation



Space specification	degree	eccentricity	center
1 - exterior	$\text{deg}(1) = 1$	$E(1) = 3$	Center = Min(eccentricity) i.e. center = 2
2 - hall	$\text{deg}(2) = 4$	$E(2) = 2$	
3 - living room	$\text{deg}(3) = 2$	$E(3) = 3$	
4 - balcony	$\text{deg}(4) = 1$	$E(4) = 4$	
5 - corridor	$\text{deg}(5) = 4$	$E(5) = 3$	
6 - bedroom	$\text{deg}(6) = 1$	$E(6) = 4$	
7 - rest room	$\text{deg}(7) = 1$	$E(7) = 4$	
8 - study hall	$\text{deg}(8) = 1$	$E(8) = 4$	
9 - kitchen	$\text{deg}(9) = 2$	$E(9) = 3$	
10 - drying place	$\text{deg}(10) = 1$	$E(10) = 3$	

CEBICHERIA RESTAURANT

Ar.K.KEERTHANA B.Arch
ASSISTANT PROFESSOR

Alexandre Miqui, an experienced restaurateur, presented us with a challenge: transfer his business to a replacement location without closing it. The new property had previously housed other restaurants. It now meets the requirements of the staff in preparing a completely new menu. We put tables on the sidewalk with the intention to blend the inside courtyard with the neighbouring public square. This was especially important as, at that point, the road was still experiencing a coffee moment. It was affected by the absence of the many of the distinguished restaurants that when made it famous. The façade was reorganized to form it cleaner and lighter. We expanded the openings the maximum amount as possible, ensuring greater interior-exterior integration and also allowing a view for the mezzanine. As a final touch, we added natural and artificial plants at various points throughout which bring a natural feel to the whole space.



STOCHASTIC MODELLING FOR URBAN DESIGN (III)

Mr.P.S.STEM EDILBER M.Sc,M.Phil
ASSISTANT PROFESSOR

Stochastic modelling of urban structure

Work in terms of attractiveness $x = \{x_1 \dots x_M\} \in R^M$ with $w_j(x_j) = \exp(x_j)$

The evolution of urban structure can be modelled by overdamped Langevin dynamics:
 $dx = -\nabla \Delta(X) dt + \sqrt{2\gamma^{-1}} dB$

for some initial condition $x(0) = x$ and standard M-dimensional Brownian motion B

A Bayesian model of urban structure

Given observation of log-sizes, infer the parameter values

$$\theta = (\alpha, \beta)^T \in R^{+2}$$

And latent variables $X \in R^M$ with low-order summary statistics

$$E_{X, \theta | Y} [h(X, \theta)] = \int h(X, \theta) \pi(X, \theta | Y) dX d\theta$$

Assumption (Data generating process)

Assume that the observations are i.i.d. realizations of the following hierarchical model:

$$Y_1, \dots, Y_M | X, \sigma \sim N(X, \sigma^2)$$

$$\theta \sim \pi(\theta)$$

Conclusion

Investigation of new data assimilation methodologies to calibrate models to data available at different scales. For example: Population data, Cost matrix; or Time dependent parameters. Deployment of new methodology to a global-scale problem (non-Bayesian approaches). Extension of discrete-choice approach to other socio-economic phenomena e.g. crime. Melding of data and models takes us beyond data analytics. We have developed a novel stochastic model to simulate realistic configurations of urban and regional structure. Our model is an improvement on existing deterministic models in the literature, as we account for uncertainties arising in the modelling process. We presented a Bayesian hierarchical model for urban and regional systems. Our model can be used to infer the components of a utility function from observed structure, rather than hidden own data.

SPANISH COLONIAL ARCHITECTURE

Ar.T.JOSEPHINE SABEENA B.Arch
ASSISTANT PROFESSOR

In the early twentieth century, Spanish-Colonial Revival became embedded in the local culture of Southern California. However, this architectural style did not simply appear, rather it was materialized by architects, builders, realtors, and manufacturers of construction materials who built for and sold to homeowners. This process was not simply about using “history“ and “heritage.“ Rather, these social actors had to legitimize the ubiquitous use of red-tile roofing and cement stucco to establish new aesthetic norms and conventions for the vernacular landscape.



Spanish Revival architecture tends to feature low-pitched, red-tile roofs, stucco walls, rounded arches, and an asymmetrical façade. It also generally embraces rich decorative details in both the exterior and interior. It's a very unique style, appropriate for a part of the United States with a pretty unique heritage. The casual dwellings boast thick stuccoed walls, red tile roofs and enclosed courtyards that extend one's living space. ... Today the term Spanish Colonial Revival is used to describe homes built in the early 20th century that incorporate various elements of Mediterranean architecture.

ZGF GIVES A FIRST LOOK AT PORTLAND INTERNATIONAL AIRPORT'S NEW MAIN TERMINAL

Ar.T.DINESH PANDIAN M.Arch
ASSISTANT PROFESSOR



ZGF Architects has shared a new look at the main terminal of the Portland International Airport (PDX) in Oregon. Scheduled for completion in 2025, the \$1.5 billion terminal will be the largest of five capital improvement projects by the Port of Portland. The structure features a series of skylights and an expansive timber roof made from sustainably sourced regional wood. The design draws inspiration from nature and the “signature greenery” of Oregon.

Vince Granato, chief projects officer with the Port of Portland, said that, “We’re taking the airport that has served the region well for the past 80 years and updating and upgrading it. While the space will look and feel different, we are keeping the heart and soul of the airport that Portlanders know and love—easy to navigate; bright, open spaces; and local shops and restaurants—it will still feel like home.”

As the team explains, the new terminal’s nature-infused interiors are made to emphasize health, well-being and safety. ZGF managing partner Sharron van der Meulen notes that, “The inspiration we really looked to in the beginning was of the place, the natural environment, the really unique regions that we live in.” Designs for the new main terminal take inspiration from biophilia and the scale of Portland’s downtown blocks, from foliage to natural materials and finishes.

HIGH-TECH TOWERS IN SYDNEY'S CENTRAL BUSINESS DISTRICT

Ar.K.ASWIN PRAKESH M.Arch
ASSISTANT PROFESSOR

SOM and Fender Katsalidis have won an international design competition for Central Place Sydney, a commercial development that will introduce new transformative public space and high-tech towers. Located in Sydney's Central Business District, Australia, the proposed project seeks to transform the western edge by introducing innovative buildings and public realm improvements.



In line with the City of Sydney's plan to create a third new major civic square, Central Place Sydney is the focal point for the Tech Central district and civic space. A partnership between Dexu and Frasers Property Australia, the plan was designed by international firm Skidmore, Owings & Merrill, and Fender Katsalidis Architects, a multi-disciplinary design office based in Melbourne, Sydney, and Brisbane. Enhancing the southern gateway to the CBD, connections between neighboring communities, and the city's commercial axis, the winning proposal will revitalize and reconnect the targeted area to the city. Featuring "two commercial towers, 37 and 39 stories tall, woven together by a low-rise building anchoring the development and enlivening the precinct at street level", Central Place Sydney will encompass approximately 150,000 square meters of office and retail space. With nature at the core of the design, the commercial development aims to become one of the most sustainable projects in Australia, defined by its contribution to the city, new civic plaza, and sculptural office towers.

MODULAR ARCHITECTURE AT ITS RAISE

Ar.G.GNANA SHINI B.Arch
ASSISTANT PROFESSOR

As cities started to expand to accommodate the increasing population, several new trends and inventions have been adopted by the construction industry to provide safer, healthy, and sustainable environments to live a comfortable life in vast concrete jungles.

One such solution hugely adapted by architects of all time was modular constructions. Architects started to create modular building concepts to satisfy the needs of the people as well as the environment they were living in to achieve the facilities of the residing city.

Modular design is a design solution that is industrially manufactured into distinct scalable small parts known as modules that are individually created and then assembled according to the design requirements. These modules ease the process of construction, increases flexibility, adaptability, and reuse. Another interesting fact is that infinite numbers of architectural design solutions are created using a single set of modules.


But the question is that, will the se trends change the way we consume architecture?
And the answer is definitely yes!

Modular Construction, it is said to revolutionize the entire industry as it is more advanced in traditional construction methods. The traditional practice is outdated as it involves techniques that demand material loss, high labor wages, and longer construction periods, extensive maintenance. On the other hand, modular constructions are smarter uses of materials through which products are machine produced with high-quality checks, reducing construction schedules and human labor without compromising on functionality, design, and aesthetics bringing back sustainability in all ways overruling the conventional methods.



One such example is the Cherokee Residence, A Jury and Popular Vote winner in the 2018 A+Awards. The structure is of six modules on two levels that comprises of primary living spaces, custom-built staircase, a garage, and guestroom spaces. The concept is inspired by midcentury modernism; in which the design seems to merge with the boundary between the exterior and interior spaces still maintaining a strong sense of privacy. It also utilizes prefabricated construction methods which minimized neighborhood interruptions and also reducing the time and cost of the entire site construction. Another fact is that off-site, on-site construction of the structure occurred simultaneously, which allowed the project to be delivered and assembled on the site in a single day.



 +91- 9443370072

 Sigma college of architecture

 www.sicarch.com

 sigmagroup155@gmail.com



Prof. Dr. T. James Wilson

B.E., M.I. Mar. Tech., MISTE, MBA., Ph.D.

CHAIRMAN

9443370072, 9750976611, 9443370058,

8012561000, 9750976622