



The Oskar Klein Centre for Cosmoparticle Physics

- a short presentation

Lars Bergström

Project Leader

A field with great tradition in Stockholm...



Oskar Klein (1894 - 1977)
Professor at Stockholm University

Klein's paradox, Klein-Gordon equation, Klein-Nishina formula, Kaluza-Klein theory of extra dimensions, Alfvén-Klein matter-antimatter cosmology,...

The Oskar Klein Centre for Cosmoparticle Physics

Was founded on October 30, 2008

**10-year grant from the Swedish Research Council (VR)
7 MSEK (1 MUSD) per year**

See web page, okc.albanova.se

L. Bergström (Project leader) CoPS, Fysikum, SU

C. Fransson (Co-leader), Astronomy, SU

J. Edsjö, CoPS, Fysikum, SU

A. Goobar, CoPS, Fysikum, SU

J. Sollerman, Astronomy, SU

G. Östlin, Astronomy, SU

S. Hellman, Particle Physics, SU (Atlas)

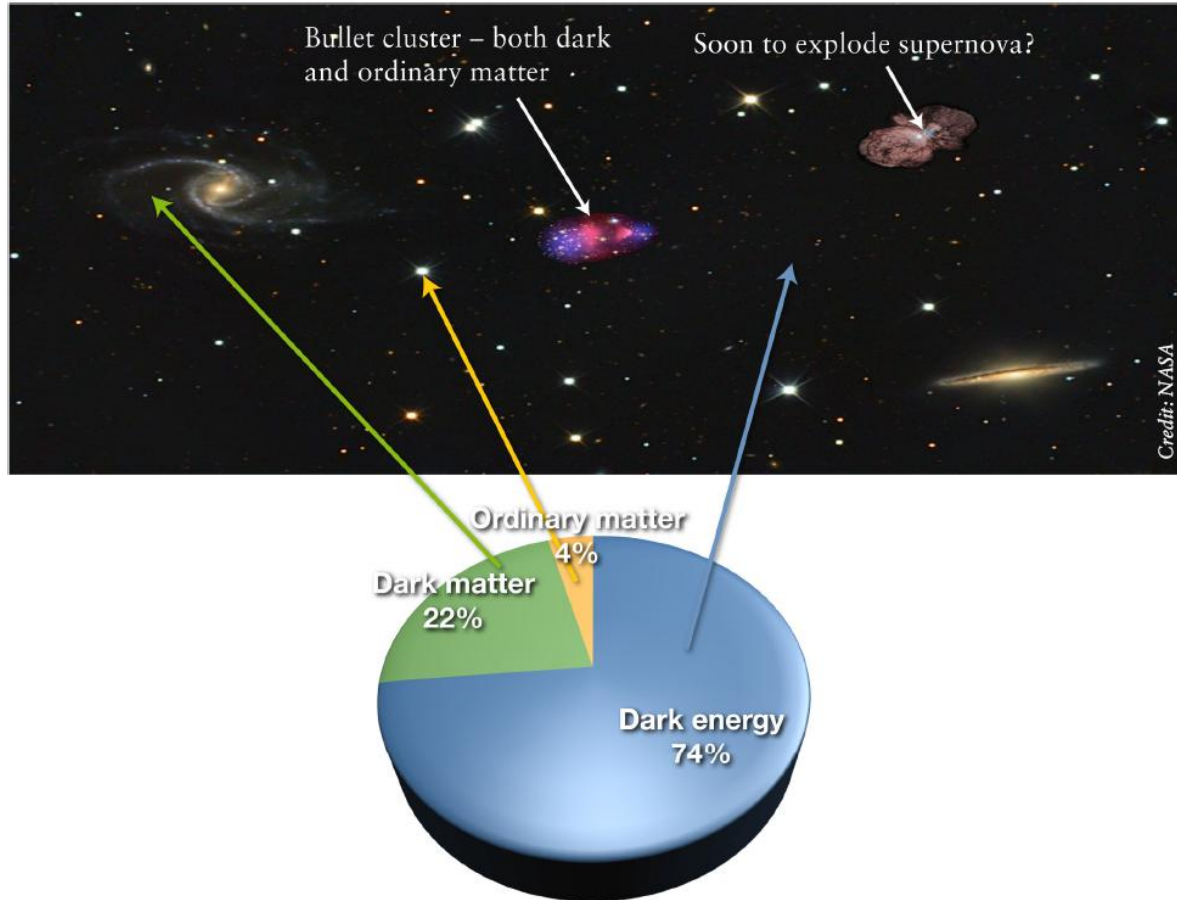
K. Jon-And, Particle Physics, SU (Atlas)

K. Hultqvist, Particle Physics, SU (IceCube)

M. Pearce, Physics, KTH

Representing ~ 90 Faculty, Research assistants, Postdocs and
Graduate Students at SU and KTH

The CosmoParticle Collaboration (CPC)

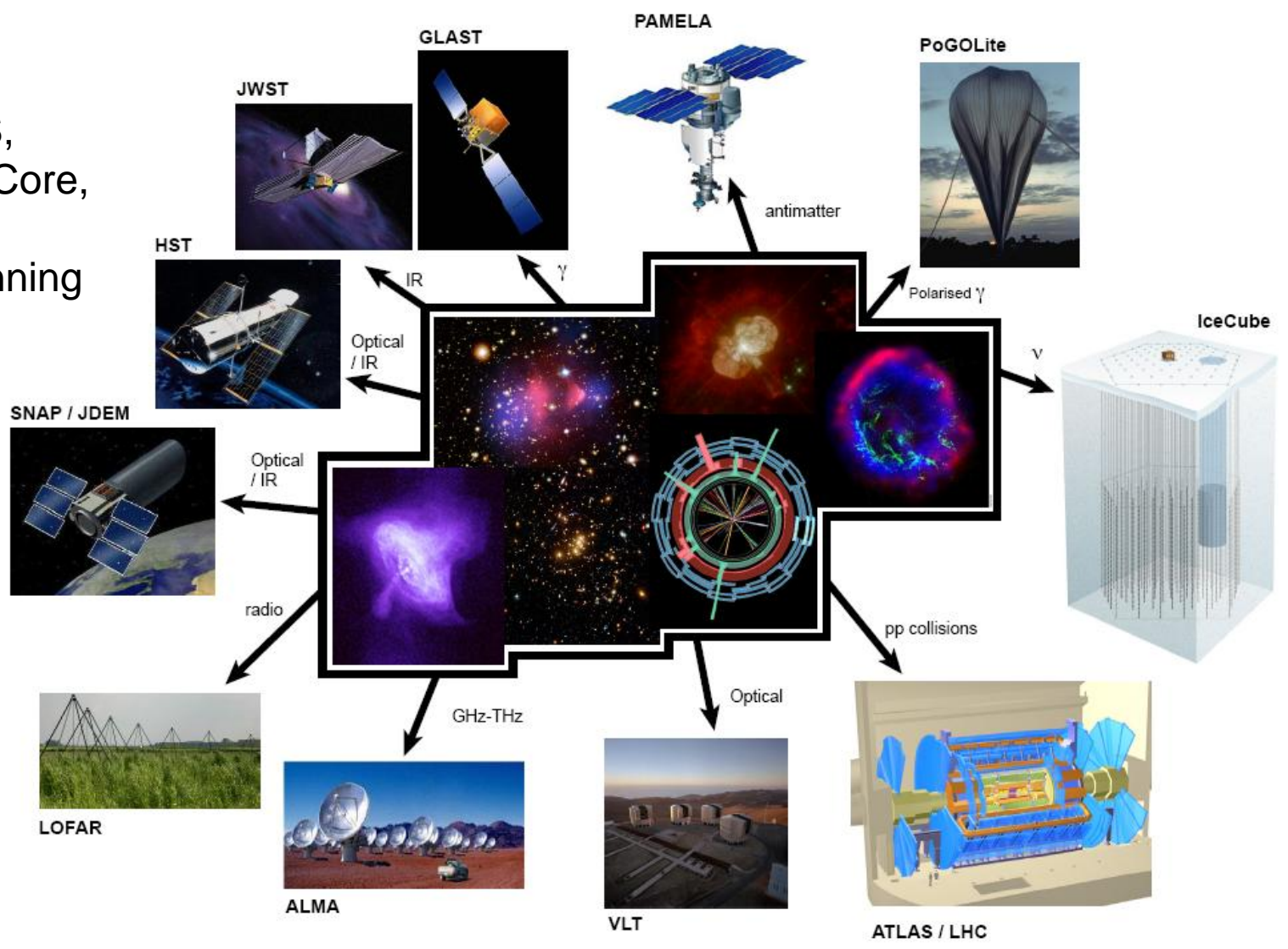


Themes

The proposed research is focused on three central themes in modern astrophysics, elementary particle physics and cosmology:

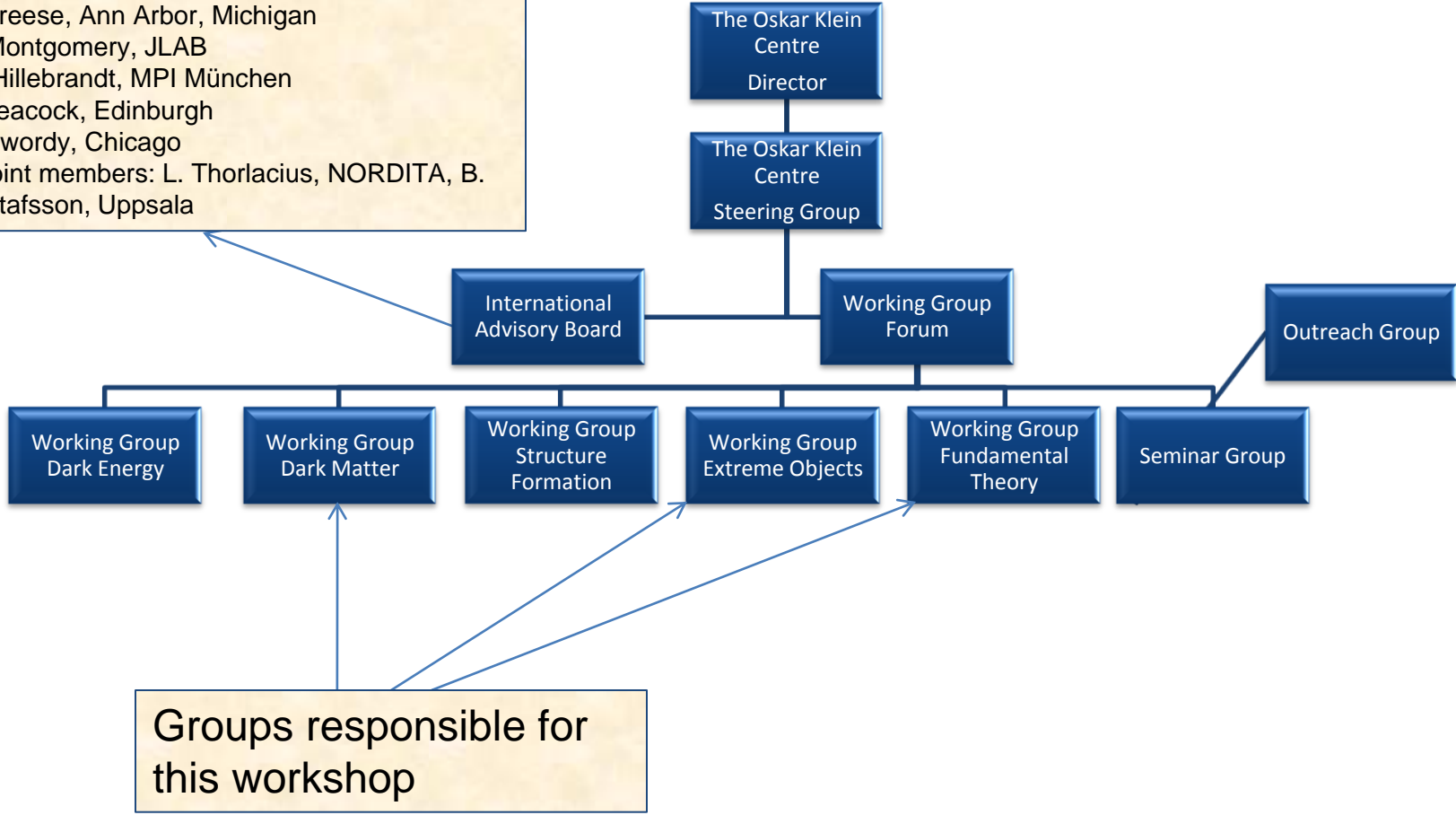
- A. Identifying theoretically, and probing observationally, measurable quantities of **dark energy** which can clarify the nature of this mysterious component of the energy density of the Universe.
- B. Searching experimentally for particle candidates of **dark matter**, which naturally means going beyond the standard model of particle physics, and if found, determining their properties and elucidating the underlying theoretical framework.
- C. Investigating the physics of extreme objects, such as **supernovae, neutron stars, and black holes**.

New:
HESS,
DeepCore,
CTA
(planning
grant)



Organisation:

K. Freese, Ann Arbor, Michigan
 H. Montgomery, JLAB
 W. Hillebrandt, MPI München
 J. Peacock, Edinburgh
 S. Swordy, Chicago
 Adjoint members: L. Thorlacius, NORDITA, B. Gustafsson, Uppsala



Activities of the Oskar Klein Centre:

- Five working groups meeting every month
- Organises Workshops, Conferences and Symposia
- Visitor's program
- Seminar program, outreach
- Hired 10 postdocs:

A. Cuoco

K. Datta

C. Finley

J. Nilsson

A. Putze

A. Raklev

R. Rosen

M. Sahlén

C. Savage

Z. Yang

(In the fall M. Stritzinger will also arrive)

- In the future: long-term positions

Right now:

Announcement from our VR of a 6-year research job in Sweden in Particle Astrophysics,

"Research in particle astrophysics at very high energies with connections to fundamental particle physics, high energy astronomy and cosmology. The approach may be both experimental/observational or theoretical in close contact with such experiments/observations."

The position (at least here at Stockholm University) will be tenured after the 6 years - and of course the Oskar Klein Centre would encourage you to place the position here!

For details, go to www.vr.se, choose "English" and search for "particle astrophysics".

Deadline: February 18, 2010.