

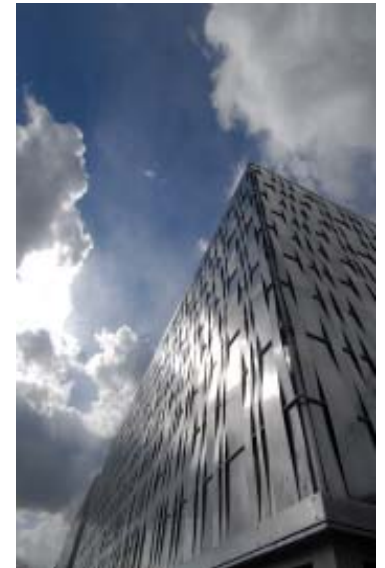
# ACSA Distinguished Professor

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2013-2014 Winner: Submission Materials

DAN ROCKHILL  
University of Kansas

Portfolio  
**Dan Rockhill,**  
ACSA Distinguished  
Professor Award Nominee  
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**DAN ROCKHILL** about **STUDIO 804, Inc**

I started teaching over four decades ago and every year I have attempted to make improvements over the year before. I think most highly of the recent work so this brief portfolio covers the last nine years. I do a building every year with my students. Studio 804 takes its name from the final design studio within the graduate architecture program at the University of Kansas. We build everything we design and subcontract next to nothing. In the nearly twenty years since the studio began, it has progressed from small-scale projects of affordable prefabricated housing placed in marginal neighborhoods as seeds for urban change to larger scale public buildings that demonstrate the strengths of sustainable practice through modern design.



I receive support for much of my overhead from the University but the projects themselves are not subsidized by them. I operate Studio 804 like a business; a not-for-profit corporation where we begin each year with nothing but the bank balance left by the previous graduating class - and end with a completed building, a satisfied client, and an invaluable learning experience. I do this work to make them better architects, not builders. We do this work from start to finish in nine months including; budgets, finding funding, consultants, contracts, CD's and all the construction as well as the follow up with commissioning and the LEED submittal. When we did the prefabbed houses we produced everything in only one semester. I think universities are about ideas and that as educators of our future architects we should lead the conversation about sustainability and demonstrate how design can address these important issues to the general public.



### LLOYD STREET HOUSE

We worked with a Community Development Corporation and were successful in convincing them that modern dwellings, instead of the widespread faux historic houses they were building, would be a viable alternative to housing in the inner city. We sourced an abandoned warehouse in Lawrence to build in so we could avoid the problem that was created by our forty mile distance from Kansas City. We prefabricated this building in that warehouse, trucked it to the jobsite and set it in place with a crane. We sold the house to a young couple after they saw the nearly completed building before it left our factory. The site was in a derelict part of the city where little had changed in the last eighty years. It was the start of a steady run of houses that were sold to anxious young buyers looking for an alternative to suburbia, wanting to live in the inner city.





## RIVERVIEW HOUSE

This house occupies a dramatic site overlooking the downtown skyline. The site is also in an area of marginal housing and, once again, we have proven that modern dwellings are a viable alternative to conventional builder's housing. This house, like the others, sold before we finished it. We also prefabricated this in Lawrence and trucked it to this Kansas City site. As in all of the prefab projects we obtained the property for free through a land bank the city maintains to encourage rebuilding in the inner city. It is clad in Douglas fir siding over a rain screen and sits above the grade on concrete piers to promote the concept of a very minimal site intervention. It is composed of six separate prefab units that we stitched together after setting them and includes a simple program of two bedrooms in 1200 square feet.







#### MODULAR 4

Consisting of seven prefabricated modules, the 1500 square foot home features a remarkably flexible floor plan anchored by a core of service space that defines the interior, the modules are offset in the middle to separate public and private, creating a bold four-foot cantilever on either side of the house. The north facade was kept tight to protect from cold winter winds while the south façade was opened up with broad glass to flood the living space with light and take full advantage of the sun's heat in the winter. The cellulose insulation in the walls, floor and ceiling was made from recycled materials and offers superior thermal and moisture protection. The home also features many other sustainable materials which include: bamboo flooring, recycled countertops, adjustable thermal window protection, a porous driveway, FSC approved Brazilian hardwood and recycled aluminum siding, ventilating skylights, and a white "cool" roof.





## GREENSBURG

The construction and delivery of The Sustainable Prototype was provided to the 5.4.7 Arts Center on the one year anniversary of the tornado that devastated Greensburg, Kansas. Although the building was developed for the long term use by the Arts Center, its immediate use as the first completed public facility serving as a beacon for the community and its ambitious rebuilding efforts was a motivating factor in its design. Following the tornado, the Greensburg City Council passed a resolution requiring all publicly funded City buildings to be rebuilt to the U.S. Green Building Council's LEED Platinum level of certification. Although the Arts Center is not built with public funds, Studio 804 feels strongly about supporting this decision and providing an example of the sustainable practices that can make this resolution a reality. The Sustainable Prototype became the first LEED Platinum building in the state of Kansas, as well as the first designed and built by students.





## SPRINGFIELD HOUSE

Studio 804 created their second LEED Platinum project in the Kansas City Metropolitan Area in early 2010. The single-family residence at 3716 Springfield in the Rosedale neighborhood of Kansas City, Kansas is nestled on a secluded site near the University of Kansas Medical Center. The combination of the integrated photo voltaic panels and a wind turbine enable this simple house to generate its own power independent of the local utility provider. Through the concept of “net metering”, a concept we initiated in the region, excess energy produced while the sun is shining and wind is blowing can be credited back to the owner for use during hours when it generates less than it consumes. This residence seeks those who desire to live off-the-grid while enjoying the revitalized amenities that comprise the metropolitan urban core. We chose to not prefabricate this house but built it on site instead.





### PRESCOTT PASSIVE HOUSE

This is the studio's third LEED Platinum project and first Passive House Certification. Passive House seeks to reduce building energy consumption for heating and cooling by 90%. The heating load is drastically reduced by means of a super-insulated, virtually airtight building shell, and broad Southern exposure. As an example of the high standards associated with PH certification, there were no window manufacturers in North America that could meet the window performance specification so we brought them in from Austria. In addition, we have addressed affordability in a very direct way by targeting an eventual homeowner earning 80% or lower of the area median income (AMI). We have worked with Community Housing of Wyandotte County (CHWC) and the Prescott Neighborhood Group (PNG) in order to interact directly with the community in which we are working. The siding is burnt wood over a rain screen, in the Japanese tradition of shou-sugi-ban.







## THE CENTER FOR DESIGN RESEARCH

This project focuses on issues of sustainability more than any completed to date. It is the studio's fourth LEED Platinum project and first commercial Passive Certification in North America. It is located on the University of Kansas' west campus and is used as a demonstration project of sustainable design for both the University and Lawrence communities. It was recently recognized by the Swiss Holcim Foundation for an Award for sustainable design. It includes an interior Trombe Wall used as a heat sink behind the electro chromic glass set along the south façade. We processed over 100 tons of stone tailings, a waste product of fabrication we pulled from the dump that we used for the exterior cladding. A highlight of the interior is the twelve foot tall, thirty four foot long living wall which we designed and built to accommodate over ten thousand ferns.





### GALILEO'S PAVILLION

This is the Studio's fifth LEED Platinum project. Galileo's Pavilion occupies a prominent position in the middle of the Johnson County Community College's campus. College officials asked the Studio to produce a demonstration project on their campus in Kansas City. Based on the success of the Center for Design Research and its use as an educational tool we are pleased to accept the challenge. Notable features are the re-cycled slate chalkboards, gathered from around the country, to clad the exterior along with rescued glass from a demolition project used for the glazed areas. With limited space available we selected a site that would surround a large sculpture produced thirty years ago to celebrate the work of Galileo and his work with the rhythms of the sun, a common bond to our own interests. The program called for two new classrooms as well as a lounge that would double as an educational center for the sustainable program on campus.





## ECOHAWKS RESEARCH FACILITY

This is expected to be the Studio's sixth LEED Platinum project and it is our most recent. We designed and built this building for a group of mechanical engineers in the KU School of Engineering called EcoHawks. They asked us to design a building that would accommodate research they are involved in that explores alternative charging methods for the battery powered cars they create. As an example they mix glycerin and propane together to power a synthetic gas engine that is used to charge the batteries of their various vehicles. Three thirty foot square bays create the footprint; two of them are high bay tempered spaces and the third left open for outdoor research. A mezzanine provides work stations for graduate student research. Our energy model projects that we will generate twelve percent more energy than we will consume. The building skin is recycled aluminum flats from the coil that was woven through horizontal bands of aluminum tube.



