The use of GIS software in research projects

Date **August 20 – 21, 2018**

Time **10.30 – 16.00, both days**

Location **University of Southern Denmark**
Campusvej 55, Odense M, DK-5230
(Room TBA)

Course description

GIS (Geographical Information System) is an application used for displaying and analyzing information based on locations. GIS can be used to reveal research data with a spatial dimension and explore relationships between geographical units to answer various research questions. This course introduces GIS and focuses on its applications. This is an interactive course which combines lectures presented by experts on the use of GIS and hands-on work on the students' own research. The focus will be on the connection between the objectives of a project and the use of GIS applications. For this purpose, case studies will be presented based on the instructors' own work. There will be time for the students to experiment with their own data using QGIS a piece of software, which is freeware, under the supervision of the instructors.

The interested PhD students will be asked to send a short description (1 page) on how their project can be related to GIS, and to complete at least 3 exercises given by the instructors, as an introduction on how to use the open software QGIS, which will be the main tool of the course. By the end of this course, the students should be able to create GIS-databases, register digital data into maps, and use GIS to analyze problems. The course includes a final project report, through which students will investigate the application of GIS in connection to their project, which will be discussed 10 weeks after the course.

*Lecture plan**

Monday, August 20

10.30 – 12.00	Lecture by Per Grau Møller
12.00 – 13.00	Lunch break
13.00 – 14.00	Lecture by Carl-Johan Dalgaard
14.15 – 16.00	Group work and discussions

Tuesday, August 21

10.30 – 12.00	Lecture by Christian Skovsgaard
12.00 – 13.00	Lunch break
13.00 – 14.00	Seminar with Carl-Johan Dalgaard
14.15 – 16.00	Group work and discussions

*The lecture plan might be adjusted later on.

ECTS

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Course Outline

A. GIS data: Some applications

Instructor: Carl-Johan Dalgaard

Provisional references

Lightning, IT Diffusion and Economic Growth across US States. Joint with Thomas B. Andersen, Jeanet Bentzen and Pablo Selaya.
Review of Economics and Statistics 94, 2012, 903–924

Climate and the Emergence of Global income differences. Joint with Thomas B. Andersen and Pablo Selaya
Review of Economic Studies 83, 2016, p. 1334-63.

The Bounty of the Sea and Long-Run Development. Joint with Anne Sofie Beck Knudsen and Pablo Selaya.
(Working paper)

Roman Roads to Prosperity: Persistence and Non-Persistence in Public Good Provision. Joint with Nicolai Kaarsen, Ola Olsson and Pablo Selaya
(Working paper)

B. The use of GIS as illustrating and enhancing spatial dimensions in research – generally and in historical research

Instructor: Per Grau Møller

Provisional references

'Husmandskolonier fra udskiftningstiden',
Landbohistorisk Tidsskrift. 2016, 13, s. 29-72.

'Technologies for integration and use of historical maps into GIS: Nordic examples', with Bender, O., Evelpidou, N., Krek, A. & Vassilopoulos, A.,
Geoinformation Technologies for Geocultural Landscapes: European perspectives (2009). 1 udg. Leiden: CRC Press, Bind 1, s. 145-168 24 s.

Lykkens smedje? Social mobilitet og social stabilitet over fem generationer i tre sogne i Salling 1750-1850, by Thomsen, Asbjørn Romvig.
Landbohistorisk Selskab, 2011, 391 s.

Gods, gårde og kulturlandskab. Besiddelsesforhold og godsstruktur i den sydlige del af Nørrejylland 1570-1788, by Schacke, Adam Tybjærg.
Landbohistorisk Selskab, 2007, 383 s.

C. The use of GIS in Economic History

Instructor: Christian Skovsgaard

Provisional references

The Heavy Plow and the Agricultural Revolution in Medieval Europe, with Thomas B. Andersen, and Peter S. Jensen.
Journal of Development Economics (2016); 118: 133-149

'Getting to Denmark': The Role of Elites for Development with Peter Sandholt Jensen, Markus Lampe, and Paul Sharp,
(Working paper)

Lecturers

Carl-Johan Dalgaard

Carl- Johan is a professor at the Department of Economics at University of Copenhagen since 2008. His research interests lie within economic growth, economic development and macroeconomics. He has published in prestigious journals, such as the Review of Economic Studies, Economic Journal, Journal of the European Economic Association and Review of Economics and Statistics, among

others. He is an External Research Associated at CAGE (Centre for Competitive Advantage in the Global Economy, Warwick) and a research fellow at CEPR (Center for Economic Policy Research; Economic Growth program) since 2016.

Per Grau Møller

Per is an associate professor at the Department of History at University of Southern Denmark and the head of the Cartography Document Center at the Department of History. Per's research fields are within the spatial dimension of history. His research is based on the Funen region and is extended to the north western European countries. Per's focus is on the long-standing structures in the landscape and human influences and the conservation aspect in a contemporary perspective.

Christian Skovsgaard

Christian is a researcher at the Department of Business and Economics at University of Southern Denmark. His research interests lie at the intersection of economic history, development and growth. His projects generally rely on the use of historical events and historical data to investigate questions in the areas of economic development and growth. Christian has been using GIS for his own research and he will present his work during the course, to explain the practical use of the software in a paper.

Admission

Students who would like to participate should send a short description (max 1 page) on how their research project (or potential research project) is related to GIS. Upon acceptance, the students will be asked to complete at least 3 introductory exercises to practice the software QGIS and send them before the beginning of the course. Admission is open for students from all disciplines.

The descriptions should be sent to Christian Skovsgaard, chsko@sam.sdu.dk , **no later than July 20, 2018**.