

Pressemeddelelse

Pollen spiller en afgørende rolle i naturen, men forårsager også allergiske reaktioner hos op mod 20% af befolkningen. Dette tværdisciplinære PhD projekt indenfor folkesundhed og miljøvidenskab strækker sig over flere områder indenfor pollenforskning, og fokuserer på de to primære allergifremkaldende pollen i Nordeuropa; græs og birk.

Resultaterne viser bl.a. lokale forskelle i græspollenkoncentrationer i byområder, hvilket kan skyldes, at græsserne frigives i lav højde, og findes i lokale "hot-spots".

Der blev også set store udsving i døgnvariationen af græspollen i både Århus, København, og i Cordóba (Spanien). Dette kan være resultatet af, at pollen kommer fra mange forskellige græsarter, som ikke blomstrer samtidigt, men også forskellige faktorer ift. vejret, og netop den ujævne fordeling af kilderne i byområder, kan spille ind.

Reaktionen på pollenallergener kan øges efter gentagende eksponeringer, hvilket kaldes "priming". Hvorvidt denne effekt har stor betydning for allergikernes lungefunktion, blev undersøgt gennem forsøg med allergikere udenfor og i slutningen af pollensæsonen, efter flere ugers naturlig eksponering. Selvom denne effekt er beskrevet tidligere, ses den ikke i resultaterne fra dette studie.

Samtidig eksponering for pollen og luftforurening kan også øge reaktionen på pollen. I dette studie er den potentielle risiko for forøget reaktion undersøgt ved, at se på niveauer og variation i koncentrationen af pollen og luftforurening i København. Ozon og pollen koncentrationer viste enslydende variationer. For yderligere at undersøge dette område, er der udført forsøg med allergikere, eksponeret for allergener i kombination med ozon, hvor ingen øget effekt på lungefunktionen blev set.

De opnåede forskningsresultater bidrager til forståelsen af nogle af de mange udfordringer der stadig er indenfor feltet af pollenforskning.

Ph.d.-studiet er gennemført ved Institut for Folkesundhed, Health, og Institut for Miljøvidenskab, Science and Technology, Aarhus Universitet.

Tid: 13. december 2017 kl. 14

Sted: Merete Barker auditoriet, Bygning 1253, lokale 211, Bartholins Allé 3, 8000 Aarhus C, Aarhus Universitet

Afhandlingens titel: "Cross-disciplinary studies on pollen in health and environmental sciences".

Kontaktinfo: Pia Viuf Ørby, e-mail: piv@ph.au.dk, tel.: +45 8715 8595

Bedømmelsesudvalg: Associate Professor Søren Kjærgaard (Formand for bedømmelsesudvalget), Institut for Folkesundhed, Aarhus Universitet.

Forsker Åslög Dahl, Institutionen för biologi och miljövetenskap, Göteborg Universitet.

Senior Forsker Hille Suojalehto, Finnish Institute for Occupational Health (FIOH), Helsinki.

Hovedvejleder: Professor Vivi Schlünssen, Institut for Folkesundhed, Aarhus Universitet & Det Nationale Forskningscenter for Arbejdsmiljø.

Medvejledere: Professor Ole Hertel, PhD, Institut for Miljøvidenskab, Aarhus Universitet.

Associate Professor Jakob Bønløkke, MD, PhD, Arbejdsmedicinsk klinik, Dansk Ramazzini Center, Aalborg Universitets Hospital.

Professor Carsten Ambelas Skjøth, PhD, Institute of Science and the Environment, University of Worcester, United Kingdom.

Sprog: Ph.d.-afhandlingen forsvares på engelsk

Forsvaret er offentligt.



Press release

Pollen has a crucial and important role to play in nature, but it is also the cause of allergic reaction in as much as 20 % of the population.

This cross-disciplinary project in Public Health and Environmental Science covers some of the many areas within pollen research, focus being on two of the main allergens in northern Europe; grass and birch.

The results illustrate intra-urban differences in grass pollen concentrations, attributable to e.g. the low release height and local “hot-spots” of grass pollen sources.

Also great variation in the diurnal pattern were seen in both Aarhus, Copenhagen and Cordóba, Spain. This could be due to differences in time of flowering in the many grass species, due to impact from weather, and the uneven distribution of the grass areas.

The response to allergens can increase following repeated exposures. This is known as “priming”. In this study, it was examined whether this effects has a large impact on the lung function in participants with pollen allergy, by comparing exposure studies outside and in the end of the pollen season. Although this effect has previously been demonstrated, it was not apparent in these studies.

Co-exposure to pollen and air pollution can also increase the response to allergens. In this study the potential risk of effects from this co-exposure was examined by analyzing the levels and variation in pollen and air pollutants in Copenhagen, and co-variation was found for pollen and ozone. To further examine this co-exposure, studies were performed exposing participants with allergy to allergens and ozone simultaneously. No increased effect on the lung function was seen.

The presented results contribute to the understanding of some of the many challenges that still remain in the field of pollen research.

The Ph.d. study is performed at Department of Public Health, Faculty of Health, and Department of Environmental Science, Faculty of Science and Technology, Aarhus University.

Time 13th December 2017, 14:00.

Place Merete Barker auditoriet, Bygning 1253, lokale 211, Bartholins Allé 3, 8000 Aarhus C, Aarhus Universitet

Titel of Disertation: “Cross-disciplinary studies on pollen in health and environmental sciences”.

Contact information: Pia Viuf Ørby, e-mail: piv@ph.au.dk, tel.: +45 8715 8595

Evaluation Committee: Associate Professor Søren Kjærgaard (chairman and moderator of the defense), Department of Public Health, Aarhus University.

Researcher Åslög Dahl, Institutionen för biologi och miljövetenskap, Göteborg Universitet.

Senior Researcher Hille Suojalehto, National Institute for Occupational Health (FIOH), Helsinki.

Main supervisor: Professor Vivi Schlünssen, Department of Public Health, Aarhus University & National Research Centre for The Working Environment.

Co-supervisors: Professor Ole Hertel, PhD, Department of Environmental Science, Aarhus University.

Associate Professor Jakob Bønløkke, MD, PhD, Department of Occupational Medicine, Danish Ramazzini Centre, Aalborg University Hospital, Aalborg, Denmark.

Professor Carsten Ambelas Skjøth, PhD, Institute of Science and the Environment, University of Worcester, United Kingdom

Language: The defence is in english.

The defence is open for the public.

