

Regnier Traveling Fellowship

Monthly Report: January, 2007

Joe Karten

SUMMARY

This month saw the end of my stay in Barcelona and the beginning of another month on the road, which started with a trip to Italy. Before heading off again, however, I had the chance to meet some people working on interesting projects in Barcelona.

BARCELONA

After reading about a sustainable apartment renovation project in a Barcelona magazine, I contacted the owner of the flat, Petz Scholtus. She is a free-lance eco-designer who, in her spare time, is renovating her recently purchased flat with environmentally sustainable materials. She invited me over to visit and write a case study on her project. She is performing thermal upgrades to the windows, covering the floor with a cork product that doesn't kill the cork tree, installing recycled plastic bathroom tiles, and a high-efficiency water heater.

In addition to her eco-design work, Petz is a regular contributor to Treehugger.com, a website focused on sustainable living and practices. After the apartment visit, we met up with the founder of Treehugger, Nick Aster, and a group of people involved in the architecture and engineering industry. Nick was interested in the GreenBuildingWorldwide database. He has in mind a web project that would allow cross-referenced database searching and also the ability for people to add their own case studies to the database. He is interested in collaborating efforts with me on the project and I am very excited about moving closer towards my original goal of a searchable, expandable database of case studies.

I spoke to architect Pau Casaldàliga at Pich-Aguilera Architects about the Pau Claris sustainable residential building in downtown Barcelona. He described the sustainable solutions designed into the building. I was denied a visit of the inside by the developer because the units are private dwellings, but promised pictures to include in my case study. The building uses natural cross-ventilation for passive cooling and its extra-insulated walls keep heat and cool in the building. Abundant light entry minimizes the use of artificial lighting during the day. A solar thermal collector array on the roof produces approximately 63% of the building's hot water. Finally, rainwater is the sole source of rooftop garden irrigation.



Recycled plastic tiles



Pau Claris photo courtesy of CSCAE

BACK TO ITALY

My parents flew to Italy to visit my sister and I here in Europe, so I headed out to Bologna again to meet up with them. It was quite a family reunion as my aunt Beth had accompanied my parents to see her son, Eddie, who's staying with Sarah in Bologna. The whole group visited Venice and Florence, and we all stayed in Bologna.

PADOVA

The day after arriving in Italy, I had a meeting set up with folks from the Solar Info Center in Padova. I was picked up by Michela Bortolami, the same woman who had given me a tour of the Vauban District in Freiburg, three months prior. She had finished her work with Meinhard Hansen and was now back in her hometown of Padova working with Matteo Benetello at The Italian Solar Info Center (ISI).

My sister came along to help with the interpretation, as did Matteo's brother-in-law, a Barcelona native. However, when Matteo and Michela spoke slowly in Italian, I understood the majority.

They showed me the renovation project that is headquarters for ISI. The building is a duplex just outside of Padova. It was built in the 80's with little consideration for energy savings, but has since been thermally upgraded and new heating systems are being put into use.

The thermal upgrades include the addition of 18 cm of rockwool or polystyrene insulation at all exterior walls and in the roof, changing windows to triple-glazed and krypton filled, and capping all potential thermal breaks at fenestrations.

Both a 25 m² rooftop solar thermal array and a wood pellet burning stove heat water, which is used in the radiant wall heating system. This system increases the efficiency and quality of room heating since the heat is evenly distributed across an entire wall, instead of coming from points in the room.

The Info Center consults on the design and installation of solar energy technologies in building projects around Italy. They are offering a class on PV installation this week and as part of a hands-on training, will install a 1 kWp photovoltaic panel system on the roof.



Italian Solar Info Center



A tour of the outside of the house



Radiant wall heating

VENICE

My parents arrived at the Venice airport. So my sister, cousin, and I went out to meet them and we ended up walking around Venice all evening, finding a hotel and spending the next day there sight-seeing. The canals were incredible as was the old architecture, but on the whole, there was a play to the tourist feel about the city that made it seem like more of a Disneyland than a cultural epicenter. I read that property prices are so high that hardly anyone can afford to live in Venice proper. All that being said, a reunion with my family in Italy was a blast.



My sister, aunt, mom, cousin, and pop in Venice

FLORENCE

Another incredible Italian city in the heart of Tuscany that I missed the first time around, Florence kept us busy all day. I was very excited to see the work of master-builder, Brunelleschi at the Duomo. Equally amazing were the re-finished sculptures on display outside the Uffizi museum in the Piazza della Signoria. The ultra-violent Perseus slaying Medusa statue was my favorite, by far.



A Venetian canal



A Florence bridge loaded down with houses and shops



The painted interior of Brunelleschi's masterpiece cupola atop the Duomo cathedral, Florence

OTHER NEWS

My old professor, Mike Montoya, and I submitted a proposal to speak at GreenBuild 2007 about case studies of buildings I have researched and how results from this research will be implemented into some of Mike's Construction Management classes at Cal Poly. Also, with the help of Oregon architect, Nathan Good, I will be giving presentations on these research results in Salem and Portland to groups of architects and U.S.G.B.C. members.

An article I wrote about solar projects in Freiburg, Germany, is slated to be published in the Mexican construction magazine, *Obras*, in March.

Currently, I'm back on the train tracks, and have some exciting building visits coming up before going back to the states.