Problem statement:

Design of a **Research Station in Antarctica** for a crew of four scientists .

Prologue:

The climate of the **Earth** is changing and it is changing at an alarming rate. Global warming is the main cause that has jeopardized man's life in the planet. A recent study shows that global warming is three times more apparent in **Antarctica** than across the rest of the world. The polar icecaps are melting at a faster rate than ever before, causing global sea-levels to rise to threatening levels.

The Challenge :

Antarctica is the coldest, windiest, driest and most remote continent on earth, it provides a unique environment for both the study of earth system science and parallel analysis of habitat regimes for interplanetary exploration.

Now with this background , scientists have decided to set a **partially permanent research station in Antarctica** ,to study the climatic changes in the region and for developing the climate models which will set a benchmark towards tackling the problem of global warming.

In this scenario, one has to design a **Research Station in Antarctica** for a team of four scientists. This research station is a **single multi-purpose envelope** with a volume of approximate **300 cubic Meters** and it will dwell our four scientists as well as their research related activities. This envelope can be made of modular units providing maximum **flexibility**, **ergonomics**, psychologically supportive living conditions and multi use of spaces in different time slots.

This project also aims towards achieving a target of **zero carbon emission**, which comprises, use of eco-friendly construction materials, clean and efficient use of energy and the best of waste management techniques. These leading techniques and facilities should ultimately reduce the station's **ecological footprint** on the pristine environment of Antarctica.

This habitat module would provide spaces for research facilities, everyday activities like sleeping, eating, reading etc along with social space for the crew members and would similarly maximize the use of racking systems for flexibility.

Candidates can add more spaces according to their needs. Participants can also make any valid assumption related to their design, but must be clearly stated and justified.

Judging Criteria :

Criteria for the judging of submissions will include:

(a) Approach , creativity and originality of the design solution

(b) Successful response of the design to its surrounding context

(c) Successful response to issues like fundamentals of architecture in accommodating human activities, use of appropriate technologies, and efficient use of resources.

Eligibility:

This competition is open for all Students . A team may comprise a maximum of three undergraduate students or two Post graduate students.

Submission requirements:

The competition will be held in two stages ,

First Stage:
Interested teams can send their conceptual sketches and thoughts explaining their approach towards solving the problem, not exceeding five A4 size sheets, they can either be posted or e-mailed.(Postal address - see bottom)

Soft copies, [preferably in .pdf , .doc, .jpeg formats] around 5 Mega bytes in size should be e-mailed to arch.cogni@gmail.com with subject line SPOTLIGHT09 .

Second Stage:
Deserving teams will be short-listed according to the judgement criteria mentioned and will compete for the final stage of presentation.

For the final presentation one should give Plans , Sections and elevations on appropriate scale . Candidates can give perspectives and blown up axonometric and walkthroughs explaining the design.
A panel of 4 A1 size sheets will be provided for each team , in addition to the LCD Projector for presentations and walkthroughs.

Dead Lines:

Last Date for Registration of teams along with their thoughts on design is 1st March 2009. The final presentation will be held during COGNIZANCE '09 . All the short-listed teams will be contacted individually and the results will also be published on our website.

Correspondence:

For all the queries and questions, you can contact :

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Registration Form For Spotlight:

Name of the Institute & Address : .....

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Name of the participant (1) : .....

Discipline & Year of study : .....

Contact No. : .....

e-mail : .....

Name of the participant (2) : .....

Discipline & Year of study : .....

Contact No. : .....

e-mail : .....

Name of the participant (3) : .....

Discipline & Year of study : .....

Contact No. : .....

e-mail : .....

Note :

(1) Those who are sending their entries through post, have to attach this filled form along with their 1st stage design and for those who are sending their entries by email, should send their detail in a similar format as above.
(2) 'Team Cognizance' will not be responsible for any postal delay or loss of documents during delivery.
(3) All the discrepancies related to the Spotlight will be heard by the 'Team Cognizance' and decisions taken will be final.