

# Hans Rosenlund

Architect SAR/MSA, PhD



## Office:



## Address:

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SE-293 91 OLOFSTRÖM, Sweden

## Languages:

Swedish, English, French (German, (Spanish))

## Country

Jordan, UAE, Algeria, Tunisia, Morocco, Vietnam,

## experience:

China, Tanzania, India, Cuba, Bolivia, Chile, Sweden

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**Born:** 1953, Mjällby, Sweden

**Citizenship:** Swedish

**Family status:** Married, grown-up children

## Professional profile

Since the mid-1980s, research focused on climatic design of buildings, especially in hot-arid regions. A large housing project in Vietnam was also a major consultancy in the 1980s. Several hands-on projects, including measurements, computer modeling and experimental buildings, formed the basis for a doctoral dissertation in 1995.

Recent years' work expanded to urban climatic design and comfort, also in hot-humid as well as cold areas such as Sweden's, where the international experience has shown to be useful for an unprejudiced approach. Focus is mainly on modern design, also taking traditional values into account. Design guidelines, regulations and awareness through training and seminars, carried out in cooperation with institutes in concerned countries/regions, are often important components of a successful project.

Newly added expertise areas are Energy Performance Rating and daylight evaluation studies for LEED or BREEAM sustainability certification of buildings, as well as green roofs, wind and urban greenery, including CFD simulations. All these advanced tools are part of **CEC Design's** work package.

## Education

|     |  |                 |      |
|-----|--|-----------------|------|
| PhD | Architecture & Development – Climatic Design | Lund University | 1995 |
| MSc | Architecture                                 | Lund University | 1980 |
|     | Building engineering                         | Växjö Teknikum  | 1973 |

## Additional training courses

|  |                 |         |
|--|-----------------|---------|
| Geographical Information Systems (GIS) course        | Lund University | 2003–04 |
| E-learning techniques and pedagogy (various courses) | Lund University | 2001–03 |
| Developing Countries and International Aid           | Lund University | 1981    |

## Professional Experience

### Employment

|         |   |
|---------|---|
| 2007–   | Manager, <b>CEC design</b> consulting. <i>Climate, Energy and Comfort</i> design, education and research. |
| 2000–08 | Associate Professor, Lund University, Department of Architecture & Built Environment.                     |
| 1995–99 | Lecturer/Researcher, Lund University, Department of Architecture.   |
| 1983–90 | Architect, Sweden Habitat AB, Lund (part-time).   |
| 1982–95 | Research Assistant and Doctorate Student, Lund University, Department of Architecture.                    |
| 1980-85 | Private practice in architecture, urban planning, graphic design and exhibitions (part-time).             |

### Main assignments

|         |   |
|---------|---|
| 2011    | <i>EU application, Life-long Learning programme.</i> Coordination of application for curriculum reform within three universities, for Lahti University of Applied Sciences, Finland.  |
| 2011    | <i>H+ Bredgatan.</i> Team member with responsibility for urban microclimate issues. With Kanozi Arkitekter for City of Helsingborg, Sweden.   |
| 2010    | <i>Abu Alanda.</i> Sustainable housing competition, Amman, Jordan. With Emtairah Consulting.  |
| 2009    | <i>Gröna Parametrar (Green Parameters),</i> a study of green roofs & walls and street vegetation in a Swedish urban climate. CEC Design for the Institute of Sustainable Urban Development – Malmö, <b>Sweden</b> .   |
| 2008–   | <i>Energy Performance Rating</i> according to ASHRAE standards for LEED certification of sustainable buildings in <b>Dubai, UAE</b> . Partnership: CEC Design and Energy Management Services Ltd, UAE.  |
| 2008–09 | Follow-up of the first sustainable residential building in <b>Jordan</b> . Measurements, simulations, economic evaluation. CEC Design and Emtairah Consulting, Jordan.  |
| 2005–07 | Project coordinator: <i>Improving Thermal Performance and Minimizing Energy Consumption in Buildings in Jordan</i> . Energy regulations, climate zoning, measurements, software development and training. Research cooperation and advisory, Lund University and Royal Scientific Society (RSS), Amman. ( <i>Sida</i> ) |

- 1995–2004 Course Director: *Architecture, Energy & Environment – Tools for Climatic Design*. Main lecturer, course administration and development, in a e-learning modules. Advanced **international** training programme. Lund University. (Sida)
- 1997–2001 Project coordinator: *Environnement Urbain*. Developing new urban and building design principles for hot-arid climates as basis for new thermal regulations. Measurements, computer simulations and experimental buildings. Research cooperation and advisory, Lund University and LPEE, the national testing and research institute, **Morocco**. (Sida)
- 1991–95 Project coordinator: Development of climatic design guidelines for small public buildings and housing in southern regions in **Tunisia**. Design and construction of an experimental building, a Children’s Activity Centre, based on measurements and computer simulations. Dissemination seminar. Lund University in cooperation with ARRU, a national building upgrading institute. (Sida)
- 1983-90 Architect, advisor: *Housing Area*, a new township for local staff of the ‘Bai Bang’ paper mill, **Vietnam**. Design/construction monitoring, including supervision of three Vietnamese design offices, advise on Swedish financing, and follow-up and reporting to Sida. Sweden Habitat AB (part-time). (Sida)
- 1983–88 Project coordinator: Development of climatic design guidelines for hot-arid climates. Measurements, computer simulations, building material development and experimental buildings. Lund University in cooperation with CNERIB, the national building research institute, **Algeria**. (Sida)

### Short-term assignments

- 2010 Guest teacher: *Urban Climate, Form and Energy*. Module in the master course *Sustainable Urban Management*, Malmö University, Sweden.
- 2010 Guest teacher: *Town Planning in Hot Climates*. Module in the master course *Future Building Solutions*, Danube University, Austria.
- 2010 Consultant on green building concepts. Symex, Kuwait.
- 2009 Training course: *DesignBuilder Simulation Tool*. NORUT, Narvik, Norway.
- 2007 Guest Professor: Teaching climatic design. CEC Design and Kasetsart University and Culalongkorn University, Bangkok, **Thailand**.
- 1998–2005 Researcher: Study on household energy efficiency in apartment buildings in Beijing and similar climates. Recommendations and priorities for new construction and retrofit. Lund University in cooperation with Ministry of Construction, **China**. Report, see below. (Sida)
- 2005 Researcher: Pre-study setup on urban design in hot-humid climatic, **Sri Lanka**. Lund University in cooperation with University of Moratuwa. (Sida)
- 2003 Guest Professor: Undergraduate teaching in Universidad Técnica Federico Santa Maria, Valparaiso, **Chile**. (Lund University)
- 1995–97 Guest Professor: Teaching climatic design at postgraduate course at Universidad Major San Simon, Cochabamba, **Bolivia**, for Latin American architects and engineers. Lund University. (Sida)
- 1995–97 Researcher: Development of project proposals of sustainable housing, with Habitat Cuba, a local NGO, **Cuba**. Not realized. (Lund University)
- 1994 Evaluation of a Sida-financed housing area, **Tanzania**, with focus on climatic design concept. Computer simulation-based recommendations for improvements. Report, see below. Swedish Association for Development of Low-cost Housing (SADEL). (Sida)
- 1990s Architect: Design and construction of an experimental building, a Youth Club, in southern **Tunisia**. Based on computer simulations. SADEL and ASDEAR, a local NGO. (Sida)
- 1983 Study on economical stoves, **Vietnam** and **India**. Lund University. (Sida)

### PhD Supervision

- 2002–06 Abel Tablada de la Torre, Cuba: *Shape of New Residential Buildings in the Historical Centre of Old Havana to favour Natural Ventilation and Thermal Comfort* (Catholic University, Leuven, Belgium)
- 2000–06 Erik Johansson, Lund University: *Urban Design and its Consequences on the Environment, Comfort and Energy Consumption in Buildings*.

### Membership in professional organisations

- MSA/SAR Swedish Association of Architects [www.arkitekt.se](http://www.arkitekt.se)
- PLEA Passive and Low-Energy Architecture, [www.plea-arch.org](http://www.plea-arch.org). Associate. Technical committee member.
- IAUC International Association for Urban Climate [www.urban-climate.org](http://www.urban-climate.org)

### Built examples

- 1995 *Children’s Activity Centre*, Tozeur, Tunisia. Climatic design, built in cooperation with ARRU – Agence de Réhabilitation et de Rénovation Urbaine. Sponsoring: Sida.
- 1992 *Youth Centre*, Tamerza, Tunisia. Climatic design, built in cooperation with ASDEAR – Association pour le Développement et l’Animation Rural. Co-sponsoring: Sida. Nominated for the Aga Khan Award 1996.

## Selected publications

### Monographs

- 2010 *Gröna Parametrar* (Green Parameters). CEC Design & ISU, Malmö. In Swedish with English summary.
- 2010 *Monitoring Report – AREE Building, Aqaba, Jordan*. CEC Design 2010.
- 2007 *Climate Zoning in Jordan – for the Purpose of Building Design*. Lund University, Royal Scientific Society, Jordan. Not published. (With al-Asir H and T Awadallah)
- 2005 *Housing Design and Domestic Energy Consumption*. Building Issues 1/2005. HDM, Lund University.
- 2001 *Climatic Design of Buildings Using Passive Techniques*. Building Issues 1/2000. HDM, Lund University.
- 1999 *Conception urbaine adaptée au climat. Etude préliminaire de la ville de Fès*. HDM, Lund University. (With El Kortbi M, K Grundström, E Johansson, and M Mraissi)
- 1999 *L'isolation thermique et confort dans le bâtiment. Etude préliminaire*. HDM, Lund University. (With El Kortbi M, E Johansson, and M Mraissi)
- 1997 *Architecture Adaptée aux Zones Arides*. Ark III, Lund University. (Ed with Ouahrani D and E Johansson)
- 1995 *Design for Desert - An architect's approach to passive climatisation in hot and arid regions*. Department of Architecture, Lund University. (PhD Arch thesis.)
- 1993 *Desert Buildings - A parametric study on passive climatisation*. Lund University. (TeknLic Arch thesis.)
- 1991 *Housing Area, Vietnam*. Consultant report to Sida. (With Reuterswärd L.)
- 1989 *Design of Energy Efficient Houses in Hot and Arid Climate - Including utilization of passive solar energy*. LCHS/BKL, Lund University.
- 1985 *Shelter Policies in Vietnam*. LCHS, Lund University. (With Reuterswärd L et al.)

### Articles/chapters

- 2007 *Urban Shading – A design option for the tropics? A study in Colombo, Sri Lanka*. International Journal of Climatology, Vol 27. Refereed. (With Johansson E & R Emmanuel).
- 1996 *Climatic Design. In: Construction in Developing Countries – A guide for the Planning and Implementation of Building Projects*. The Swedish Mission Council. Stockholm. (Also in Swedish)

### Conference papers and participation

- 2010 *Urban Greenery in Sweden? Implications for microclimate and energy efficiency*. Paper presented at World Green Roof Congress, London, UK. Refereed. (With Kruuse A & J Kronvall).
- 2010 *Building Green in Jordan? Performance Evaluation of the Aqaba Residential Energy Efficiency Pilot Project (AREE)*. Paper presented at SAUD 2010, Amman, Jordan. Refereed. (With Emtairah T & F Visser).
- 2007 *Buildings in a Changing Climate – Effects of Global Warming on Energy Use*. Paper for PLEA2007 conference, Singapore. Refereed. Member of the technical committee.
- 2006 *UHI and Buildings – Effect of urban heating on the energy use in commercial buildings in a warm-humid city*. Paper presented at ICUC6 – 6th International Conference on Urban Climate. Göteborg, Sweden, June 12–16, 2006. Refereed. (With Johansson E & R Emmanuel).
- 2006 *The influence of urban design on outdoor thermal comfort in the hot, humid city of Colombo, Sri Lanka*. Paper presented at ICUC6. Refereed. (With Johansson E & R Emmanuel).
- 2006 *Urban Morphology Manipulation to Promote Climate Sensitive Urban Design in the Tropics: Reflections on Colombo, Sri Lanka*. Paper presented at ICUC6. Refereed. (With Emmanuel R & E Johansson).
- 2005 Member of PLEA Associates and of the technical committee for PLEA2005, Beirut, Lebanon. Participation and chairman of poster award committee.
- 2004 *Microclimate and thermal comfort in the warm humid city of Colombo, Sri Lanka*. Paper presented at the PLEA2004 conference, Eindhoven, Netherlands. Refereed. (With E Johansson and R Emmanuel)
- 2003 *Architecture, Energy & Environment – Education for Climatic Design*. Paper presented at the PLEA2003 conference, Santiago, Chile. Refereed.
- 2001 *Street Canyon Microclimate in Traditional and Modern Neighbourhoods in a Hot and Dry Climate – A Case Study in Fez, Morocco*. Paper presented at the PLEA2001 conference, Florianópolis, Brazil. Refereed. (With E Johansson and K Grundström)
- 2000 *Urban Micro-climate in the City of Fez, Morocco*. Paper presented at the PLEA2000 conference, Cambridge. Refereed. (With E Johansson, K Grundström, M El Kortbi and M Mraissi)
- 1993 *Urban Areas, Environment and Energy – Putting Agenda 21 into action*. Expert group meeting. UNCHS, IHS, LCHS. Lund, Sweden. Participation.
- 1991 *Architecture & Urban Space – PLEA1991, Seville, Spain*. Poster presentation.
- 1987 *Building in Hot and Arid Climates*. In: *Building Physics in the Nordic Countries*. Symposium and Day of Building Physics, Lund, Sweden. Lund University, Swedish Council for Building Research.
- 1987 *Normes de construction en milieu désertique – Simulation par ordinateur lors de la définition des normes de construction pour un climat chaud et sec*. In: *Climat & Construction*. Alger. LU, EPAU, CNERIB.

### Other publications

- 1994 *Stockholm – Dar-es-Salaam. Evaluation of a Swedish-financed housing area*. SADEL. Sida-sponsored.
- 1983–89 Several consultant reports to Sida on design and progress of a Housing Area, Bai Bang, Vietnam.