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THE FACULTY OF ARCHITECTURE, BUILDING AND PLANNING

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BUILT PEDAGOGY:

"BIBLIOTHECA ALEXANDRINA" THE NEW LIBRARY OF ALEXANDRIA, EGYPT: 2002, Christoph Kapeller as partner in charge and project director for SNOHETTA

The design for the New Library of Alexandria, a 95,000 m2 research library project was the result of an international architectural competition in 1998. The client was the Egyptian Government and UNESCO. The project includes, a large reading room, research areas, an international school for librarians, exhibition spaces, a planetarium and the renovation of an existing conference center. After winning the competition with four collegues, Mr. Kapeller was partner in charge and project director and oversaw the design and construction for the new library from 1993 to its completion in 2002.

The circle: The most widely known myth of the ancient library claims that it had once contained the entire knowledge of the antique world. The new library design translates this myth into the language of architecture and form. The idea of oneness, containment and all-encompassing knowledge is portrayed in the geometry of the circle. The universe of the book and knowledge is metaphorically described by a universal geometry without beginning or end.

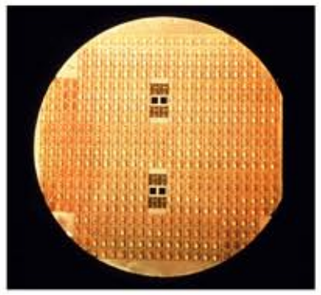
The microchip: A tight, orthogonal module of rectangles covers the circular shape of the silicone-waver, before it is cut into the final product, the chip. What is most interesting about the geometry of its image is the dialogue of two very different geometric concepts. One, the repetitive modular grid suggests an infinite structure. The other, the circular perimeter limits this infinite repetitive structure. These two geometric concepts are in continuous dialogue throughout the building.

A building arises: The design of the building volume as described by the tilting movement of the roof disk portrays the rise of the institution metaphorically as a frozen moment in time. As the roof disk cuts into the ground, it slices the strata of the earth exposing layers of history.

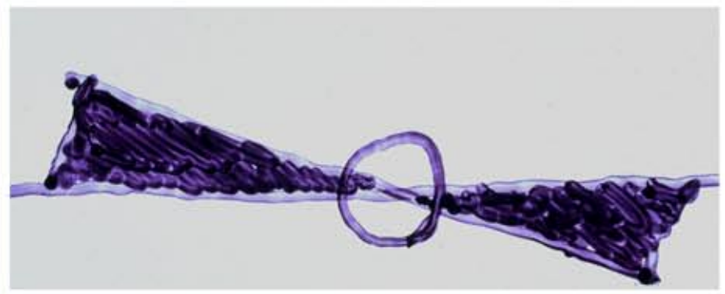
A wall of letters and signs: The smallest point-like element of the library's content, the letter is taken out of its usual context the book and is artistically displayed as wall carving on the surrounding wall. As writers assemble letters into words, words into lines, lines into paragraphs, the letters and signs carved into the granite wall of the library are taken from their context to form an artistic display of the smallest element, the raw material of the library's content.

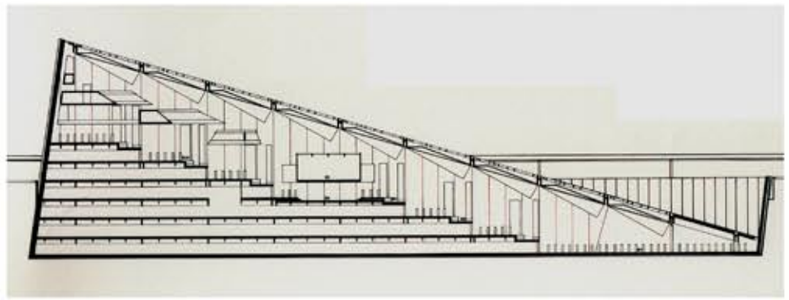
The Interior
The reading room is open and wide and covers more than half of the library's footprint. One single room lies directly beneath the sloping roof and is stepped over seven terraces. It is much larger than one anticipates it to be from the outside. - A place to think, to look, to meet, to talk, to study, to discover, to be. A space that feels infinite and limitless, yet intimate and enclosed at the reader's immediate surroundings; A space where one can be private, or enjoy the community of other visitors. Movements are defined by the two geometric systems at play. A space that is sculpted by reflected natural light that brings volumes and materials to life during various times of the day.

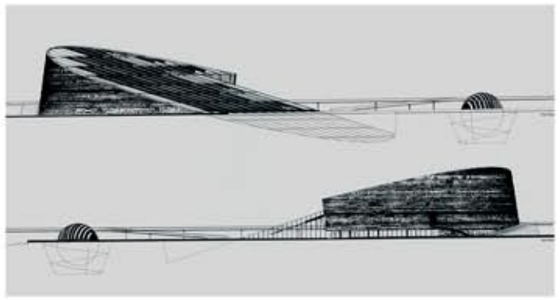
The reading room, the heart of the library, is a world within a world, the image and anticipation of the universe that reading opens within our minds. The pleasure of reading lies in the fact that our mind translates seemingly abstract letters and words into vivid images, sounds and ideas. Skylights offer limited views of the sea, the horizon and of fast moving clouds that are so characteristic for Alexandria's coastal climate. In addition, it is difficult to establish the ground floor from the interior of the reading room as the terraced space is stepped in four levels below and three levels above ground. The room takes the visitor out of his everyday environment, surrounds him with a calm atmosphere and despite its giant size, provides the necessary intimacy for reading and thinking. By taking the reader out of his daily context, the city and its surroundings, it is conceived as an anteroom to the real space of reading; the space within ones mind.


The microchip


Wall revealing soil strata


The rise of a building


Section through large reading room and book storage


Competition elevations


Site plan


Relationship with existing conferenc center


View of the library from the harbor


Wall of letters


The large reading room


The large reading room


Group study rooms

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THE ACADEMIC ENVIRONMENT:

THE ROBERT H. TIMME FAIA GRADUATE RESEARCH CENTER AT THE UNIVERSITY OF SOUTHERN CALIFORNIA: 2006, CK-Architecture: Design Architect

The School of Architecture, the School of Fine Arts and the Fisher Gallery share Harris Hall and Watt Hall at the southern edge of the University's campus. In 2004, the School of Architecture decided that it needed more space and a permanent home for its graduate program.

One of the first decisions on the project to add the new Research Center as a 3rd. floor addition to the existing Watt Hall was guided by the wish to keep the architectural community closely connected in one building. The existing structure allowed for the rooftop addition with only minor upgrades. The new floor was to house the School of Architecture's graduate school, ample space for reviews, presentations and receptions and maximize the number of faculty and research offices that the design would allow. The area of the addition is about 23,000 sq. ft., the budget was very limited and the design needed to accommodate the wishes and aspirations of students, staff and faculty alike.

The new facility is designed to provide maximum flexibility and adaptability to future requirements and uses while providing a strong identity for the School.

The new floor consists of three major zones, each wrapping around the other's perimeter, starting with the most public zone at the center and becoming increasingly private towards the perimeter of the building.

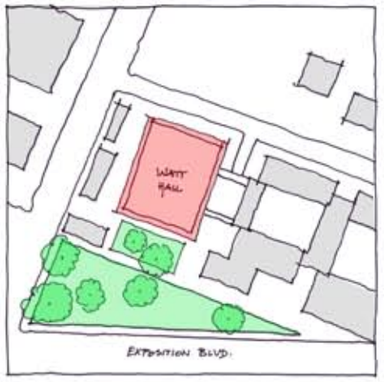
THE HEART OF THE SCHOOL

Being located within two buildings connected by bridges on the second floor, the School needed an identifiable center. A large central atrium space connects the new floor with the floors below and provides light and air for the previously dark second floor hallways. This tall atrium space forms the physical heart of the School and generates a strong identity for the entire building. It serves as entry, review space and location for informal talks and lectures. One side of the atrium features a 30-foot tall exhibition wall and the top clerestory provides generous natural lighting with minimum amount of glare.

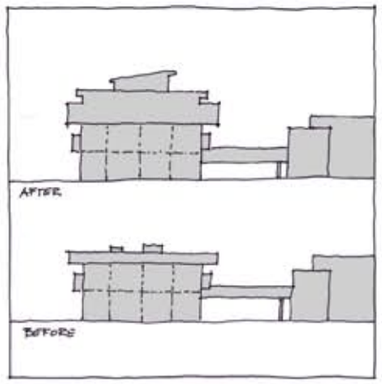
THE OPEN STUDIO ZONE

Wrapping around the central atrium space, the open studio zone is designed to be the most flexible zone of the addition providing a "plug and play" learning and research environment. The 16-foot floor to ceiling height in combination with a solid row of clerestory windows and the additional light from the central atrium create a light, airy and welcoming environment for short- and long periods of work and study. The roof overhang above the clerestory windows was developed with the help of intensive lighting simulation in order to avoid glare and sunlight in a heavily computer oriented studio environment. Floor access points in strategic locations allow data and power to be distributed for a number of tested furniture layout alternatives. The perimeter wall facing the faculty and research offices is conceived as presentation wall and lit by a continuous row of wall washers while the general lighting level at night is provided by metal halide ceiling washers mounted to the main structural columns.

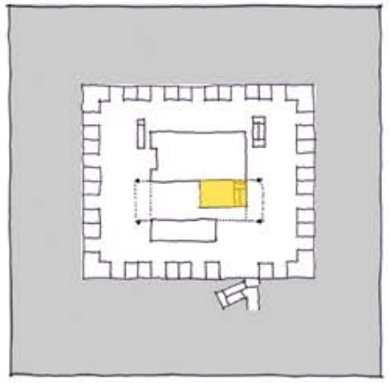
In line with the design concept, the colors of the studio are kept rather muted in order to allow a contrast between the architectural shell of the building and its colorful inhabitants.



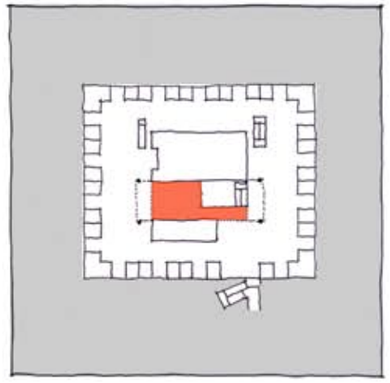
Robert H. Timme Graduate Research Center: Choice between new building or addition to existing Watt Hall.



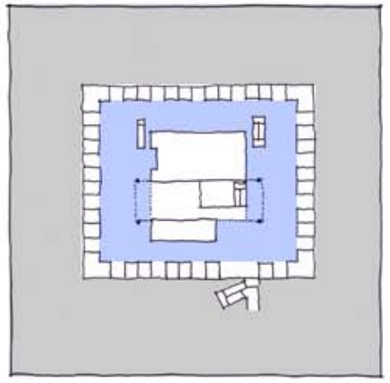
Addition of 3rd floor to existing Watt Hall enhances the School's community.



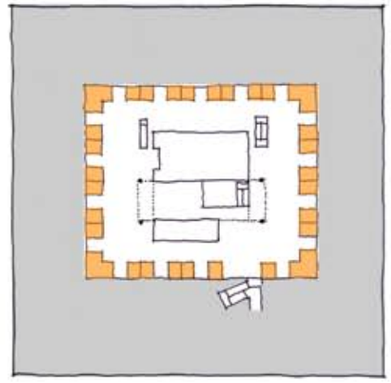
Vertical atrium between existing second floor and new research center strengthens spatial continuity.



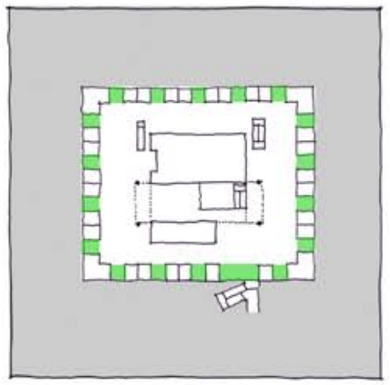
The 3rd floor atrium space that is used for parties, receptions and reviews forms the heart of the graduate research center.



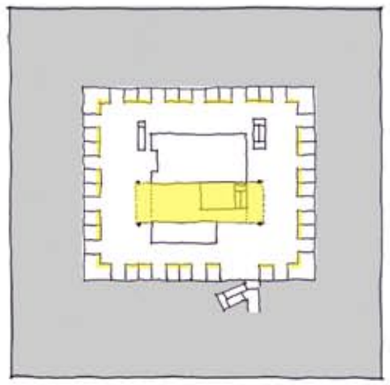
A series of nine graduate studios are located in an open, brightly lit floor level arrangement to foster communication and flexibility.



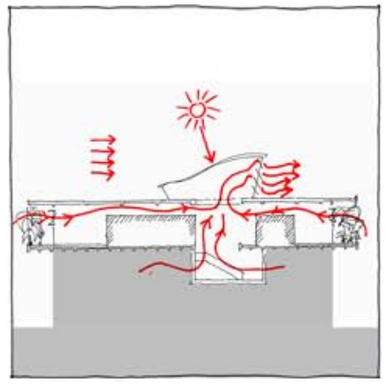
Research offices and faculty offices surround the open studio space at the perimeter of the building. Faculty and researchers walk through the studio space to get to their offices.



Open planted "skygardens" provide access to each pair of offices. They form meeting spaces for faculty, researchers and students that are ideally suited for the California climate.



High level clerestories around the perimeter and a large atrium skylight in the center of the research center provide ample daylight for the studio space while preventing glare.



The stacking effect, the heating in the atrium and large mechanical fans enhance natural ventilation during the tempered seasons.

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THE DESIGN STUDIO:

CONCEPT

The design of the Architectural Research Center focusses on the creation of a stage for serendipitous encounters. Everyone entering the Research Center passes by the main office and studio spaces on the second floor. Likewise, everyone enters through the main atrium space where a review, an exhibit or a party might be in full swing. Faculty members and researchers walk through the open studio space and the outdoor sky garden prior to entering their office. Students have access to the sky gardens for meetings, discussions and relaxation.

The concept behind all these arrangements is to create an environment that provokes unforeseen meetings and learning spaces that promote active learning, critical thinking, collaborative learning, and knowledge creation. Our goal was to break down the borders that separate learning from how we experience life. The central, open studio space prioritizes collaborative learning and social problem solving, while the series of informal gardens next to private research offices provide room for smaller, more intimate discussions and quiet reflection.

THE PERIMETER ZONE

At the perimeter, the new floor becomes increasingly porous. A ten-foot zone houses a multitude of private and semi-private uses. There, faculty / research offices that are bundled back-to-back alternate with gardens open to the sky. In order to reach the offices, one must enter through one of the gardens. While the offices are reserved for individuals, the open gardens form an ideal meeting place for students and faculty. The four corner suites are three times the size of the individual offices and serve as seminar rooms and headquarters for the four graduate programs of the School.

The open sky gardens are screened at the building's perimeter to provide surface for planting and to serve as additional safety measure for the garden's railing.

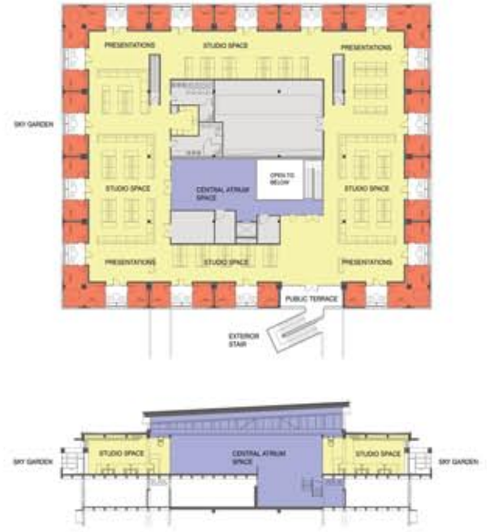
Floor to ceiling storefronts between sky gardens and studios provide visual communication and additional daylight for the studio spaces.

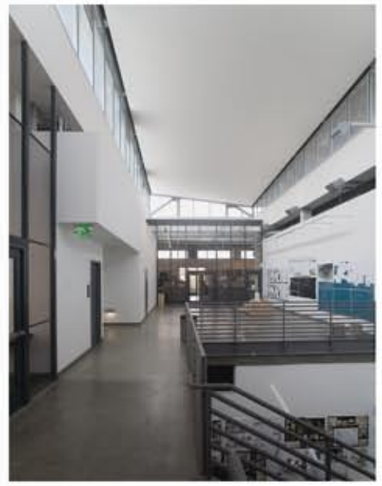
NATURAL VENTILATION CONCEPT

In the mild and temperate climate of Southern California one of the main objectives of the design was to create an indoor-outdoor learning environment and to provide a maximum of natural ventilation to the building. The perimeter offices feature cross-ventilation in addition to individual split units. Mechanical fans are installed above the sky garden storefronts in order to draw natural air into the studios during the mild seasons. The atrium clerestory features automated ventilation openings at its leeward side. These openings are designed to create airflow between the lower floor of the building, the studio fans and the atrium. Once the outside temperature reaches 75 degrees, the fans shut down and the central AC system kicks in.

EXTERIOR ACCESS

At the building's exterior, two stairs provide additional access to the third floor and to enhance the social environment within the courtyard between Watt Hall and Harris Hall. One stair leads from the ground floor to one of the connecting bridges while the other leads from the bridge to a generous public terrace at the new third floor. In addition to the main entrance through the central atrium space, the exterior stairs foster chance encounters and additional gathering and recreation space for the School's community.





Central Atrium Space

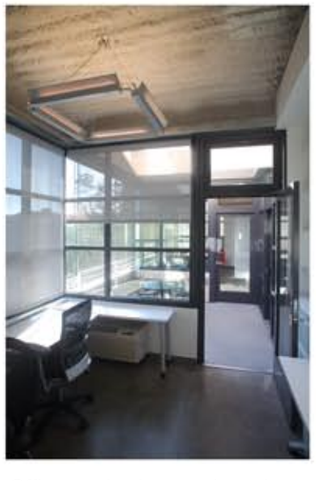
Exterior stair as meeting place

Informal review in open studio zone

Studios and perimeter offices

Exterior stair brings activity to courtyard

Garden forms entry to office



Offices paired around garden

Clerestories at atrium

Connecting indoor and outdoor spaces.

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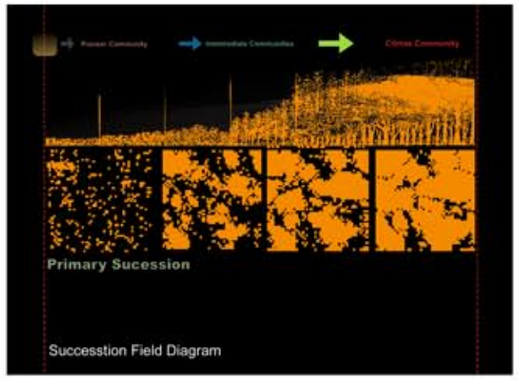
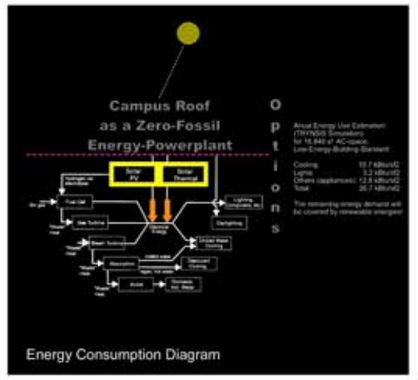
THE LIVING BUILDING:

MALAMA LEARNING CENTER: OAHU, HAWAII, USA: Meritorious award to CK-Archtecture in 2004. Client: The Nature Conservancy

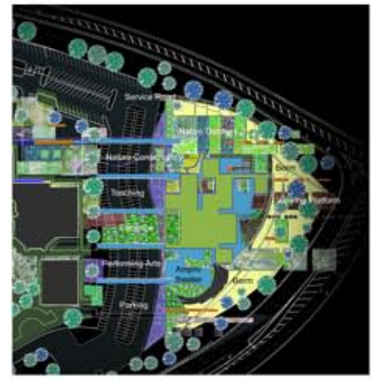
Given the history of Hawaii as the extinction capital of the world, the design of the new Malama Learning Center proposes to organize the site as a series of succession fields. The fields are laid out along the Ahupua'a bands. Reaching into the existing campus, the succession fields provide a project based learning facility and transforms the entire campus biologically and visually. The Hawaiian climate conditions and temperature permit outdoor activities during the entire year. The design for the new learning center transforms the traditional concept of the Lanai into a high-tech shading device.



Succesttion Field Diagram

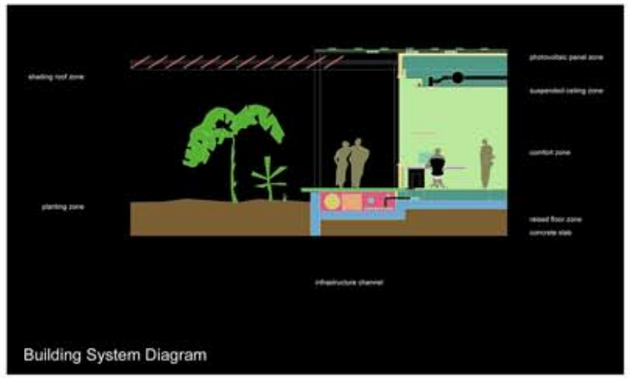


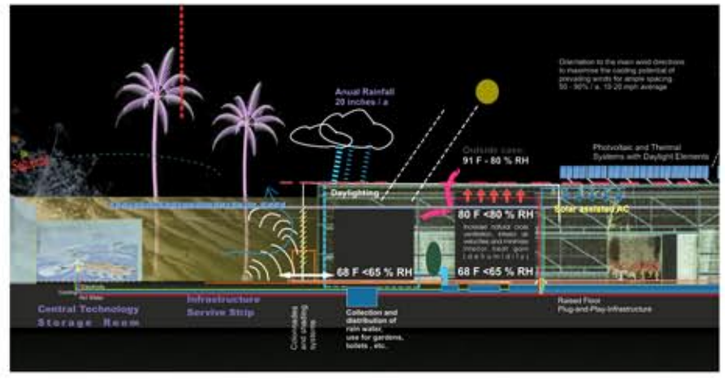
Energy Consumption Diagram



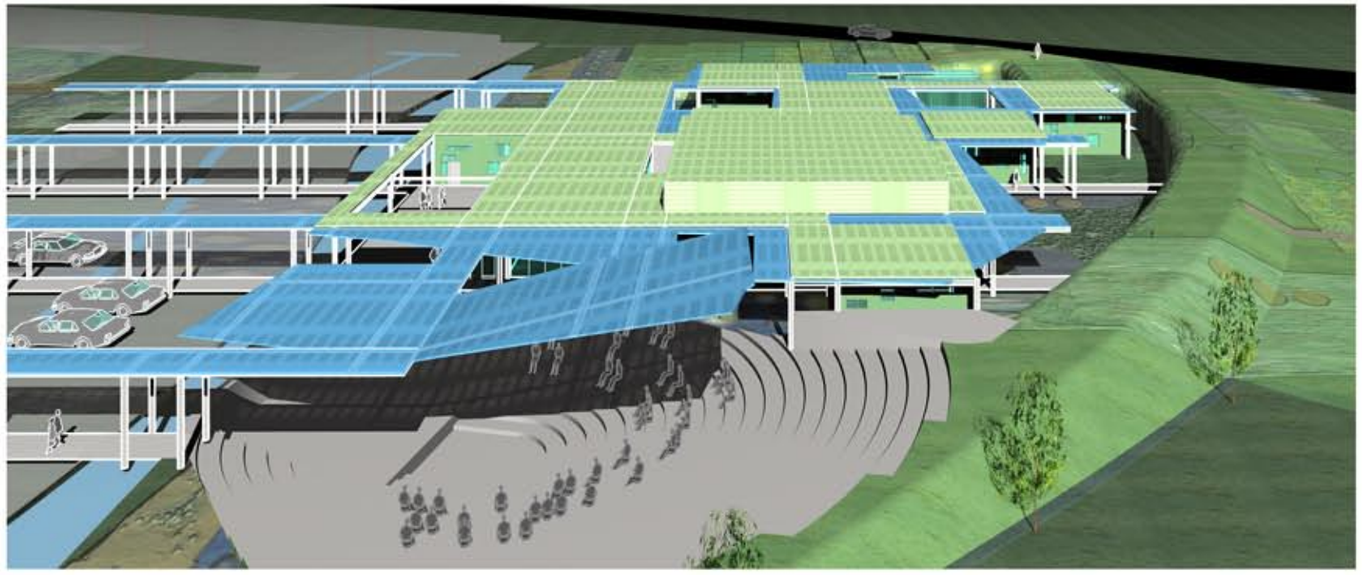
GREEN, SUSTAINABLE DESIGN:
Land use:
Context: The design organizes the new Learning Center in a manner that minimizes the vehicle traffic within the entire campus. The inevitable connection between the two perimeter parking lots is kept to the minimum necessary to accommodate the required parking spaces. The surrounding berm protects the site of the new learning center from noise and pollution of the surrounding roads while providing a most welcome change in the topography on the site.

By minimizing the impervious surfaces on the site and by carefully managing and conserving the run-off water from the center's roof, the new center will be a model for advanced water treatment and storage. The gardens will be irrigated from a combination of: Roof system water stores, Torrent water stores, Urban run off stores, and Gray water treatment stores. Rainwater will be collected and distributed for irrigation, toilets etc. In addition to this innovative approach to water conservation and protection, the design for the new center maximizes the amount of topsoil on the site. The placement of the storage rooms and service areas within the surrounding berm means that large new areas of topsoil and vegetation will be available to absorb water on the site. Gray waste water will be collected, mechanically and biologically treated in the gray water treatment pond and re-distributed for irrigation and other appropriate use. Drought resistant, xeriscape landscaping and planting strategies will further facilitate the conservation and use of water for the new Learning Center.


Building System Diagram



Energy Use:
The center's roof will act as a "Zero-Fossil Fuel Energy Powerplant". The roof of the new Learning Center consists of two layers. The lower layer is perforated and provides sun and heat protection. This roof is tilted up in strategic locations in order to allow the cooling trade wind breeze to enter the new center. The upper layer of the roof provides rainwater protection and carries photo-voltaic and Thermal Solar Panels. These panels will gather solar power to provide energy for: lighting, computers, equipment, appliances, chilled water cooling, desiccant cooling, and domestic hot water. In addition, the combination of two roof layers maximizes natural ventilation and non-glare daylighting of the new center. Building openings are designed to facilitate natural ventilation while the temperature difference between shaded areas and the rooftop will create local air movement and pleasant micro-climatic conditions within the center. Finally, the planting within the center's courtyards is designed to cool the center's rooms through the evaporation of irrigation water during the day.



Natural Ventilation and Daylighting:
Beneath the two roof layers that shield the center from sun, heat-gain and rainwater, the building elements are organized in a pavilion system. Most of the pavilions contain only one program element each, thus maximizing the buildings' wall surface areas. This strategy organizes the buildings to allow maximum air-flow around all structures. All circulation areas are located in open air corridors that are connected to the various courtyards, and are sheltered by the roof layers from sun and rain. Due to the overall reduction of heat-gain and glare by the roof layers, the exterior walls of the buildings can be kept extremely open and light.

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CAPABILITY AND PROCESS:

CAPABILITY:
CK-Architecture's goal is to combine advanced, emerging technologies and an interdisciplinary approach to design a better, more sustainable, and more livable environment. CK-Architecture's design approach focuses on the following main issues: Research driven design solutions, urban design / landscape specific site solutions, flexibility and open design, transparency, technology and sustainability.

Christoph Kapeller, CK-Architecture's principal, has had over 20 years of experience in large scale international and national projects. He is registered as architect in the State of California as well as in the European Union. After winning the competition for the New Library in Alexandria, Mr. Kapeller was partner in charge and project director for this 230 million dollar project, overseeing design and construction until its completion in 2002.

Between 2004 and 2006, CK-Architecture was working as design architect for a major addition to the University of Southern California School of Architecture in Los Angeles. In close working relationship with the late Dean Robert H. Timme, Mr. Kapeller, a faculty member at the School negotiated the design of the addition with the university's administration and the 70 faculty members of the School. Through intense dialogue, numerous presentations to faculty, donors and university administration, CK-Architecture has gathered extremely strong and varied experience in the opportunities and challenges of the design of campus and architecture school related facilities. As a faculty member of one of the major architecture schools in California and as design architect for the Timme Research Center, we feel that Mr. Kapeller has a deep understanding of architectural learning spaces and would be uniquely qualified to design the new facilities for the Faculty of Architecture, Building and Planning.

Mr. Kapeller has participated in numerous architectural competitions and received a number of prizes and wards, among others the AGA Khan AWARD for his work on the New Library of Alexandria. In addition to being member of the design faculty at the USC, School of Architecture, Mr. Kapeller has published articles and given lectures all over the world.

PROCESS:
If appointed, CK-Architecture would set up a permanent presence in Melbourne for the duration of the project. In addition, Mr. Kapeller would personally oversee the design and lead all important communication and discussions with the University and Faculty.

ARUP ASSOCIATES have offices, both in Los Angeles and Melbourne in addition to their vast experience, capability and multi-disciplinary approach and would therefore be well suited to act as the engineer for the project if accepted by the Client.

In addition, CK-Architecture has long experience in working with local executive architects and engineers. If the client so desires, CK-Architecture would be capable and willing to work with a local firm to provide the Client with an outstanding project on time and on budget.

References:
Prof. Charles Lagreco:
Associate Dean, USC, School of Architecture during the design process for the Robert H. Timme Graduate Research Center. Email: lagreco@usc.edu
Dr. Ismail Seralgedin:
Director of the Library of Alexandria, Alexandria, Egypt. Email: ismail.serageldin@bibalex.org

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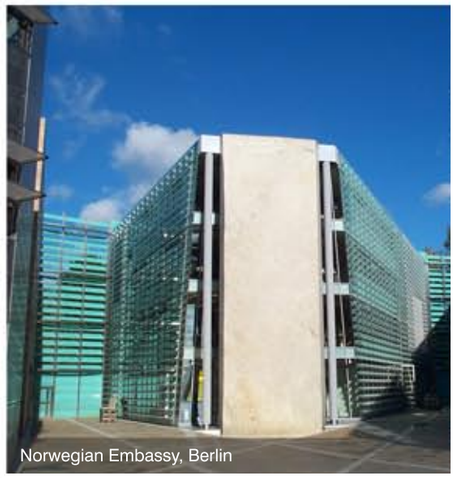
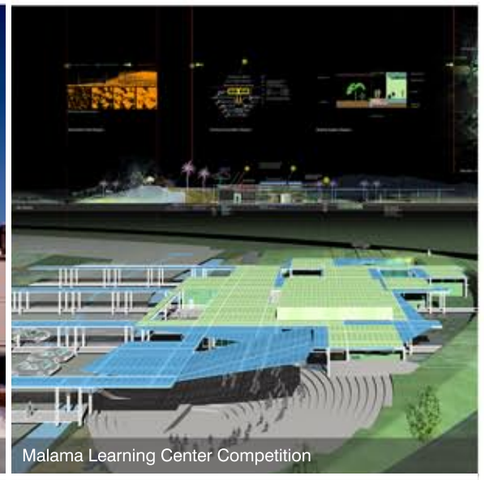
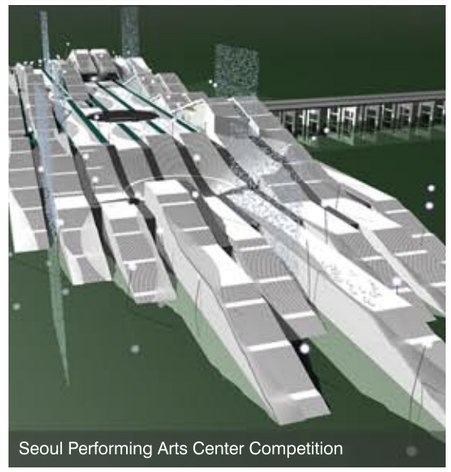
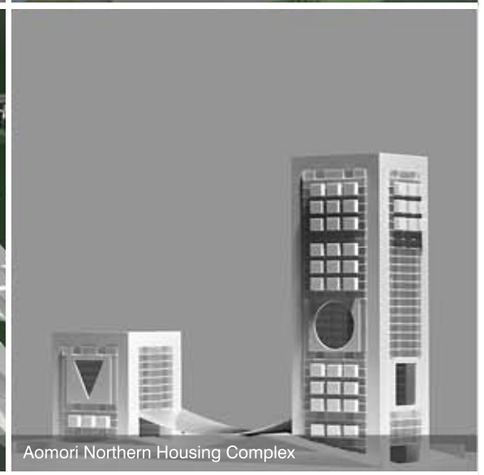

Norwegian Embassy, Berlin


Lillehammer Olympic Art Museum


Malama Learning Center Competition

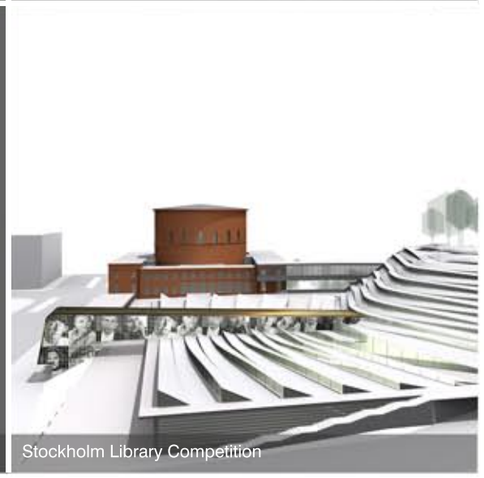

The National Library of the Czech Republic Competition


Seoul Performing Arts Center Competition


Aomori Northern Housing Complex


Shinkenchiku International Residential Competition


Urban Habitats Competition


Stockholm Library Competition

THE FACULTY OF ARCHITECTURE, BUILDING AND PLANNING

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MERIT:

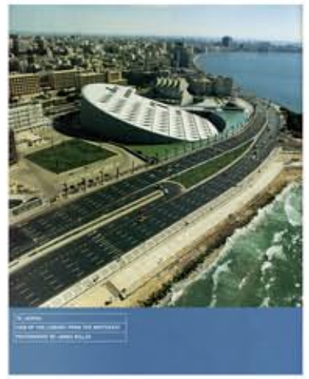
Christoph Kapeller was born in 1956 in Graz, Austria. He graduated at the Technical University in Graz as Dipl. Ing. for Architecture in 1983 and got his Masters Degree in architecture at the University of Southern California in 1986.

Christoph has received numerous awards and prizes at architectural competitions to include: First Prize in the international design competitions for the Bibliotheca Alexandrina, Egypt in 1989, the Art Museum in Lillehammer, Norway in 1990, the Norwegian Embassy in Berlin Germany in 1996 and the new Oslo Opera House, Oslo Norway in 2000. Christoph was partner at SNOHETTA and was the project architect and partner in charge for the new library of Alexandria, Egypt from 1996 to 2001. In 2002, after relocating to Los Angeles, he established CK-ARCHITECTURE and became one of seven finalists at the international North-ern Style Complex residential design competition in Aomori, Japan among 890 participants. From 2002 to 2004, he participated in a number of national and international competitions and won an honorable mention at the Malama Learning Center Competition in Hawaii in 2003 in collaboration with Mitchell De Jarnett and Thomas Spiegelhalter. In 2008, Christoph Kapeller was invited to the international FREEZE festival in Anchorage Alaska to produce a public installation in collaboration with the artist Lita Albuquerque.

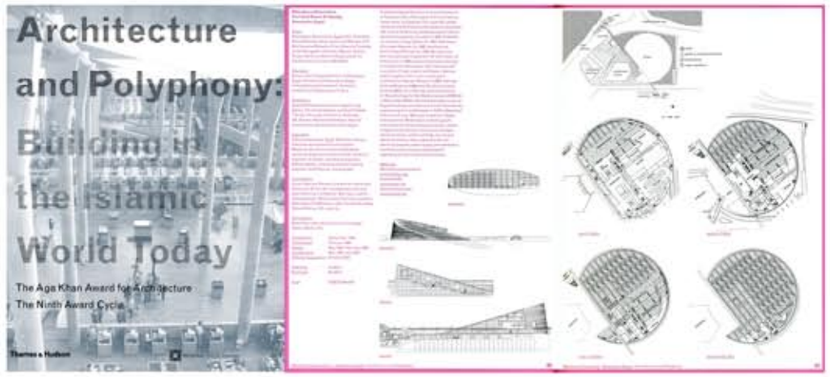
Christoph Kapeller wrote several publications among others a book contribution to the book: “La Nouvelle Bibliotheque d’Alexandrie” published at Buchet Chastel, Paris in 2003, articles in the Massachusetts's Review (winter 2001), Bauwelt, (June 15th 2001) and Byggekunst (September 2001). His work was exhibited at the Institut du Monde Arabe in Paris, France (2002), the Biennale di Venezia, (2002) and the National Library of Austria (2002).

Christoph Kapeller is a licensed architect in California and member of the AIA. He also carries architect’s licenses in Austria and Norway. He is Adjunct Assistant Professor at the University of Southern California.

Christoph Kapeller is the principal of CK-ARCHITECTURE in Los Angeles, a practice that specializes in the exploration of human dwellings in the 21st century and in the application of high-tech building systems to the creation of sustainable and livable public spaces.



LIBRARY OF ALEXANDRIA
PUBLICATION: Architecture, October 2001, Design Special Issue

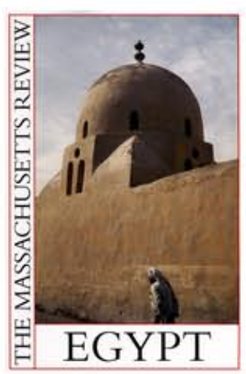


LIBRARY OF ALEXANDRIA
PUBLICATION: Architecture and Polyphony: Building in the Islamic World Today

LIBRARY OF ALEXANDRIA
PUBLICATION: La Nouvelle bibliotheque d Alexandrie, 2003

Awards and Prizes at Architectural Competitions:

2005	Honorable Mention:	Urban Habitats International Design Competition, Charlottesville, Virginia.
2004	Aga Khan:	Recipient of the Aga Khan Award for Architecture, 2004 for the Bibliotheca Alexandrina.
2003	Meritorious Award:	Malama Learning Center International Competition: Hawaii
2002	Finalist:	Northern Housing Complex: Aomori, Japan. One of seven finalists among 897 participants at the international competition for a large housing complex in Aomori, Japan. Judges: Tadao Ando, Jean Nouvel.
2000	First Prize:	New National Opera House, Oslo, Norway International architectural competition: 230 entries.(partner at Snøhetta)
2000	Third Prize:	World Intellectual Property Headquarters, Geneva, Switzerland. (partner at Snøhetta)
1999	Second Prize:	King Fahd National Library: Saudi Arabia. (partner at Snøhetta)
1999	First Prize:	INMED Brain Research Center, Marseille, France. (partner at Snøhetta)
1997	First Prize:	Town Hall, Harmar, Norway
1996	Second Prize:	Kansai-Kan Natianal Diet Library: Osaka, Japan
1996	First Prize:	Norwegian Embassy in Berlin, Germany. (partner at Snøhetta)
1992	First Prize:	Urban Design Competition: Bad Radkersburg, Austria: (in collaboration with Alfred Bramberger, Graz)
1990	First Prize:	Lillehammer Art Museum, Lillehammer, Norway. (partner at Snøhetta)
1989	First Prize:	Bibliotheca Alexandrina, the new library in Alexandria, Egypt. 526 participants. (partner at Snøhetta)
1988	Honorable Mention:	International Landscape and Architectural Competition for the Arboretum at the University of Davis, Davis, California. (in collaboration with Judith Van Euer and Elsa Leviseur)
1986	Honorable Mention:	“Shinkenshiku”, International Residential Design Competition, Tokyo, Japan. Judge: Helmut Jahn.
1980	First Prize:	Utopie und Ästhetik” University of Essen, Germany. International Student Competition. (in collaboration with Friedrich Mascher and Richard Manahl)
1978	First Prize:	“Friedrich Zotter Gedächtnispreis” National Architectural Student Competition



LIBRARY OF ALEXANDRIA
REVIEW: The Massachusetts Review
Winter 2001-2002

LIBRARY OF ALEXANDRIA
AWARD: The Aga Khan Award for Architecture

PRIVATE LIBRARY AQUISITION
PUBLICATION: Los Angeles Magazine August 2007, Los Angeles