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## Kort præsentation

Klimaforandringer betyder mere CO<sub>2</sub>, højere temperaturer og ændret nedbør. Det vil påvirke økosystemerne - men hvordan? Jeg har i mere end 25 år arbejdet med effekterne af klimaforandringer, luftforurening og arealanvendelse på planter og økosystemer. Det har bl.a. givet ny viden om planter tilpasning til ændrede forhold, både i skove og andre økosystemer.

Jeg betegner mig selv som "manipulator" idet manipulation med økosystemer i felten er et gennemgående træk i den forskningsmetode jeg sammen med sine kolleger anvender for at teste hypoteser om miljøpåvirkninger og økosystemer. Jeg har været leder af et Villum center of Excellence - CLIMAITE hvor jeg sammen med forskere fra DTU, KU og AAU konstruerede en biologisk tidsmaskine i et nordsjællandsk naturområde. Her manipulerede vi økosystemer med en eller flere af de faktorer der indgår i klimaproblematikken, øget CO<sub>2</sub>, temperatur og tørke. Det gav mulighed for at kortlægge selve påvirkningerne, men nok så vigtigt samspillet mellem dem. Ideen er at arbejde så realistisk som muligt for at få et troværdigt billede af, hvordan økosystemer reagerer på ændringer og pres. Resultaterne har vakt opsigt på verdensplan og viser bl.a. samspillet mellem de forskellige faktorer kan være af stor betydning men også medføre effekter som er vanskelige at forudsige selvom man kender effekterne af de enkelte faktorer hver for sig. Resultaterne viser desuden at forestillingen om at økosystemerne øget CO<sub>2</sub> i atmosfæren vil have en "gødsningseffekt" og få planter til at vokse hurtigere og mere så den ekstra CO<sub>2</sub> fjernes fra atmosfæren ikke er generelt gældende.

Aktuelt forsker jeg især i forståelse af kulstofkredsløbet i økosystemer og hvordan det påvirkes af klimaforandringerne gennem ændringer i plantevækst, plantesygdomme og biodiversitet. Her er jeg i særlig grad optaget af effekterne af ekstreme klimahændelser, hvordan laver vi overhovedet realistiske eksperimenter med disse og hvilke påvirkninger vil de have?

## Ansættelse

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Københavns Universitet  
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### Forskningsdirektør

NIVA - Norsk Institut for Vannforskning  
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### Centerleder

Technical University of Denmark  
Kongens Lyngby, Danmark  
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### Forskningsprogramleder

Technical University of Denmark  
Kongens Lyngby, Danmark  
1 maj 2006 → 31 dec. 2011

### Seniorforsker

Forskningscenter Risø  
Roskilde, Danmark  
1 jun. 1996 → 30 apr. 2006

## Seniorforsker

Forskningscentret for Skov & Landskab  
Danmark  
1 maj 1992 → 31 maj 1996

## PostDoc

Technical University of Denmark  
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1 aug. 1989 → 30 apr. 1992

## PhD

Technical University of Denmark  
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## Publikationer

### **Extreme drought impacts have been underestimated in grasslands and shrublands globally**

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**Accumulation of soil carbon under elevated CO<sub>2</sub> unaffected by warming and drought**

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**Accumulation of soil carbon under elevated CO<sub>2</sub> unaffected by warming and drought**

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### **Early stage litter decomposition across biomes**

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