

Presenting a new generation of Centers of Excellence

Investing 585 mDKK in 11 new
Centers of Excellence that will set the
stage for outstanding ideas and
visionary research

11 new Centers of Excellence

11 dream projects

Selected on the

- center leader
- team
- research idea
- organization



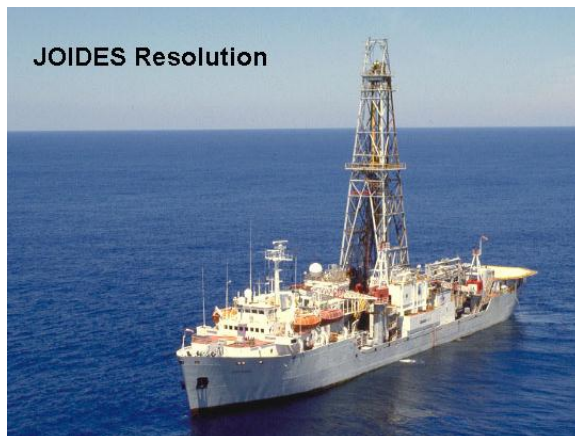
Center for Geomicrobiology Aarhus University



Bo Barker Jørgensen

Mission:
**To discover how the deep biosphere
interacts with the geosphere.**

Idea:
Our aim is to understand the predominant microbial life discovered on our planet: anaerobic communities buried in the deep seabed and subsisting at the energetic limit for life.



From peer reviews:

- "...We know so little about the deep biosphere and we need this Center to drive the field forward..."
- "the center... provides an exciting scientific vision for addressing a fundamental issue in microbial ecology, that of life on the "energetic edge"".

Center for Vitamins and Vaccines Statens Serum Institut



Christine Stabell Benn

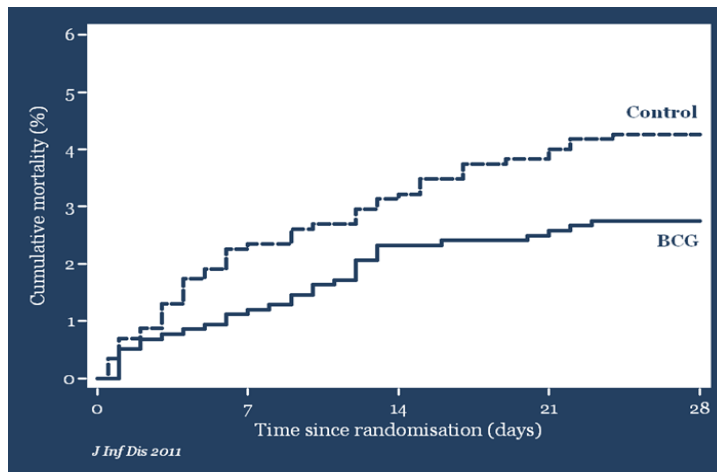
Mission: To better understand the immune system and challenge the status-quo thinking in regards to the efficacies of vaccination regimens.

Idea:

The immune system is a learning system, it differs between males and females, and vaccines and vitamins teach it important – good or bad – lessons.

From peer review:

“The work proposed is both visionary and ambitious and promises to generate research at the highest levels of importance and global health impact.”





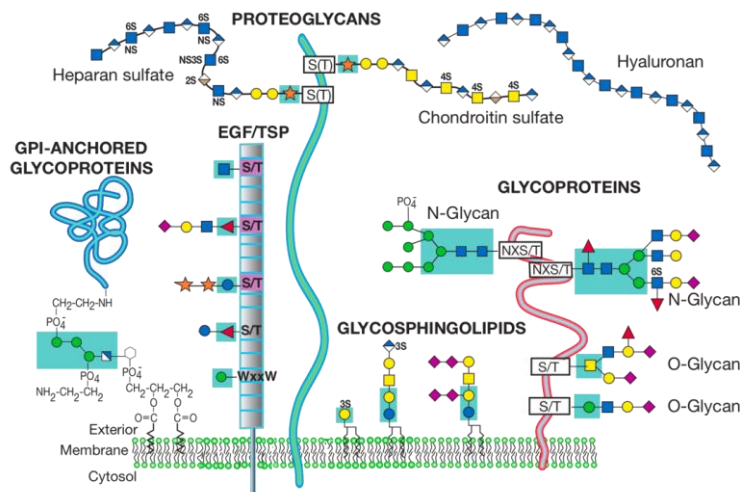
Henrik Clausen

Vision: Discovery of Glycosylation Diseases.

Idea:
Dissect functions of protein
glycosylation in health and
disease.

From peer reviews:

- "...leads to next generation of insight into glycobiology"
- "...glycosylation fine-tune protein functions in health and disease,..."



Center for Dynamic Molecular Interactions(DynaMo) University of Copenhagen



Barbara Ann Halkier

Mission:

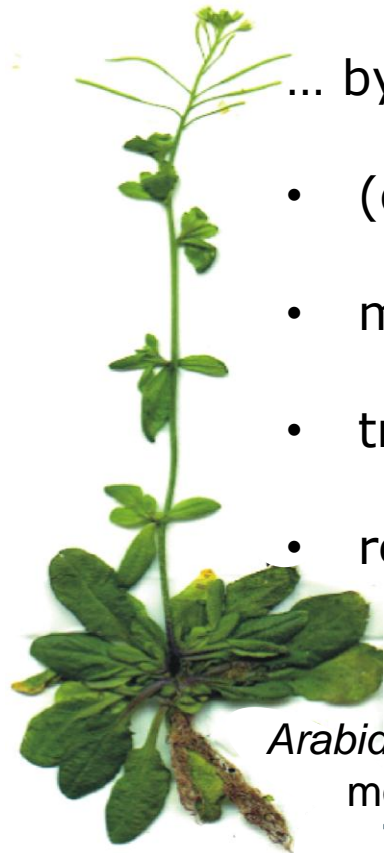
To unravel the dynamics of highly coordinated biological processes in a multicellular organism at the molecular level...

... by understanding:

- (dis)assembly of complexes
- metabolite sensing
- transport processes
- regulatory networks

From peer review:

“The Center will advance our knowledge at the frontier of cellular and organismal biology through discovery of universal principles underlying cellular infrastructure.”



Arabidopsis thaliana
model plant



David Lando

Mission

To create a research center which will serve as a hub for the academic discussion of financial risk and regulation.

Idea:

Market frictions affect

- market prices
- systemic risk
- regulation

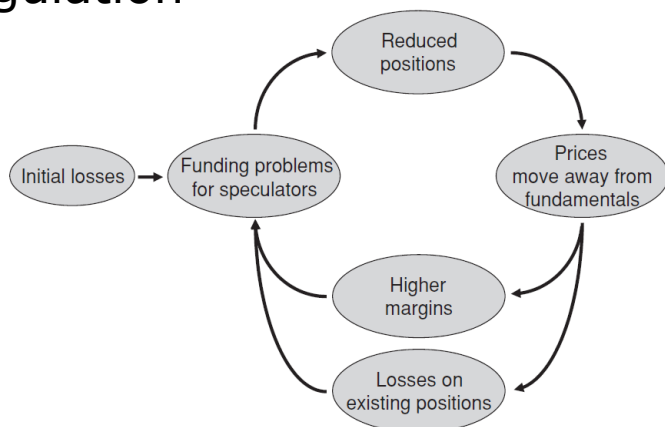


Figure 2
Liquidity spirals
The figure shows the loss spiral and the margin/haicut spiral.

From peer reviews:

- "The FRIC project will lead to serious work and serious advances in our understanding of market frictions."
- "The research ideas developed in FRIC's research proposal are ambitious. Moving away from the neoclassic frictionless paradigm is indeed difficult..."

Holey graphene: Center for nanostructured graphene; DTU



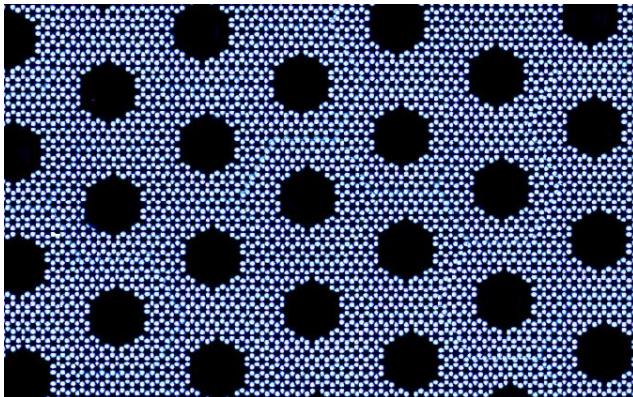
Antti-Pekka Jauho

Vision:

To create new platforms for studying physical phenomena, which form the basis of revolutionary new devices.

Idea:

A regular nanoperforation of graphene – one-atom thick layer of carbon atoms – allows a control of charge and energy flow in this novel material.



From peer reviews:

- “The idea of engineering defects to regular patterns is very interesting and original ... of significant impact”
- “Creation of soft potential modulations is an idea of originality and exceptional potential....”

Center for Quantum Devices University of Copenhagen

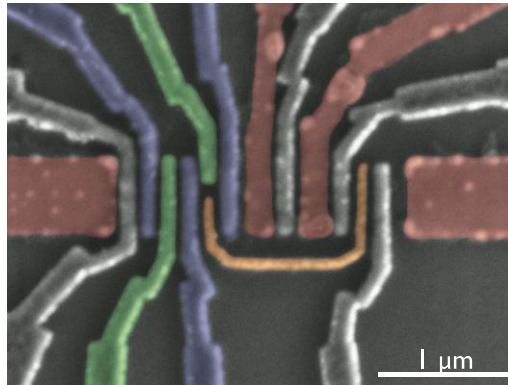


Charles Marcus

Mission:
Nanoscale circuits reveal quantum coherence and entanglement, resources that can be used for information processing.

Idea:

The Center will investigate quantum aspects of nanoscale electronics, with an eye toward revolutionary techniques of quantum information processing and computing.



From peer review:

“Sitting on the border between basic and futuristically applied research makes this proposal very attractive; tickling the interest of theorists, experimentalists, applied physicists, material scientists, electrical engineers and even computer scientists...”

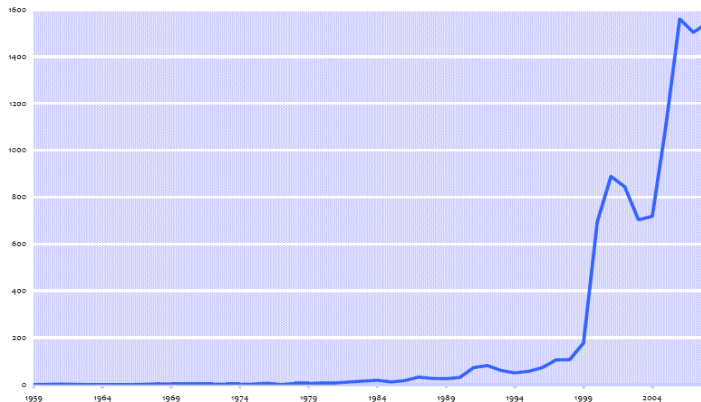


Mikael Rask Madsen

Mission: To Investigate the Rise of the International Judiciary and the Making of a Transnational Rule of Law.

Idea:

How international courts are judicializing global governance and creating a new international legal order.



Number of judgments from international courts

From peer review:

“This study promises to break new grounds in describing and analyzing the understudied and poorly understood – but potentially quite consequential – proliferation of International Courts”

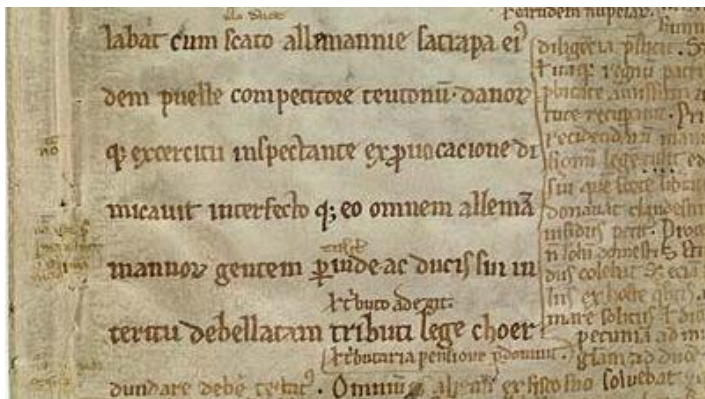
Center for Medieval Literature (CML) University of Southern Denmark/ University of York



Lars Boje Mortensen

Vision: Methodological and regional integration of the study of medieval texts.

Idea:
CML will seek to establish a cross-disciplinary theoretical framework for the study of medieval literature on a European scale.



From peer reviews:

“Thus the objective [...] will be much more than the addition of research results, but it will produce a huge synergetic effect. [The Center] will not only lead to new ideas on medieval literature but it will trigger a reflection on [...] modern literature as well.”

Stellar Astrophysics Centre (SAC) Aarhus University

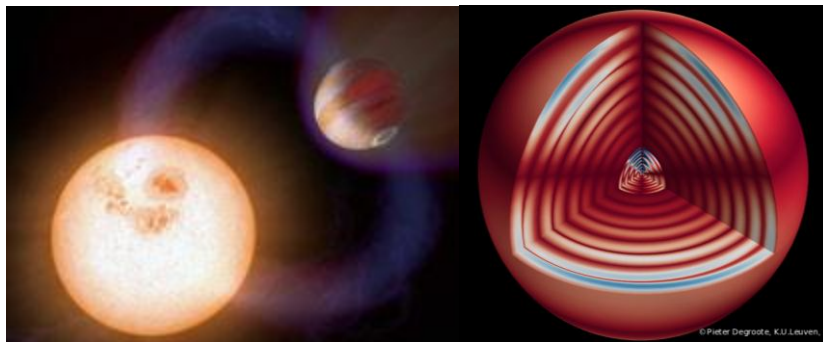


Jørgen Christensen-Dalsgaard

Mission: To understand stars and their planetary systems.

Idea:

A comprehensive study of stars and their planetary systems, including the possibilities for life, based on extensive observations and modelling.



From peer review:

“The science context of the proposal is of outstanding interest, ... and has a visionary structure integrating various ...fields of research (from stars to planets and further down to microbial systems!).”

Center for Permafrost University of Copenhagen



Bo Elberling

Goal: To address permafrost dynamics based on an integrated landscape approach

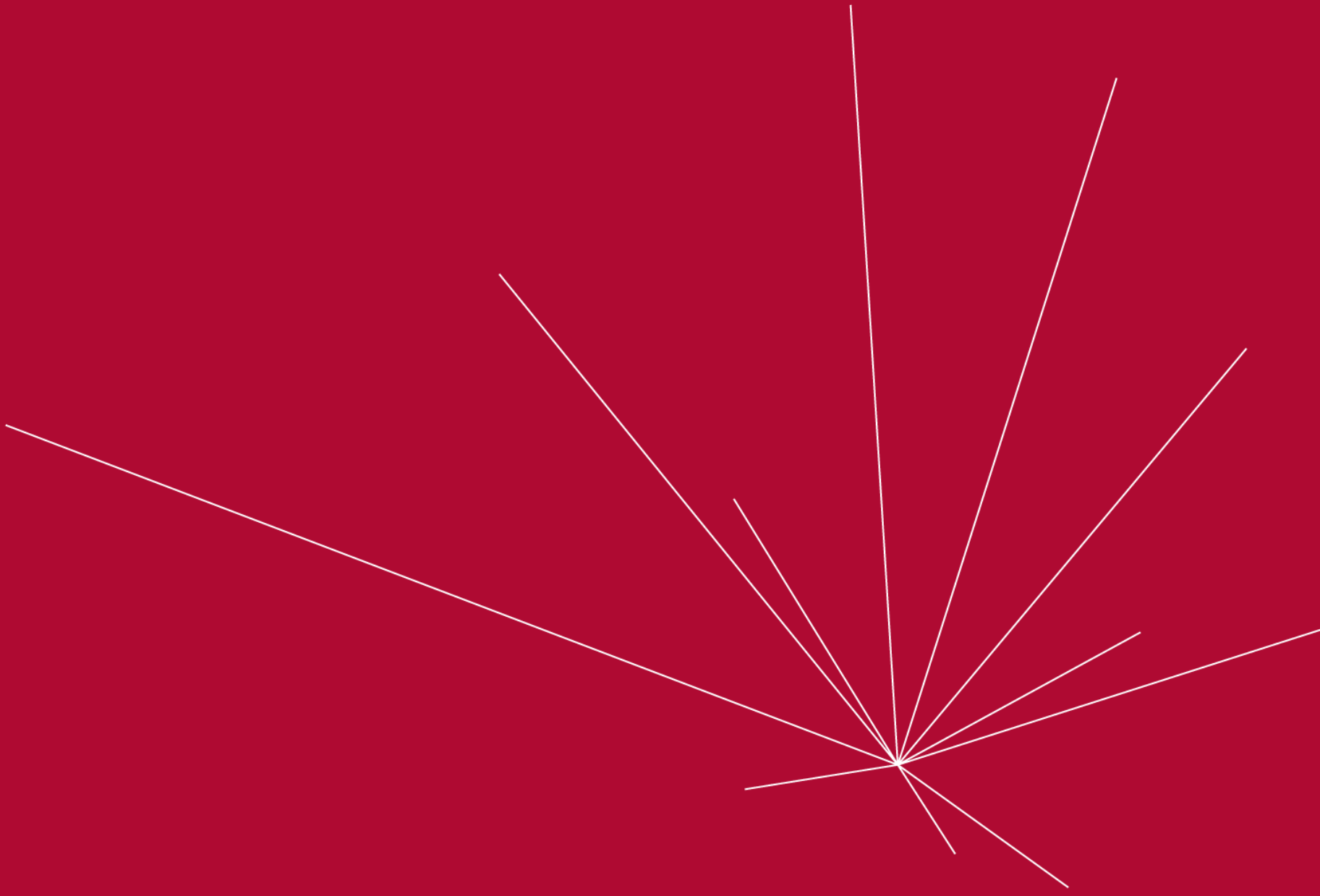
Idea:

To integrate research in transects across climate zones of Greenland to improve the understanding and predictions of carbon and nitrogen cycling in Arctic ecosystems.



From peer review:

"... a compelling interdisciplinary proposal for a center which promises to link studies across spatial scales and levels of biological ecological-geographical organizations."



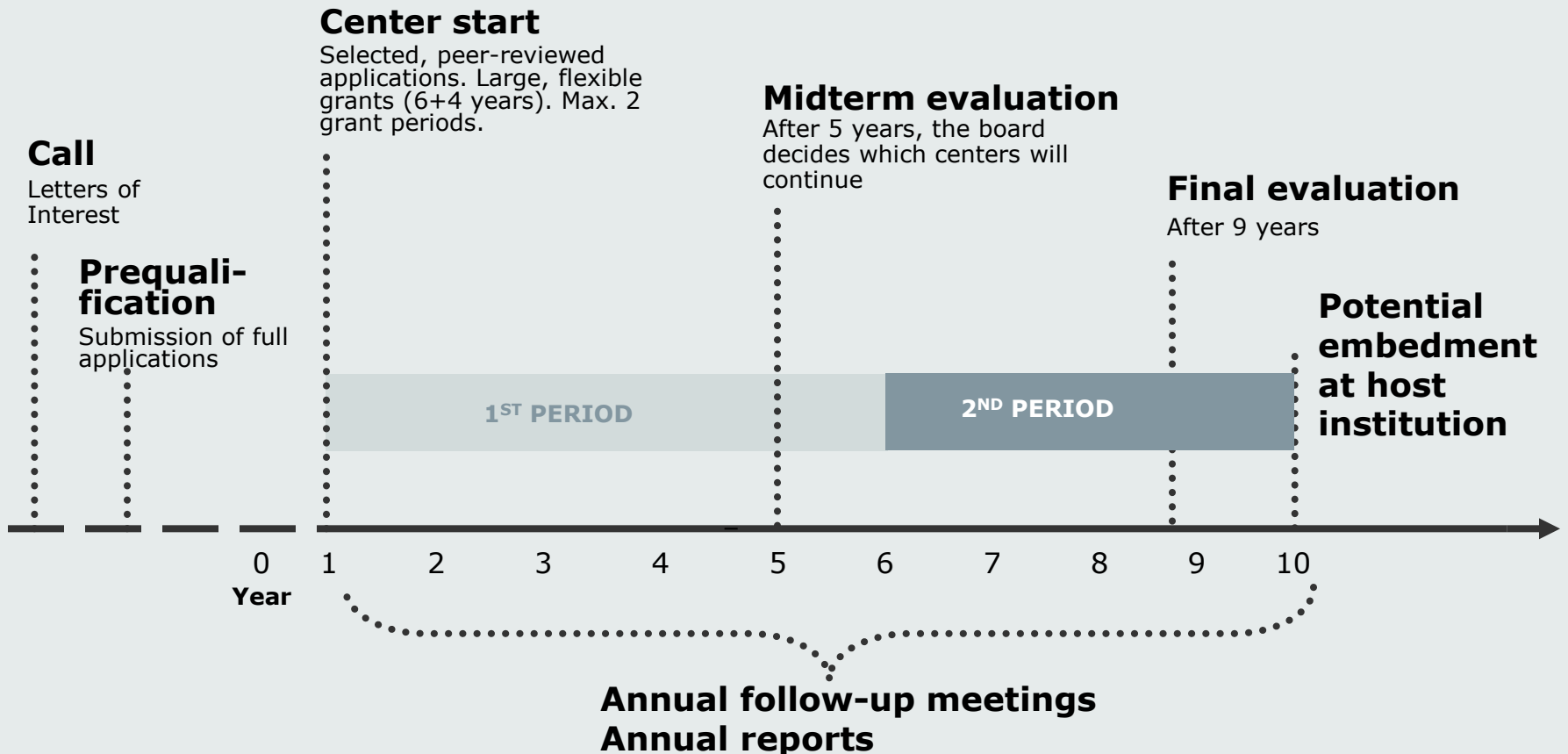
www.dg.dk

Philosophy of DNRF: Focus on people

”If you let the best people grapple with the problems they are passionate about, we set the stage for real scientific breakthroughs”



This Is Your Future: Life Cycle of a Center of Excellence



The Selection Process

