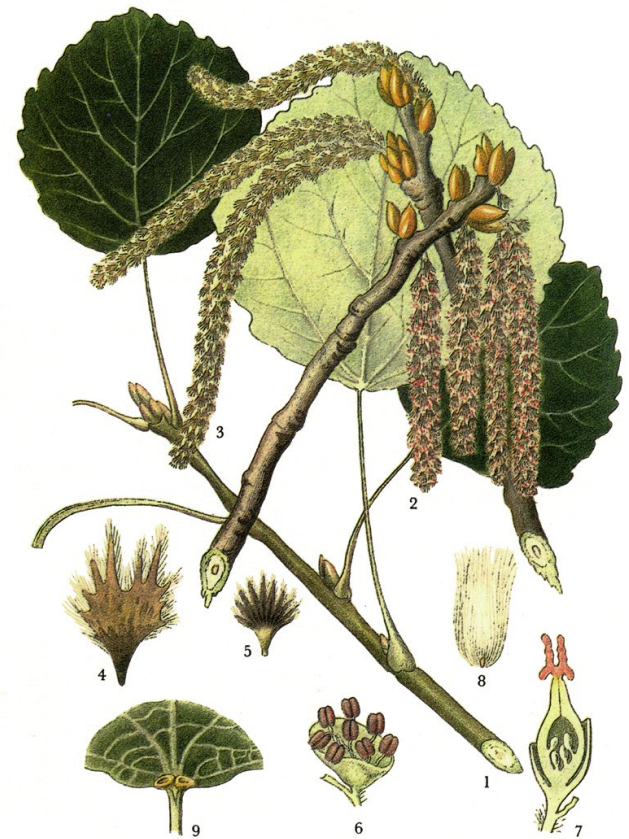


To Build a Strong Research Environment

Ove Nilsson
Umeå Plant Science Centre
Dept. of Forest Genetics and Plant Phys.
SLU

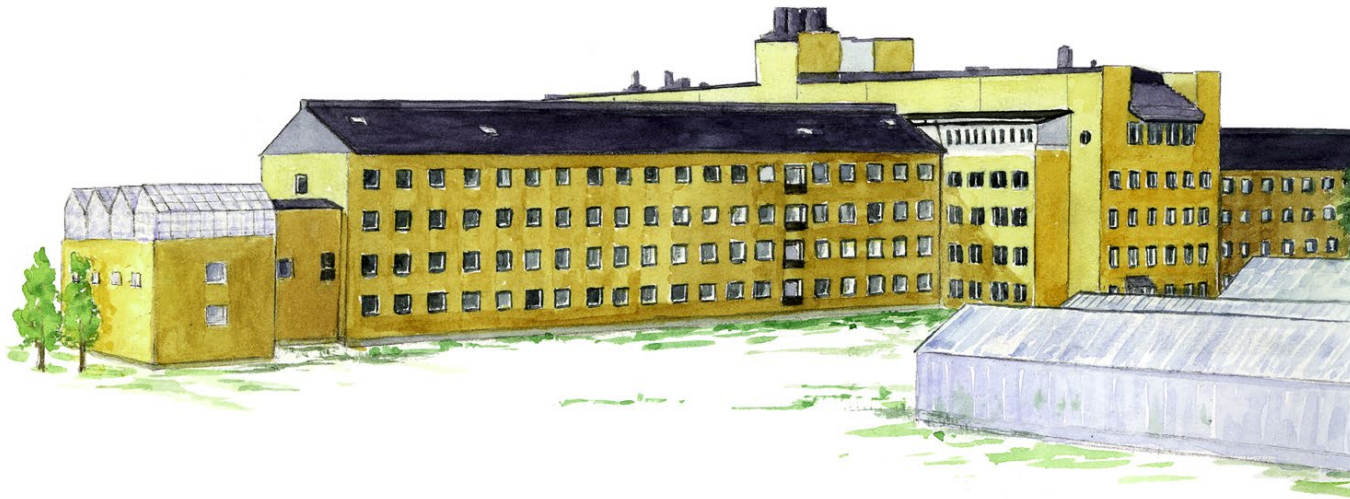


Umeå Plant Science Centre

Collaboration between two universities, SLU and UmU

Dept. of Forest Genetics and Plant Physiology (SLU)

Dept. of Plant Physiology (UmU)

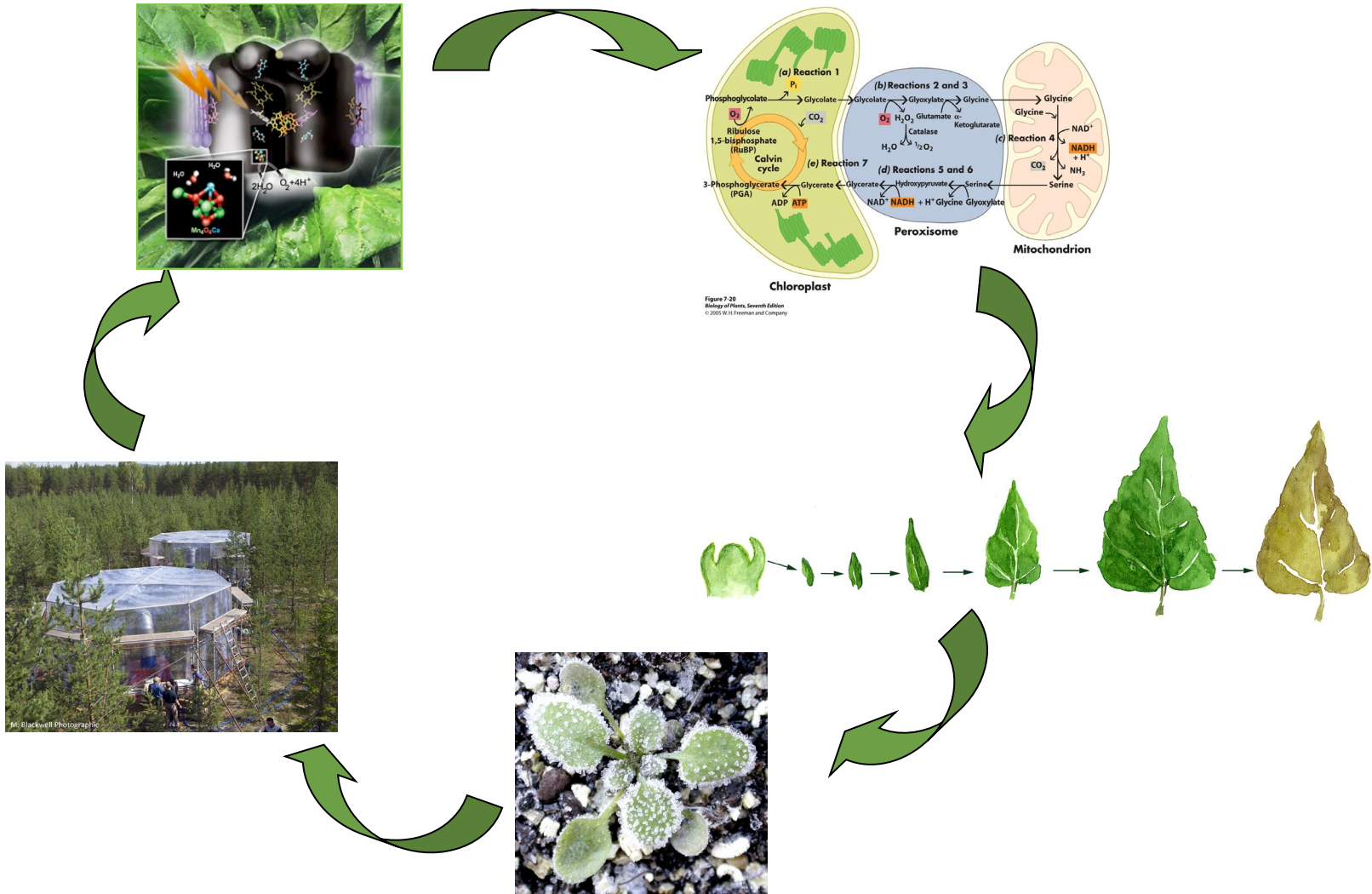


Formed 1999

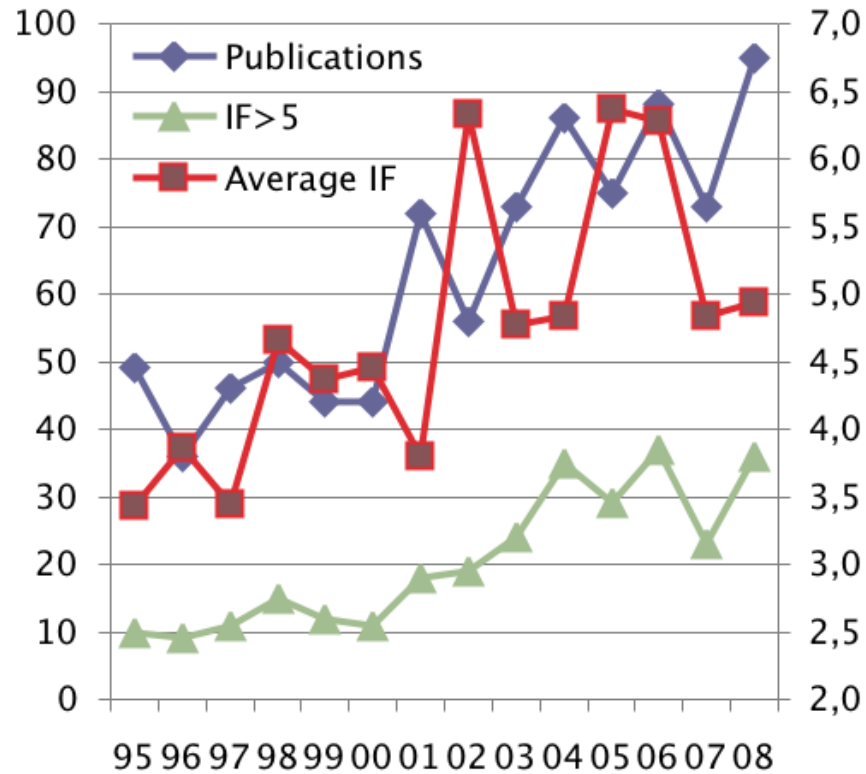
Co-localization 2001

UPSC

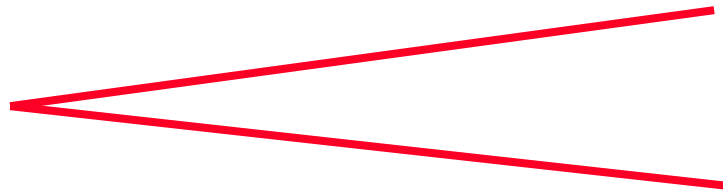
Mechanisms controlling plant development and acclimatization From Molecule to Ecosystem



Increased UPSC productivity and quality



Industry
Interactions:



Umeå Plant Science Centre

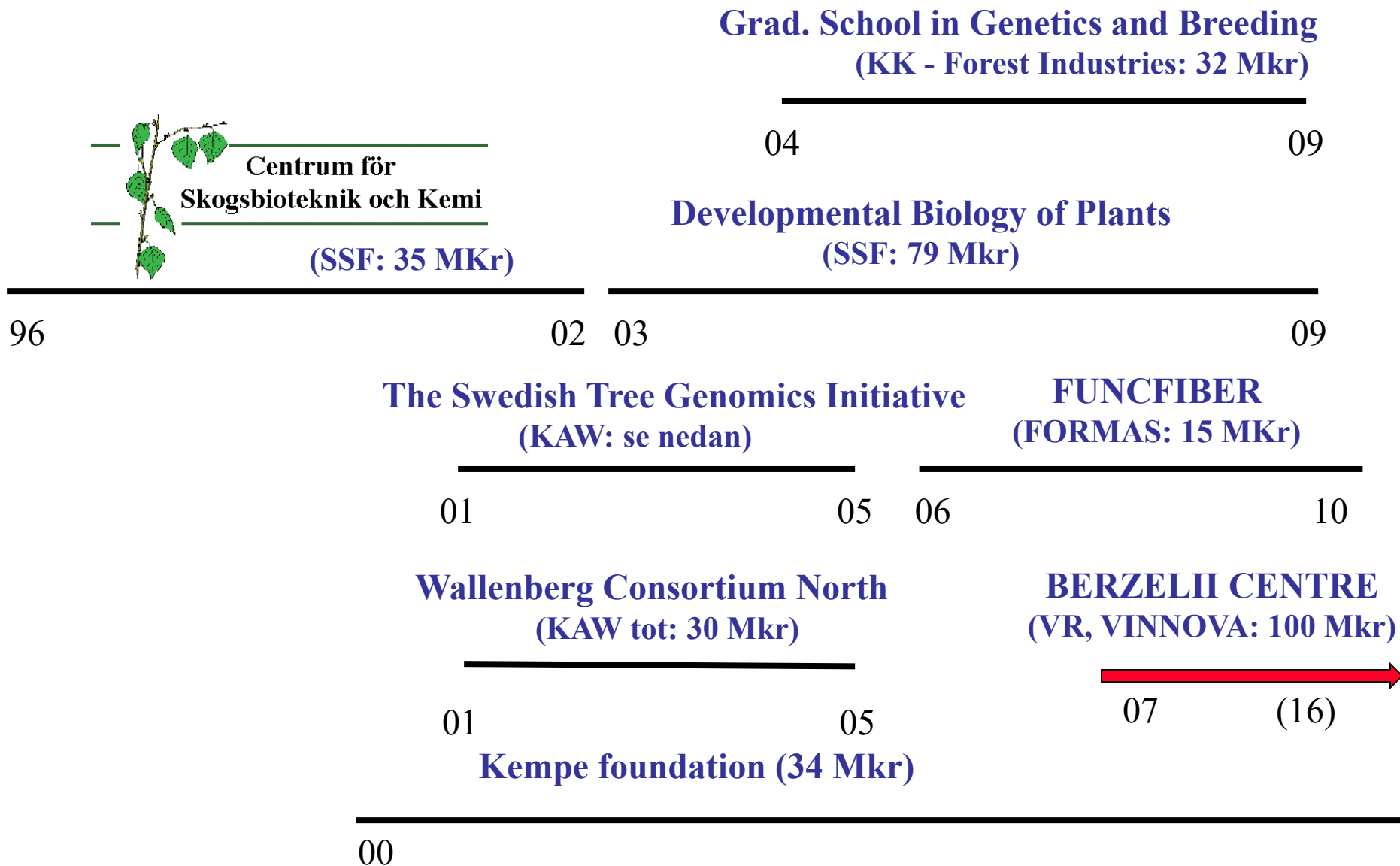
Ca. 200 people of 47 nationalities – 40 PI's



Is today firmly established as one of the strongest research environments for experimental plant biology and plant Biotechnology in Europe

It was not like that in 1995.... What happened?

UPSC: To Build a Strong Research and Innovation Environment!

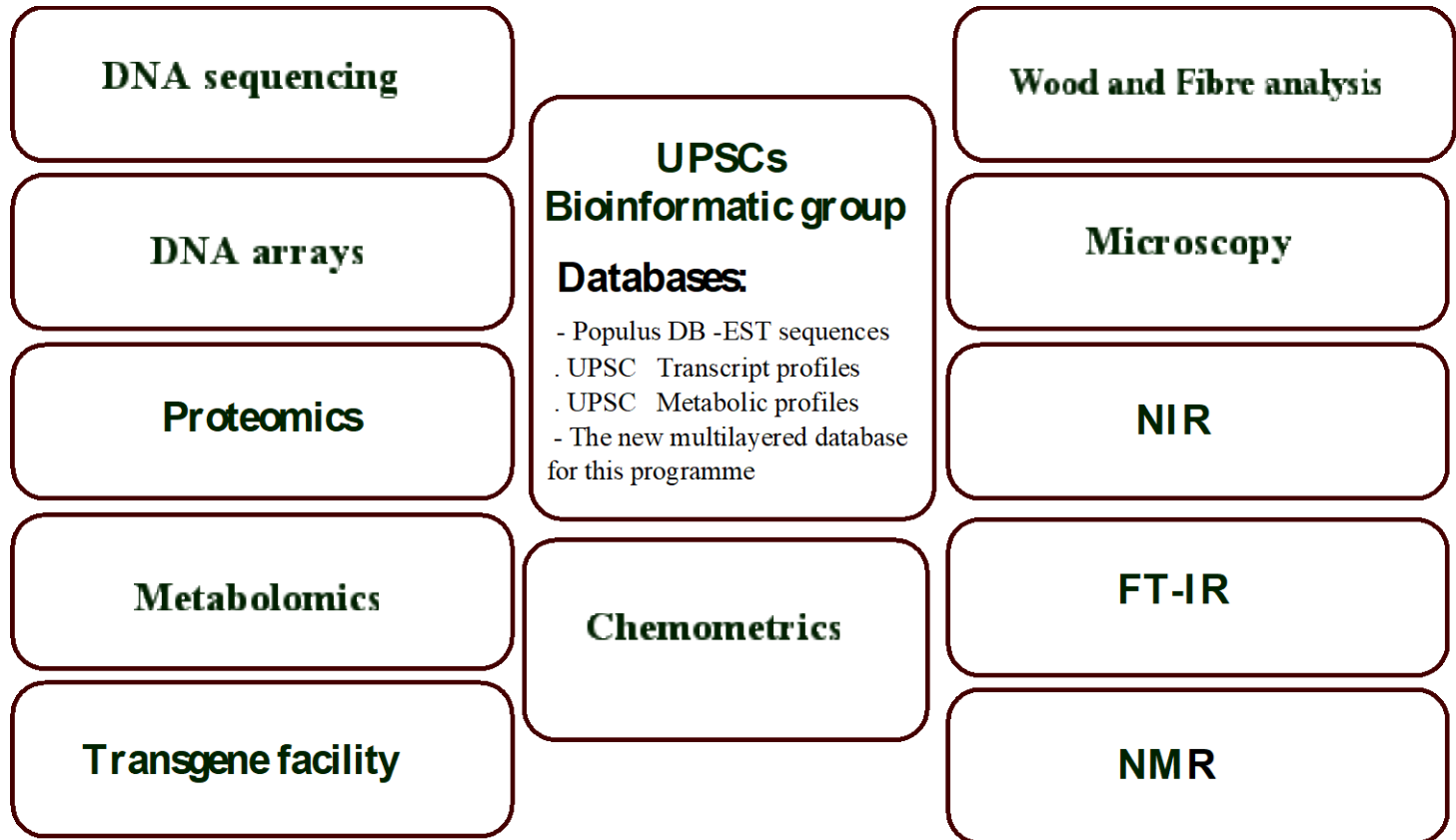


UPSC: To Build a Strong Research and Innovation Environment!

Strategies

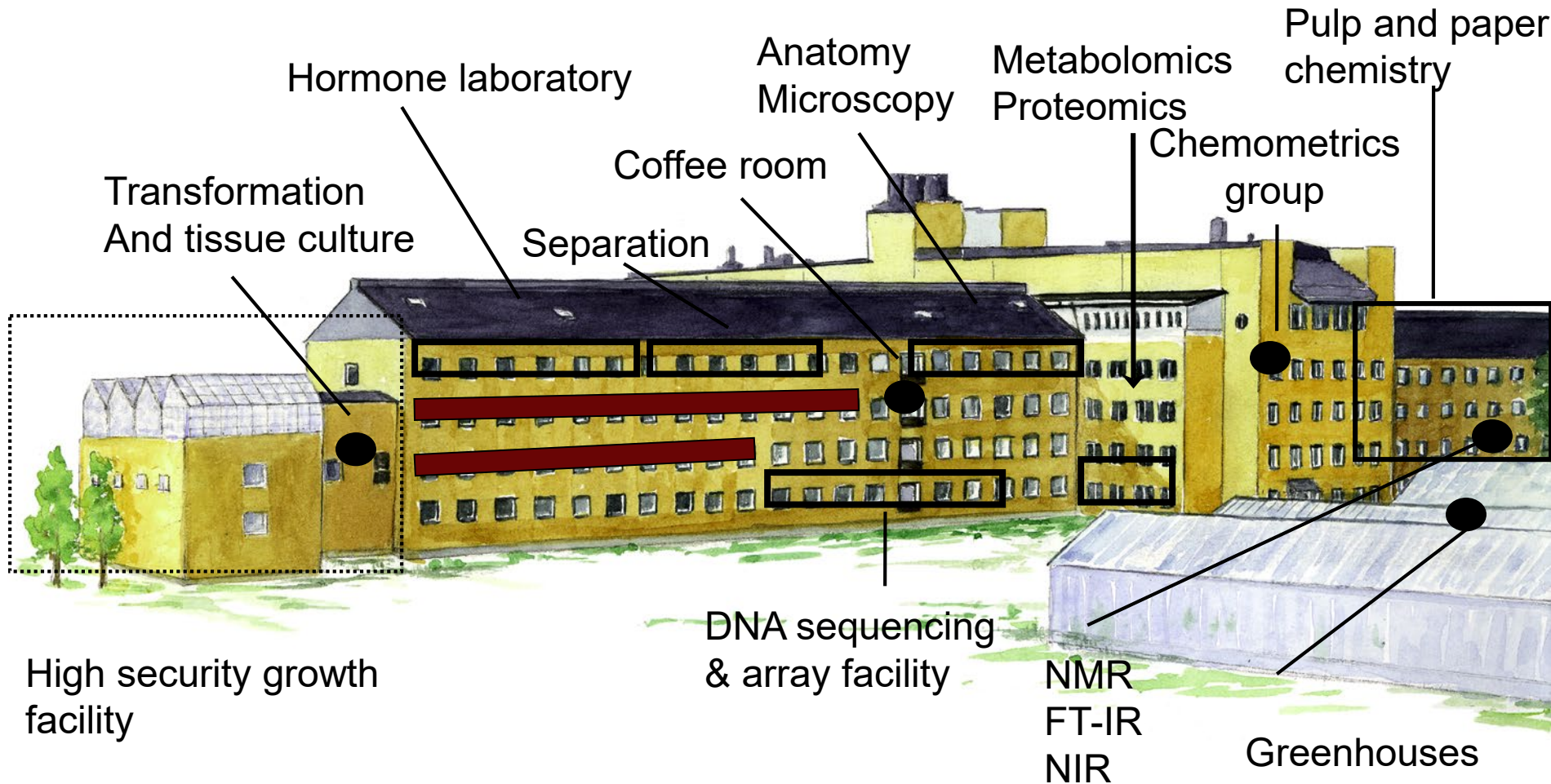
How was the money used?

Technical Platforms

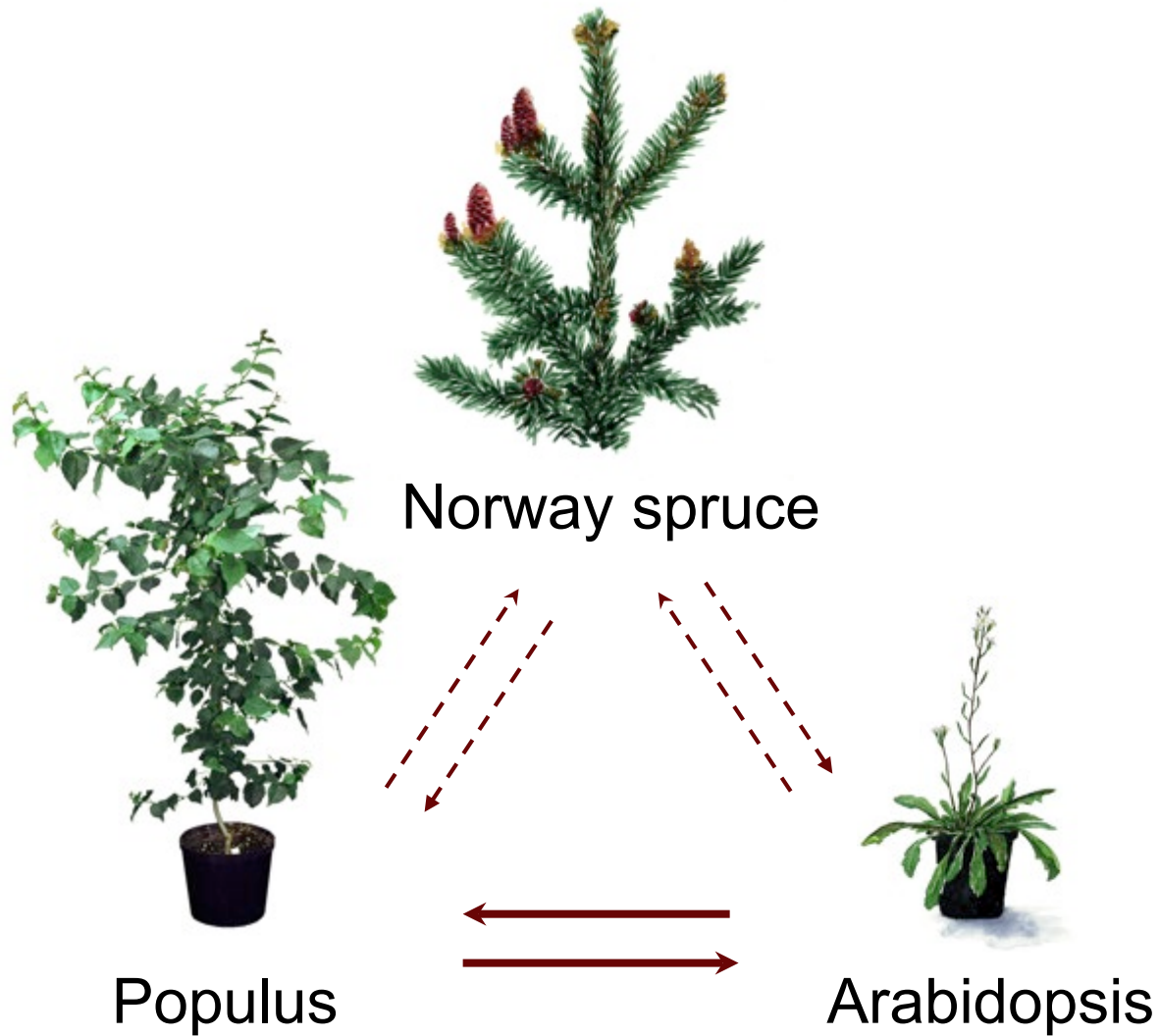


Umeå Plant Science Centre

Integration between forest biology and genomics platforms



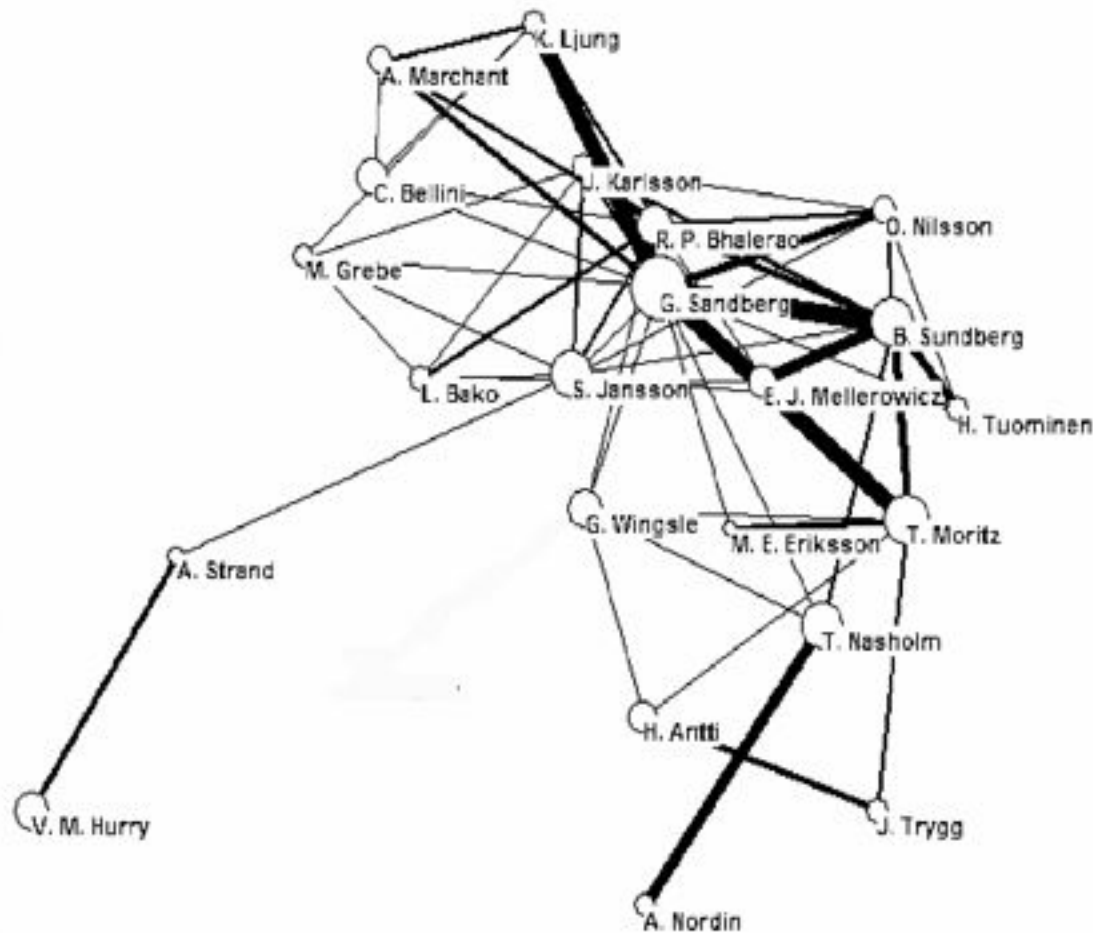
The UPSC model systems



International strategic recruitments

- Alan Marchant (UK) Molecular Genetics
- Markus Grebe (Germany) Cell Biology
- Catherine Bellini (France) Molecular Genetics
- Laszlo Bako (Hungary) Biochemistry
- Torgeir Hvidsten (Nor) Bioinformatics
- Ulrika Egertsdotter (USA) Somatic embryogenesis
- Harry Wu (Australia) Forest Genetics
- Stacey Thompson (USA/Canada) Population Genetics
- Totte Niittylä (Finland/UK/USA) Epigenetics, wood formation
- Stéphanie Robert (France/Belgium) Cell biology, chemical genomics
- Eduoard Pesquet (France/UK) Wood cell cultures
- Markus Schmid (Germany) Developmental biology
- Judith Felten (France) Plant-Fungal interactions
- Alizee Malnoe (France/USA) Photosynthesis
- Stephane Verger (France) Cell biology, Cell wall

Joint publications between UPSC group leaders



Support to young group leaders

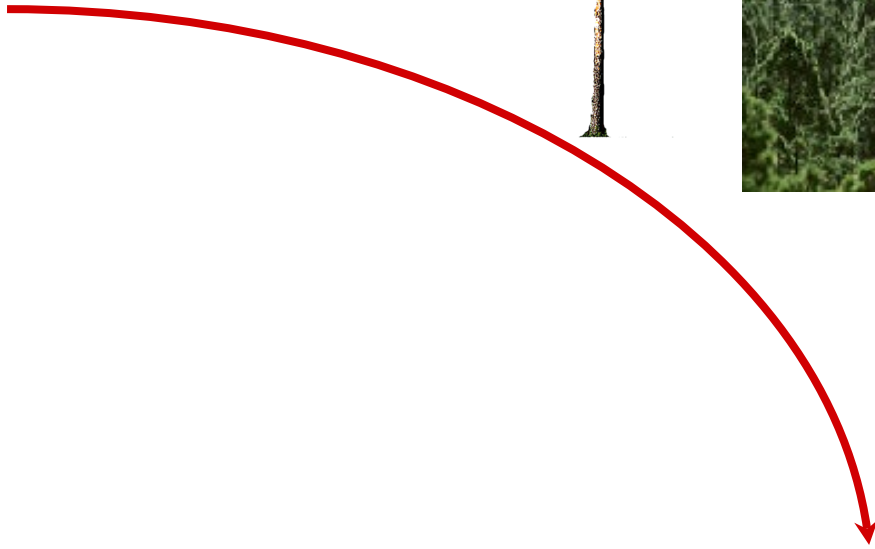
- Another 2 years of salary after FoAss
- Support to consumables and PhD students/postdocs

Investing in young (female) researchers gave better balance

UPSC, number and % women at different levels:

	<u>2007</u>	<u>2014</u>	<u>2022</u>
PhD students:	47%	50%	59%
Postdocs	40%	56%	55%
PIs	33%	40%	50%
PIs:			
Professors	1 (16%)	5 (36%)	9 (50%)
Lektorer	3 (60%)	3 (50%)	5 (56%)
Junior	8 (50%)	6 (55%)	1 (25%)

From Basic Research to Industrial Applications: Industrial Collaborations



From Basic Research to Industrial Applications: Industrial Collaborations



UPSC

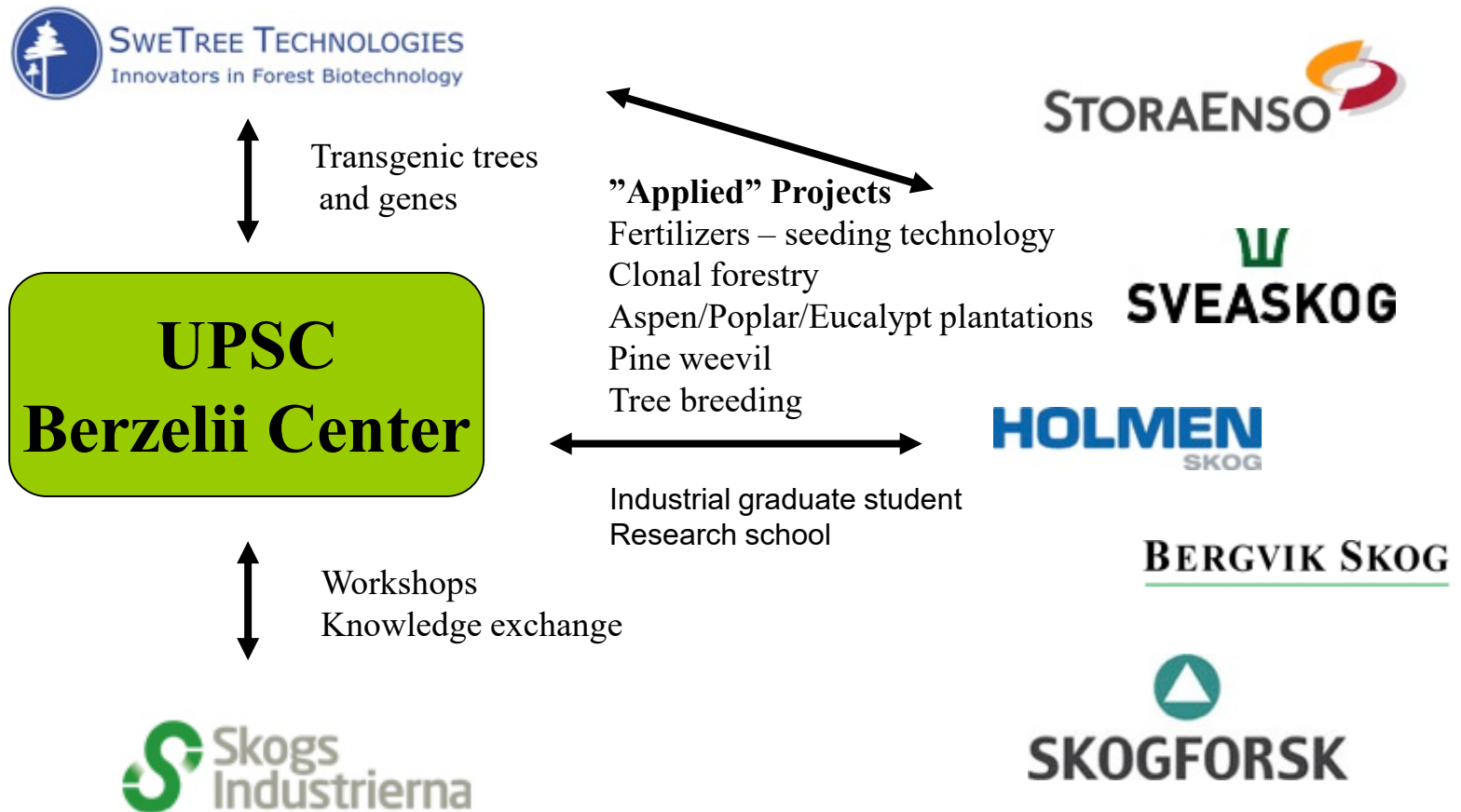


SWETREE TECHNOLOGIES
Innovators in Forest Biotechnology

Sveaskog AB
Holmen AB
Bergvik AB
Stora Enso AB

UPSC

Berzelii Centre for Forest Biotechnology



EVALUATION AND RANKING 2016

VINNOVA-supported Centres of Excellence

Center

Performance

UPSC [Berzelii – SLU/UmU]	Exceptional
GHz [VINNEX-Chalmers]	Excellent
CHASE [VINNEX-Chalmers]	Excellent
FUNMAT [VINNEX-LiTH]	Excellent
BiMaC Innovation [VINNEX-KTH]	Very good
HELIX [VINNEX-LiTH]	Very good
Hero-m [VINNEX-KTH]	Very good
Pronova [VINNEX-KTH]	Very good
Exselent [Berzelii-SU]	Very good
MobileLife [VINNEX-SU]	Very good
Faste [VINNEX-LTU]	Very good
ECO 2 [VINNEX-KTH]	Good
WINGQUIST [VINNEX-Chalmers]	Good
AFC [VINNEX-LU]	Good
CESC [VINNEX-KTH]	Good
Uppsala Berzelii [UU]	Reasonable
SuMo [VINNEX-Chalmers]	Reasonable
SAMOT [VINNEX-KU]	Reasonable
BIOMATCELL [VINNEX-GU]	Reasonable
iPack [VINNEX-KTH]	Unsatisfactory

UTVÄRDERING OCH RANKNING 2016

VINNOVA-stödda Excellenscenter

Center

Performance

UPSC [Berzelii – SLU/UmU]	Exceptional
GHz [VINNEX-Chalmers]	Excellent
CHASE [VINNEX-Chalmers]	Excellent
FUNMAT [VINNEX-LiTH]	Excellent
BiMaC Innovation [VINNEX-KTH]	Very good
HELIX [VINNEX-LiTH]	Very good
Hero-m [VINNEX-KTH]	Very good
Pronova [VINNEX-KTH]	Very good
Exselent [Berzelii-SU]	Very good
MobileLife [VINNEX-SU]	Very good
Faste [VINNEX-LTU]	Very good
ECO 2 [VINNEX-KTH]	Good
WINGQUIST [VINNEX-Chalmers]	Good
AFC [VINNEX-LU]	Good
CESC [VINNEX-KTH]	Good
Uppsala Berzelii [UU]	Reasonable
SuMo [VINNEX-Chalmers]	Reasonable
SAMOT [VINNEX-KU]	Reasonable
BIOMATCELL [VINNEX-GU]	Reasonable
iPack [VINNEX-KTH]	Unsatisfactory

Utvärdering augusti 2018:

SLU Kvalitet och Nyttä (KoN)

UPSC/SLU den enda enhet
vid SLU som fick högsta
betyg i alla kategorier!

UPSC: Why has it worked?

Group leaders have stuck together and worked towards a common vision of creating a strong research environment

Large strategic grants have been used to strengthen the research environment – not to established research groups

Strategic recruitments provide complementary expertise that strengthens the research of all groups through collaborations

Strong international network

Support from the universities

Good interactions with industry

Thoughts about large project leadership

Stimulate collaboration and avoid internal competition:

”The success of my colleague is also my success because the environment is strengthened and that benefits everyones research”.

Thoughts about large project leadership

To promote junior research groups:

Newly started research groups should be completely independent! Make sure these groups have sufficient resources and do not accept that they are used as supporting scientists to senior group leaders.

Stimulate mentorship:

Senior researchers support junior with advice on how to establish their own research profile and how to write competitive research applications and papers.

Thoughts about large project leadership

Stimulate in all possible ways interactions, discussions and collaborations between research groups!

Knock down the walls! Share equipment and consumables! Mix graduate students and post-docs from different groups in the labs! Seminars with open and friendly atmosphere! Support social events! Cherish the coffeebreak!

Create a sense of common identity and belonging

Much easier for a strong research environment to create a strong national and international brand name than for an individual research group! Benefits recruitments, collaborations, lobbying and financing

UPSC: Why has it worked?

Would not have worked if resources were distributed internally according to "Subject areas" or "Heads of subject areas"

Strategic leadership/organization

UPSC Board

Chairman, vice chairman, director, PIs, representatives for PhD students, post docs and T/A-personell

PhD students, post dos and T/A-personell have their own organizations that elect representatives

UPSC leadership group

UPSC Chairman, vice chairman, director, the two heads of department

Head of department advisory group

Senior PIs with external grants