Interpolar Transnational Art Science Constellation deploys mobile IPY research station in Antarctica

ITASC IPY Press Release: 2 February 2009, Vesleskaervet, Antarctica

Groundhog Day 2009 marks the deployment of ICEPAC's solar- and wind powered mobile IPY research station in the Dronning Maud Land sector of Antarctica, and the opening of the Antarctic venue of the 2nd Bienal del Fin del Mundo, an exhibition of site-specific art installations produced at the South African Antarctic base SANAE IV during the ITASC project.

ITASC Catabatic Experimental Platform for Antarctic Culture (ICEPAC) mobile IPY research station deployed in Dronning Maud Land, Antarctica at 71 deg 40.433 S 002 deg 48.700 W, 31 January 2009. ICEPAC runs entirely on solar and wind energy produced by the Umthombo Womlilo (Well of Fire) 2.5kw power sled (left of image). Photo: ITASC/Thomas Mulcaire

About ITASC

Interpolar Transnational Art Science Constellation (ITASC) is an official project of the International Polar Year (http://www.ipy.org) and is supported by the South African National Antarctic Program (http://www.sanap.ac.za) and the South African National Energy Research Institute (http://www.saneri.org.za). ITASC is a decentralized network of individuals and organisations working collaboratively in the fields of art, engineering and science on the interdisciplinary development and deployment of renewable energy, waste recycling systems and sustainable architecture to enable the production and distribution of open-format, open-source remote field research in Antarctica and the Arctic. ITASC is a lichen-like structure sharing and integrating local knowledge, resources and skills across seven continents in order to symbiotically engage with the air, ocean, earth and space commons.

Acknowledging that Antarctica and the Arctic are critical departure points in developing a complex understanding of common ground, ITASC has established in Antarctica the framework conditions for collaborative research projects between artists, scientists and engineers through the installation of ICEPAC, a mobile IPY research station in Antarctica in the 2008/2009 summer season.

ITASC is a project built around the principles of the Antarctic Treaty and goals of the IPY, and is specifically geared to bring South African and international artists, scientists and engineers into collaboration around issues affecting the polar regions and the planet as whole, and to communicate the resulting research to audiences around the world. As such ITASC is fully committed to the data-sharing and open research culture that has underpinned the successes of International Polar Years past and present in advancing knowledge, awareness and peace in Antarctica.

View of Borga Mountains, looking due south from ICEPAC, Vesleskaervet, Dronning Maud Land, Antarctica, 31 January 2009. Photo: ITASC/Erika Blumenfeld

A**bout ICEPAC**

The ITASC Catabatic Experimental Platfo rm for Antarctic Culture (ICEPAC) is a mobile rapid-deployment IPY research station. ICEPAC is a solar and wind powered, zero-environmental impact, living and working unit capable of providing 6 crew members with the tools/resources needed to conduct joint or independent work in remote polar environments for periods of up to 30 days. For the current IPY season ICEPAC has been deployed at Vesleskaervet Nunatak in the Dronning Maud Land sector of Antarctica to enable collaborative field work between ICEPAC crew members and scientists based at the South African Antarctic station SANAE IV. ICEPAC is powered entirely on solar and wind power produced by the UMTHOMBO WOMLILO ("Well of Fire"in Zulu) power sled, which was deployed at the ICEPAC site by Ntsikelelo Ntshingila (expedition leader, Swaziland) and Siphiwe Ngwenya (South Africa) in the 2007/2008 Antarctic

summer season. Weather data and communications are provided by the GROUNDHOG solar and wind powered Automatic Weather Station and Communications unit, which was deployed at the ICEPAC site in the 2006/2007 season by Thomas Mulcaire (expedition leader, South Africa); Adam Hyde (New Zealand); Ntsikelelo Ntshingila (Swaziland) and Amanda Rodrigues Alves (Brazil). As this is the first season that the ICEPAC station has been deployed in Antarctica, the close proximity of SANAE base 1km to the West will allow the ICEPAC crew to evacuate to SANAE should any of the onboard energy, communications or life systems fail.

The 2008/2009 ICEPAC crew is Ntsikelelo Ntshingila (expedition leader, musician and producer, Swaziland), Erika Blumenfeld (artist, U.S.A.), Lötter Kock (Space Physicist, SANAE 48 Expedition Leader, South Africa) and Thomas Mulcaire (artist, South Africa). The core ITASC crew will be joined for shorter periods of collaborative field work by scientists and crew from SANAE base, including Ricardo Burgo Braga (Geographer, UFRGS, Brazil), Lorena Luiz Collares (Oceanologist, FARG, Brazil), Alfons Hug (curator, Germany), Sherry Bremner (UKZN School of Physics, South Africa) and Ross Hofmeyr (Doctor, SANAE 47 Expedition Leader, South Africa).

ICEPAC was designed by Pol Taylor (ARQZE, Chile), Thomas Mulcaire (South Africa) and Ntsikelelo Ntshingila (Swaziland) and built by Sets and Devices in Cape Town, South Africa under the direction of Bobby De Beer. ICEPAC has a black polyester webbing skin which acts as a solar collector, transferring surface heat produced through the absorbtion of the near-24 hour Antarctic summer sun into the interior of the station. In addition to traditional crystalline photovoltaic panels, the ICEPAC crew is testing prototype Nanosolar thin-film photovoltaic panels during the current expedition with a view to eventually covering ICEPAC with a flexible photovolatic skin which will provide the station with all its energy and heat requirement.

Other research projects underway at ICEPAC include:

Catabatic Cell a field experiment to test the possibility of creating transient habitable spaces in the blue ice beneath the snow using solar and wind power, a type of inverted igloo. The goal is to use submersible heating elements to produce a sub-glacial station architecture using only the materials and resources already present in Antarctica (ice, wind, sun). The water produced during the formation of the cell will serve as the water supply for the ICEPAC crew. If successful, the Catabatic Cell experiment could provide a model on how to provide working and living conditions in Antarctica without the need to import massive amounts of materials, equipment and fuels in the constructing and maintenance of field stations in Antarctica. Once the reseach at a particular site has been completed for the season, the sub-glacial habitation can be evacuated and the natural forces of Antarctica (wind, sun) will return the area to its original state.

The Polar Project is an evolving series of environment-based artworks conceived by artist Erika Blumenfeld (US). Focusing on the distinct and sublime phenomena of light, sky, and sound in the Arctic and Antarctica, The Polar Project will culminate in a series of full-surround video and audio installations which impart a visceral experience of the Polar Regions. Blumenfeld is currently in Antarctica working collaboratively on the deployment and systems testing of ICEPAC. She is also creating new works in her Light Recordings and Moving Light series, as well as initiating the first works for The Polar Project (http://www.thepolarproject.com)

2nd Bienal del Fin del Mundo: The projects and site-specific installations at the ICEPAC site are part of the 2nd Bienal del Fin del Mundo, an art exhibition curated by Alfons Hug and entitled "Intemperie" (Tempest), focusing on weather, climate and Antarctica. The main venue of the Bienal del Fin del Mundo is Ushuaia (Tierra del Fuego, Argentina, 23 April-25 May) with satellite exhibitions taking place at Centro Cultural Oi Futuro, Rio de Janeiro, Brazil (19 Jan - 1 March 2009), SANAE IV, Antarctica (3 -17 Feb 2009), and OCA, Sao Paulo, Brazil (7 March - 12 April 2009).

Websites:
ITASC (http://www.icepac.org) (online from midnight 2 Feb 2009)
IPY (http://www.ipy.org)
The Polar Project (http://www.thepolarproject.com)

Press materials: High resolution images and streaming video available on request from tm@interpolar.orgThis e-mail address is being protected from spambots. You need JavaScript enabled to view it and ipy.ipo@gmail.comThis e-mail address is being protected from spambots. You need JavaScript enabled to view it

Interviews: Radio interviews are possible with ICEPAC and SANAE crews LIVE from Antarctica. Please email or call ahead to arrange timeslot

Blogs:
http://thepolarproject.com/blog and http://icepac.org

ICEPAC IPY 0809 Crew from left to right: Thomas Mulcaire (artist, South Africa); Lötter Kock (Space Physicist, South Africa, SANAE 48 Base Commander); Erika Blumenfeld (artist, U.S.A.); Ntsikelelo Ntshingila (musician, ICEPAC Base Commander, Swaziland), Vesleskaervet, Dronning Maud Land, Antarctica, 31 Jan 2009. Photo: ITASC/Alfons Hug

Contacts:

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Alfons Hug, Goethe Institut, Rio de Janeiro, Curator of the 2nd Bienal del Fin del Mundo, alfonshug@hotmail.comThis e-mail address is being protected from spambots. You need JavaScript enabled to view it also available at above number until 9 Feb

Thomas Mulcaire, Artist and ICEPAC crew member, tm@interpolar.orgThis e-mail address is being protected from spambots. You need JavaScript enabled to view it tel: +27 21 405 9450 (calls routed through SANAE IV please call after 19h00 GMT)

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ICEPAC (2008/9), UMTHOMBO WOMLILO (2007/8)and GROUNDHOG (2006/7) were realised with the generous collaboration and support of the South African National Antarctic Program; South African National Energy Research Institute; Sets and Devices, Cape Town; Akademie Schloss Solitude (Stuttgart, Germany) Goethe Institut (Rio de Janeiro/Munich); Oi Futuro (Rio de Janeiro, Brazil); Projekt Atol (Ljubljana; Slovenia); Hermanus Magnetic Observatory (South Africa); BELARE/Polar Foundation (Brussels, Belgium); National Department of Public Works (Cape Town, South Africa); University of Kwa-Zulu Natal School of Physics (Durban, South Africa); University of Stellenbosch Dept. of Mechanical and Mechatronic Engineering (South Africa); University of Pretoria Dept. of Electrical Engineering (South Africa); University of the North West, Cosmic Ray Program (South Africa); University of Canterbury; Electric Power Engineering Centre (Christchurch, New Zealand); Universidad Federico Santa Maria, Valparaiso; University of California Santa Barbara; Arquitectura por Zona Extremas, Chile; SETSOLAR (Cape Town, South Africa) Solaris Tecnologia Fotovoltaica (Sao Paulo, Brazil) Nanosolar (Palo Alto, U.S.A) Southwest Windpower (Flagstaff, U.S.A); NAMPAK (Cape Town, South Africa); Alternative Energy Development Corporation (Johannesburg, South Africa); Young Africa (Gauteng, South Africa); Campbell Scientific Africa (Stellenbosch, South Africa) Panavision (Los Angeles, U.S.A.)

ITASC was co-founded by Thomas Mulcaire and Marko Peljhan in 2005. Since 2007 the project has developed under the direction of Thomas Mulcaire, Siphiwe Ngwenya and Ntsikelelo Ntshingila. ITASC is a not-for-profit company registered in South Africa.

On February 25th 2009, the IPY Joint Committee will release a report on 'The State of Polar Research'. In the lead-up to this event, major IPY research projects are releasing information for the press, and making themselves available for media enquiries. A wide range of projects will be profiled reflecting the diversity of IPY. For more information, please visit http://www.ipy.org/index.php?ipy/detail/feb09_projects/ or contact Rhian Salmon.