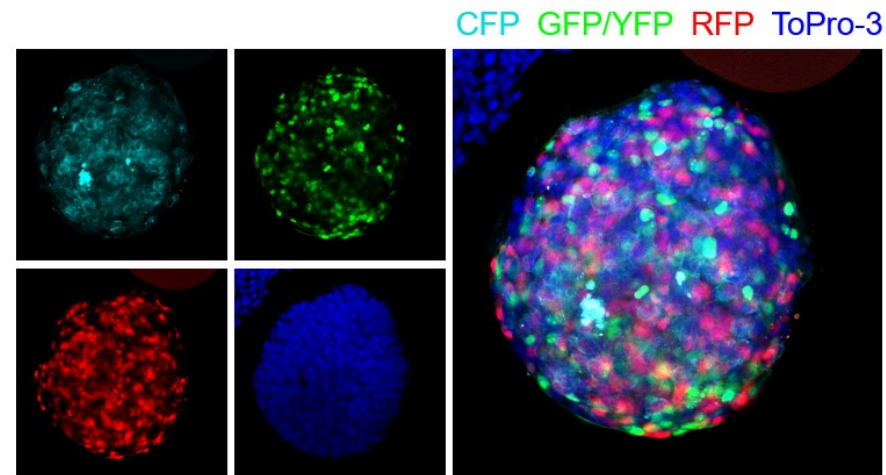


# Improving personalized therapy in breast cancer with patient-derived tumor organoids

Associate Professor Mikkel Green Terp, MSc, PhD  
Institute for Molecular Medicine  
University of Southern Denmark

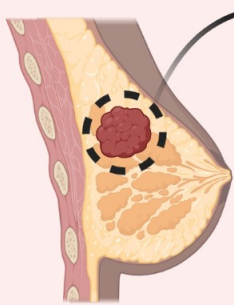
Danish 3R-Center – Symposium  
6th of November 2023



# Pre-clinical drug testing

## Before mice replacement

Tumor resection



Generation PDXs



Control

drug  
combo A

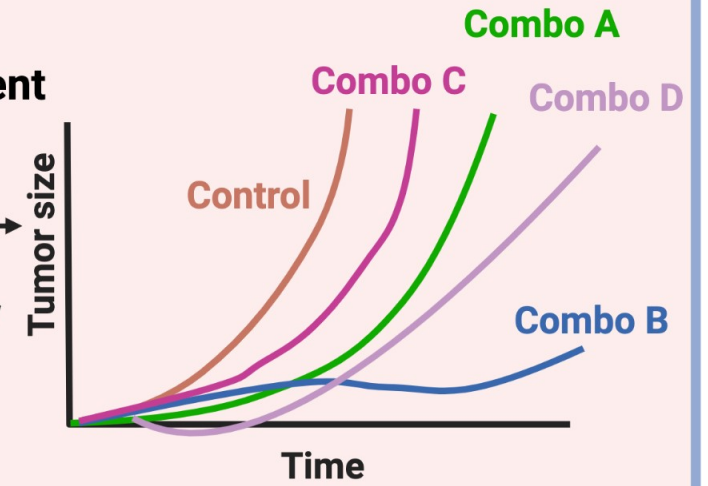
drug  
combo B

drug  
combo C

drug  
combo D

Treatment

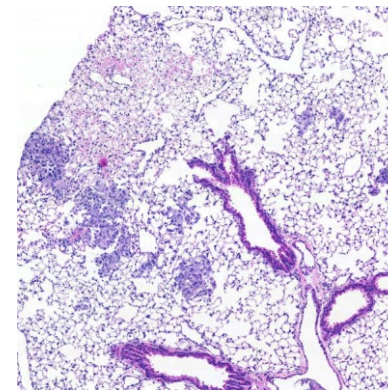
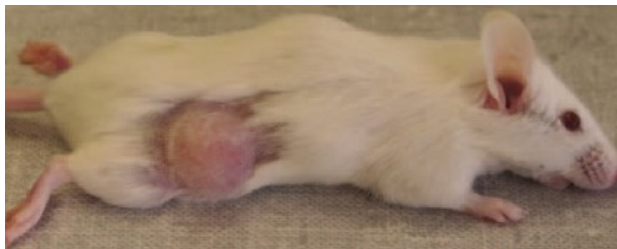
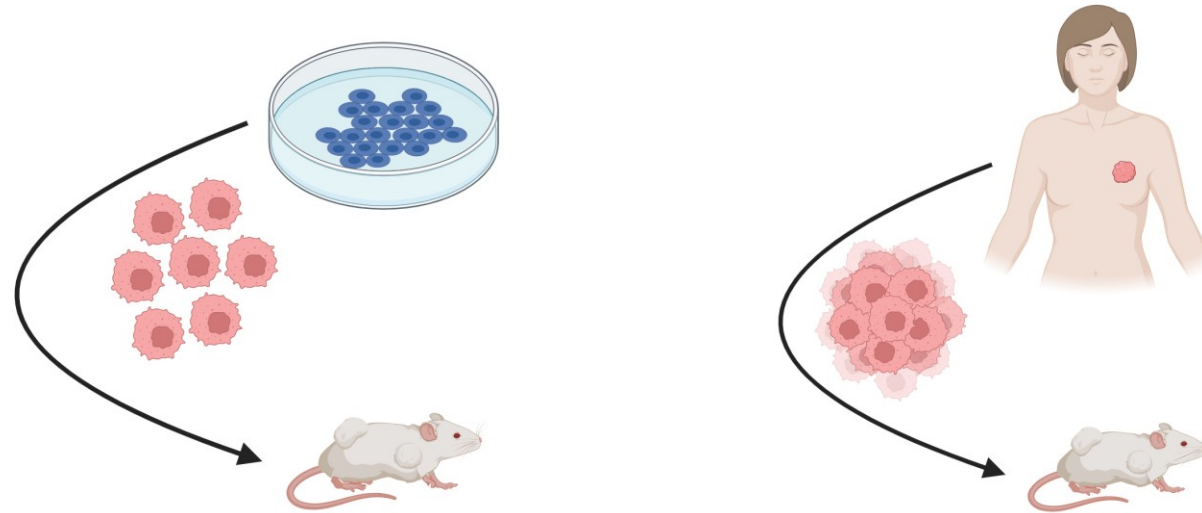
orally  
s.c.  
i.p.



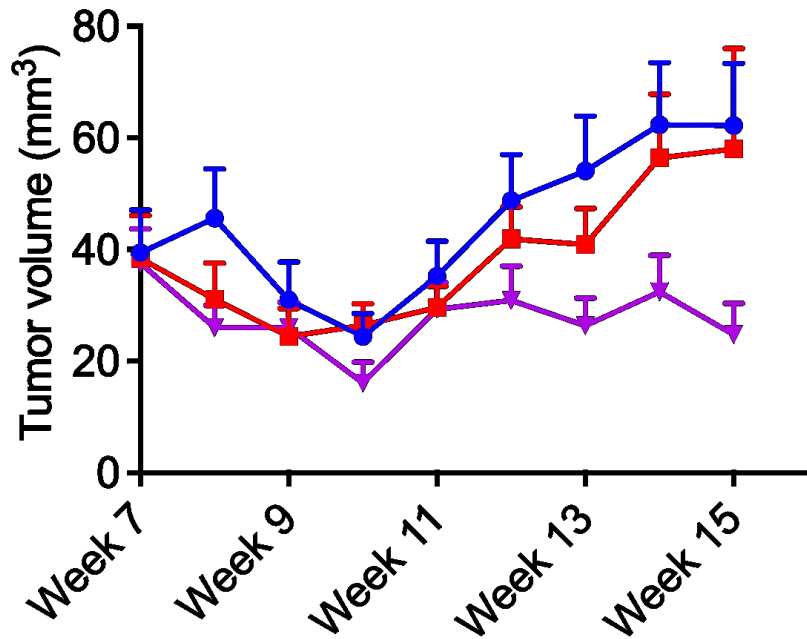
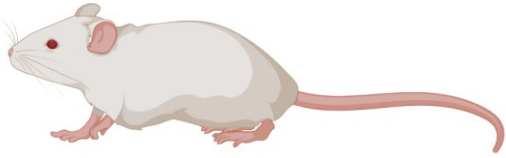
# Purpose of our project

Relevant and robust preclinical models for drug-screening applications are crucial for personalized breast cancer medicine.

Transplantable  
tumor models in  
mice



# Pre-clinical drug testing in mice – multiple drug screen

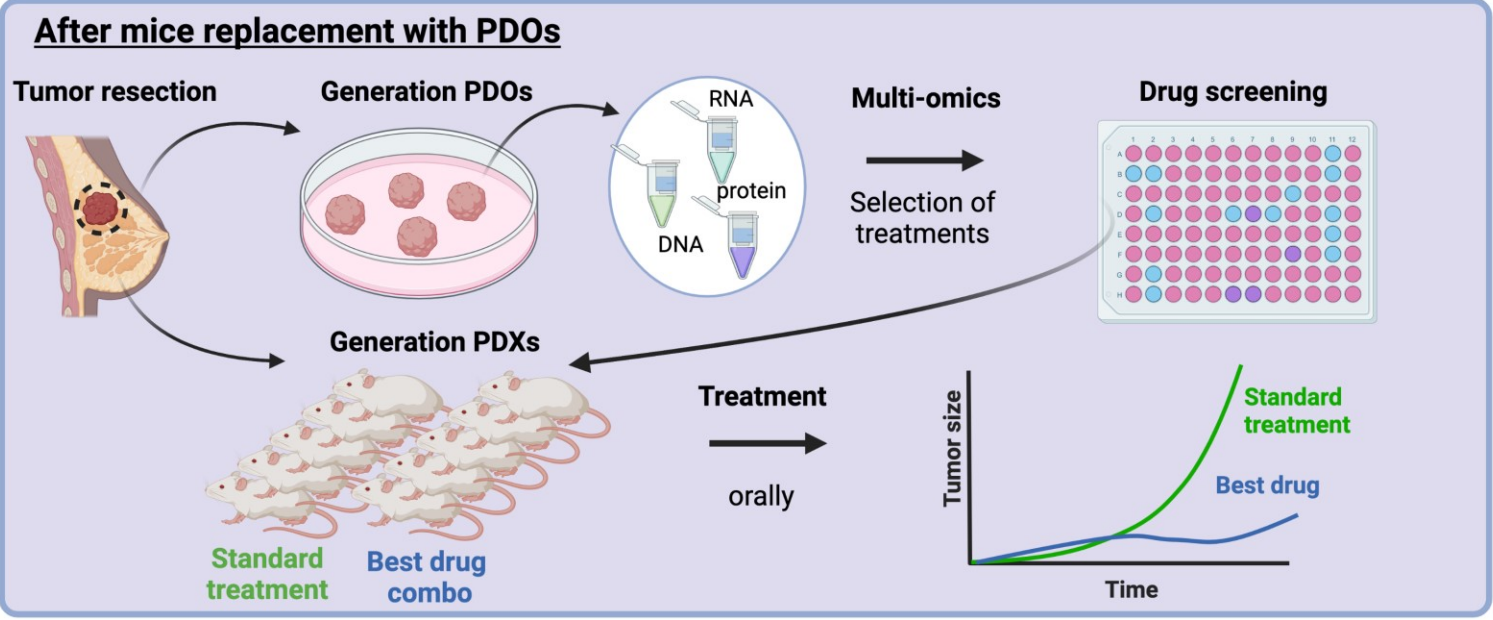
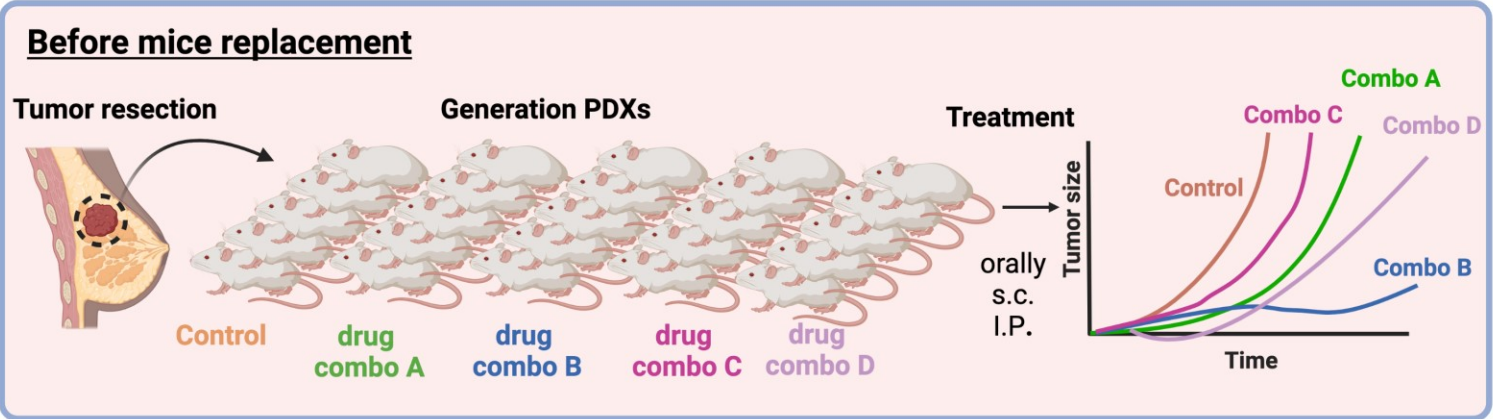


- Testosterone + Letrozole
- Testosterone + Letrozole + Palbociclib
- Testosterone + Letrozole + Palbociclib + Dinaciclib

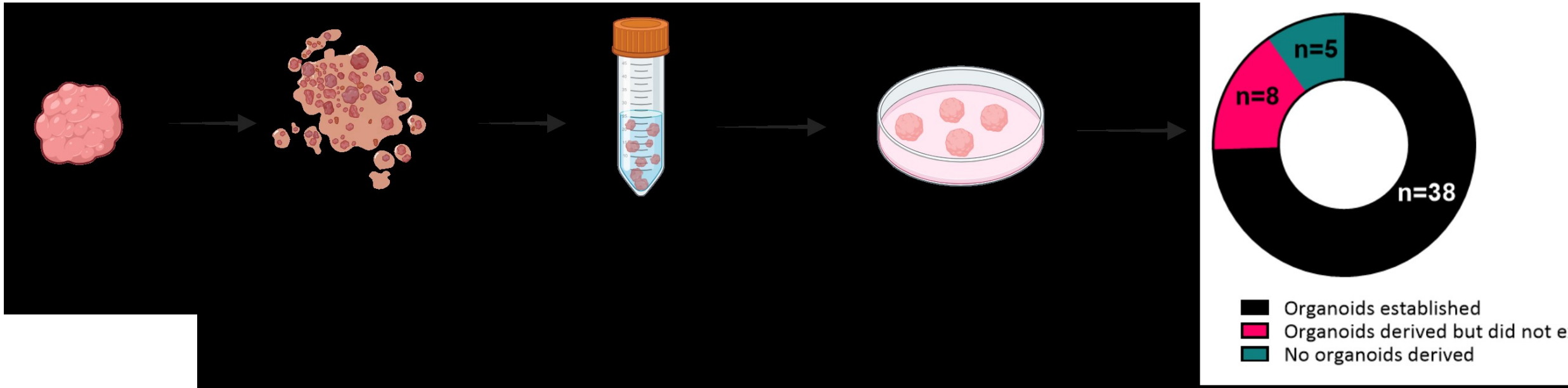
Daily treatment:

- s.c. injection
- Oral gavage
- i.p injections

# Purpose of our project

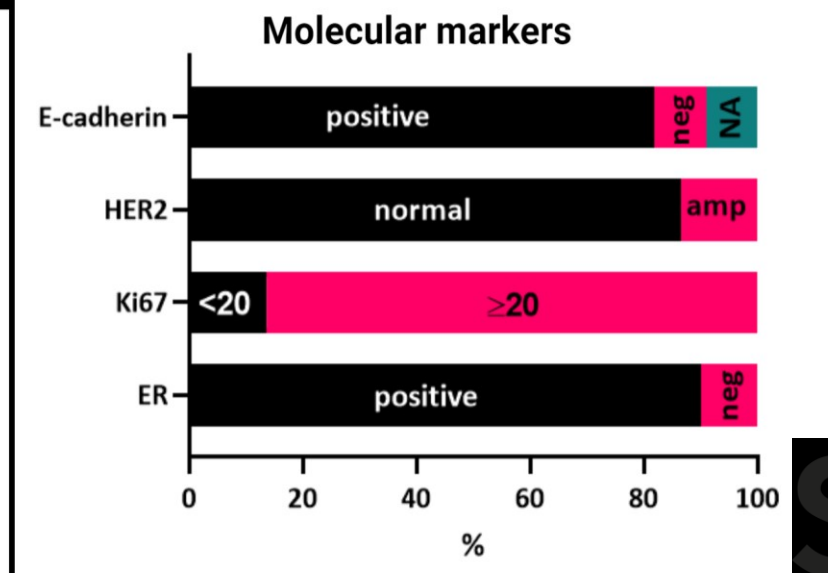
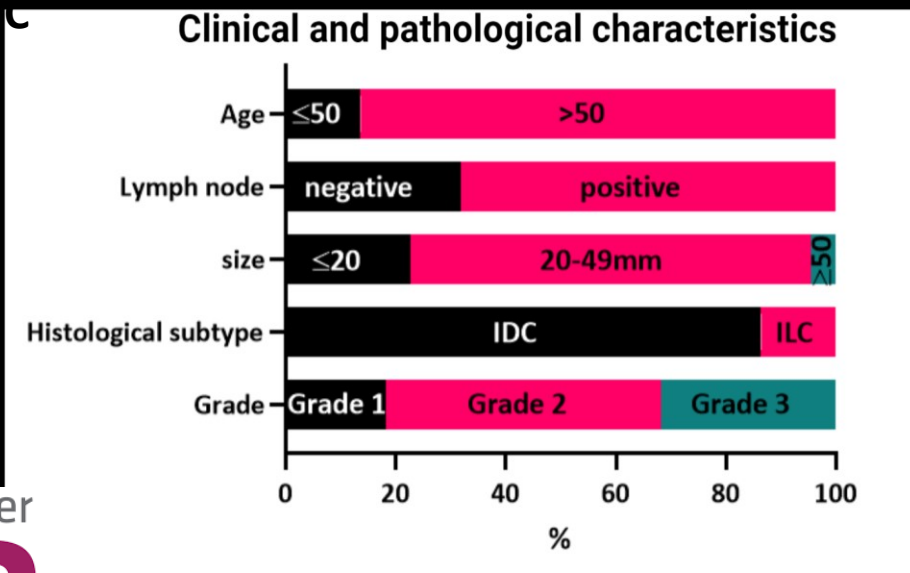
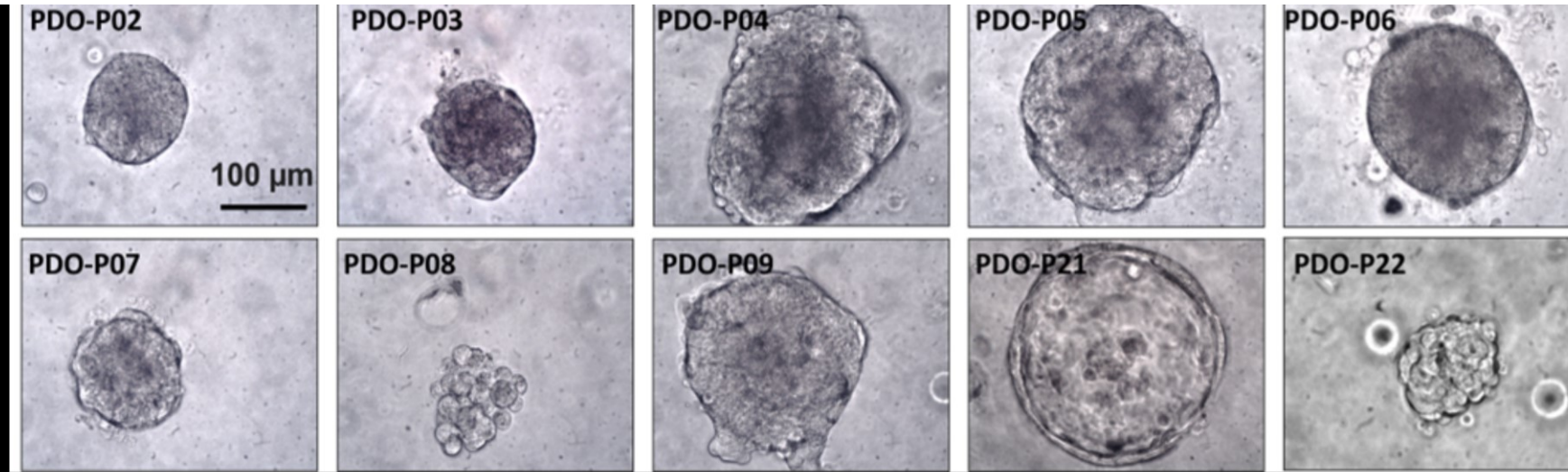


# Breast cancer PDO development



# Breast cancer PDO development

B



# Characterization of tumor/PDO pairs





# Conclusion

We have established clinical relevant organoids from patient tumors

The organoids represent drug sensitivity as observed in the patients making them attractive models for drug testing

The organoids can be used for initial drug screens, thus limiting the use of animals models for testing drugs

# Acknowledgements



UNIVERSITY OF  
SOUTHERN DENMARK

Henrik Ditzel

**Carla Alves**

Martina Tuttolomondo

Abeer Alqasem

Leena Karimi

**Nikoline Nissen**

Sofie Traynor

Odd Gammelgaard

Simone Johansen

Christina Bøg Pedersen

Henriette Vever



Neye fonden

Danish 3R-Center



Dagmar Marshalls  
fond



UNIVERSITY OF  
SOUTHERN DENMARK