

The best design that educates of 2022

The Design Educates Awards, the awards that annually recognize the best projects that respond to complex social and environmental contexts and carry educational value, have just announced the results of the 2022 edition. The awards look for what will have a lasting impact on users and the environment and showcase the world's best ideas and realizations that can educate.

The quality of the submissions show the diversity of the projects, the abundance of promising ideas, and the hard work they reflect. They are truly moved by how many important and urgent problems the submitted projects respond to. The award-winning solutions include a variety of projects, from innovative installations solving the problem of water shortages in desert areas to bridges and artisan workshops combining tradition with modern designs.

The 2022 edition attracted almost 400 applicants from 30 different countries. Most of the submitted projects were the work of companies, but a significant number of students also applied.

Categories and Jury

Each year, the esteemed judges select the outstanding ideas and implementations in architectural design, product design, universal design, and responsive design. The Jury of the edition 2022 has been joined by Prof. Toyo Itō, Jette Cathrin Hopp, Prof. Winy Maas, Jakob Lange, Prof. Mark L. Gardner, Prof. Masayo Aye, Maria Aiolova, Julie Payette, Senior Professor Ranjana Dani, Professor Alan Pert, David Basulto, Doris Kim Sung, Dr. Peter Kuczia, Aidin Ardjomandi. In addition to the general evaluation, the student project with the highest score was awarded the label of Emerging Designers. Parallel to the Jury's evaluation, representatives of Solarlux selects the laureates of Solarlux Choice.

Criteria

Entries were evaluated based on the following criteria: overall idea and implementation, the potential for educational influence,

effectiveness and quality of the informative layer, aesthetics, quality of presentation, visionary approach, originality, feasibility, and comprehensiveness. In addition, the submitted ideas had to refer to the awards' theme and highlight the educational potential of design.

What is the design that educates?

Design that educates is a vast concept. Art, and therefore also architecture and design, do not always use messages written in black and white. Often their educational role is subtle but meaningful. Educational projects are supposed to respond to social and environmental problems and bring us closer to sustainability. The "Design Educates Awards" recognize works that can change our behavior - and thus the world - even if this change is quiet and gradual.

The initiators of the idea of the community of creators who educate, and the awards that distinguish them, do not set any rigid framework or barriers. In the submitted projects, they want to see additional values with long-term effects that take the growing complexity of our lives into account. It's not just beautiful, aesthetically, and technically pleasing designs that matter here. What matters is the impact of the buildings, objects, or items on their users and the environment.

If you are a designer or architect who shares the values above, head to the Design Educates Awards website to learn about competition entry dates and prizes and submit your entry. The new 2023 edition is soon to be open for submissions.

A shortened list of the Winners of the 2022 Design Educates Awards

Architectural design

Winner of the year 2022 - **Timber Bridge in Gulao Water Town** - LU0 studio

Gold Prize - **Terra Cotta studio** - Tropical Space

Silver Prize - **Wiki World Natural Camp** - Wiki World

Bronze Prize - **House of Dreams** - Insitu Project

Product design

Winner of the year 2022 - **Deployable Emergency Shelter** - Henry Glogau Studio

Gold Prize - **Loop** - Cheuk Laam Wong

Silver Prize - **SeeTang Collection** - Jana-Aimée Wiesenberger

Bronze Prize - **Canairi** - Canairi

Responsive design

Winner of the year 2022 - **Solar Desalination Skylight** - Henry Glogau Studio

Gold Prize - **Portable Solar Distiller** - Henry Glogau Studio

Silver Prize - **Coastalock** - EConcrete Tech Ltd

Bronze Prize - **1,300 Recycling Pavilion** - Hyunjejoo_Baukunst

Universal design

Winner of the year 2022 - **BetaPort - Circular Building Technology On-Demand** - Urban Beta UG

Gold Prize - **Coastalock** - EConcrete Tech Ltd

Silver Prize - **The Inxect Suit** - Pavels Liepins-Hedström

Bronze Prize - **Voxel Cloud** - Julian Edelmann

Emerging designer

Solar Desalination Skylight - Henry Glogau Studio

Solarlux Choice

GO! Campus Zottegem - Rosan Bosch Studio

The complete list of the Winners of the 2022 Design Educates Awards

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Ceremony

All awards participants are invited to join the awards ceremony and Architecture in Foyer Conference to meet with other participants, judges, and organizers. The awards ceremony will be held during the Architecture in Foyer 2022 worldwide conference at the Solarlux Campus in Germany (Melle, Lower Saxony, Germany) on September 22–23, 2022. The meeting will be hosted by Solarlux GmbH (the strategic partner of the awards). It will consist of an exhibition of the results of the DE Awards, lectures by distinguished architects and designers, laureates' presentations, workshops, and networking opportunities. Participation in the awards ceremony is free (registration is required).

Benefits

In addition to attending the conference, winners have the opportunity to present their projects at an exhibition in the Solarlux Campus building. It has a special meaning because it will take place in front of the most outstanding architects and designers focused on the additional values of design and architecture. Furthermore, this exhibition is an opportunity for in-depth discussions, generating new ideas, and tightening bonds with people worldwide who think similarly about leaving a lasting, good mark.

The winning projects find their place in a book summarizing each year's awards. It's a finely edited book whose pages feature hand in hand handwritten reflections from judges and mentors on design, education, and innovation alongside the participants' work.

Winners also receive a lifetime title, label, and certificate that proves the project's uniqueness. One of the most important benefits of the awards is exposure to possible clients and collaborators. In addition, the laureates also receive a gift certificate from v2com newswire, the world's largest specialized media network publishing the most prestigious architecture and design publications.

Organizers

The Design Educates Awards is organized by Laka Foundation (a nonprofit and nongovernmental organization). The inspiration for the awards theme comes from the research called Educating Buildings (Bildende Bauten) by Dr. Peter Kuczia.

The awards would not be possible without strategic partner Solarlux and the Architektur im Foyer conference. The media sponsor of the 2022 edition was ArchDaily. Media partners for the awards were the World Architecture Community and e-architect. The awards were also under Newswire Partnership from v2com.

The winning projects' descriptions

Architectural design

Winner of the year 2022 in architectural design - Timber Bridge in Gulao Water Town

Company name: LUO studio

Due to the geographical proximity to water, Gulao Town of Jiangmen is home to the agricultural tradition that makes use of water systems to fish and farm around small mounds. As the water system and fish ponds occupy a large area in the villages and divide many plots, it is particularly common for bridges to connect the areas segmented by water. With the development of urbanization and city clustering in the Greater Bay Area, a large number of young and middle-aged villagers leave their hometown, abandon relatively harder and more traditional farming lifestyle, and choose to work in cities. Therefore, water villages, where people make a living by fishing and farming, have gradually been occupied by urban high-rise buildings over time. Gulao Water Town is the first rural revitalization project in Jiangmen, developed by OCT Group that focuses on urban development and operation. It aims to organically coexist with the traditional water village through active interference in the rural development, maintain the basic geographical fabrics of the existing water town, and link natural education, children-themed play area, and the distinctive fishing and farming culture of a water town in an organic manner. These operations need several bridges in necessary areas, convenient for people's movement. This timber bridge was built in this context. To be distinct from urbanized structures and reshape traditional water town culture, the bridge was fully formed by ecological wooden materials and followed the construction techniques of Oriental traditional wooden bridges, called "great work made of common materials", with wooden materials featuring small section interconnected. To ensure the smooth passage of fishing boats under the timber bridge, the bridge body is arched. Traditional bridges such as the Rainbow Bridge in the famous Chinese ancient painting

Along the River during the Qingming Festival are also constructed in an arch shape. Another characteristic of traditional bridges is the roof covering on the top, which can not only ensure structural stability but also protect the arched wood below from the blazing sun and rain. With contemporary technology and approaches, the timber bridge pays tribute to Oriental traditional bridge structures, reshaping the spatial context of water town and traditional farming lifestyle.

Company name: LUO studio

Location: Gulao Water Town, Jiangmen City, Guangdong Province, China

Team: Luo Yujie, Lu Zhuojian, Wang Beilei, Huang Shangwan

Gold Prize in architectural design - Terra Cotta studio

Company name: Tropical Space

Terra cotta studio This building is located next to Thu Bon River in Dien Ban District, Quang Nam Province. The river has a huge effect on the inhabitants around. Most people here live on agriculture along with several traditional occupations such as pottery, natural sleeping mat, rice paper wrappers making. The studio is where the artisan works on his projects and comes up with new ideas. The building is a 7m×7m×7m cube inspired by the image of a block of clay pulled up from the nearby river. The studio and exhibition spaces are created by "weaving" the natural surroundings, other watchers together with the daily activities of artisans around the potter's wheel. Light is brought directly from the atrium to the central position where the turntable is located. The artist works in the boundary between light and shadow. He will be able to move between two areas of light and dark shadow area for contemplation. He can have soulful conversations with the works, his shadow, and with himself. The second-floor space is a wooden frame system for exhibiting artists' completed works and a place to cope with floods - in October every year, the water of the river rises more than 2m above the foundation of the studio. Everybody freely accesses wooden shelves and blends into the space. These shelves are not fixed so that they can create void and filled space in between. From the wooden frame space, we can view the products, look outside over the garden where there are bamboo fences and a beautiful river, as well

as observe the artisans working at the center. We want to make the wooden frame be a connection between visitors, pottery, artisan, and surrounding context. The shell of the building is seen as a thin layer of fabric surrounding the wall of a cube, which is made by stacking traditional terracotta bricks. We try to create a space where the external environment is able to interact with the internal architectural area. The artist can hear the sound of leaves swinging in the wind, the sound of birds, and feel the steam from the river while working at the center of his studio. The outermost is a bamboo fence for drying unburnt potteries and a place to hang out or have a relaxing tea break outdoors. It is also the conventional boundary between the building and the garden. The bamboo fence is made from the bamboo bushes nearby. This architecture conveys the simplicity and the admiration for pottery, thus telling a story about this occupation. We search for straightforward, easy spaces with simple common materials but still having the opportunity to embrace the complexity of attractiveness and where imagination communicates with the place.

Company name: Tropical Space

Location: Dien Ban District, Quang Nam Province

Team: Nguyễn Hải Long Trần Thị Ngụ Ngôn

Silver Prize in architectural design - Wiki World Natural Camp

Company name: Wiki World

Wiki World gathered more than 500 families to co-build this kids' creative education-based project. We built more than ten cabins in nature. Located on the outskirts of Wuhan, the Wiki World Natural Campsite is a rural practice teaching base and research camp joint by universities to serve rural revitalization and sustainable development. The project occupies an area of approximately 666m², using the tourism land and facilities in the site to arrange the dotted public classrooms, prefabricated wooden houses, and natural building construction areas. Build naturally, Wiki World continues the natural construction concept. We retain every tree on the site, keep the path and texture of the original woodland and farmland. All the cabins are self-developed prefabricated wooden structures built together by the team and the user. Natural buildings can be built

like Lego. Like building blocks, little cabins were placed in the forest. We stick to the original wildwood construction technique that we hand fired the façade of the carbonized wood boards. The cabins are all connected by small metal components that can be repeatedly assembled. Natural habitat- Wild home and 8m2 We built a lot of interesting cabins, and we yearn for the opportunity to live in nature after the COVID-19. We need a container; it'd better be made of wood, very warm; we can walk around the room barefoot, sit down to watch the autumn leaves fall out of the window; nature wrapped us, I feel like back to the origin of life. The cabin is small and hidden in the woods as if it is part of nature; The cabin is lightly placed on the earth, not a burden to nature; Cabins are put together quickly like Lego, with many families involved. There is the song of birds and the breeze between trees. The leaves rustled beneath my feet as I approached the wooden cabin. There was a lonely cabin in the woods, as small as a building block, but it fulfilled all our dreams of a wilderness home: the wood, the fireplace, the loft, the warm carpet under our feet. Natural Architecture Education - Urban and Rural Co-construction Together with French universities and the French Ministry of Culture, we create a camp with the theme of natural architecture education. In the past ten years of practice, we have completed dozens of community co-construction projects in more than ten countries around the world, and thousands of families have participated in them. In Wiki World natural campsite, we hope it is not only a static space product but also a place to learn and build together with more friends who love architecture. We believe that it will bring more vitality to the Chinese countryside through the interactions between urban and rural communities and physical collaborative constructions.

Company name: Wiki World

Location: Wuhan, China

Team: Mu Wei, Zhang Yingchun, Wu Baorong, Feng Zhaoxian, Pan Yanjun, Li Jiaqi

Bronze Prize in architectural design- House of Dreams

Company name: Insitu Project

Design Educates Awards
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The House of Dreams is a unique revitalization of an abandoned cave settlement in Zhoushan village into a Rural Development Training Centre. Designed by the Insitu Project with the involvement of Lian Jun and the elderly village community, the project recovered 19 caves and constructed a series of new buildings around three sunken courtyards. The project's three aims were: the reconstruction of the caves, the recovery of traditions and skills, and the restoration of collective memories. The project name derives from the memories of the villagers of their childhood in the caves and recollections of family life, which now exist only as their dreams. The use of waste materials in the walls and courtyards makes the collective memories of the cave-dwelling life physical. To enable this, as a part of the design and construction concept, villagers with no previous construction experience were trained in an innovative construction process to construct walls and surfaces using discarded construction and building waste. Very few detailed drawings were produced for the project. The project realization, therefore, arises from the collective creativity of 80 villagers. Four key architecture concepts structured the project: 1. Diversity of cave reconstructions: The community decided that cave revitalization and new cave structures were to be diverse: earth cave, grey-brick arch cave, red-brick arch, extended structure, vaults, conical arch structures, and cantilevered cave structures. 2. Rural revitalization: The project should initiate rural development in a step-by-step community-run cultural planning process as a social paradigm. 3. Cyclical material economy: Construction to be done using recycled construction waste, aimed towards circular and more sustainable practices and increasing villager skills and training in construction and reducing cost. 4. Enhance environmental planning and passive micro-climate principles

Company name: Insitu Project

Location: Zhoushan Village, Henan Province, China

Team: Architects: Insitu Project: Leading architects: Kuo Jze Yi, Peter Hasdell, Assistants: Zhou Zi Hau, An Tian Jian, Lee Chung Bun, Liu Min Hau. Project Team: Community Work: Liang Jun, Ou Yang Xiu Zhen, Dong Lin, Jin Dou Dou. Solidarity Economy: Ku Hok Bun.

Building Team: Yi Rong Liang, Zhou Hai Shan, Chen Guo Bin, Zhou Bao Liang, Wang Zhen Shan, Wang Zhong Shuan, Wang Jin Ping, Zhou Yin Mu, Wang Dong Biao, Sun Huan Ling. Building Management: Feng Rui Fen, Wu

Huai Zhen, Jing Qiu Feng, Hao Yu Zhi. Community Association: Zhou Xi Chuan, Jing Xiu Fang, Zhou Xi En. Material Donation Representative: Yi Fang, Zhou Zi Yun. Other Support: Zhoushan Village Party Branch Committee & Zhoushan Village Committee. Interior Design: Evelyn Liang Yi Hu. Volunteers: Wu Jun Ping, Keita Tajima, Tan Min, Li Dong Min, Aubrey Au, Chelsea Chan. Collaborators network: Universities: School of Design, The Hong Kong Polytechnic University; School of Architecture and Urban Planning, Shenzhen University; Department of Applied Social Sciences, The Hong Kong Polytechnic University Funding: The Li & Fung China Social Policy Research Fund, Chan Cheung Mun Chung Charitable Fund

Special Recognition in architectural design - BetaPort - Circular Building Technology On-Demand

Company name: Urban Beta UG

Providing Scalable Building Solutions for a Circular Future BetaPort provides circular "Building As a Service" (BAaS) solutions for sustainable architectures on-demand. We offer adaptive spaces that are flexible in use and follow an open-source mentality. Our system can grow over time and adapt to future use cases, activated through predictive planning for maximum efficient layouts. BetaPort offers the seamless integration of technical solutions as well as a circular production chain, including material tracking. Sustainable Architecture, digitally planned, using Automation The BetaPort system is built upon highly flexible interior layouts based on modular, reversible building blocks. The design can react to changes, like varying capacities or alternating functions. BetaPort comes with its own digital planning tool: The BetaPort configurator. It serves as an interactive platform to connect various project stakeholders, decision-makers, planners, and users alike. Using machine learning and custom algorithms, the configurator is designed for playful and efficient planning. It eliminates planning errors, anticipates building costs, and creates production data. Affordable and Easy to Build BetaPort construction has a certified and patented building technology with a streamlined production. Every element is tested, and quality checked in the factory to guarantee a great product. All elements are easy to assemble on site by skilled and

non-skilled workers. BetaPort fosters the democratization of construction through its participatory, systematic, and open-source approach to building. We offer digital manuals for all building scales and sizes, including custom elements. Completely designed on Circular Economy Principles Designed for disassembly: BetaPort uses material passport and reversible connections. Completely designed from renewables or cycled materials, BetaPort aims to provide sustainable buildings that create carbon sinks and active material depots. Innovative material sourcing and combination strategies allow for upcycled and secondary materials in the construction system. In this way, BetaPort enables new business models based on space on-demand solutions, service and subscription models to create "Buildings as a Service" (BaaS). BetaPort ONE BetaPort One is the world's first circular hub on-demand, completely implemented with our efficient planning process and our ecological building system. BetaPort One seamlessly integrates innovative mobility solutions and charging infrastructure into a new generation mobility hub: circular, sustainable, participatory, planned, and easy to scale. With our circular design approach, every BetaPort ONE pop-up becomes an actively managed material depot, including material passports. Thanks to an ecosystem of components, rooms can easily be added, relocated, or remodeled. Relocation to other locations is possible in a short time, thanks to the simple construction system.

Company name: Urban Beta UG

Team: Urban Beta is a spatial innovation studio creating inclusive, unconventional, and transformative spaces. The studio develops spatial systems with a participatory approach. Our work deals with social justice, predictive planning, co-creation, and the democratization of design. Urban Beta is led by Anke Parson, Marvin Bratke, Florian Michaelis and Paul Clemens Bart. BetaPort Project Info: Project Name: BetaPort - Sustainable Building Technology On-Demand BETAPORT ONE Location: Berlin, Germany BETAPORT Mobility HUB Location: Kiel, Germany Gross Floor Area: adaptive BetaPort System: Urban Beta Inventor / Design Team: Marvin Bratke, Florian Michaelis, Anke Parson, Paul Clemens Bart Architect: Urban Beta with BART//BRATKE and graadwies Engineering Partner: structure Timber Manufacturing Partner: Gebr. Schütt KG Engineering Team: Julian Lienhard, Benedikt Neubauer Timber Construction Team: Tilman Schütt, Tim-Niklas Alpen, Paul Clemens Bart, Marvin Bratke, Florian

Michaelis, Anke Parson Configurator and Visualisation: MOREAN
Configurator Team: Philipp Eckhoff, Jacobo Garcia, Wojtek
Wojakowski, Paul Clemens Bart, Marvin Bratke, Florian Michaelis,
Anke Parson Visualisation: Images by Urban Beta, plo.mp, bitscapes
and imperfct Photo Credits: naaro MEP Planning: IB Hahn Lighting
Design: JackBeNimble, Trilux Partner Lighting: Trilux

**Special Recognition in architectural design - Educational pavilion
with a recreational clearing on the banks of the Vistula River**

Company name: eM4. PRACOWNIA ARCHITEKTURY. BRATANIEC MARCIN
BRATANIEC

Idea - The idea of the project was born while visiting the place. The direct inspiration was a postglacial stone lying on the shore in the thickets. Its form, location, and symbolism gave rise to reflections, searches, and references to the symbolic sphere. Erathic boulders are scattered, and, in this part of Europe, they draw a map of the extent of glaciation. Their highest density occurs in the Warsaw region. They are the witnesses of natural processes, natural exhibits sharing tales about the distant places they have come from. The form of the designed landscape follows the idea of errare. It interprets the shape of river tides and shoals. They bring to mind the processes of displacement and migration, instilled by the form of a stone, referring, however, to a different time and spatial horizon. The paths refer to the current of the river, and the elements of land development refer to the materials collected and following its course. The pavilion form constitutes the Erathic interpretation, giving it the rank of a sculpture that hides the caring space in its interior. The hollow interior of the stone refers to the archetype of a shelter. Natural migration landscape - The clearing on the river bank complements and continues the ideas related to movement and migration in nature. It is a naturalistic space for spending time and playing. The layout of the paths is a visual interpretation of the forces shaping the river current, forming the unique landscape of the Vistula in this part of its course. Parts of the clearings inspired by shoals are filled with various elements that allow, on the one hand, to provide a place for necessary activities and, at the same time, refer to the role of the

river in the entire ecosystem. With its form and content, the glade creates a landscape that tells about the genesis and identity of the place. Values of the project - The project was carried out to create a place of communing with nature. It educates according to the principle of meeting - explanation - exhibition - observation. The very space of the pavilion and the clearing is an exhibition that allows the observer to become sensitive to what is present in the surrounding landscape. The project educates about nature and carries the idea of ecological building. The building does not interfere with the terrain; it is founded on a slab, thus not changing the soil structure and water conditions. It is made in low-tech technology in the form of a raw concrete structure. It protects against noise from the nearby railway line and stabilizes the temperature in the facility. The paths and all hardened surfaces are permeable. Designing is maintained in the spirit of minimal interference with the natural space. Looking at the place is the basis for finding the spatial code, which, interpreted in the design, allows you to complete the space without disturbing its landscape identity.

Company name: eM4. PRACOWNIA ARCHITEKTURY. BRATANIEC MARCIN BRATANIEC

Location: Wybrzeże Puckie 1, 03-301 Warszawa, Poland

Team: eM4. PRACOWNIA ARCHITEKTURY. BRATANIEC MARCIN BRATANIEC team: Marcin Brataniec (main designer), Urszula Forczek-Brataniec, Marek Bystroń, Damian Mierzwa, Maciej Gozdecki, Jan Wojtas (structure design)

Honorable Mention in architectural design - Imaise house

Company name: Tatsuya Kawamoto + Associates

When both "high earthquake resistance" and "open space" are required, it usually makes more sense to have a main space on the second floor, if it were so originally, since the amount of walls required structurally is less than the first floor. But here, we aim to get the maximum spatial volume in the conditions given by taking in the surrounding environment of the "private road" where the front road is an individual property and planning a space in which the inside and outside are seamlessly continuous at the 1st floor. By

making it a simple and clear configuration that only has a "gate-frame" of 8.0m in width, it achieves both well-balanced earthquake resistance performance and a large opening. This "private road" extending like a branch from the main road was stretched around this area, and a unique community was formed respectively. By incorporating the unique locality that is different from each road into the living space, we thought it would be possible to contribute to regional development as a new climate as a residential area for communities that could be made as a by-product of local industries. In addition to its role as an earthquake-resistant element, the "gate-frame" plays a role as a ruler that gives rhythm to the space by arranging at regular intervals and measures the sense of distance from the city. By inserting rails into each frame, it is easy to adapt to individual needs. In order to make effective use of the limited premises as much as possible, it is expected that the life of the resident will gradually ooze out into the area under the large roof by extending the eaves to the front roadside and creating an external space continuously. Thanks to the surrounding environment, which was wrapped moderately by chance, we were able to take in the neighboring land, including the road as a living space. It is a way of construction that took root in this land made by mixing the demand that the resident requests, the structure form to solve the land, and these.

Company name: Tatsuya Kawamoto + Associates

Location: Aichi Japan

Team: Tatsuya Kawamoto

Honorable Mention in architectural design - Suspension Bridge and Viewpoints along the "Plima Gorge Panoramic Trail"

Company name: tara architects and Pohl+Partner

Although a trail has always been running only a couple of meters beside it, the Plima Gorge was never set a focus on. No hiker, no tourist, hardly any local would know about it despite its striking beauty. When the vision of making the gorge "accessible "was born, tara opposed all ideas of constructions – stairs, bridges, paths, ladders, etc. – being inserted in the gorge. The fascination of this gorge and its setting in the surrounding landscape is best

experienced from the edge, and along it, tara claimed. Leading the hiker off its existing path on four little detours of only a couple of minutes, the viewpoints make him experience the edge of the Plima Gorge in four different manners: The "ladle" takes the visitor down beyond the edge, bringing him close to the Plima's spray. The "sickle" lets the visitor slide horizontally along the edge. The "pulpit" lifts the visitor up above the edge line. And finally, the suspension bridge takes the visitor from one edge to the other, creating a new connection between existing trails on the two sides of the gorge. The challenge for us as designers was to develop viewpoints that provide enough securing elements (stairs, railings, etc.) to guarantee the safety of the visitor, and at the same time preserve the breathtaking experience that makes you go weak at the knees when you slowly walk forward to the edge of the gorge. The four pieces of construction might be sculptures themselves, but the experience they allow is always the gorge itself: the deepness of it, the harshness of the faces, the force of the water, the light, the scent, the atmospheric conditions. They are mediators between the visitor and the landscape, between the human being and nature itself. Along the trail, additional information about animals, plants, history, and natural phenomena is given by trilingual signposts to make the circular walk an entertaining and, at the same time, educational experience. To respect and preserve the existing landscape that is part of the "Stelvio National Park", the detailed planning of the viewpoints and the suspension bridge aimed at a high degree of prefabrication. Up to whole viewpoints were assembled in the valley and then flown to the site by high load helicopters. This reduced the intervention on-site to an absolute minimum. Apart from the preparatory works of anchors and punctual concrete foundations, no remaining construction site traces were left. This is crucial in a high alpine setting, where every wounding of the ground covering vegetation takes years to be restored. The "Plima Gorge Panoramic Trail" has in the years since its completion proved to really serve its purpose of inviting people to come to Val Martello Valley to experience the beauty of its landscape along and around the Plima Gorge. And if more and more people learn to see, feel, experience, appreciate and cherish the vulnerable beauty of this high alpine ecosystem, the project has reached its educational aim.

Location: Val Martello valley, South Tyrol, Italy

Team: The suspension bridge and viewpoints along the "Plima Gorge Panoramic Trail" at the head of Val Martello valley is a cooperation of tara architects and Pohl+Partner engineers. In a project of this kind, neither architects nor engineers can do something convincing without the other. But together they can do amazing things! tara is an architecture studio based in Merano, in the region of South Tyrol in the very north of Italy. The studio was founded in 2011 by Andreas Zanier and Heike Pohl. In the ten years of its existence, the studio has worked in a wide range of fields, from single-family housing, over residential complexes, tourism, gastronomy, educational architecture, infrastructure, urban space design, and landscape projects. The studio has grown to a team of 10 architects with backgrounds and education from both Austria and Italy. Being set in a bilingual (German/Italian) region at the meeting line of Italian an Austrian-German culture, unprejudiced and curious approaches to "the other side" - whatever the "other" might be - is in our nature. The surrounding landscape of the central alps is often a strong player in the design process, so the awareness of natural forces, climate, light and seasons is an important aspect in all of tara's designs. Pohl+Partner engineers and its preceding engineering firm Dr. Ing. Siegfried Pohl has many years of experience within structural design, industrial design, road and infrastructure planning. Their experience, paired with the will to achieve outstanding technical solutions, was crucial in the planning phase as well as under construction of the suspension bridge and viewpoints along the "Plima Gorge Panoramic Trail".

Honorable Mention in architectural design - Code-Bothy

Company name: Piercy&Company

Code-Bothy is an experimental digitally-designed brick shelter and the first project borne from an ongoing research partnership between Material Architecture Lab (MAL) at The Bartlett, UCL, and London-based architecture studio, Piercy&Company. Called 'Making and Practice', the partnership brings together expertise in digital fabrication techniques and material experimentation. It aims to find new applications in craft, design, and architecture and provide proof of concept to the industry by realizing research subjects as

full-size structures. The partnership provides two-month placements to two recent graduate students from The Bartlett, divided between MAL and Piercy&Company. Whereas rudimentary geometries form a traditional bothy (a basic shelter in remote areas), Code-Bothy uses parametric modeling to generate a curved form with a complex offset brick structure. Built on-site at Grymsdyke Farm in Buckinghamshire, the bricklayer wore an AR (augmented reality) headset displaying information from the 3D model. The bricklayer, often working against intuition, successfully constructed the intentionally complex form. The digital/manual connection lies at the heart of the research's relevance: the use of the AR headset on-site enabled the practical realization of the complex parametric and digital design, a design that had been structurally tested in the model but seemed implausible to the bricklayer. Advances are being made across academia and practice using parametric modeling to reduce wasted materials, minimize material over-use, and push structures to be as efficient and lean as possible. Code-Bothy demonstrates how these advances can be relatively simply applied in a real construction environment using the existing skills of the construction labor force. Code-Bothy was motivated by the search for a new language for sustainable brick architecture - driven by beauty, formal playfulness, and textural delight. The gradually rotating angles of the brickwork for Code-Bothy create a complex and beautiful pattern, prompting an aesthetic reassessment of the humble brick. There is joy and delight to be found in sustainable architecture. Code-Bothy proposes an (optimistic) vision: one where the bricklayer's skills, fine judgment, and timing are enhanced by the digital tools of parametrics and AR. It is the combination of the digital and manual that the structural possibilities, material use reduction, and visual language of brick architecture are expanded.

Company name: Piercy&Company

Location: Grymsdyke Farm, Buckinghamshire, United Kingdom

Team: Code-Bothy is the first project borne from a research partnership between Material Architecture Lab (MAL) at The Bartlett, UCL and architecture studio, Piercy&Company. Material Architecture Lab (MAL); Research Partner Guan Lee, Daniel Widrig and Adam Holloway; MAL project team Piercy&Company; Research Partner Stuart Piercy, Yannis Halkiopoulos and Fiona Neil; P&Co project team Changjian Jia and Teng Wang; Student Researchers David Hussey; Chief

Bricklayer Kevin Rouff, Paco Bockelmann and Jianbin Sun; Bricklaying Team Nigel Tucker; Site Manager Andy Grant; Landscaping Tim Lucas; Structural Engineering Advice Petersen Tegl; Bricks

Honorable Mention in architectural design - ciAsa Aqua Bad Cortina

Company name: Pedevilla Architects

An all-wooden family home avoiding plastic, chemicals, adhesives, or resins: no need for insulation - ciAsa (Rhaeto-Romanic "house") is an all-wooden high-alpine family home surrounded by the Dolomites of Val Badia. It stands on a gentle hill next to a thermal spring. Based on the archaic form of a house, no distinction is made between roof and façade. The roof's rising form makes the building visible from afar, while the low eaveslines provide protection. The shape of the trapezoid appears as a recurring element in the overall design. Trapezoidal dormers and a skylight illuminate the interiors in a cone-like shape. The three overground floors are entirely made from wood that fell on 30 October 2018 during heavy storms in the surrounding forests. Massive spruce wood was salvaged to create the walls, using a special technique to avoid the use of adhesives and resins. Based on 6cm thick wooden planks, 36cm strong outer walls were crafted. Even within those elements, the planks were put in the same way as the tree had grown - bottom to top. On the inside, the surface consists of solid and hand-planed stone pine wood. All walls were prefabricated with this surface; connections for windows and doors were rebated into the wall elements. Because of its warm color, charisma, and characteristic smell, the stone pine has been used in local tradition for many centuries as the interior lining of the parlor. Like a pine cone, the façade is clad with hand-split larch shingles. Due to an ample wall thickness, the house achieves very good thermal values, making additional insulation completely unnecessary. The concrete for the basement consists of dolomite rock from the nearby creek, enriched with the property's own thermal water. For this project, the aspect of sustainability was given extra high priority. The majority of the used materials is local and natural. Almost no synthetic materials had to be used. Not only is the wood strictly local, but also the stone flooring was cut from dolomite boulders from the valley. The choice of materials was

driven by aesthetic qualities as well as the knowledge about their resistance and durability. For example, the façade's larch wood is weather-resistant even without any treatment. Over the years, the solid woods develop a patina, giving them greater character making the building increasingly beautiful over time. Constructing the ciAsa, the life cycle of the materials and resources has been extended in a meaningful way. Environmental impact and costs are thus reduced in the long term. Great importance was also attached to the social and cultural aspects of sustainability. Only craftsmen from the valley were involved, being able to enrich the project with their experience and expertise in local construction methods. The perpetuation of local traditions in modern ways respects the local culture and preserves millennia-old knowledge, which is endangered due to high-tech developments and increasing standardization of new buildings.

Company name: Pedevilla Architects

Location: San Vigilio di Marebbe, South Tyrol, Italy

Team: from Pedevilla Architects: Armin Pedevilla, Alexander Pedevilla, Matteo Bolgan, Nico Schmitt Armin, and Alexander Pedevilla studied architecture at the Technical University in Graz. Both independently founded their own office in Austria after graduation. Driven by the desire for alpine building, the brothers returned to South Tyrol in 2005 to jointly found the office pedevilla architects. Since then, pedevilla architects have made a name for themselves in the national and international architecture scene and now is one of the most renowned offices in Italy, as well as in the entire German-speaking area. Their work has received numerous awards, has been published, and has been shown in numerous architectural exhibitions. This was followed by lectures at universities and institutions in Germany, Austria, Switzerland, Italy, Slovenia, and Croatia, as well as acting as jurors in architectural competitions. For pedevilla architects, building means consciously dealing with social, cultural, economic and ecological components of everyday life. The integration of a building into existing local structures plays an equally important role as the response to the respective temperature and climate influences. In this context, the issue of consistency becomes an important factor in planning decisions. "We are concerned with the cycles of the materials used, their durability and service life, but also with

traditional craftsmanship methods that have been handed down, with the knowledge that was thought to be lost; but above all with the fact that materials live."

Honorable Mention in architectural design - Rubrum Winery

Company name: Office Istanbul Architects

RUBRUM WINERY İzmir, Turkey Office Istanbul Architects 29.07.2021

Nestled in the countryside of Seferihisar, the Rubrum Winery combines the region's long-standing wine tradition with a contemporary design in constant dialogue with the surrounding environment. The context occurs together with a field of rich soil conditions to grow vines and feed its habitat with a perfect climate. In addition, the place exists where the green interacts with the sky, vastly gets exposed to the powerful Aegean sun, and gently welcomes the visitors as it does to the grapes. Our conceptual approach progressed simultaneously with our desire to create an experience for visitors wishing to understand and appreciate the wine they consume at this location. The Rubrum Winery also gives access to the acts of harvesting grapes, maturing, and bottling the wine. It also includes a shop, a tasting room, and a private dining area for the guests. By creating a dynamic interplay of light, shadow, reflection, and repetition, the architecture becomes an expression of slipping through the valley. The elegant and refined reflection of the landscape in which the vines grow is achieved by planning reflecting pools and making the use of a mirroring effect to complement our surroundings.

Company name: Office Istanbul Architects

Location: Izmir

Team: Kemal Serkan Demir Ece Türkel Semril Zorlu Lara Uyal Murat Kumbaracı Can Sözeri Şeval Özakça Zulal Coşan Burhan Semet Ahmet Seyrek

Honorable Mention in architectural design - Learning Phenomenological Pavilion

Company name: Mónica Arrezola Lueza

Understanding space means exploring its possibilities, that is, observing how objects and space react to various mutations. In this way, it will facilitate the understanding of the evolution of the spatial concept and develop phenomenological dynamics through light, which lead to the understanding of the space through the controlled manipulation of basic physical models 1:1 scale. Bringing the material essence from the region so that it can be expressed in space. Testing the value of their cultures and recognition of their right to express themselves and the appreciation of some of their cultural traits that produce meaning in a world in which simple attributions of meaning are changing. Architecture deviates if the enrichment of buildings is through an extra-architectural resource, as part of a broad strategy to support the development of skills and opportunities for the native population of Nuevo Leon, Monterrey, Mexico. They favor the well-being and social participation of the beneficiary population through programs that promote better organization and community interrelation. Defined as the brain's ability, mental (cognitive) flexibility refers to the characteristic to easily adapt our behavior and thinking to change unexpected concepts and situations. We need fluid reasoning ability when solving problems in new situations. Generate alternative and changing responses to solve current problems, loss of public space, economic crisis, and loss of a common Social Ideal. Through an extra-architectural resource. As part of the experimentation and flexibility, the spaces are configured based on mobile panels that vary their function with respect to the user. It is proposed that these, in addition to dividing or expanding the space, serve as a teaching method as it is an example of permeability, materiality, and multifunctionality. Much of the sensations that are perceived in an environment are generated from materials and textures, for which the project integrates walls with container modules of finishes used in the region, which allow the user to observe them, feel them, create compositions, and analyze them in a better way.

Company name: Mónica Arrezola Lueza

Location: Aramberri, Nuevo León, México.

Team: Alejandro Bribiesca Ortega Leticia Villanueva Gomez David
Teodocio Montiel Mónica Arrezola Lueza Jesús Fernando Castro Mendoza
Sofía Cortés Hernández Heriberto Loranca Morales Brenda Iliana Uribe
Ramirez Carlos Cortez Dena Juan Manuel Tejeda Sanchez

**Honorable Mention in architectural design - Looping Landscape
Kindergarten**

Company name: Types of Spaces

Located in a strategic corner of the Poblenou district in Barcelona, currently, an empty plot next to the Poblenou Central Park and Diagonal Avenue, this new kindergarten welcomes children from 0 to 6 years old. The aim is to offer a place where children and teachers feel embraced and looked after and that the parents and the whole community can use and relate to. The playground would open to the local community outside teaching hours. The brief considers an educational project similar to most of the municipal kindergartens and inspired by the Montessori and Reggio Emilia pedagogies. A key aspect of the project is to provide spaces that offer different learning through play situations for the child to choose from, depending on his own interests. The design of this kindergarten reflects the values of the educational project, as we believe that architecture and pedagogy should be in constant dialogue. The design of the building expands the playground area on the ground floor by creating a walkable landscape on the roof, thus expanding the play areas, the visual connections along with the spaces, and the opportunities for social interactions. The undulating roof appears from underneath as a series of curved beams that form a flowing spatial experience with changing contours as one moves along the space. The building is formed by two wings that embrace the central playground, with all the classrooms facing the playground. The central entrance articulates the two wings, each one with a big long hall as multifunctional space and a row of classrooms. The classrooms open towards the hall as well as the playground so that the spaces are linked. The structure of the building consists of a series of undulating beams that follow a central axis across the entire length of the building, which contains the services and facility areas. Both the street and playground façades have a slight

undulation, contributing to add dynamism to the spaces. Upon walking through the building, the spaces unfold, revealing different sightlines, activities, and lighting qualities.

Company name: Types of Spaces

Location: Barcelona, Spain

Team: Adelais Parera

Honorable Mention in architectural design - Italian Cultural Exchange City Reception Center-The Chinese Cultural Hall

Company name: aoe

The architects hoped to find the intersection of the two in the cultural differences between the East and the West: the overall design concept was taken from the "Ruyi", which has been used in China since ancient times as a gift to foreign ambassadors to signify the conclusion of friendly relations and the peace of the two countries; while the Italian pavilion draws its design inspiration from Italy's most representative piazza, shaping an intimate and pleasantly scaled urban art living room. The design elements are extracted from the ancient Roman arches and domes, and the smooth enclosure of multiple circular squares is used to form a rich and versatile use space to meet the multifunctional requirements of exhibition, meeting, reception, and catering. The use of pure white on all walls gives the building a different three-dimensional light effect in the sunlight, while the large area of glass extends the indoor space to the outside and allows the outdoor scenery to be fully mapped in, becoming a dynamic mural of the four seasons. With the change of wall materials, the designer creates the feeling of space that is both inside and outside, and the pavilion is thus perfectly integrated into the surrounding natural environment. The harmony between architecture and nature lies in the use of natural resources as well as in the protection of the natural environment. The pavilions on both sides are designed with top lighting so that the light is evenly diffused in the indoor and outdoor spaces. In addition, the introduction of multi-level outdoor greenery and the use of buoyant ventilation devices to channel airflow into the building organically combine the natural elements of light, scenery, and wind, allowing people to perceive and coexist with the surrounding natural environment while they are

in the building. Meanwhile, the building design reveres the existing ecological environment and uses materials and means such as low-e glass, local wood, and green roofs to reduce building energy consumption and achieve sustainable construction. The exhibition hall serves as an important part for linking and integrating the surrounding ecological forest. In terms of space planning, the designer has reserved the most flexible space for exhibition and display. The staggered height of the building allows visitors to stand at different heights and view different scenery, creating a "walk in the woods" mood and a unique experience. The interior of the building is a flowing space shaped by ten circular walls of different sizes, which are divided into three levels of elevation in accordance with the terrain, rising from the entrance hall to the interior space step by step, with two circular skylights in the entrance hall and the central exhibition hall to guide visitors from the entrance hall to the main exhibition hall. The ceiling is controlled at the same level, and the height of the space is richly varied.

Company name: aoe

Location: Sichuan

Team: aoe is an award-winning Beijing-based architectural design practice established in September 2016. The name of aoe (architecture of event) derives from the expression of 'there is no architecture without event' by the American architect Bernard Tschumi. The architectural philosophy beyond this statement is the core value of aoe's practice. aoe is a dynamic design force in the fast-changing world focusing on the goal to improve the living environment by engaging new technologies, materials, social value, history, art, and culture. When designing, aoe studies and refines the vivid relationship between architecture, space, and its users to encourage a positive impact on society with innovative design solutions. The natural logic of being such as space, material, construction, and technology is the key-driven force to generate the space and form. aoe's solution-oriented design approach provides professional services to maximize the success of every project.

Honorable Mention in architectural design - University Refectory

Company name: Graal Architecture

Located in the heart of Cergy, the existing refectory, erected in 1993, has the privilege of being set in the François Mitterrand Park. Discreetly embedded in the topography, it faces a paradox: while benefiting from a privileged position, the refectory suffers both from a lack of visibility and from interior spaces that are little enhanced by its lack of links with the outside. The restructuring project is thus an opportunity to reappropriate and inhabit the landscape qualities of the site in order to affirm it as a strong component of the park, well anchored in its context and uses. The original building also displays genuine architectural qualities: a durable, prefabricated, deactivated concrete envelope, a traced and flexible construction system, and a wealth of useful features. The project develops a double programmatic component: the in-depth renovation of the refectory's 2000 m², and the addition of an extension, called the kiosk, enriching the refectory's initial offer. The program is spread over the two original floors, accessible on the same level thanks to the topographical movements of the land. Forming a semi-subterranean mineral base, the garden level includes the dining room - which opens on the park - and the kitchens - in its rear part. The interventions consist in reinforcing the relationship between the interior and the exterior in order to bring more light and views to the dining areas and to enhance their uses. Thus, the openings in the façade were enlarged by removing the spandrels; the sloping ground was reshaped following the removal of the retaining wall, and the new glazed façade became an opportunity to create more visible entrances. The materials used were dictated by the need to make the space as generous as possible. The light grey resin floor, the glossy white tiles with green joints, the expanded metal elements, and the acoustic baffles made of partly replaced mineral tiles guarantee the flexibility and legibility of the dining space required by its program. The extension is modest in size and consists of solid multi-plywood panels positioned in the continuity of the initial framework on the upper level that reaches out into the park to extend the roof. On the existing side, the kiosk deploys an opaque technical band covered with a reflective cladding of corrugated sheet metal

identical to the roof, interacting with the entrance. On the park side, the refectory area opens entirely onto the landscape through a transparent and rhythmic envelope made of a curtain wall of green spines. This light pavilion becomes a unifying element between the different parts of the refectory, allowing it to assert its presence while ensuring the architectural coherence of the whole. Through a sober and economical design, the project demonstrates how work on the existing building accompanies the repositioning of an ordinary program such as a "resto U" allowing it, through architecture, to reinterpret its uses and its programming

Company name: Graal Architecture

Location: Cargy-Pontoise, France

Team: Lead Designers : Carlo Grispello & Nadine Lebeau Designers and Construction Managers : Alejandro Bernal, Pierre Gaucher, Cristiano Gerardi Studio : Graal, founded by Carlo Grispello and Nadine Lebeau, is dedicated to architecture and urban strategies. The firm strives to enhance the economy of means, construction process, and project materiality. The firm's projects are developed through a sober and objective approach to give a real place to the role of territorial investigation, the public dimension, and ways of dwelling throughout the design phases. Graal aspires to render the specific features of a site and a project commission through a language non-decisional, independent, and interested in responding to real contemporary issues. Through an attitude coherent with the context and an investigation on the relational space, the projects carry a positive social and environmental impact. Graal is committed to dealing with every scale, from the domestic scale to the urban scale project. The office's practice encompasses France and abroad in close collaboration with multidisciplinary consultants in order to guarantee intelligent and feasible projects. Graal has been distinguished on several occasions. In 2016, the office was a prizewinner of the ADC Awards and received the Europe 40 under 40 awards attributed by the Chicago Athenaeum and the European Urban Centre for Architecture, Art Design, and Urban Studies.

Honorable Mention in architectural design - Villa Reden

Company name: Architekt Maciej Franta

The unique context of the place and the potential negative consequence of implementing a new tissue in this unique area meant that the decision to shape a new building was not easy and had to refer directly to these guidelines, not compete with them, and "respond" to the environment with its uniqueness in a contemporary way. The task was even more difficult as the budget was limited and the investor's expectations were high. The idea and shape of the building resulted directly from the irregular polygonal shape of the area intended for development and the idea of leaving the largest possible tree stand on the plot. Such a simple inspiration has become the basic guideline for shaping the building. Creating the form step by step, first of all: the solid was formed in accordance with the function of the apartments, optimizing their function into the shape of an irregular polygon. Then, a perimeter line was marked along the plot boundaries, and the block of flats was surrounded with balconies to obtain a panoramic opening to the surroundings. Due to the acute angles (foreign in the context), it was decided to round the corners, referring to the character of the interwar villas in the neighborhood, tree crowns and the surrounding greenery. In the next step, to open the view to the surroundings, the block was dressed in wooden viewing terraces with various surfaces around it, an internal break in the form was introduced by implementing a patio to illuminate the internal parts of the apartments (bathrooms and entrance areas to the apartments), and the floor of the residential part was raised by one level, leaving the undeveloped ground floor as a space for social interactions of residents and additional external functions. The building formed in this way received unique features in the form of large terraces, from which you can enjoy the charms of the surroundings and full integration with nature due to the proximity of trees and additional lighting in the patio. In the last step, the rhythm of the elevation was shaped. Vertical divisions of the façade were introduced, creating expressive regular squares arranging the freely formed volume of the building. It was ensured that the division of the facade and its rhythm were equal and did not have anomalies in the form of extensions or additional elements.

Company name: Architekt Maciej Franta

Location: Chorzów, Poland

Team: Franta Group design office was established in 2010 in Katowice. The office deals with conceptual, construction, and executive designs of residential, service, and industrial buildings.

Honorable Mention in architectural design - European Center of Jewish scholarship

Company name: SSP Růthnick Architekten

At the Sanssouci Palace Park, the North Gate Building and the adjoining former Orangery to the west were converted and refurbished by SSP Růthnick Architekten. The first academic education center for rabbis and cantors in Central Europe after the Shoah confronts the architects with a special challenge: "The design of the sacred space was a very special development!" Potsdam's first synagogue with 50 seats is located in the center of the listed ensemble. The art (by the artist SEO) in the synagogue gave the space another special attention and required additional integrative design work. The design of the sacred space is in a listed building, a former stable. A special lighting design gives the synagogue a unique look, a Torah with a 7-arms menorah in light lines engraved. And a Bimah with lighted fiber concrete as the eternal light, ner Tamid. The Abraham Geiger College and Zacharias Frankel College are located in the North Gate Building, and the School of Jewish Theology is located in the former Orangery – together, they form the new European Center for Jewish Scholarship. The former Orangery (with a length of 30 meters) was structurally changed several times, such as the conversion to a gym during the GDR era. The original use should be recognizable again by getting back the character of an Orangery. This was done associatively and with contemporary means. The current south facade was completely dismantled and renewed as a glass facade. A modern, elongated structure made of exposed concrete fits into the existing structure as a house within a house. In the "buffer zone", between the new south façade and the house within the house, lounge areas and self-study areas were created for the students. A pleasant microclimate was created, where ventilation is mechanical, with an external sunshade that adapts to the position of the sun. The light effects from the multicolored printed glass façade – the result of the art-in-architecture- competition (by the

artist Eva Leitolf) – further enhances the quality of the space. In addition to the new architecture, the focus is on the listed ensemble – the New Palace – and thus the historical development of the buildings. Its architect was Carl von Gontard (1731-1791). The North Gate Building was erected in 1768/69 as a lodge for the court gardener. Today, it houses offices and seminar rooms that meet all the requirements of contemporary learning and working. Providing for students, lecturers, and staff from all over the world a vibrant synagogue and seminar room above and lecture halls accessible without barriers; a spacious lounge area in the Orangery for exchange between students and lecturers; self-study areas and high-quality outdoor lounge; seminar and office rooms with a view of the Park. It's a lighthouse project with international impact to provide a space for study, prayer, and exchange.

Company name: SSP Rüttnick Architekten

Location: Potsdam, Germany

Team: SSP Rüttnick Architekten arose from the architectural office of Elisabeth Rüttnick, which she founded in Berlin in May 1989.

Since 1995 Elisabeth Rüttnick has been managing the office together with Wolfgang Planitzer. In 2021 the SSP Rüttnick Architekten GmbH was founded with the managing directors Elisabeth Rüttnick, Wolfgang Planitzer and Marius Scheffer.

Honorable Mention in architectural design - Hadohilljo Townhouse

Company name: UNITEDLAB Associates

This village is composed of a community center, 48 single residences, parks, and amenities. The main corridor connects the individual homes. The site, located in Hado-ri, is one of the most preserved natural regions. Hado-ri stands in high relief to the rapid march of development on other parts of Jeju Island.

Acknowledging the uniqueness of the site, the proposed planning scheme creates spatial diversity as well as equal accessibility to views and naturally occurring breezes. The site slopes gently towards the sea. Longitudinal vehicular circulation minimizes the slope. Four unit types will be orchestrated according to their distance from the sea. Units located farther from the sea have been designed to peer over units that enjoy a closer position. For safe

pedestrian access, the crossroad provides a clear delineation between vehicular and foot traffic. Visual connections to the sea and to the landscape enhance the sense of place. Landscaping is vital for mediating climatic variances, ensuring visual and acoustical privacy, and defining space. As a soft boundary, landscaping elements accentuate the hard architectural boundaries by nurturing interaction. By layering and sequencing zones, pocket parks connect shared units, and the main corridor connects the individual homes. Echoing the overall site plan, the parks are not individually defined. Rather, the parks are connected organically and thoughtfully define the voids between the units of collective housing, wherein residents can contemplate privately or commune with nature. The idea of clustering simply shaped individual homes into a village, based on Korean Minimalism. The design of the individual units responds to the question, "What is the most appropriate environmental response?" Stylistically, the structures are not inappropriately splashy or noisy. The minimal architectural design, the concise partitioning of space, and honest materials form a series of humble and simple residences. Physically, they are simple but distinct. The houses have the weight due to their lack of artifice. The windows, as seen from outside, lighten this sense of the weight of their basic houselike form and maximize the transparent surfaces, which can provide a link between the interior of the house and the exterior environment. In other words, it is an open and communicative house, not a closed and reclusive house. In addition, the various window sizes are implemented to draw the scenery into the house. Spatial organization is community-oriented, with generous space to meet the needs of individuals and families. Materials are selected for their inherent beauty and function. Respectfully positioned in the landscape, simple geometries and lightness define the domicile. An array of apertures introduce daylight into the structure while framing select views. The vertically stacked structure efficiently minimizes the occupied footprint while allowing more units to enjoy the ocean vista.

Company name: UNITEDLAB Associates

Location: Jeju, S-Korea

Team: Principal in Charge: Sang Dae Lee Designer: Euihyun Lim, Michael Chaveriat, Seungmin Lee, Yeajee Han

Honorable Mention in architectural design - School Laboratory “Light & Schools – House of Teaching” at the University of Hamburg

Company name: hanneskrause architekten bda

The Light & Schools school laboratory gets young people interested in physics through exciting experiments and gives them insights into scientific ways of thinking and experimental work. The offers of the University of Hamburg are aimed at middle and high school students as well as students of experimental physics. Ten years ago, laser physicist Professor Klaus Sengstock initiated the school lab as part of the CUI Cluster of Excellence with the intention of building a bridge between school and university, research, and teaching. The new building, inaugurated in 2020, now provides a learning place for gaining knowledge and the joy of experimentation that makes a lasting contribution to socio-cultural togetherness. In contrast to the other facilities on the research campus, the new building for the University of Hamburg is a small urban intervention in terms of volume. However, the prominent location at the entrance to the campus facilitates an important architectural statement. The seemingly floating single-story building, designed as a striking cantilevered exposed concrete structure, opens invitingly towards the street, arousing the curiosity of passers-by with its extensive glazing. Serving as a showcase for the sciences, it provides insights into its diverse program from the outside and draws attention to the university's numerous activities. The entrance platform, detached from the ground, forms an all-round base and bench – an identity-generating place of arrival and transition and a place to take a break. A story-high glass façade extends between the cantilevered roof areas and the floating floor slab like an “immaterial enveloping band.” The colors of the immediate vicinity are reflected here, thus incorporating the surrounding nature. The transparent design allows views into the adjoining forested areas and institutes, but also visual contact between the laboratories and seminar rooms. In an intensive dialogue between the project partners, the requirements from the experimental setups were translated into a multifunctional spatial implementation. The various laser measurement rooms, seminar and practical training rooms for school experiments, and a seminar area are grouped around a central core. The modern equipment of the laboratories invites

young people to tinker and experiment on their own – allowing them a literal grip on high technology. The outdoor area in front of the building is symbolically defined by two old pine trees, which were integrated into the building's composition as structuring and space-creating elements. Building around and preserving the two existing pine trees as central figures of the outdoor space makes a significant contribution to strengthening ecological awareness at this location. This dedicated architectural gesture, which was implemented with great care and appreciation by all those involved in the construction, illustrates the respect for nature and the importance of prioritizing it.

Company name: hanneskrause architekten bda

Location: Hamburg, Germany

Team: Markus Hammes, Armin Rauschke, Mirko Fabrizi

Honorable Mention in architectural design - The New Type of Community

Author: Yao Xiaoqian

Based on research, 80% of food in Hong Kong is imported, which has implications for the associated environmental footprint. Therefore, the project proposes a design that encourages the community to develop a local, sustainable system within residential buildings in Hong Kong. Therefore, we need to build a local, sustainable development system. We should start with agriculture and energy ways to get our autonomy back. Moreover, along with the change in the composition of domestic households, reacting that small households had become increasingly common. So the rebuilding of public housing that is shared, eco-friendly, and healthy, that will be happening in further which like small groups of families to become small villages. To support the autonomy of regional food supply, agricultural elements and alternative ways of energy production are created and integrated within the existing fabric of public housing. In addition, spatial compositions of domestic households are reconfigured and designed to facilitate a communal collaboration system for the increase of small households in dwellings. The cycle of food production is linked with the daily routine of the residents creating an interdependent living system. Regarding the farming and

Cooking system, pink-light grow lamps in the building can provide more hours of lighting for the plant. In the morning, there is a secret garden. At night, solar energy will automatically turn on all the pink light, which is like a pink jungle inside the city. In addition, in the community garden, vegetables are planted by roof-top, kitchen, and facade. For example, from the first floor to the sixth floor, only herbs and onions are For from vegetables be grown, etc. Illustrated in a narrative way, the design tells the story of a new communal engagement and the longing for a harmonious residential community working together to build a sustainable environment for the future.

Author: Yao Xiaoqian, The Hong Kong Polytechnic University

Location: Hong Kong public housing - (Twin Tower)

Team: Yao Xiaoqian

**Honorable Mention in architectural design - Bildungslandschaft
(educational landscape) Altstadt-Nord, Cologne**

Company name: gernot schulz : architektur GmbH

The basic idea of the Bildungslandschaft was to combine and expand an existing choice of schools with various facilities for children and adolescents so that a complete "education chain" for all age groups can be provided at a central city location. Four buildings represent the core of the BAN. Their ground plans are all developed from variations of differently sized pentagons. The flat-roofed, reinforced concrete volumes are clad in grey brick. Two window formats are used as identical design elements in all buildings to create a lively play on the façades with various views in and out. Prior to the competition, the City of Cologne and the Montag Foundations jointly established a participation concept, which brought together steering groups comprising representatives of the users and the administration and thus involved them in the overall planning of the project. After the competition, we expanded, designed, and implemented this participation concept through all HOAI service phases. This enabled cooperation between the individual facilities to make all parts of the Bildungslandschaft usable together. The facilities include the Fröbel daycare centre, the Freinet Primary School, the Realschule am Rhein, the Hansa Gymnasium, the Abendgymnasium, the Tower youth centre of the

Katholische Studierende Jugend and the Klüngelpütz recreational facility. The BAN is a pilot project of the City of Cologne. The concept of developing learning and living spaces in the sense of pedagogical architecture is the basis for a planning framework for future pedagogical school construction projects launched by the City of Cologne. Due to this lighthouse effect, the project has become known beyond the city limits and receives nationwide inquiries from schools, cities, and districts that are interested in copying this concept. The formerly problematic neighborhood, characterized by drug use, is undergoing a transformation due to the positive effect of the building ensemble and the resulting upgrading of the neighborhood. The school community, residents, and park visitors are happily accepting the new offer and are combining the BAN, the park, and the surrounding residential area into a new successful overall ensemble. The BAN opens doors between the individual educational levels and institutions and enables seamless transitions. It supports meaningful learning, the variety of methods for linking to personal experiences, showing contexts of meaning, and promoting individual learning processes. An attractive and inclusive all-day program is guaranteed. It is a realized campus concept with short distances and a peaceful and diverse coexistence based on equal opportunities and participation of all users. The BAN establishes a network of school and non-school providers who work together to promote a balanced range of educational and leisure facilities. It uses synergies to facilitate new organizational possibilities and optimal use of building resources.

Company name: gernot schulz : architektur GmbH

Location: Gereonswall 57, Cologne

Team: Design: Prof. Gernot Schulz and André Zweering
 Project management: Raphaella Burhenne de Cayres Lara Ahrens McCarthy, Martin Amme, Roman Beier, Eva Girzalsky, Linda Hegenberg, Bernd Klepper, Sarah Klöpping Anne Maldener, Cathérine Minnameyer, Maarten Naumann, Alexander Phan, Benedikt Reipen, Andrea Zoll, Dorle Zweering
 Construction supervision: Ernst2, Düsseldorf
 Landscape architecture: Topotek1, Berlin
 Structural analysis: Bollinger Grohmann Ingenieure, Frankfurt
 Building physics: ISRW Klaptor, Düsseldorf
 Building services engineering: HKL Ingenieure, Cologne
 Lighting design: Licht Kunst Licht AG, Bonn

Product design

Winner of the year 2022 in product design - Deployable Emergency Shelter

Company name: Henry Glogau Studio

What would you do if you found yourself in extreme arctic conditions? Lost with little visibility, no cell phone coverage, and sub-zero temperatures. Hypothermia is a serious threat, and help could be hours away. Cold, extreme environments are hostile, with conditions often unpredictable and uncontrollable. This project proposes an alternative shelter design, which looks to harness extreme conditions to its advantage rather than fight against them. The design explores how a Deployable Emergency Shelter can utilize snow capture as a natural insulator and protective layer through a frictional origami skin and lightweight lattice structure. The shelter is positioned along with checkpoints and hiking routes and can be instantly deployed in seconds when required in an emergency. As part of a one-month testing period while in Alaska, the results indicated that with a 300-400mm snow cover, an average of 37°C difference could be created between inside and outside compared to a conventional winter tent which offered a 13°C difference. The proposal has an intrinsic connection to its environment, with principles of biomimicry and symbiosis at its heart. The snow capture insulation proposal highlights the potential for effective solutions when taking a biomimetic ecosystem-based approach. Inspired by local flora, fauna, snow caves, and the traditional Inuit igloos, snow is considered a building material rather than a burden. DESIGN FEATURES: In strong winds, the aerodynamic water droplet form naturally anchors the shelter to the ground while dispersing wind forces. At the microscale, local level turbulence is created within the origami pockets, encouraging snow to naturally build up in blizzard-like situations, thereby creating a natural insulation and protection layer. These design features are similar to the way a golf ball incorporates dimples for specific performance while traveling through the air. Comparative tests were completed physically, as well as through a series of computational fluid dynamic (CFD) simulations, where the shelter's aerodynamic and thermodynamic outperformed the conventional winter tent design,

especially when conditions reached an extreme blizzards scenario. To enhance the containment of a human user's body heat, a mylar material is incorporated on the inside of the origami skin - reflecting the heat back into the space. This mylar feature was inspired by the way polar bears retain body heat within their fur coat with hollow fiber hairs. The final feature of the design is the internal fiberglass lattice structure which is connected and deploys simultaneously with the origami outer shell. The lightweight and structural optimized lattice has been put to the test - withstanding the weight of a 70kg human standing on top.

Company name: Henry Glogau Studio

Location: Alaska, USA

Team: Henry Glogau and Samuel Barratt are recent graduates from the Royal Danish Academy in Copenhagen, Denmark. Their master's degree specialized in Architecture and Extreme Environments, where they explored present and future global challenges in expeditions to diverse locations. Through a site-specific and active 1:1 prototyping approach, Henry and Samuel's projects explore at various scales the interconnecting relationships between architecture, technology, culture, and the environment. They believe that to respond to the complex challenges of climate change and resource scarcity, their designs must learn to work with eco-systems rather than fight against it. Henry is now working as an Architect at GXN, the innovation unit of Copenhagen-based architecture firm 3XN.

Gold Prize in product design - Loop

Author: Cheuk Laam Wong

Menstruation is time-consuming and costly. And period poverty is overlooked in refugee camps owing to the lack of data collection about menstrual health. This affects people's ability to move freely and access opportunities such as education or fetching water. Plus, menstruators change pads in their shelter as the shared toilet is dirty and unsafe. Hence, Loop is a cleaning kit for washing reusable menstruation pads for reducing period poverty in water-scarcity regions. Knowing almost 60% of female refugees suffer period poverty problems as they rather spend financial support on food or baby diapers. Most of them come from strictly religious

countries that see inserting tampons as taboo. This inspires me to design a product that can protect fundamental human rights to water, sanitation, and health for menstruators from 12 to 24 years old who suffer language and culture barriers and have limited financial ability. To use Loop Can, first, you add the used pad in. Then you add the baking soda stored inside the container and add water until the level where the packaging indicates. Baking soda is a natural cleaning detergent to help remove blood stains. Screw the cap, immerse the screw container, and spin to mix the baking soda and water. Buoyancy Force is used to reduce water required for washing, and the gyroscope spinning mechanism allows less human effort so that people who have period cramps can wash easily. Wait at least 30 minutes until the period blood disintegrates, then use the container to scrub the bloodstain. Rinse and scrub three times, and one pad can be cleaned with just 500 ml of water. Washing water can be discarded into the natural environment since period blood and baking soda are compostable and harmless to the environment. Instead of creating a completely new kit out of scratch, Loop Can uses recycled steel cans with a hermetic plastic coating on the interior, which is used to protect the contents from damage such as scratches or dents. With injection modeling, the total cost is around £3 for the whole set, including the polypropylene washing parts. Bamboo terry (contact layer), bamboo fleece (absorption layer), and PUL (leakproof layer) are used in the pad design as they are anti-odor, anti-bacterial, eco-friendly, and less likely to cause skin allergies. It takes half a day to dry indoors. A rectangular-shaped design reduces waste from the fabric off-cut. The Loop Can be a stepping stone to promote hygiene awareness campaigns in the refugee camp. Refugees who join the 30 minutes menstrual hygiene management session can get two units of Loop Can as it makes sure that they learn how to use it properly. It also reduces gender-based violence as users don't have to risk going out to travel long distances at night for toilets. This will be a tool to fight for better gender equality and reduce period stigma in water scarcity regions such as Jordan, Lebanon, or Ethiopia.

Author: Cheuk Laam Wong, Central Saint Martins

Location: Greece, Jordan, Lebanon, or Ethiopia

Team: Cheuk Laam Wong is a London-based product designer originally from Hong Kong. Her main design philosophy focuses on affordable

social design that brings long-lasting positive emotion to vulnerable communities. This led her to a design journey that protects fundamental human rights to water sanitation & health. She is also a keen UX designer who not only designs beautiful interfaces but is passionate about democratizing knowledge and bringing incentive to learning.

Silver Prize in product design - SeeTang Collection

Author: Jana-Aimée Wiesenberger

The brand/material SeeTang was designed sustainably with the intention to introduce newly invented biomaterials such as bioplastic and seaweed leather. Raising awareness about marine conservation and the role of microalgae and macroalgae for the health of our planet inspired SeeTang. Plastic pollution in the Fashion and Packaging industry influenced the project outcome. The abundance of single-use plastic bags and marketing slogans like vegan leather (plastic) first inspired treating seaweed into a biomaterial. After successfully creating a leather-like material out of seaweed, I felt the need to invent another biomaterial to broaden the spectrum of attributes I can work with. SeeTang bioplastic is made from algae and dyed with natural colors like avocado skin and stone, onion skin, hibiscus, coffee, and saffron. The production of SeeTang is a zero-waste process. Leftover bioplastic can be reheated and mixed into new solutions. Food waste like onion skin, hibiscus, and saffron are infused into the biomaterial. The drying process is carbon neutral as it does not require any energy. Bioplastic dries after three dyes. When put in sunlight, it can dry within five hours. All products are manufactured by hand. Edible glue connects the edges of the instant dish and bags. SeeTang Instant dish - 100% biodegradable Instant dishes have been a staple dish over the Covid-19 pandemic. Unfortunately, the plastic waste that accumulates from just one dish is outrageous. Everything from oil, spices, and herbs get individually packaged in plastic. The culinary art is inspirational to this project. Exploring different cultures like Korean cuisine had an impact on the project outcome. The packaging is zero waste and zero plastic. While cooking, the dish part of the packaging for sauces and spices is cooked alongside the main

ingredients as the biomaterial is 100% edible and dissolvable in water. The outer packaging is either recyclable/reusable or can be put in the compost, where it will biodegrade just after six days. SeeTang Fashion - 100% biodegradable The fashion industry is another factor in the climate crisis. From claiming products are 'vegan leather' (plastic) to the polluting dyeing of fabrics used. This design department is enabling pollution of land, ocean, groundwater, air, and us. The bag collection is dyed with saffron dye to resemble single-use grocery bags from Sainsbury's. As a bio-alternative, these bags are 100% biodegradable, 100% vegan, 100% edible, and 100% recyclable. My collection of bags raises awareness about the importance of replacing plastic grocery store bags with biodegradable, sustainable alternatives.

Author: Jana-Aimée Wiesenberger, Kingston University

Bronze Prize in product design - Canairi

Company name: Canairi

Canairi is a CO2 monitor that measures indoor air quality and encourages you to take action and ventilate your home when needed. 90 percent of our lives is spent indoors - most of us in homes with poor indoor climate. A poor indoor climate increases the risk of asthma, headache, fatigue, and sleep disorders. Experts suggest that the best way to improve the air quality of our home is to ventilate it frequently. The pandemic has also made this very clear. Unfortunately, this can be a difficult task to manage when living a busy life. This is a huge but invisible problem, calling for a visible solution - so we looked for one and came to think of 'the canary in the coal mine'. In the early 1900s, it was common practice for mineworkers to bring a canary into the coal mine to detect toxic air. When the bird fainted, it was time to get out. Canairi works exactly the same - but in your home. When the air quality becomes poor, Canairi will drop down, warning you about poor indoor air quality. The moment you open your windows and reestablishes a good air quality, Canairi raises back up. Simple as that. Unlike other air quality monitors, Canairi will let you know when to ventilate your home without the use of light, sound, or phone notifications. Canairi stands out by using Storytelling and Gamification as nudging

mechanisms to encourage the user to take action and change behavior. The democratic design language makes it simple for children to understand but also invites the minimalist adult to play along.

Canairi is made of recycled plastics and equipped with a CO2-sensor, a PCB-board, a step-motor, a rechargeable battery, and a wall mount.

Company name: Canairi

Location: Copenhagen, Denmark

Team: - Hans Augustenborg. - Andreas Kofoed Sørensen.

Honorable Mention in product design - Lei Non-Electric Aroma Diffuser

Company name: SOL style

Design statement "The flickering of a single candle carries a scent by its breeze" Lei is the world's most poetic aroma diffuser, powered simply by the heat of a candle. Like a fire in ancient times, this home appliance feels indispensable to any social situation—whether to entertain or calm. Made from recyclable materials, Lei generates electricity from the heat of a candle, which in turn creates a gentle breeze that allows the volatilized aroma to permeate space. While sustainable, its minimalist design—featuring cordless mobility and low-maintenance usability—also has great emotional appeal. An entirely self-sufficient product that redefines home appliances

New proposal Lei is an ultimately sustainable aroma diffuser, powering electricity by the heat of a candle instead of power source. It is an entirely self-sufficient product patented for its innovative mechanism, which redefines existing home appliances. The generated electricity creates a gentle breeze that allows the volatilized aroma to permeate space. Its minimalist design made from recyclable materials, cordless mobility, and low-maintenance usability guarantee great functionality along with emotional appeal that is indispensable to any calm solitary time or social situation. It all started with a desire to design a one-of-a-kind aroma diffuser. Witnessing first-hand the mass production of home appliances, we have always felt that while they make our lives more convenient, most products lack emotional fulfillment. We wanted to design something that was not just functional. Eventually, we came up with

a product that uses candle heat as an energy source, utilizing a Peltier unit, which we found used commonly in electronics. Ultimately, sustainability became the key factor that shaped both form and function. Lei functions by the usage of the Seebeck effect. Witnessing first-hand the mass production of home appliances, we have always implored to produce a sustainable product in terms of recyclable material and how it generates electricity, fully utilizing this effect. Therefore, the usage of the Seebeck effect completely reverses the rule of appliances to rely on electrical outlets to operate. It also became the key factor that shaped both form and function. Form Lei is powered by the temperature difference in the metal, supplied by a heat source, the candle. The heat source creates ventilation and aroma volatilization. While considering its functional form, we also prioritized the user's emotional engagement with the design—gazing at the flame, feeling the gentle breeze, smelling the aroma fragrance. Other aspects, such as the cylindrical glass dome, which efficiently raises the heat of the flame, and the optimal gap above the dome and the single blade fan to introduce oxygen, and the oval shape for heat dissipation, all stemmed from the premise that Lei did not need to rely on a power source.

Company name: SOL style

Location: JAPAN

Team: SOL style is a design firm in Tokyo founded by Yu Ito & Yoshimi Kemmotsu. Established by Yu Ito (born in Matsuyama, Ehime Prefecture in 1978) and Yoshimi Kemmotsu (born in Yokohama in 1982) in 2009. Active in diverse fields, including shop design, graphics, condominiums, product development, exhibition planning, and hall design.

Honorable Mention in product design - Cerberus – The Seaweed Project

Authors: Ony Yan, Arthur Worbes, Bernhard Büttner

WHAT The CERBERUS seaweed system arises the revolutionary idea of true sustainable agriculture or, more precisely, water management. The semi-autonomous system is offered as a service that creates the basis for a sustainable working cycle. WHY Varied types of algae are the big future resource. Mainly known as food, fast-growing seaweed can be used in medical technology, 3D prototyping, production of

e-fuels, textile processing, and many more. Further processing is advanced, but little is developed the actual cultivation and harvesting. Also, there's a big need to replace disposable nets. CERBERUS provides raw material by zero air or water pollution, sparing natural resources as drinking water or habitats. HOW Cerberus consists of a three-part algae cultivation and harvesting concept designed for use in near-shore growing areas. With our buoy, we gain up to 90% more cultivation area and can provide quick maintenance due to simple installed mechanics. The harvesting vehicles move autonomously over the algae field. They dock with the buoys, thereby setting the harvesting mechanism in motion and collecting the algae with the help of a newly designed tool. When the harvest tank is full, the harvester travels to the mother ship. This stores the algae mass centrally and controls the operation of the harvester. In the mother ship, the electrically operated harvesters can be serviced. Algae samples are also taken for quality assurance.

Location: University of Applied Sciences Berlin

Team: Ony Yan Arthur Worbes Bernhard Büttner

Honorable Mention in product design - instagrid ONE max

Company name: instagrid GmbH

Grid quality electricity anytime, anywhere – without direct emissions. instagrid ONE max delivers on this promise and enables (professional) users to use renewable energy where it is needed. Instagrid ONE max is robust, easy to use and carry, and lasts the entire workday. instagrid ONE max was developed to meet customer needs through numerous iterations and tests. The demands of the construction industry were critical in the design of the product. Reduced to the essentials, it is robust, repairable, and made from recycled materials (e.g. Al Housing). The product is plug & play. The minimalist design of the interface is clear and intuitive for any user. The unit can be charged from 0 to 100% in 2.5 hours and is maintenance-free. It can be easily carried by one person and enables the user to work flexibly and efficiently. The unit is the world's most powerful portable 230V Battery. This is made possible by our proprietary "software-defined battery" technology, which gives us a

considerable market advantage. At half the weight and one third the size, it delivers way more power than similar devices. The universal socket of the system provides 3600 W continuous power without any direct emissions and 2.1 kWh energy. This enables the user to power even high demanding applications like e.g. diamond core drilling or welding. Besides the launch under our own brand, we've partnered with key power tool manufacturers, who'll distribute the product under their brand. It can replace many diesel generators in the construction, event, film/media, government, and aid sectors, significantly reducing emissions.

Company name: instagrid GmbH

Location: Ludwigsburg

Team: Felix Fuchs (Head Of Design)

Honorable Mention in product design - farbenfroh

Company name: Ruth Spitzer Lab

Would you like to paint with the most prolific celebrated pigments in art history and learn about minerals? **farbenfroh** (2021) is painting equipment that integrates earth pigment-based watercolor into rocking hemispheres as a transforming element for creative play and artistic work. Experience the color palette through visual perception and feel the quality of the surface on the medium. Earth pigments, contrary to plant-based dyes, are insoluble in water which means they are physically and chemically unaffected by the mediums. Lauren Sauder states they "(...) come from naturally occurring minerals, typically iron oxide or manganese oxide. Through the process of grinding, geological material can become a pigment powder." (<https://www.laurensauder.com/earth-pigments>) **farbenfroh** (2021) consist of 24 paint pots of opposing color chords, translating a slice of the 'dictionary of color combinations' by the Japanese artist Wada Sanzo with soil pigments. Wada Sanzo was an influential Japanese painter, costume designer, and color theorist. He pioneered the dictionary, which was first published in 1935. Die Zeit applauded the publication as a source of inspiration filled with a captivating array of "hues we didn't even know existed." (<https://www.printedmatter.org/catalog/56601/>). Besides the paint equipment, an accompanying booklet gives an overview of the pigment's geographical location, color theory, and art-historical

significance, as well as fun facts about rocks. It is, after all, an invitation to paint with metamorphic rock such as lapis lazuli and slate. It is a matter of communicating art and science where eyes and touch understand everything. Details: Paint Pot, 5 x 5 x 2.8 cm
Materials and Techniques: Wood, Lasercut, Earth Pigments+ Arabic Gum + Honey + Glycerin
Company name: Ruth Spitzer Lab
Location: Toronto, Canada
Team: Ruth Spitzer

Responsive design

Winner of the year 2022 in responsive design - Solar Desalination Skylight

Company name: Henry Glogau Studio
With the inevitable future challenges of resource scarcity, we must explore autonomous and sustainable systems which work with our ecosystems rather than against them. This proposal is a low-tech solution that gives communities disconnected from formal systems, the ability to produce basic resources through a passive circular system. The Solar Desalination Skylight is a multifunctional architecture element that is embedded within the everyday living environment rather than being a separate utility. Creating a familiar, secure, and accessible experience for the user, where it is not a scientific instrument but an approachable part of the house. Through a collaboration with a local Chilean NGO called TECHO, the Solar Desalination Skylight is currently being used within the coastal informal settlement community called 'Nueva Esperanza' in Mejillones. The design takes a holistic approach to provide Nueva Esperanza with essential resources by harnessing the environment's abundant solar energy and seawater. The Solar Desalination skylight emits a natural diffused light, produces drinking water, and utilizes leftover salt brine for energy creation. Circularity was a fundamental design principle, where waste outputs became a resource opportunity. A highlighted example is how the design utilizes the salt brine waste from the evaporation process to create a series of salt batteries. This provides a source

of energy through a chemical reaction when placed in tubes holding copper and zinc. These 12 seawater batteries could power a LED light strip during the night and are charged by a mini solar panel during the day. It was important that these processes could be understood in an approachable and accessible way. The idea of incorporating the hybrid skylight within the living environment meant that the design could offer more than just resource production but would also offer an aesthetical engagement through the qualities of performing as a skylight. During the desalination process, the water and natural light combine to create a soft ambience and dappled effect inside the often dark and boarded-up homes. The diffused natural light provides a well-lit workspace and social area for the family while reducing their reliance on electrical systems. The project opened a dialogue with the community around resource scarcity, with the intention to discover how an initial innovation could transform into 'social innovation'. Workshops were organized together with the community to create their own version of the design out of local resources found readily available. These ideas and processes from the Solar Desalination Skylight were translated into a low-tech version using materials and construction methods that were accessible such as plastic bottles, cans, knives, and tape. This community-driven initiative is still being used on a daily basis, especially during the Covid period, as water truck drop-offs have been extremely unreliable and limited.

Company name: Henry Glogau Studio

Location: 'Nueva Esperanza', Mejillones, Chile

Team: Henry Glogau is a New Zealander who recently graduated from the Royal Danish Academy in Copenhagen, Denmark. His master's degree specialized in Architecture and Extreme Environments, where he explored present and future global challenges in expeditions to diverse locations. Through a site-specific and active 1:1 prototyping approach, Henry's projects explore at various scales the interconnecting relationships between architecture, technology, culture, and the environment. Henry believes that to respond to the complex challenges of climate change and resource scarcity, our designs must learn to work with our ecosystems, rather than fight against it. Henry is now working as an Architect at GXN, the innovation unit of Copenhagen-based architecture firm 3XN.

Gold Prize in responsive design - Portable Solar Distiller

Company name: Henry Glogau Studio

Access to clean water is one of the most prevalent challenges which we face today. By the year 2040, UNICEF predicts around 1/3 of the world's population will face severe water scarcity. Access to the latest high-tech systems to combat freshwater production and purification is limited to the privileged few, with many communities still facing the daily challenges of waterborne diseases and basic resource access. The Portable Solar Distiller was designed with adaptability and accessibility at its heart. The low-tech and autonomous solution utilizes the power of the natural environment by harnessing sunlight to distill polluted seawater while also providing a rainwater capture system. A key focus of the design is merging local resource production with community architecture, providing freshwater as well as a shaded community gathering place. The purpose of thinking more holistically about the design was to encourage people to engage with resource production in an approachable and understandable way. The design is a lightweight, versatile structure that is configurable in different ways and materials. A distributed design approach provides the user with a step-by-step guide to create their own system while encouraging the user to hack and adapt the design to best suit their needs and environmental conditions. The open-source ambition of the design is to provide anyone in the world the recipe to create their own Portable Solar Distiller with their own local resources. Through an established collaboration with a Chilean NGO called TECHO, the initial project was introduced to a local informal settlement community called Nueva Esperanza (New Hope) in Mejillones, Chile. Nueva Esperanza is a coastal community that can only access fresh water once a week via a water truck drop-off, which is often unreliable, unsafe, and expensive. Solar desalination and SODIS (Solar water disinfection), became an apparent opportunity when considering the communities abundant access to seawater and all-year-round sunlight. This passive and low-tech process became an alternative option for producing a clean and safe water source. Depending on the solar intensity, the design can produce between 12 – 18 liters of purified water over a 12-hour period. Throughout the time spent in Nueva Esperanza, the community became an intrinsic

part of the co-creation of the Portable Solar Distiller design. Their local knowledge and expertise allowed for the idea to evolve into a design that could be made out of materials found readily available such as; plastic tarps, plastic bottles, and timber/bamboo elements. Utilizing waste materials and local resources highlights the circular potential and ingenuity of the design. When considering the inevitable future challenges of resource scarcity, this idea showcases the possibilities of a low-tech and autonomous design that works in symbiosis with its ecosystem.

Company name: Henry Glogau Studio

Location: 'Nueva Esperanza', Mejillones, Chile

Team: Henry Glogau is a New Zealander who recently graduated from the Royal Danish Academy in Copenhagen, Denmark. His master's degree specialized in Architecture and Extreme Environments, where he explored present and future global challenges in expeditions to diverse locations. Through a site-specific and active 1:1 prototyping approach, Henry's projects explore at various scales the interconnecting relationships between architecture, technology, culture, and the environment. Henry believes that to respond to the complex challenges of climate change and resource scarcity, our designs must learn to work with our ecosystems rather than fight against it. Henry is now working as an Architect at GXN, the innovation unit of Copenhagen based architecture firm 3XN

Silver Prize in responsive design - Coastalock

Company name: EConcrete Tech Ltd

Where concrete meets our oceans, marine life suffers. Today, concrete comprises approximately 70% of all marine infrastructures, including breakwaters, flood protection, offshore technologies, and other land/water interfaces. Traditional concrete is characterized by flat planes and a high level of material toxicity, creating a perilous environment for local ecosystems, where ultimately, only invasive species can survive. As the climate changes and coastal populations grow, development and flood protection along shorelines increase, and there is a greater need to reconcile structural and environmental safety. Coastalock was developed by EConcrete as a direct response to this need, designed as a shoreline protection

system that attracts marine flora and fauna. The concrete integrates a patented admixture that creates a healthier concrete composition, while the surface design creates both micro and macro complexity that allows different species at various scales to attach and grow. A thriving life environment, in turn, significantly contributes to the concrete's improved performance in terms of resilience (10% stronger), lifespan (estimated 120 years), and upkeep (reduced need for maintenance). Each 8-sided interlocking unit weighs approximately 3.4 tons and integrates several niches and crevices, including a tidepool, lifting holes, and a textured concrete finish. Clustered together in rows along inclined intertidal planes, the Coastalock acts as both a wave breaker and a home for local marine species. There are 24 different orientation options for each unit, enabling a site-specific design targeting local ecosystems. Thus, a tidepool can transform into a cave, lifting holes can become tunnels, and so on. During the course of 2021, a pilot project was launched in the Port of San Diego, USA, deploying 70 units of Coastalock in two different locations. Almost a year in, the project is attracting a diverse array of species and growing stronger as a result. Biological and structural monitoring is conducted on a regular basis, to keep track of changes, accumulate and analyze data, and draw conclusions that will ultimately inform future design improvements. More projects are scheduled in 2022. In parallel, EConcrete has partnered with Delft University of Technology, Denmark, to enhance the performance of Coastalock through academic research, so the design may be refined and further developed. EConcrete is an interdisciplinary team of biologists, engineers, designers, and concrete specialists, championing responsible concrete marine construction.

Company name: EConcrete Tech Ltd

Team: Ido Sella Shimrit Perkol-Finkel Maor Bezner Tomer Tagar-Hadary Jorge Gutiérrez Martínez Andrew Rella

Bronze Prize in responsive design - 1,300 Recycling Pavilion

Company name: Hyunjejoo_Baukunst

RETHINKING THE MEANING OF EVERYDAY OBJECTS AND MATERIALS. Pavilions are created with recycled and repurposed materials. What if the

materials with which we surround ourselves asked us to be more conscientious about how we use them? The project is about providing a new perspective on the everyday. As a flexible element rather than a fixed element, a Pavilion consists of 1,300 structural semi-transparent basket surface. A relatively standard commercially available basket was reused as a pavilion. and we intend to reuse the individual 1,300 baskets upon dismantling the installation. The surface minimizes the separation between the inside and outside, light and silhouettes beyond the space show through. This surface maximizes the separation between the old and new surface, day and night beyond the space show through. The passage of time is more actively sensed from both inside and outside, as these light effects stimulate our senses. The project is not about the "right" or "wrong" ways of using objects but rather about highlighting their affordances or meanings. We say the intent is to create an economical, flexible, light, and recyclable flexible element. These small but attractive and functional structures reveal the potential in the world of architecture to adapt to environmental needs.

Company name: Hyunjejoo_Baukunst

Location: Suseongmot-gil, Suseong-gu, Daegu, Republic of Korea

Team: Architect:Hyunje Joo

Honorable Mention in responsive design - UAE Pavilion at EXPO 2020

Company name: Santiago Calatrava LLC

Symbolic of the UAE's pioneering spirit, Dr. Santiago Calatrava designed the host country's Pavilion as a national monument at the heart of EXPO 2020 to capture its identity and connect the country's past with its future. Spanning across 15,000m², the principal design concept draws inspiration from the Falcon - the National bird of the UAE. By channeling the powers of mobility and synchronized flow, the UAE Pavilion, with its 28 movable wings, is an architectural beacon that advocates for and harnesses human innovation. Seeking to pay homage to the UAE's heritage, inspiration was drawn upon the historic desert dweller's tent's sheltering form, translated into the building's elevation. Embracing the idea of connectivity, radial pathways surrounding the Pavilion allow visitors to experience it from 360° in the same way the UAE has welcomed people from all

corners of the world. The Pavilion's roof is comprised of 29 steel ribs set out radially and supported at two points, one at the apex of the roof and another at the perimeter wall, allowing the wings to float above the ground. 46 specialized hydraulic actuators allow the wings to open in synchronized motion in 3 minutes. The white, locally manufactured carbon fibre composite wings reflect sunlight and reduce solar gain in response to the harsh climate of the region. Upon opening, the wings reveal the photovoltaic panels embedded within them to harvest energy. Once closed, the wings shelter and protect the photovoltaic panels from rain and sandstorms. Responsive to the UAE climate and in line with the UAE's commitment to sustainable development, the Pavilion met the highest standards of sustainability and was awarded LEED Platinum Certification. By ensuring reduced water consumption through the selection of native vegetation and reduced energy consumption achieved by an efficient cooling system, the Pavilion respects ecological limits and natural resource constraints. To create people-centric outdoor areas, open spaces and walkways were carefully considered. Shaded arcades beneath the floating wings and sunken, shaded gardens are oriented to channel wind into creating comfortable environments cooled by large pools. Canopy trees provide a consistent spread of shade in and reduce reflected heat. With the majority of construction materials locally sourced, the UAE Pavilion is one of the few structures at the EXPO 2020 that will not be dismantled after the world fair event and will be part of the Expo's legacy planning strategy to be reused as a cultural facility. The local manufacturing and potential for reuse reduced the carbon footprint and enhanced responsible and regional sourcing. The building's arrangement ensures functionality and flexibility across 3 levels of near column-free exhibition spaces. At the core of the Pavilion is an auditorium with a lifting platform that can transport 200 people from one floor to another. At the apex of the roof is the oculus skylight reflecting the EXPO logo.

Company name: Santiago Calatrava LLC

Location: Dubai, United Arab Emirates

Team: o Designer, Lead/Principal Architect, and Lead/Principal

Engineer: Santiago Calatrava o Chief Executive Officer: Micael

Calatrava o Architecture and Engineering Execution: Santiago

Calatrava LLC o Management, Coordination & Construction Supervision:
Calatrava International LLC

**Honorable Mention in responsive design - BetaPort - Circular
Building Technology On-Demand**

Company name: Urban Beta UG

Providing Scalable Building Solutions for a Circular Future BetaPort provides circular "Building As a Service" (BAaS) solutions for sustainable architectures on-demand. We offer adaptive spaces that are flexible in use and follow an open-source mentality. Our system can grow over time and adapt to future use cases, activated through predictive planning for maximum efficient layouts. BetaPort offers the seamless integration of technical solutions as well as a circular production chain, including material tracking. Sustainable Architecture, digitally planned, using Automation The BetaPort system is built upon highly flexible interior layouts based on modular, reversible building blocks. The design can react to changes, like varying capacities or alternating functions. BetaPort comes with its own digital planning tool: The BetaPort configurator. It serves as an interactive platform to connect various project stakeholders, decision-makers, planners, and users alike. Using machine learning and custom algorithms, the configurator is designed for playful and efficient planning. It eliminates planning errors, anticipates building costs, and creates production data. Affordable and Easy to Build BetaPort construction has a certified and patented building technology with a streamlined production. Every element is tested, and quality checked in the factory to guarantee a great product. On site, all elements are easy to assemble, by skilled and non-skilled workers. BetaPort fosters the democratization of construction through its participatory, systematic, and open-source approach to building. We offer digital manuals for all building scales and sizes, including custom elements. Completely designed on Circular Economy Principles Designed for disassembly: BetaPort uses material passport and reversible connections. Completely designed from renewables or cycled materials BetaPort aims to provide sustainable buildings that create carbon sinks and active material depots. Innovative material sourcing and combination strategies

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allow for upcycled and secondary materials in the construction system. In this way, BetaPort enables new business models based on space on-demand solutions, service, and subscription models to create "Buildings as a Service" (BaaS). BetaPort ONE BetaPort One is the world's first circular hub on-demand, completely implemented with our efficient planning process and our ecological building system. BetaPort One seamlessly integrates innovative mobility solutions and charging infrastructure into a new generation mobility hub: circular, sustainable, participatory planned, and easy to scale. With our circular design approach, every BetaPort ONE pop-up becomes an actively managed material depot, including material passports. Thanks to an ecosystem of components, rooms can easily be added, relocated or remodeled. Relocation to other locations is possible in a short time, thanks to the simple construction system.
Company name: Urban Beta UG

Team: Urban Beta is a spatial innovation studio creating inclusive, unconventional, and transformative spaces. The studio develops spatial systems with a participatory approach. Our work deals with social justice, predictive planning, co-creation, and the democratization of design. Urban Beta is led by Anke Parson, Marvin Bratke, Florian Michaelis, and Paul Clemens Bart. BetaPort Project Info: Project Name: BetaPort - Sustainable Building Technology On-Demand BETAPORT ONE Location: Berlin, Germany BETAPORT Mobility HUB Location: Kiel, Germany Gross Floor Area: adaptive BetaPort System: Urban Beta Inventor / Design Team: Marvin Bratke, Florian Michaelis, Anke Parson, Paul Clemens Bart Architect: Urban Beta with BART//BRATKE and graadwies Engineering Partner: str.ucture Timber Manufacturing Partner: Gebr. Schütt KG Engineering Team: Julian Lienhard, Benedikt Neubauer Timber Construction Team: Tilman Schütt, Tim-Niklas Alpen, Paul Clemens Bart, Marvin Bratke, Florian Michaelis, Anke Parson Configurator and Visualisation: MOREAN Configurator Team: Philipp Eckhoff, Jacobo Garcia, Wojtek Wojakowski, Paul Clemens Bart, Marvin Bratke, Florian Michaelis, Anke Parson Visualisation: Images by Urban Beta, plo.mp, bitscapes and imperfct Photo Credits: naaro MEP Planning: IB Hahn Lighting Design: JackBeNimble, Trilux Partner Lighting: Trilux

Honorable Mention in responsive design - Songzhuang Micro Community Park

Company name: CROSSBOUNDARIES

Songzhuang Micro Community Park is designed in response to the diverse and vibrant community in Songzhuang, a district notorious for its art and culture. The park acts as a central gathering space for people of all ages and identities, creating an ever-changing, live, interactive display of the local culture and community. Passing by the streets across from the north side of the park, people can always expect to see a beautiful, ever-changing display of community. The path along the park collects the most diverse group of people onto a single array, creating an exhibition of a collection of people that may have never crossed paths otherwise. This "urban living room" provides opportunities for people to interact, fostering communal behaviors like sharing, caring for each other, and learning from each other. The community park is created to service all members of the community regardless of age or interest. The space is organized along a yellow path with "rooms", each with certain mini functions to encourage interaction from the community. Throughout the day, each space can be utilized by different audiences. In the morning, the room on the street corner is an ideal place for a mellow tai chi or an elegant fan dance session. In the evening, the space is filled with energy as it transforms into a space for rhythmic dancers and an enthusiastic audience. The room further down the line is more suitable for tranquil interactions. Furnished with long benches along the stepping profiles of the brick walls, the space invites Chinese chess players with an eager to learn the audience. On the weekends, younger people gather as they use the grey brick wall as a backdrop for their selfies while they sip on their drinks from the café across the street. On the corner of the extending park, the third room is all about children's play: a bright yellow room, layered with brick walls, interrupted by cutouts of different sizes for peek-a-boo and hide-and-seek. A series of connecting speaking tubes run across the walls where children sing and shout into while their parents and grandparents watch from a distance and enjoy their own day at the park. Inside the rectangle of the park, the yellow track loops around, enclosing the park along with the fourth room.

Surrounded by trees, the park is the perfect environment for exercise, as regulars return to use the open-air gym and take in the fresh air from the green landscape. The community park is a platform that provides the easiest level of knowledge transfer, a place of both interaction and observation. Installations such as mirrors and speaking tubes invite people to utilize the tools to create activities unique to their liking, while people watching by the side brew new ideas in their heads based on the scenes in front of them.

Company name: CROSSBOUNDARIES

Location: Xiaopu Village, Songzhuang, Tongzhou, Beijing, China

Team: Partners in charge: Binke Lenhardt, DONG Hao Design team: GAO Yang, Silvia Campi, CHEN Pengyu, Marijana Simic, Sean Yu, YU Hongyu, Elena Gamez Miguelez

**Honorable Mention in responsive design - Embodied empathy:
Incarnation of Human Emotion and Cognition in Space Using Artificial Intelligence and Affective Computing**

Company name: Morphogenesis Lab, Washington State University

What if our spaces could convey information about unspoken feelings and could be the extension of mind and body? How can we create a reciprocal relationship between the human mind and the built environment, allowing them to shape one another? Wisteria is an extension of its visitors' minds and bodies. It is an emotive, intelligent installation that performs real-time responses to people's emotions based on their biological and neurological data. Here, by integrating artificial intelligence, wearable technology, sensory environment, and adaptive architecture, visitors can change the color and form of the installation using their brains and emotions. This installation is a tangible reverberation of the mind in space. Here, space is filled with a forest of cylindrical fabric shrouds that suspend from the ceiling. Upon sensing the presence of an occupant, using a programmable material (Shape Memory Alloy), the shrouds begin to fluctuate, expanding and contracting the volume of the space and forming the space based on visitor presence. Embedded within each shroud is an LED that activates with the actuation of the SMA. The shrouds are arranged to create a distinct spatial progression and bring forth a heightened perception of scale and

awareness of oneself within the space. Using Affective computing or Emotion AI, this project created a cyber-physical space that blurs the lines between the physical, digital, and biological spheres. It uses real-time emotions from neurophysiological data as the agent of change in the environment. The atmospheric qualities of the space are determined by the occupant's emotions detected in real-time using smart wearable and affective computing algorithms developed by us. This system translates a set of biometrics (e.g. heart rate, skin electricity, blood volume, and temperature) into emotional categories and changes the shape and color of the space accordingly to moderate the emotion. If stress is detected, space begins to morph; the ceiling rises and expands the interior volume, and colors brighten. Wisteria intends to behave as an embodiment of human emotion in the physical and built form. Utilizing a merger of advanced emotion detection systems, smart programmable materials, and a developed cellphone app by us, it can express and solicit emotions through non-human representation in the space. The result is an immersive spatial experience that gives the visitors a key role by activating the space upon their involvement. Visitors are given an indication of their emotional states and thus a tool to enhance, mitigate, or simply become aware of their emotions. This installation demonstrates how spaces can become living organisms with lifelike behavior learned from users, responding to their emotions in real-time. Within this project lies a singular objective; to reconcile the relationship between humans and architecture, and to redefine this relationship as one of emotional empathy and active compassion.

Company name: Morphogenesis Lab, Washington State University

Location: Pullman, WA

Team: • Morphogenesis Lab – Washington State University

Collaborative project with an interdisciplinary team of undergraduate and graduate students from Architecture, Computer science, and Interior Design: • Design and Fabrication: Mona Ghandi, Mohamed Ismail, Marcus Blaisdell, Shanle Lin, Aisha Marcos • Programming & Electrical Engineering: Marcus Blaisdell, Sal Bagaveyev • Photos & Video: Mohamed Ismail, Nicole Liu

Universal design

Winner of the year 2022 in universal design - BetaPort - Circular Building Technology On-Demand

Company name: Urban Beta UG

Providing Scalable Building Solutions for a Circular Future BetaPort provides circular "Building As a Service" (BAaS) solutions for sustainable architectures on-demand. We offer adaptive spaces that are flexible in use and follow an open-source mentality. Our system can grow over time and adapt to future use cases, activated through predictive planning for maximum efficient layouts. BetaPort offers the seamless integration of technical solutions as well as a circular production chain, including material tracking. Sustainable Architecture, digitally planned, using Automation The BetaPort system is built upon highly flexible interior layouts based on modular, reversible building blocks. The design can react to changes, like varying capacities or alternating functions. BetaPort comes with its own digital planning tool: The BetaPort configurator. It serves as an interactive platform to connect various project stakeholders, decision-makers, planners, and users alike. Using machine learning and custom algorithms, the configurator is designed for playful and efficient planning. It eliminates planning errors, anticipates building costs, and creates production data. Affordable and Easy to Build BetaPort construction has a certified and patented building technology with a streamlined production. Every element is tested, and quality checked in the factory to guarantee a great product. On site, all elements are easy to assemble, by skilled and non-skilled workers. BetaPort fosters the democratization of construction through its participatory, systematic, and open-source approach to building. We offer digital manuals for all building scales and sizes, including custom elements. Completely designed on Circular Economy Principles Designed for disassembly: BetaPort uses material passport and reversible connections. Completely designed from renewables or cycled materials BetaPort aims to provide sustainable buildings that create carbon sinks and active material depots. Innovative material sourcing and combination strategies allow for upcycled and secondary materials in the construction system. In this way, BetaPort enables new business models based on

space on-demand solutions, service, and subscription models to create "Buildings as a Service" (BaaS). BetaPort ONE BetaPort One is the world's first circular hub on-demand, completely implemented with our efficient planning process and our ecological building system. BetaPort One seamlessly integrates innovative mobility solutions and charging infrastructure into a new generation mobility hub: circular, sustainable, participatory planned, and easy to scale. With our circular design approach, every BetaPort ONE pop-up becomes an actively managed material depot, including material passports. Thanks to an ecosystem of components, rooms can easily be added, relocated or remodeled. Relocation to other locations is possible in a short time, thanks to the simple construction system.
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Gold Prize in universal design - Coastalock

Company name: ECOConcrete Tech Ltd

Where concrete meets our oceans, marine life suffers. Today, concrete comprises approximately 70% of all marine infrastructures, including breakwaters, flood protection, offshore technologies, and other land/water interfaces. Traditional concrete is characterized by flat planes and a high level of material toxicity, creating a perilous environment for local ecosystems, where ultimately, only invasive species can survive. As the climate changes and coastal populations grow, development and flood protection along shorelines increase, and there is a greater need to reconcile structural and environmental safety. Coastalock was developed by EConcrete as a direct response to this need, designed as a shoreline protection system that attracts marine flora and fauna. The concrete integrates a patented admixture that creates a healthier concrete composition, while the surface design creates both micro and macro complexity that allows different species at various scales to attach and grow. A thriving life environment, in turn, significantly contributes to the concrete's improved performance in terms of resilience (10% stronger), lifespan (estimated 120 years), and upkeep (reduced need for maintenance). Each 8-sided interlocking unit weighs approximately 3.4 tons and integrates several niches and crevices, including a tidepool, lifting holes, and a textured concrete finish. Clustered together in rows along inclined intertidal planes, the Coastalock acts as both a wave breaker and a home for local marine species. There are 24 different orientation options for each unit, enabling a site-specific design targeting local ecosystems. Thus, a tidepool can transform into a cave, lifting holes can become tunnels, and so on. During the course of 2021, a pilot project was launched in the Port of San Diego, USA, deploying 70 units of Coastalock in two different locations. Almost a year in, the project is attracting a diverse array of species and growing stronger as a result. Biological and structural monitoring is conducted on a regular basis, to keep track of changes, accumulate and analyze data, and draw conclusions that will ultimately inform future design improvements. More projects are scheduled in 2022. In parallel, EConcrete has partnered with Delft University of Technology, Denmark, to enhance the performance of Coastalock through academic research, so the design may be refined and further developed. EConcrete is an interdisciplinary team of biologists, engineers,

designers, and concrete specialists, championing responsible concrete marine construction.

Company name: ECOncrete Tech Ltd

Team: Ido Sella Shimrit Perkol-Finkel Maor Bezner Tomer Tagar-Hadary Jorge Gutiérrez Martínez Andrew Rella

Silver Prize in universal design - The Inxect Suit

Author: Pavels Liepins-Hedström

The INXECTS suit is a mobile plastic waste management and protein harvesting system. Through the suit and its technology, humans and mealworms can coexist in a mutualistic symbiosis. The design enables the two species to coexist and for humans to use mealworms' ability to break down toxic plastic and turn it into high-quality edible proteins. The INXECTS suit captures heat and humidity from the human body and channels these emissions into a mealworm habitat that is attached to the suit. Located in the habitat are hundreds of mealworms that are fed with toxic plastic. The worms can break down the plastics without obtaining any toxicity in their bodies. For this process to work, the worms need certain levels of temperature, humidity, and air quality. Sensors measuring CO₂, temperature, and humidity operate within the habitat and communicate the levels to the suit carrier. The suit carrier can then adapt their body by movement and behavior according to what is needed for the worms to work efficiently. The mealworms will eat the plastic and process it for their physical growth. When the plastic is consumed, the colony will be bigger and contain a lot of valuable proteins for the suit-carrier to consume. The suit was developed and tested for field studies in the Faroe Islands as part of Pavel's master thesis in architecture in 2020-2021. The extraordinary fact that mealworms can break down toxic plastics was discovered in 2019 by researchers from Stanford University. The suit is made out of a mix of materials and components that are presented in the attached material. The project gives the individual person the ability to be part of a constructive and regenerative ecosystem. The user of the design will be able to contribute as a human being, decreasing plastic pollution and generating a sustainable protein source with a low CO₂ footprint just by moving the body. The design enables the user to connect to

nature, not only as a consumer of ecosystems but also as a provider. The design will increase the user's awareness of both body and environment. Plastic pollution and food security are two major global challenges that we are facing already today. We need to find new sustainable ways to produce food and to see the waste we produce as a potential resource. The INXECTS suit confronts the issues of food security and plastic waste management. The project addresses these challenges by processing plastic waste into a sustainable protein source. Mealworms contain high-quality proteins and are superior in terms of CO2 footprint in comparison to commercial proteins like beef, pork, and chicken. The project focuses on the circular economy and the use of waste and emissions as a resource cornerstone of a new sustainable concept. The project tries to address the very root of our global challenges - humanity's distant relationship to the rest of nature.

Author: Pavels Liepins-Hedström

Location: Scandinavia

Team: Designer: Pavels Liepins Professor: David Garcia
Pavels Liepins is an architect and designer that graduated in 2021 from the masters program Architecture and extreme environments at the Danish royal academy of architecture. Program leader David Garcia has been Pavel's professor during his masters studies and final thesis. Pavels initiated the project INXECTS 2020 as a cross disciplinary design Lab for life in a challenging future. The INXECTS project is an ongoing process where prototypes, products, strategies, and architectural concepts are developed according to present and future global challenges. INXECTS is built upon the forces and consultation of much different expertise. The INXECTS suit is a design made by Pavels Liepins but executed and manufactured with the assistance from the following team: Tailor and fabric engineer: Milan Flicek Programmer: Jens Andreasen Fashion advisor: Mai Sakamoto Project advisor: David Garcia Technical advisor: Mads Johnsen

Bronze Prize in universal design - Voxel Cloud

Author: Julian Edelmann

The project "Voxel Cloud "is an experimental prototype that deals with deep and vague tectonics by investigating resolution and

complexity. The project confronts the exuberance of complex geometries generated by algorithms with the perception of humans. Thus it's questioning the central role of the human within this process by trying to blend between nature and technology. The end result as a house is not a proposal per se, but rather a speculation how data and computation can generate an architecture that can be built by machine and inhabited not just by humans but also by micro to macro-organisms in a post-anthropocentric environment. Complexity is defined as the amount of data and information within a system. As architecture is not just a material but also an informational practice, we have the possibility to build with less material but more information, which accordingly leads to complexity. Due to the fact that the building industry is the slowest growing industry in the world, we have to radically change the way we think about architecture. The project is utilizing a computational workflow where scanned pointcloud data acts as an input for the design tool apparatus. This three-dimensional dataset serves as a digital data-scape that can be further informed by local and global attributes such as environmental conditions, structural loads, digital fabrication parameters, and material constraints. This process transforms the pointcloud into a voxel cloud, whereas each voxel acts as a container of unique information and data at its specific location. This data-scape which is mostly hidden and invisibly to humans, can then be decoded and fabricated by machine. As an output, the design tool apparatus is producing a filigree and lightweight data-informed structure which has a high variety in density and articulation. It is characterized by transitions between solid and fibrous as well as order and disorder. There is no final design but rather an ongoing adaptive growing process. Instead of separating the construction process and the architectural utilization from each other, the structure serves as an interface where fabrication robots, humans, and other species can coexist with each other like in a theatrical performance. There is no interior or exterior, but rather a several densities that can enhance different microclimate conditions. The voxel scaffold acts as a canvas for plants and animals to adapt and build on as well as guiding water throughout the whole structure. It is located in a park in Innsbruck, Austria, where it can get overgrown by time and blend with the natural surroundings.

Author: Julian Edelmann

Honorable Mention in universal design - Openbike

Company name: Arquimaña

Openbike is a manifesto on sustainable urbanism, urban transport, distributed manufacturing, shared knowledge, the community, and the responsible use of resources. This manifesto materializes in the design of a non-polluting urban transport, the bicycle, which can be manufactured by its own user within the city where it is going to be used. In increasingly denser and more populated cities, the use of non-polluting transport is key and essential for coexistence. On the other hand, the access that we have today to technology gives us the opportunity to use manufacturing processes that were previously unattainable outside the industry. The bicycle designs resulting from this initiative must be able to be manufactured by the user using the resources of a local digital fabrication workshop (fablab) such as 3D printing, for the saddle, front hub, and hand grips, and CNC cutting (locally available plywood) and pieces reused from useless bikes or from local bike shops. The main design features are based on the universality of the user, the ability to transport goods, the simplicity of construction, and the availability of materials. Based on the principles of open design, people who develop and share knowledge, generating designs that are left free on the net to be shared again, improved, modified, manufactured, again and again, development and design based on the use of local resources but with global techniques and tools adapted to their particular characteristics (cultural, social, material). That is, the fabrication files are licensed under Creative Commons 4.0, allowing the designs to be improved, modified, manufactured, and shared again. We can access this shared digital information from anywhere in the world through the website <https://openbike.cc> to materialize it locally and sustainably, using digital manufacturing methods that generate a controlled minimum amount of waste. We transport data, not materials. The aim is to empower citizens as a transforming agent, putting technology at their service and prioritizing local production with local resources, which generates active and productive cities, looking to the future from an

ecological perspective, trying to reduce carbon emissions to a minimum. Our project is part of the current urban FabCities project that seeks a new urban model in terms of sustainability in which the citizen is the main axis of change, and it launches the challenge of achieving in 2054 cities self-sufficient cities. Within this context, Openbike offers the citizens the necessary methods for manufacturing a non-polluting means of urban transport, the bicycle, by themselves. Openbike project has been exhibited in the Spanish Pavilion, in the Venice Architecture Biennale, and in the Seoul Biennale of Architecture and Urbanism 2021 as part of the Cities exhibition. <https://openbike.cc/video>

Company name: Arquimaña

Team: Arquimaña we are Iñaki Albistur (Donostia, 1982) and Raquel Ares (Portugalete, 1977), an architecture studio that has had its own digital fabrication workshop since 2010 being pioneers in the Basque Country in this field. Since we came into contact with digital fabrication, we understood that incorporating it into our studio gave us the ability to go one step further in the design process, making our way of projecting implicit, at all times, the possibility of self-production, giving us control of the complete design process, from the first ideas through the prototyping phase to the final product. We can say that this new way of doing has caused professionals from all fields of design to come into contact with digital fabrication and its tools, giving rise to what, in some texts, is called "digital crafts", a philosophy with which we identify and make ourselves manifest in all our work. We recover the traditional idea of an urban workshop together with the use of 21st-century technology. Our work processes allow us to produce the majority of our projects locally and sustainably, optimizing the use of the material as much as possible, not generating waste (3D printing), and using biodegradable materials. We combine design, crafts, research, and technology to offer creative and efficient solutions in all our projects, no matter how large they are. In all our works, whether they be interior design (homes, retail, offices), furniture, or object design, we always provide the uniqueness that our way of working gives us, achieving personal projects with which the client or end-user feels identified. We have developed different collaborative and open design projects, understanding as such a design that, made between all, is left available to anyone who wants

to use, replicate and/or modify it, as long as they share it again. The result of some of these processes is our close collaboration with the Hirikilabs/Medialab TBK citizen laboratory (Donostia), for which we design and develop different cycles of open furniture design from its inception to today. We also like to experiment with the user's ability to modify, use, reuse, assemble, disassemble the space or designed object, the proactive user. We believe in an architecture that is not static, that adapts and interacts with the user, and that technology is a tool to make us freer and more self-sufficient. In 2017 we were finalists of the Peña Ganchegui Awards for Young Basque Architecture and, in 2018, three of our works, Openbike, Greenhouses for Creation and RadioPlaza, were cataloged by Arquia / Proxima, one of them, Openbike, finalist in the festival Arquia / Proxima 2018: Relevant Practices. We have been a winner at the Egurtek 2020 Awards and at the Selected Bilbao Awards. Our work has been part of the Spanish Pavilion of the Venice 2021 Architecture Biennale and of the Cities expo curated by Dominique Perrault in the Seoul Biennale of Architecture and urbanism in 2021.

Emerging designer

Solar Desalination Skylight

Company name: Henry Glogau Studio

With the inevitable future challenges of resource scarcity, we must explore autonomous and sustainable systems which work with our ecosystems rather than against them. This proposal is a low-tech solution that gives communities disconnected from formal systems, the ability to produce basic resources through a passive circular system. The Solar Desalination Skylight is a multifunctional architecture element that is embedded within the everyday living environment rather than being a separate utility. Creating a familiar, secure, and accessible experience for the user, where it is not a scientific instrument but an approachable part of the house. Through a collaboration with a local Chilean NGO called TECHO, the Solar Desalination Skylight is currently being used within the coastal informal settlement community called 'Nueva

Esperanza' in Mejillones. The design takes a holistic approach to provide Nueva Esperanza with essential resources by harnessing the environment's abundant solar energy and seawater. The Solar Desalination skylight emits a natural diffused light, produces drinking water, and utilizes leftover salt brine for energy creation. Circularity was a fundamental design principle, where waste outputs became a resource opportunity. A highlighted example is how the design utilizes the salt brine waste from the evaporation process to create a series of salt batteries. This provides a source of energy through a chemical reaction when placed in tubes holding copper and zinc. These 12 seawater batteries could power a LED light strip during the night and are charged by a mini solar panel during the day. It was important that these processes could be understood in an approachable and accessible way. The idea of incorporating the hybrid skylight within the living environment meant that the design could offer more than just resource production but would also offer an aesthetical engagement through the qualities of performing as a skylight. During the desalination process, the water and natural light combine to create a soft ambience and dappled effect inside the often dark and boarded-up homes. The diffused natural light provides a well-lit workspace and social area for the family while reducing their reliance on electrical systems. The project opened a dialogue with the community around resource scarcity, with the intention to discover how an initial innovation could transform into 'social innovation'. Workshops were organized together with the community to create their own version of the design out of local resources found readily available. These ideas and processes from the Solar Desalination Skylight were translated into a low-tech version using materials and construction methods that were accessible such as plastic bottles, cans, knives, and tape. This community-driven initiative is still being used on a daily basis, especially during the Covid period, as water truck drop-offs have been extremely unreliable and limited.

Company name: Henry Glogau Studio

Location: 'Nueva Esperanza', Mejillones, Chile

Team: Henry Glogau is a New Zealander who recently graduated from the Royal Danish Academy in Copenhagen, Denmark. His master's degree specialized in Architecture and Extreme Environments, where he explored present and future global challenges in expeditions to

diverse locations. Through a site-specific and active 1:1 prototyping approach, Henry's projects explore at various scales the interconnecting relationships between architecture, technology, culture, and the environment. Henry believes that to respond to the complex challenges of climate change and resource scarcity, our designs must learn to work with our ecosystems, rather than fight against it. Henry is now working as an Architect at GXN, the innovation unit of Copenhagen-based architecture firm 3XN.

Solarlux Choice

GO! Campus Zottegem

Company name: Rosan Bosch Studio

The public school GO! Campus Zottegem in Belgium is designed as a response to one simple question: how do children learn best? The school is designed to meet the needs and visions for enhanced learning in Belgium. The design strategy is programmed to encourage children to play. When children play, they learn. Experimenting, exploring, and nurturing the curiosity of children is encouraged throughout the entire 4,400 sqm playful learning environment. The spaces offer flexibility and differentiation so that children can flourish to their best potential as individuals from kindergarten to secondary school. As the first of its kind in Belgium, the new school replaces traditional, uniform classrooms with differentiated learning landscapes designed to place the individual at the center of the learning situation. The design motivates for more movement throughout the day and increases interaction across age groups for unintended inspiration, collaboration, and social encounters. With a holistic and innovative approach to learning spaces, the red thread of the design consisting of inspirational trees, a loop slide, and collaboration mountains connect the interior with the outdoor playstreet and lead the children to age-appropriate facilities from the outdoor environment to the interior, and between the units. Moving from kindergarten to secondary year, the journey of growth is paved with stimulating designs that secure a safe and fun environment to retrieve and transform knowledge and ideas in different contexts. The learning spaces and units are organized around large plazas designed to develop a strong community and

reflect the three landscapes of Belgium, merging culture and nature in the new vibrant environments. Curtains provide flexibility to shield off compartments or the possibility to open for dynamic and buzzing learning space. The school is developed in close collaboration with students, teachers, and school leaders to customize the pedagogical needs and integrate a design that accommodates 21st-century skills. Imagined, designed, and in full use by 2021.

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Location: Zottegem, Belgium

Team: Rosan Bosch Studio in collaboration with B2Ai, Denis Dujardin and atelier GRAS