2010 ENRGHI
15Th Emerging New Researchers
in the Geography of Health and Impairment Conference

ENRGHI 2010

10-11th June,

Geography Institute of Paris, France

Conference Programme

Comité National Français de Géographie

IRDES
Institut de recherche et documentation en économie de la santé

Géographie-Cités

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Royal Geographical Society

Ecole Doctorale de Géographie de Paris

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Conference Programme

Thursday 10th June

8.30	Registration and coffee	New theatre
9.00	Welcome – Conference team	Large theatre
9.15	Keynote Speech: GHRG and ENRGHI Tim Brown, Secretary/Treasurer of GHRG, Queen Mary University of London, UK	Large theatre
9.45	Keynote Speech: Original aspects of the French approach to the geography of health Gérard Salem, Paris 10 University, France	Large theatre
10.30	Coffee break	Room 402
10.45	**Session 1:** **Health policies**	Large theatre
10.45	**Session 2:** **Neighbourhood and health I**	New theatre
12.45	Lunch	Room 402
14.15	**Session 3:** **The geographies of risk and exposure**	Large theatre
14.15	**Session 4:** **Neighbourhood and health II**	New theatre
15.45	Coffee break	Room 402
16.00	Poster session	New theatre
16.45	**Session 5:** **Infectious diseases**	Large theatre
16.45	**Session 6:** **Globalization, migration and health**	New theatre
18.00	End	
20.00	Conference dinner (for speakers and scientific committee)	

Friday 11th June

9.00	Keynote Speech: Multi-agent modelling and health, Eric Daudé, University of Rouen, France	Large theatre
10.00	ENRGHI Business Meeting (including hustings for ENRGHI 2011)	Large theatre
10.15	Coffee break	Room 402
10.30	**Session 7:** **Health care and accessibility**	Large theatre
10.30	**Session 8:** **The geographies of disability and ageing**	New theatre
12.00	Lunch	Luxembourg Park
14.00	**Session 9:** **Spatial inequalities**	Large theatre
14.00	**Session 10:** **Representation, culture and health**	New theatre
15.30	Coffee break	Room 402
16.00	Closing comments and competition results	Large theatre
17.30	End	

10th June

10.45-12.45

Session 1: Health policies
(Chair: Magali Coldefy, IRDES – University of Paris 1)

DUCHENE Catherine, University of Paris Dauphine, France, Territory and LTC regulation

MC GARROL Sarah, University of St Andrews, Scotland, Exploring and understanding factors that influence patient engagement and attendance at cardiac rehabilitation programmes in NHS Fife: initial findings

SOULIES Dorian, University of Nice Sophia-Antipolis, France, Improving knowledge of operational activities of emergency services using spatio-temporal analysis

LE GOFF Erwann, University of Rennes 2, France, "Healthy cities" in France: what are the issues for urban policies?

MATERA Giovanni, EHESS, France, The policies of proximity and the European model of activation. The case of Basaglia's heritage in the Friuli-Venezia region

10.45-12.45

Session 2: Neighbourhood and health I
(Chair: Julie Vallée, University of Paris 6 – INSERM)

GRILLO Francesca, University of Paris 6, INSERM, France, Women's health and inequalities: does residence area play a part? The case of cervical screening test in Paris metropolitan area

SALZE Paul, University of Strasbourg, France, An individual-based model for the study of the obesity epidemic in French adolescents

BURGOINE Thomas, Newcastle University, UK, An Obesogenic North East? A study on the links between obesity and the foodscape across twenty years 1980-2000

CASEY Romain, University of Lyon I, France, Dietary and physical activity habits and spatial accessibility of food stores and sports facilities in French pre-adolescents (the ELIANE project)

ARCHIBALD Daryll, University of St Andrews, Scotland, Does area regeneration improve residents' health and well-being?

14.15-15.45

Session 3: The geography of risk and exposure
(Chair: Morgan Berger, University of Rennes 2)

MEHA Christelle, University of Paris 4, France, Methods for mapping and assessing human exposure to Lyme's disease: a case study in a suburban forest of France

TSCHIRHART Céline, University of Strasbourg, IRD, France, Mercury in the Rio Beni (Bolivian Amazon): from a contaminated natural environment to unequal exposure downstream from Rurrenabaque

BORDERON Marion, University of Aix-en-Provence, France, Urban malaria in Brazzaville: local heterogeneity and global challenges

14.15-15.45

Session 4: Neighbourhood and health II
(Chair: Hélène Charreire, University of Paris 13)

GODILLON Sylvanie, University of Paris 1, INRETS, Higher injury rates in deprived areas: how to measure the influence of mobility and residential neighbourhood?

VALLEE Julie, University of Paris 6, INSERM, France, Depression and daily mobility in Paris metropolitan area

GUYARD Audrey, University of Grenoble, France, Relationship between geographical variations in participation and environment in children with cerebral palsy

EDWARDS Michaela, University of Lancaster, UK, Coping with stress in the workplace: a geographical social construction?

16.00-16.45

Poster session

McFANN Hudson, University of Ohio State, USA, Legacies of extraction: landfills and environmental health in Appalachian Ohio, USA.

MEJRI Wahida University of Paris 1, France, Healthcare development in Tunisia

COTICHELLI Giordano, Politecnica delle Marche University, Italy, Regional distribution of postpartum depressive symptoms in Italy

GODILLON Sylvanie, University of Paris 1, France, Environmental justice and road traffic: a typology of neighbourhoods according to accident density in Dresden, Germany

LE NEINDRE Charlène, University of Paris 7, France, A multi-scale systemic approach of the links between geographical contexts and population health: asthma in western France

SCHINDLER HAMITI Adélaïde, University of Clermont-Ferrand, France, Which innovations to ensure continuity of health care in rural areas of medium mountains (case of Massif Central)?

16.45-18.00

Session 5: Infectious diseases
(Chair: Audrey Bochaton, University of Paris 10)

PERCHOUX Camille, University of Aix-en-Provence, France, Consideration of a synthesis tool for malaria analysis

ONYEAHIALAM Ijeoma Anthonia, Newcastle University, Newcastle upon Tyne, UK, A mixed spatial methodological approach in data generation for a spatio-temporal MIS

PIERRAT Charlotte, University of Paris 1, France, For a territorial diagnosis of health risk on a fine scale: an attempt to model environmental variables of malaria (South Benin)

16.45-18.00

Session 6: Globalization, migration and health
(Chair: Anne-Cécile Hoyez, University of Poitiers)

BOULANGER Claire, University of Poitiers, France, Transnational practices of Malians living in France and health systems in Mali

PLARD Mathilde, University of Angers, France, Ageing in transnational families setting, Elderly 'left-behind' in India: who cares?

11th June

10.30-12.00

Session 7: Health care and accessibility
(Chair: Charlène Le Neindre, University of Paris 7)

BERGER Morgan, University of Rennes 2, France, Assessing the accessibility to health care for haemophiliac patients: the case of a French region

BAYER Florian, Biomedicine Agency, France, Using a gravity model for allocation of livers to transplant

LEFEBVRE Bertrand, University of Rouen, France, A hospital too far? Poor patients, private hospitals and spatial analysis in Delhi

UEBERSCHAR Nicole, Humboldt University of Berlin, Germany, Modelling of catchment areas for health facilities in Africa

10.30-12.00

Session 8: The geographies of disability and ageing
(Chair: Charlotte de Fontgalland, University of Paris 10)

ANDRE Evelyne, University of Paris 1, France, Disability and homes for the elderly

RAPEGNO Noémie, EHESS, France, Living in medico-social accommodation for disabled people and shaping one's life: the residential and life itineraries of physically disabled people in question

PETIT Mélanie, University of Rouen, France, Neurodegenerative diseases : care places, or health places?

BORIOLI Jason, University of Lausanne, Switzerland, Bidimensional regression beyond goodness-of-fit: measuring geometric distortions in urban mental maps produced by blind people, wheelchair users and people without disabilities

14.00-15.30

Session 9: Spatial inequalities
(Chair: Renaud Watel, University of Paris 1)

CLEMENS Tom, University of St Andrews, Scotland, Unemployment and mortality in Scotland: towards a causal explanation

TERASHIMA Mikiko, Dalhousie University, Canada, Temporal trends of life expectancy and health deficiency across regions in Nova Scotia, Canada

DE FONTGALLAND Charlotte, University of Paris 10, France, Spatial health inequalities in Cantal

OVIASU Osaretin, University of Sheffield, UK, Spatial analysis of chronic kidney disease in Nigeria: case study in Edo State

14.00-15.30

Session 10: Representation, culture and health
(Chair: Magali Coldefy, IRDES – University of Paris 1)

DROUIN Catherine, University of Sherbrooke, Canada, Do linguistic barriers have an impact on health disparities in Québec? A look at the situation for myocardial infarction cases

MOBILLION Virginie, University of Paris 10, IRD, France, The paradox of national integration through health care practices: the case of Lao PDR

WINKELMANN Till, University of Bonn, Germany, The relationship between risk perception, health conceptions and stigmatization in the case of HIV/AIDS – research results from urban Ethiopia and rural Malawi

SCHMIDT-EHRMANN Marie-José, University of Paris 1, France, Information and communication on transmissible diseases: the case of dengue in Noumea and Papeete

ABSTRACTS

Session 1: Health policies

DUCHENE Catherine,
University of Paris Dauphine, France

Territory and LTC regulation

The recent bill, Hospital, patients, health, and territories (HPST: Hôpital, patients, santé et territoire) sets out to reorganise the health care system from a territorial dynamic viewpoint in order to promote efficiency. In this perspective, territory has an economic dimension as an area of consumption and production upon which health care provision regulation is based. For the long-term care (LTC) sector, the HPST bill also introduces new regulatory tools aiming to solve problems of coordination between the social and health care sectors. As a consequence, the development of regional public health agencies (ARS – Agences Régionales de Santé) is invalidating the initial scheme whereby LTC regulation has belonged to the département level since 2004. The current legislative reform poses particularly relevant questions about local government as the appropriate level for LTC regulation. This paper sets out to highlight how territory is seen by the economist as a result of the combination of three aspects of proximity: geographical, organisational and institutional (Pecqueur, Zimmerman, 2004). In this perspective the département is understood as a political and administrative area that structures the LTC market. A literature review on issues of decentralization, from which we propose to focus on the LTC policy, provides certain arguments to justify the preference given to the local level for social policies. In addition, we note that this choice is common in the European countries, not only for certain obvious pragmatic reasons, but also on account of certain gains in efficacy. Nevertheless, the policy entails the risk of inequalities in terms of LTC services occurring among administrative divisions.

MC GARROL Sarah
University of St Andrews, Scotland

Exploring and understanding factors that influence patient engagement and attendance at cardiac rehabilitation programmes in NHS Fife: initial findings

Coronary heart disease (CHD) is the leading cause of morbidity and mortality in Scotland and geographical variations in CHD can be seen to exist from the local level to the national and international levels. Health inequalities in Scotland can translate into poorer CHD outcomes and have a bearing on engagement with health care services, with cardiac rehabilitation (CR) programmes being no exception.

Patients who have sustained a heart attack are eligible for inclusion in cardiac rehabilitation programmes. Cardiac rehabilitation is a process by which patients, in conjunction with a team of health professionals, are encouraged to achieve and maintain optimal physical and psychosocial health.

NHS Fife (a health board area located in the East of Scotland with a population of over 360,000) is concerned to understand how a variety of factors (demographic, socio-cultural and geographical) may combine to produce CHD health inequalities and influence or impede attendance at cardiac rehabilitation programmes.

Evidence suggests that engagement with cardiac rehabilitation services varies geographically. An international systematic review has shown that attendance figures varied between 13% and 70% and averaged 43% (Cooper et al, 2007). Multiple explanations that may affect patient engagement have been given, such as socio-economic status, gender and age issues, peer attitudes to rehabilitation and patient illness perceptions and beliefs.

Few studies to date, however, have compared the perspectives of attenders and non-attenders of cardiac rehabilitation within a health board area (Clark et al, 2004). This paper will outline patients' perspectives collected through qualitative interviews about factors influencing or impeding their engagement at cardiac rehabilitation services in NHS Fife.

SOULIES Dorian
University of Nice Sophia-Antipolis, France

Improving knowledge of operational activities of emergency services using spatio-temporal analysis

The fire brigade medical and ambulance service and the medical emergency and reanimation service (SMUR) contribute to population health and welfare, like other care services. The fields of health and emergency may seem related. However, the relevant management bodies reason differently. Care service managers are interested in population access to services. For emergency service managers, the reverse is true. They are interested in the service's access to the population. In the second instance, accessibility conditions are more efficiently taken into account. Yet there are in France significant spatial disparities between urban and rural spaces. These spatial disparities are explained by remoteness, communications, the decrease in medical demography, lack of resources, etc.

We conducted a survey on professional methods used to organize emergency resources. Initial results show that the temporal scale used is the year. However, different studies have demonstrated a marked seasonal variability in emergency activity, and hence the need to take larger scales into account. We hypothesise that this temporal variability is compounded by spatial variability. The number of interventions is not, a priori, the same in urban spaces as in more rural spaces. A spatio-temporal approach to risk, implemented on different scales, could enable a more efficient optimization of resources. The study procedure used consists of two steps, first a multivariate analysis, based on operational statistical data, and second, a cartography of results. The département of the Alpes-Maritimes (France) is the field study. The data was obtained from the département emergency fire service and the emergency medical service. The spatio-temporal analysis ultimately yields a classification of municipalities according to the temporality of risk.

This paper presents the first results of ongoing research conducted in partnership with the emergency medical and health service of the emergency fire service of the Alpes-Maritimes département.

LE GOFF Erwann
University of Rennes 2, France

"Healthy cities" in France: what are the issues for local urban policies?

The Healthy Cities programme was created in 1986 by the European Bureau of the World Health Organization, which defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This wide defintion of health is the base of the Ottawa Charter for Health Promotion signed by the members of the World Health Organization in 1986. Being a healthy city is more a process than a result : a healthy city is not a city that reached a particular health status but one that tries to improve its health status. Healthy cities have built networks to exchange their experiences with other Healthy cities. These networks are national networks. The french Healthy cities network was created in 1990. Seventy-two cities are members of this network. Health Promotion is not a legal competence of the cities : the ministry of Health is the main actor of the health promotion. As a consequence, joining the french healthy cities network is the expression of a political commitment as the cities are not legally obliged to integrate health in their policies.

First, the reasons to join the Healthy cities network will be discussed: are the cities sincere or opportunist ? Secondly, it will be interesting to evaluate the degree of motivation of the healthy cities after they have joined the network. Thirdly, the place of health in the local urban policies of Healthy cities will be analyzed.

The main motivation of the joining to the French network is the exchange of information and of experiences. The relations with town councillors or with technicians is another reason which encouraged cities to join the network. These relations can be divided into two parts : on one side, previous relations between two cities, that can encourage a city to join the other city; on the other side, joining the network is an opportunity to meet other town councillors or technicians. The third motivation of the cities is to get a label, although the selection of the cities by the network is based on their commitment on the future and not on their results. A fourth motivation appeared in the deliberations of town councils : the legitimation. Joining the network is an opportnity for the cities to legitimate their role in public health and in health promotion.

Healthy cities programme is not the only one that advocates health in every local policy. Many Healthy Cities are involved in other networks or labels linked to health or sustainable developement. Two approaches, which are supported by the same methods may fit with their goals: local Agenda 21 and the "health city workshops", or ASV (policy for deprived neighbourhoods).

The main objective of the Healthy cities programme is the integration of health in all local urban policies. Threeurban policies seem to take health into account : social policy, childhood policy and sport policy. The other policies like environment, housing, transport or urbanism policies don't seem to integrate health, although they can have a real impact on health, as they can modify the living environment.

MATERA Giovanni
EHESS, France

The policies of proximity and the European model of activation. The case of Basaglia's heritage in the Friuli-Venezia region

This intervention will concern research on a project for health and social policies integration in certain areas targeted as "Micro-Areas" (MA), implemented by the Agency for the health services of the city of Trieste, Italy.

Inherited from the experimentations by Franco Basaglia in the field of mental health care, this conception of services focuses on the importance of the social determinants of health, aiming at comprehensive patient care and their return to their space and community.

The MA project, however, is derived from liberal-inspired policies aiming to improve services by activating users, considered as autonomous and responsible individuals. In spatial terms, this project implements the approximation of the service to users, involving both the 'familiar' space and the 'public' space to the same extent. This implementation requires both social workers' adhesion to the project and user participation to support the project's exigencies in terms of capabilities.

The methodology implements a number of semi-directive interviews of the main actors implicated in the MA project study, following the development of a controversy on the use of the health service budget for the social determinants of health. This last point gives us the opportunity to detect certain stances which emerge from the different requirements arising from the MA project.

What kind of expectations has the MA project for workers and users in the 'public' dimension? This issue can warrant the adoption of L. Thévenot's pragmatic approach, which enables measurement of the weight of the different régimes d'engagement that are required, as well as the guarantees put forward by the actors.

Session 2: Neighbourhood and health I

GRILLO Francesca
University of Paris 6, INSERM, France

Women's health and inequalities: does residence area play a part? The case of cervical screening test in Paris metropolitan area

Introduction: Cervical Screening test (CST) is recognized as the best way of preventing cervix uteri cancer. Individual factors associated with CST practices are widely reported in the literature. The present study aimed to investigate the role of residential characteristics on CST practices in the Paris metropolitan area, after taking individual factors into account.

Methods: This study was based on data from the first wave of the SIRS cohort study in Paris metropolitan area, conducted on a representative sample of 3,000 adults in 2005. Logistic regression models analysed individual factors associated with no lifetime CST, and multilevel logistic models analysed associations of residence neighbourhood variables with this practice.

Results: 11% of the women reported never having undergone CST in their lifetime. After adjustment on age and parity, factors associated with greater likelihood of never having undergone CST were: being single, being French with mixed origins or foreign, and never having worked. Factors associated lesser likelihood of never having undergone CST were: having had a serious disease, having a friend or relative with cancer, being covered 100% by public or private health insurance, having been in higher education. In terms of residential environment, living in a low-income neighbourhood or in a neighbourhood with a higher percentage of unemployed people or working-class population was associated with an increased likelihood of no lifetime CST. Density of physicians or gynaecologists in the neighbourhood was not significantly associated with CST compliance.

Conclusion: Our study provided arguments in favour of the relationship between residential neighbourhoods and women's health prevention practices, after adjustment on individual characteristics. In the Paris metropolitan area this may not result from medical resources in the neighbourhood but rather from social interactions among individuals in same residential area, whereby people may share practices and health behaviour norms. Health promotion and gynaecological health education for women need to be targeted towards the under-served populations of women, especially in lower SES neighbourhoods.

SALZE Paul
University of Strasbourg, France

An individual-based model for the study of the obesity epidemic in French adolescents

Obesity and overweight prevalence rates have increased dramatically over the past two decades in both adult and children populations, becoming a major public health concern in many countries. It is generally accepted that the growth of the prevalence of obesity has occurred too rapidly to be due solely to genetic factors, and that nutrition and physical activity behaviours could therefore contribute to explaining some of the mechanisms driving the epidemic (Hill & Peters, 1998). In this current field of research, there is growing interest in the study of both social and physical environmental influences on obesity-related behaviours (Ball *et al.*, 2006). Recent advances suggest that the obesity problem should be addressed as a complex system including multiple factors and dynamic interactions across a broad range of levels, from biological to global (Huang *et al.* 2009). For this reason, individual or agent-based models (IBM/ABM) are thought to be promising complementary tools to the existing traditional methods of analysis (Auchincloss & Diez-Roux 2008; Hammond 2009; Saarlos *et al.* 2009).

The key idea of such an approach is to consider obesity as an emerging property of a complex system of micro-scale interactions between individuals and between individuals and their environments. The ABM we are constructing aims to simulate adolescents' obesity-related behaviours in a realistic virtual environment, in order to try to explore some of the mechanisms leading to the development of the obesity epidemic. The model, through scenarios runs, should make it possible to test various hypotheses about environmental influences on behaviours. The aim of this presentation will be to present the first steps of the model prototype development process, from the general conceptual model up to the parameterisations that will be used for the implementation stage.

BURGOINE Thomas
Newcastle University, UK

An Obesogenic North East ? A study into the links between obesity and the foodscape across twenty years 1980-2000

Over twenty years there has been a dramatic change in the UK 'foodscape', accompanied by exponential growth in levels of obesity and overweight nationwide, an 'obesity epidemic'. Data from the ASH30 longitudinal dietary study[1] were used to associate a changing food environment with changes in food intake, BMI and changes in BMI. The ASH30 study collected two 3-day food diaries and anthropometric data from the same 115 respondents (11yrs [1980] and 32yrs [2000]) in North East England. Correlation analysis examined the foodscapes in 1980 and 2000, linking this to present BMI, as well as to changes in food intake and longitudinal BMI. Food outlet data sourced from the Yellow Pages, were categorised and mapped using a Geographical Information System (GIS). A 1000m buffer zone was generated around these individual postcodes (1980 and 2000). The numbers of food outlets (e.g. supermarkets, take-aways) within these buffers were summed for each individual.

Between the two time points there was a 259% increase in number of food outlets overall. Some significant correlations were observed between type and number of food outlets and changes in BMI but these tended to be weak. Socio-economic status and gender appeared to be unrelated to BMI at both time points, however men were significantly heavier than women in 2000. The Yellow Pages was deemed a reliable and accessible source of historical food outlet information, however an advertisement fee may preclude a complete representation of the foodscape, and so other sources of food outlet information may need to be considered for future research[2]. In order to address the obesogenic environment, adding geographical methods to dietary and BMI data has the potential to help in exploring the change in food behaviour and BMI from adolescence to adulthood.

References:

1. Lake, A.A., *et al.*, Longitudinal change in food habits between adolescence (11-12 years) and adulthood (32-33 years): the ASH30 Study. Journal of Public Health, 2006. 28(1): p. 10-16.

2. Lake, A.A., *et al.*, The foodscape: classification and field validation of secondary data sources. In Press.

CASEY Romain
University of Lyon I, France

Dietary and physical activity habits and spatial accessibility of food stores and sports facilities in French pre-adolescents (the ELIANE project)

Objective: To investigate the relationships of dietary and physical activity (PA) habits with food store and sports facility accessibility in French pre-adolescents.

Design: Cross-sectional study (2000/2001) in 2,519 sixth-graders aged 12.0±0.5 years, randomly selected from all middle-schools of the Bas-Rhin département (France).

Methods: Food and PA habits were assessed using questionnaires. Using multiple correspondence analysis, we identified a fat/snack pattern (nibbling, consumption of French fries and sweetened drinks), and a fruit and vegetables (FV) pattern. PA was categorized as less or more than 2 h/week. We estimated the spatial accessibility of 1) food stores (convenience stores, bakeries, super/hypermarkets, fast-food outlets) using the Dun & Bradstreet database and a geographic potential model (according to store numbers and distance around home address), 2) sports facilities, via inter-city travel-time to the most frequently-used facility, using the INSEE town inventory database. Associations were analysed using hierarchical models (with a schooling-level random effect), after adjustment on gender, urban environment, and parental, school, and residential socioeconomic proxy data.

Results: Food store accessibility increased with urbanity ($p<0.0001$), and, except for bakeries, was inversely related to median income derived from census data. Sports facility accessibility increased with urbanity, but was not related to socioeconomic proxy data. All three behavioural variables indicated healthier lifestyles when parental education level was high ($p<0.0001$). There was a correlation between parental income and the variables 1) accessibility of convenience store ($p=0.069$), bakery ($p=0.002$) and fast-food outlets ($p=0.012$) for fat/snack consumption, and 2) sports facility accessibility ($p=0.08$) for PA. Fat/snack consumption increased with food store accessibility among children with lower parental income, whereas PA increased with sports facility accessibility among children with higher parental income. FV was not associated with any accessibility.

Conclusions: The relationships of dietary and PA behaviours with facility accessibility around home among pre-adolescents are related to parental socioeconomic status. This data could help to target public health policies to promote healthy lifestyles in young people.

ARCHIBALD Daryll
University of St Andrews, Scotland

Does area regeneration improve residents' health and well-being?

Over £12 billion have been spent on area regeneration initiatives in the United Kingdom over the last twenty years. The potential to combat deprivation, improve health and reduce health inequalities is used as justification for such a large-scale investment. Nevertheless, evaluation of these initiatives has produced conflicting evidence. Some regeneration programmes appear to have had positive effects on health and socio-economic status, others have had no, or even a detrimental, effect. This may, however, be attributed to difficulties in designing appropriate evaluation studies rather than to the effects of regeneration. For example, few studies have been able to follow individuals over time to explore their changing circumstances in relation to the regeneration process. Other evaluations have relied on comparing population characteristics in an area before and after regeneration, ignoring the fact that the resident population may have changed substantially.

This research will explore the effects of area regeneration on people's health and well-being using a robust mixed-methods approach that encompasses a national-level analysis using the Scottish Longitudinal Study (SLS) along with the collection of primary data in Fife during the implementation of a regeneration initiative. The health, employment and educational implications of regeneration will be focused on by comparing outcomes for three groups of people: (a) those who have lived in regeneration areas in 1991 and 2001; (b) those who lived in such areas in 1991 but had left by 2001; (c) those who were living somewhere else in 1991 but had arrived by 2001. Outcomes for three similar groups living in significantly deprived areas in Scotland that did not experience regeneration between 1991 and 2001 will be compared in order to identify effects that cannot be ascribed to regeneration, thus aiming to shed light on long-term changing patterns of deprivation and their relationship to health and well-being in Scotland.

Session 3: Risk and exposure geographies

MEHA Christelle
University of Paris 4, France

Methods for mapping and assessing human exposure to Lyme's disease: a case study in a suburban forest of France

Well-known in rural areas, due to its endemic character in certain regions of the east and the center of France, Lyme's disease appears to pose a new public health problem in heavily urbanized areas, on account of the high population densities and the large numbers of people that visit urban forests. The hypothesis of an increase in contamination, which has not yet been proven, is very likely in the Île-de-France region, especially around the forest of Sénart (22 km to the southeast of Paris, 3 200 ha, 3 million visitors per year). In order to anticipate potential disease outbreaks in infected areas, it is necessary to consider exposure and risk factors. Too often overlooked in studies on the ecology of Lyme's disease, the human factor, which is characterized by certain types of behaviours such as the mode of penetration and the frequency of visits to endemic foci, is an essential component of risk assessment. Therefore the analysis of coincidence between the itineraries that people adopt in forests and the spaces and environments considered to be risk-prone constitutes a privileged avenue of study. Furthermore, the spatial design of a forest, which integrates elements such as accessibility and frequentation, especially in suburban contexts, could favour contact between forest users and the vectors of the disease (ticks). Consequently, there is a need to study these spatial dynamics (and to model contact), as well as to study ways in which it is possible to minimize risk using the landscape and design. This study broaches the issue of society's vulnerability in relation to environmental health risks and looks particularly at how to manage the public's use of forests in the context of an "emerging" health risk.

TSCHIRHART Céline
University of Strasbourg, IRD, France

Mercury in the Rio Beni (Bolivian Amazon): from a contaminated natural environment to unequal exposure downstream from Rurrenabaque

Contamination by mercury in the Amazon basin is now a well-known problem, which has repeatedly attracted media attention. Whether directly discharged by gold miners or arising from the erosion of contaminated soils, mercury is released into the environment and ends up in rivers that, through intense bacterial activity, contribute to its conversion into organic mercury: methylmercury (MeHg), a neurotoxic that can in particular affect the normal psychomotor development of foetuses and young children. MeHg then accumulates in the food chain, the piscivorous fish being the most contaminated. People living along the banks of such rivers and depending on fishing for subsistence are thus theoretically exposed to the risk of contamination.

Along the River Beni, in Amazonian Bolivia, a research project implemented by UR 024 ("Epidemiology and Prevention"), part of IRD (French Research Institute for Development) has studied contamination levels among mothers and children in 15 riverbank communities, revealing that MeHg contamination is by no means a serious public health problem, although the environment has been proved to be contaminated. Nevertheless, differences in exposure do exist, and they reveal differences in resource management resulting from dissimilar cultural backgrounds, and the undeniable influence of a small city (Rurrenabaque), one of the determining factors in the nature of activities in these communities. This shows that living next to the contaminated river does not necessarily entail identical exposure levels, even over a fairly short distance (110 km).

But this study mainly shows that the understanding of the variability of MeHg contamination requires the integration of several scales of analysis, among which only some appear relevant along the River Beni. This multi-scale approach is necessary not only for the understanding of the problem, but also for prevention, as the causes of contamination can vary from one place to another.

BORDERON Marion
University of Aix-en-Provence, France

Urban malaria in Brazzaville: local heterogeneity and global challenges

Malaria is still a major health issue in many sub-Saharan countries. In central Africa, this disease is the first cause of morbidity and one of the first causes of childhood mortality. In Brazzaville, this health issue is far from being resolved. As a first step, geographers can consider the environment where the disease develops, then try to understand how urbanization affects malaria transmission in a tropical city. In Brazzaville, the capital of Congo, the transmission of malaria is high and lasts throughout the year.

The aim of our study is to analyse the geographical distribution of malarial risks, to assess the impact of urbanization on malaria transmission and to update malaria data, which dates back twenty years. In order to elaborate a geography of malarial risk in Brazzaville we performed several surveys. The first was conducted in Brazzaville health centers by asking the medical staff about free consultations and treatment for malaria. The second survey concerned six districts of Brazzaville where a questionnaire about preventive and curative family behaviours was administered. Finally, the third investigation consisted in collecting entomologic data to confront risk representations with the real risks of transmission. Another sensitive question deserved to be studied so as to include all the factors responsible for the persistence of the disease, that is to say the correlation between the disease and the social and political context. 12 years of war, a delay in development and above all in the health sector with a lack of medical staff, in addition to poor infrastructures and limited investments, are among the major causes of the malaria burden in Central Africa. The healthcare provision strategies should be regarded as primordial in the struggle against disease.

Session 4: Neighbourhood and health II

GODILLON Sylvanie
University of Paris 1, INRETS, France

Higher injury rates in deprived areas: how to measure the influence of mobility and residential neighbourhood?

Recent research indicates that injury rates vary between socio-economic groups and between inhabitants of different neighbourhoods. What factors could explain this health inequality? How can the influence of mobility and the characteristics of residential neighbourhood be measured?

Relationships between social inequalities and injury rates are known (Roberts, Power, 1996; Laflamme, Diderichsen, 2000; Hasselberg *et al.*, 2001). Moreover, links between deprived areas and the occurrence of traffic accidents have been identified (Abdalla, 1997; Chichester *et al.*, 1998; Hewson, 2004; Edwards *et al.*, 2006). This could be explained in terms of mobility (Dougherty *et al.*, 1990; Erskine, 1996; Abdallah, 1997; Laflamme, Engstrom, 2002) and in terms of hazardous environments, such as lack of safe crossing sites or access to safe play-areas (Preston, 1972; Mueller *et al.*, 1990; Christie, 1995). Injury research is lacking in explanatory models for contextual and individual factors. Research in this field would considerably further understanding of the social patterns of exposures to traffic injury (Laflamme, Diderichsen, 2000).

Accidents affecting inhabitants of deprived neighbourhoods are compared with accidents affecting inhabitants of other richer areas in Lille, in the North of France. The addresses of the inhabitants and the locations of the accidents are localised in a Geographical Information System. Using these localisations, it is possible to analyze the influence of mobility (mode of travel, number of journeys…) and residential neighbourhood (unemployment rates, collective housing, traffic…).

The results suggest that the socio-economic situation, the physical neighbourhood environment and mobility are key elements to explain traffic safety. These results should be taken into account for planning in disadvantaged neighbourhood.

VALLEE Julie
University of Paris 6, INSERM, France

Depression and daily mobility in Paris metropolitan area

The present communication deals with individual and neighbourhood determinants of depression, paying special attention to daily mobility. This study is based on the SIRS survey (French acronym for Health, Inequalities and Social Breakdown), which took place in 2005 and concerned a representative sample of 3000 adults living in 50 neighbourhoods in the Paris metropolitan area. We propose to use a simplified measure of activity space based on respondents' perceptions: people were asked to place their domestic and social activities within or outside what they considered as their neighbourhood of residence.

The first objective was to study associations between activity space and depression. Two opposite hypotheses can be formulated a priori. A limited activity space (i.e. centred on neighbourhood of residence) may reflect spatial and social confinement and thereby be associated with a higher risk of being depressed. Conversely, a limited activity space could reflect a deep attachment to the neighbourhood of residence, and neighbourhood well-being, and could therefore be linked to lower risk of being depressed. After taking into account both individual and neighbourhood characteristics in a multilevel regression model, we observed that people with a limited activity space had a statistically lower risk of being depressed.

The second objective was to determine if the strength of the effect of residential neighbourhood on depression varies according to activity space. One can reasonably assume that the residential environment could have a lesser influence on the mental health of people with a large activity space, since their exposure to their residential neighbourhood is reduced. From observation of cross-interaction in the multilevel regression model, it can be seen that the odds ratios associated with neighbourhood social class are statistically greater for people whose activity space is limited to their neighbourhood of residence compared to those whose activity space extends outside their neighbourhood of residence.

The underlying idea of this research is to improve the characterization of personal exposure areas, taking into account both neighbourhood of residence and activity space, and hence to gain better understanding of geographic factors involved in mental health.

GUYARD Audrey
University of Grenoble, France

Relationship between geographical variations in participation and environment in children with cerebral palsy

Objectives: We evaluated how both involvement in life situations ("participation") for children with cerebral palsy (CP) and their access to the physical environment, transport and social support vary with the type and severity of impairment. Geographical variations were also examined.

Design: Cross-sectional study is used. Trained interviewers visited parents of children with CP. Two multilevel multivariable regression models are used to explain to explain first participation, and the physical environment, transport and social support required

Setting: 1174 children aged 8-12 with CP randomly selected from population-based registers of children with CP in eight European regions with population registers. 743 (63%) joined the study; the additional region recruited 75 children from multiple sources.

Main outcome measure: Children's participation levels were assessed using the Life-H questionnaire. Scoring ignored adaptations or assistance required for participation. Environmental features required by the children with CP were explored using the European Child Environment Questionnaire (ECEQ). Children's characteristics were also collected.

Results: Impairment and pain accounted for up to a sixth of the variation in participation. Socio-demographic factors were not associated with participation levels. These factors were weakly related with access to environmental features required by the children. And environmental domains were associated with the children's impairments, except for the attitudes of teachers and therapists. After adjusting for impairment, participation in all domains and the children's environmental access varied substantially from one region to the other.

Discussion: Some European countries facilitate participation more of children with CP than others and offer better access to the physical environment, transport and social support that such children need. We now need to model the relationship between participation and the environment, with a view to determining the extent to which environment can explain this regional variation in participation.

EDWARDS Michaela
University of Lancaster, UK

Coping with stress in the workplace: a geographical social construction?

The recent work in Geographies of Health touches on how geography may be used to explain patterns in mental health, but focuses mainly on how environments may help to alleviate or worsen severe mental ill-health once it has begun to cause problems. Indeed, recent work has failed to consider how the influence of childhood places, and the meanings they may hold, might affect the process of learning about how to cope with everyday stress and maintain mental health in the workplace. Therefore, the extent to which coping styles may be a social construction based around childhood places, the power relations prevailing within those places between individuals, and lasting emotional geographies will be considered. In addition, the extent to which coping strategies are consistent with childhood traits, and how far are they developed later in the life course will be discussed. In terms of the effects of coping strategies on workers, the implications of the creation of various different coping styles for the maintenance of wellness in the workplace will be addressed, alongside a consideration of the potentially stressful effects of regulating coping styles for the benefit of maintaining successful relationships with colleagues. Other questions that will be contemplated include: 'how much of their 'self' do employees bring to the workplace and what does this mean for their stress levels when they enter emotionally challenging situations?', 'how do power dimensions concerning the discourse of 'stress' shape the perception of coping and the effects it may have on workers?', and finally, 'how far do coping mechanisms differ with different levels of autonomy and socialization at work?'. To conclude, the debates posited here are vast and as a 1st year PhD candidate it will only be possible to set out pertinent questions, and provide a brief overview of the arguments.

Session 5: Infectious diseases

PERCHOUX Camille
University of Aix-en-Provence, France

Consideration of a synthesis tool for malaria analysis

Assessing malaria risk in urban areas requires consideration of the many factors that determine the pathogenic system and the context in which it operates. The methods implemented were designed to take these factors into account rather than merely studying them separately. The aim of producing a synthesis tool led to the need for a summary index of malaria risks. This index includes different data, such as environmental, entomological and socio-economic data. By crossing this information it is possible to have a better idea of exposure to risks of transmission, without obscuring the complexity of the pathogen. Ultimately, an index of this sort could be used to identify vulnerable populations and could therefore help to assess needs (medication, mosquito nets ...) in defined spaces (e.g. social and health districts).

Each of the variables that constitute the index could provide an identifiable risk factor for malaria, and the combination of these variables could provide a closer approach to the real risk of transmission.

The following variables might be considered in non-exhaustive manner:

- A larval productivity variable, based on entomological data

- An urban morphology variable (percentage of dense built-up areas, diffuse built-up areas, urbanization fringe and calibration of risks involved)

- A variable which considers the intra-home exposure so to measure the rates of exposure of individuals in their homes: the presence of bed nets, house spraying...

- An environmental variable indicating the degree of malarial risk based on the ecology of the environment (e.g. proximity to a market gardening area, a river, pollution levels...

- A socio-economic variable comprising characteristics of household members.

This contribution, which is mainly methodological, reflects the complexity of approaches to urban malaria. It enables us to show the risk in its many dimensions (hazard and vulnerability) using a range of scales for a specific area.

ONYEAHIALAM Ijeoma Anthonia
Newcastle University, Newcastle upon Tyne, UK

A mixed spatial methodological approach in data generation for a spatio-temporal MIS

The use of a spatio-temporal malaria information system (MIS) containing the various malarial parameters is no doubt important in trying to understand how the epidemiology of the disease varies in space and time. However, the success of this depends on the existence of long term data on health, social and environmental parameters, which is characteristically lacking in developing countries, making it difficult to construct the space-time MIS to assess and coordinate those aspects that can affect the population and, community vulnerabilities and their malarial risk. This research work explored the use of mixed and multiple spatial approaches that use methodologies like remote sensing GIS to create long-term data on environmental conditions and changes that might affect malarial patterns in Lagos state, Nigeria. The study site does indeed lack data on environmental change and a 10-year analysis of malaria and environmental change is almost impossible if it relies on routine secondary data. The spectral reflectivity of environmental features on satellite imagery was used to generate socio-economic data and climatic condition profiling, and to map mosquito habitats. GIS helped to determine access to health facilities, and local boundaries, so as to link malaria and other health-related data to a given location. This enabled development of a suitable mapping unit, and analysis of malarial patterns and changing environments. With these suggested methods, building a spatio-temporal MIS for the study area has become more feasible and the results of these efforts in data generation are presented.

PIERRAT Charlotte
University of Paris 1, France

For a territorial diagnosis of health risk on a fine scale: an attempt to modeling environmental variables of malaria (South Benin)

One of the specificity of African sub-saharan countries like Benin lies on their subtropical climate, hot and wet. Those climate characteristics allow the existence of an endemic malaria transmission. However, at a micro-scale, there are wide differences between people to be exposed at this health risk. Therefore, it is necessary to understand which characteristics of the environment are determinant at a very fine scale, by elaborating a territorial diagnosis. This one has been lead in a rural area of southern Benin, Tori Bossito, composed of nine villages. The aim was to spatialize the transmission risk, by assessing in which areas vectors can survive, and which populations are exposed to these vectors; these factors being very variable on the scale of the village. The territorial diagnostic includes the survey of multiscale environmental indicators (continental, regional, local,), and a human geography analysis concerning bed nets or insecticides utilization practices, structure of habitat, existence of agricultural fields near the houses of the study… This should lead us to understand both temporal (how the characteristics of rainy and dry season influence the vectors) and spatial (role of social conditions and soil occupation) variability of the risk. Modeling these environmental variables into a GIS (Geographic Information System), with the help of fieldwork and remote sensing, allows to evaluate malaria risk with a systemic approach and to assess an expository index of the malaria risk for given people. Hence, the innovative part of this study lies on taking into account not only climatic hazard, which explains only the temporal variation of the risk, but also the social conditions of vulnerability to malaria. This method could be really interesting for anti-malaria fight in the future, by the realization of the importance of lifestyles in malaria risk.

Session 6: Mobility, migration and health

BOULANGER Claire
University of Poitiers, France

Transnational Community as an actor in the health systems of the sending area.

The Malians living in France

This communication aims at developing ideas on the role of transnational communities in the dynamics of health systems in emigration countries. More precisely, it will focus on the role that the Malian community living in France plays in health issues encountered in their region of origin, the Kayes Region. These ideas will be elaborated on in the light of post-colonial and transnational studies, questioning South-North migrations and their links with institutional development in the sending areas. We wish to bring critical elements into the contemporary debate which, confiscated by political forces, has so far been both passionate and ideologically biased.

Considering the political, social, and sanitary issues at stake, the decision concerning the type of system promoted (public/private ; voluntary/mandatory ; official/informal) is theoretically made by the state. Many actors are nevertheless taking part in the design and management of the health system in Mali (local powers and associations, international organisations and NGOs, etc…). How does migrants' actions insert in this multi-actor environment? The legitimacy of transnational practices are discussed by the other forces. This makes their relationship simultaneously a partnership and a competition. Due to their migration experience migrants yet seem to promote organisational models that are based on the French one, which is itself close to the model promoted and implemented by the other "external" actors to the beneficiary population.

After (i) exploring the particular contexts and circumstances of this practices, we will therefore see (ii) what are the forms taken by the actions conducted by the transnational community in order to act upon the Malian health system and (iii) how those practices build, transform or damage the health system in Mali.

PLARD Mathilde
University of Angers, France

Ageing in transnational families setting, Elderly 'left-behind' in India: who cares?

In the current demographic context of southern India, the longer life expectancy (in addition to the phenomenon of "geronto-growth"), and the significant increase in national and international mobility, intergenerational relationships are set to evolve. Most gerontological studies claim that taking care of the elderly requires some form of geographical proximity (Baldassar, Baldock, Wilding, 2007). Very few studies have been conducted on the intergenerational relationships between aging parents and their adult children who live far away (Tasse, 2002).

This communication aims to explore the impact of distance between parents and adult children on the social support and assistance networks of aging parents: How can intergenerational relationships be organised when there is spatial distance? How does the mobility of adult children influence the health and wellbeing (physical, psychological, social) of their aging parents? What are the forms of intergenerational support that develop for the care of the elderly? What dynamics, what social compositions exist for the aging parents in countries in the South, in geographically distended families, characterised by migration far from the family home? The migration of adult children generates complicated intergenerational relationships. What remains of these relationships after the migration? How are family communications affected when a whole generation (or some of the children) have moved far away from their parents, sometimes to a different cultural context? What are the methods or the dynamics developed for intergenerational support (money transfers, skills, values, social norms, etc..)?

Through the spatial practices of older people whose children have migrated, the overall functioning of «trans-national families» and «trans-national care» is explored.

Session 7: Health care and accessibility

BERGER Morgan
University of Rennes 2, France

Assessing the accessibility to health care for haemophiliac patients: the case of a French region

This presentation concerns accessibility to health services for haemophiliac patients in Brittany (France) and is divided into three parts. Haemophilia is a hereditary disorder needing prompt specialised care. Because the drugs are expensive, health resources are only reachable in the biggest hospitals. After a quick review of the methodology used, we present results relating to travel time to health services. The last part presents results of a questionnaire that was sent out in 2009.

We consider accessibility to be a complex phenomenon, with several components (Curtis, 2004): individual, therapeutic, sociological, and of course spatial. The different parts of this work set out to explain each of these components.

The second part of this talk focuses on network analysis, carried out using GIS software. It aims to compare travel times to different haemophilia centres in Brittany and other regions. We show on infra-regional scale that one part of Brittany is particularly poorly served. However, the regional scale reveals good accessibility for this region overall. On the one hand, we demonstrate that patients with severe forms of haemophilia live closer to hospitals than the others. On the other hand, travel time or distance does not seem to be the only factor in the localisation of patients. Some of them do not go to the closest hospital. GIS in such cases is unable to explain why patients prefer to use a hospital located further away.

Consequently a statistical analysis, based on 103 questionnaires aimed to describe health care recourse behaviours of patients, exploring perceptions of distances in relation to social category or severity of the disease.

In addition to these questionnaires, interviews were conducted to establish a relationship between spatial behaviour, perception of the disease and health care patterns.

BAYER Florian,
Biomedicine Agency, France

Using a gravity model for allocation of livers to transplant

In France, organ allocation is under the responsibility of the Agence de la biomédecine, a public health organisation. MELD score, which estimates the risk of death on the waiting list, and the indication of liver transplant, are the major medical allocation criteria. Nevertheless, the distance between donor and transplant centres also matters, for logistic, efficiency and political reasons. In a context of scarcity, geographical optimization of organ allocation is a sensitive issue.

The principles of spatial interaction have been used to promote changes in how distance is taken into account in liver allocation schemes. Simulations showed that a gravity model would enable a better redistribution of grafts for the benefit of the most critical patients – whether or not they are geographically distant from the graft – while less critical patients can wait for transplantation. Combined with MELD, this "just-in-time" distribution provides a better allocation, and simulations show a mortality reduction on waiting lists.

LEFEBVRE Bertrand
University of Rouen, France

A hospital too far? Poor patients, private hospitals and spatial analysis in Delhi

In 1982, the National Health Policy recognized the role that the private sector could play in the delivery of healthcare in India. In Delhi, it was decided to give land at a subsidized rate to private charitable bodies to build and operate hospitals. In return, the new hospitals had to provide free beds and free treatment to a certain number of their patients, and more specifically to poor sections of the Delhi population. It was a first elaborated form of Public-Private Partnership for the Delhi hospital sector. Using public resources, the private sector was expected to deliver hospital care to each and every Delhi citizen. This programme was a complete failure. Following a Delhi High Court order in 2002, the Government of Delhi launched a new programme called Economic Weaker Section scheme (EWS scheme) to allow poor patients from Delhi to access private hospital facilities.

In this paper, we set out to assess the results of this new program. In the context of an increasing corporatisation of private hospitals, how successful was the Government of Delhi in enforcing the EWS scheme? The number of patients treated varies drastically from one hospital to another. Private and corporate hospitals in particular often explain that the location of their facilities, not their lack of commitment to the scheme, is the reason for the small number of poor patients they usually treat. Given the social and economic segregation in Delhi, can the location of the different hospitals explain such variability? Can the EWS scheme utilization rates be explained by the distance between hospitals and poor neighbourhoods? Using GIS and spatial interaction models we wish to offer a reappraisal of this debate.

UEBERSCHÄR Nicole,
University of Applied Sciences Berlin, Germany

Modelling of catchment areas for health facilities in Africa

While in some health information systems in Africa patient data can be assigned to a health facility, it would be useful to know where people live and work so as to be able to apply measures of disease control effectively. For this purpose and to estimate the population served by health facilities, catchment areas are allocated to health facilities. Due to the absence of detailed patient data, these areas are often estimated. While one possibility is the creation of zones in Euclidean or travel distance (e.g. 5 km radius or via a network), another commonly-used approach is the determination of Thiessen polygons. GIS software also enables cost allocation analysis, which gives the possibility of combining several influential factors into one so-called cost layer. The results vary, especially when spatial constraints like the road network and water bodies are included. The presentation will show some advantages and disadvantages of different options in modelling catchment areas for health facilities. While Thiessen polygons, for example, are easily constructed in a GIS they do not consider environmental factors and spatial constraints like roads or rivers. In contrast, cost allocation analysis is able to include different layers, but the user needs to assign meaningful relative weights to each of the factors. The findings presented here are part of a study which aims to refine the weighting by including, in addition to spatial constraints, the decision-making process for the utilization of health facilities.

Session 8: Disability and ageing geographies

ANDRE Evelyne
University of Paris 1, France

Disability and homes for the elderly

People are living longer than ever, but with ageing, disability appears. As the number of elderly people increases significantly, the number of dependent people in later years of life likewise increases, and society has to cope with the problem of disability. Decline, fatigue, disease and fear of death are hard to accept. And when the elderly person has a neurodegenerative disorder, such as Alzheimer's disease, confusion can be problematic. People are disturbed when their relative does not recognize them. The first solution attempted is to visit old people's homes. However moving to a home for the elderly without any preparation arouses a feeling of rejection, and many people think of retirement homes as grim places, where residents often seem bored, lonely and sad. The best choice is to find a home as near as possible to where the elderly person lives. But the problem is the lack of available rooms. In rural areas the residents are mostly native to the area. The average age for entering a home is about 85, and 70 % of residents present disabilities. In old age, humans have some difficulties adapting to a new environment. We can learn at any moment in our lives, but our ability to learn declines as time passes. It is not easy to be aware of our own disability, because our society promotes beauty and youth. It is not easy for the elderly to move to a new home. The elderly person has generally been living in his own home, on his own, managing independently, and all of a sudden, everything around him becomes public. He is surrounded by workers taking care of him, assisting him all day long, and even at night. He is no longer alone, he becomes a burden at the center of the life of an institution.

RAPEGNO Noémie
EHESS, France

Living in medico-social accommodation for disabled people and shaping one's life: the residential and life itineraries of physically disabled people in question.

From the second half of the 20th century, French legislation has gradually set up facilities to meet the needs of disabled people who cannot live at home. Structures were created and built on a local basis. As a consequence of the absence of any national regulation or global reflection, geographical disparities quickly emerged. These disparities are today one of main social concerns for the people involved. In the present state of affairs, the availability of decent living places across the country considerably limits disabled people's choice of housing. This study aims to better understand the decision-making processes of residents now living in medico-social collective units. It attempts to explore their degree of autonomy by focusing on spatial strategies and spatial perceptions of disabled individuals living in these facilities

The spatial practices of physically-handicapped adults residing in four medico-social accommodation facilities in Ile-de-France (Paris area) are compared. These collective and individual practices operate in areas of varying size around the facilities, and vary in relation to the sense of belonging they have or do not have with their place of residence. This, in turn, partially depends on the decision-making process whereby they finally chose the residential facility. It was observed that the location of the accommodation, and particularly its immediate surroundings, influence residents' individual and collective daily itineraries and movements. To obtain these results, the physical and perceived living spaces of residents were studied in relation to mental representations; the questions of identity and social integration were thus raised. An attempt was made to understand how residents map out their own territory and become attached to it.

PETIT Mélanie
University of Rouen, France

Neurodegenerative diseases care places: are they health places?

Alzheimer's disease concern more than 25 000 persons in Upper Normandy. With the lengthening of life expectancy, the Region will have to optimize its conditions of aging. However, it is clear that despite some standardization of design, the units specialized in welcoming patients with Alzheimer's disease do not resemble each others. This finding raises several questions. What are the issues and the ways of supporting Alzheimer's disease ? Is the care provided fair ? How can be explained the differences between these care units ? What are the consequences for the ill persons ?

Firstly, we sought first one hand to know the epidemiological situation in Upper Normandy, second to study the match between supply and demand in the Region. It appears that the supply in the Region is still in deficit, but that the local situations are very unequal from one space to another.

Secondly, we have tried to set, using an analytical grid, a typology of these care units, not so much a medical or quantitative but taking into account the emotions and perceptions related to attendance of these specific care units. To create our grid, we used the Anglo-Saxon design of Therapeutic Landscape, which studies the curative dimension of the care places in terms of physical, social and symbolic dimensions, the combination of these three elements aimed to the clinical efficiency, promoting well-being, and the integration into society. It appears then that three elements can allow us to differentiate care places : their setting within the health infrastructures, their plan, and last but not least their legal status.

Finally, we have compiled some methodological ideas which could help us to extend this work.

There is there a challenge to win

BORIOLI Jason
University of Lausanne, Switzerland

Bidimensional regression beyond goodness-of-fit: measuring geometric distortions in uban mental maps produced by blind people, wheelchair users and people without disabilities

One line of research within disability studies in geography explicitly focuses on the spatial knowledge and competence of people with disabilities, largely on the assumption that a more thorough understanding of the spatial abilities of people with disabilities will contribute, for instance, to creating more effective navigation and orientation devices or to building urban environments more suited to their needs (universal design). Mental maps are one way of studying people's spatial knowledge of a given environment. One method for analyzing mental maps is bidimensional regression, which was originally introduced in the geography literature as a technique to compute the closest fit between two sets of two-dimensional data.

It combines principles of regression analysis (i.e., least-squares methodology) with two-dimensional coordinate transformation models. To date, four models have been mentioned in the literature, three linear and one non-linear in their parameters, with inferential statements proposed for the linear models. When dealing with bidimensional regression models, it is possible to distinguish between the algebraic parameters (i.e., the coefficients found using the least-squares methodology) and the geometric parameters, since for a given model the same algebraic parameters that best fit the data can be expressed as a combination of several different values of geometric transformations carried out in different order. However, this fact has been mostly neglected in the literature on bidimensional regression and, to the author's knowledge, it has not been applied to any data. The author argues that a better understanding of these geometric considerations may help substantiate findings on transformation heuristics already put forward in the cognitive mapping literature. This contribution therefore focuses on the geometric aspects of bidimensional regression by seeking to identify possible differences between blind people, wheelchair users, and people without disabilities in terms of geometric transformation heuristics in relation to the three linear bidimensional regression models.

Session 9: Spatial inequalities

CLEMENS Tom
University of St Andrews, UK

Unemployment and mortality in Scotland: towards a causal explanation

Given the current recession and increased rates of unemployment, a greater understanding of the potential impact that prolonged spells of unemployment may have on various health outcomes and mortality is essential. To date, despite strong statistical associations between worklessness and subsequent mortality, many studies have stopped short of ascribing a causal explanation through which worklessness may increase mortality risk. Instead, alternative explanations to this association have been offered and emanate predominantly from the idea of health-related selection whereby individuals with poorer general health will be on average more likely to be out of work than those individuals in better health. It is often very difficult to tease out these different influences in non-experimental observational settings. Some studies, particularly those making use of natural experiment scenarios, have found little evidence of independent causal effects of unemployment on mortality. For example, one group of studies have suggested that the mortality risk of unemployment is lowered during periods of higher overall unemployment, reasoning that during these periods health-selective unemployment would be much less likely.

Using the Scottish Longitudinal Study (SLS) which incorporates extensive information on prior health and subsequent mortality, we use causal modelling techniques to study two aims; firstly to identify evidence of a causal relationship between unemployment and mortality and secondly to investigate this relationship spatially. Given that the relationship has been shown to differ temporally, we ask whether it may also differ between areas of higher and lower unemployment within Scotland.

TERASHIMA Mikiko
Dalhousie University, Canada

Temporal trends of life expectancy and health deficiency across regions in Nova Scotia, Canada

Background: Researchers have been paying more attention to temporal aspects of health and health determinants that are also geographically patterned. Not only people but also places change over time . It is important to capture changes in health experiences of places through time, which may also reveal important socio-environmental factors that would otherwise be missed.

Purpose: As part of the larger scope study which investigates contextual determinants of health through space and time, the study examined annual life expectancy and the difference in years with Canadian standards (health deficiency) for both genders between 1995 and 2007 in regions across Nova Scotia.

Methods: Death and birth records were geocoded by street address and town information. Adjacent communities with similar characteristics were aggregated to form the regions. Life expectancy for each region was calculated using the Chiang method . Locally weighted regression smoothing was applied to depict the time trend.

Results: The preliminary results indicate that Halifax metropolitan areas appear to be losing the advantages of higher life expectancy than the Canadian average that it has had over the last 13 years. On the fringes of metropolitan areas, the health deficiencies appear to be shrinking. Urban areas away from Halifax seem to be increasingly experiencing wider gaps in health deficiency from Canadian average, while temporal patterns in rural areas have varied.

Conclusion: A few limitations should be noted. First, the small area calculation of life expectancy/health deficiency is unstable and one extreme value may exaggerate temporal trends. Second, nursing/senior home deaths could not be excluded due to small numbers of deaths in each region. To address the potential biases due to these limitations, further area aggregation may be beneficial. Further study is necessary to link the socio-economic experience of the province over the same period to uncover what it may mean in relation to the patterns observed.

DE FONTGALLAND Charlotte
University of Paris 10, France

Spatial health inequalities in Cantal

The concept of territory takes on a particular meaning when considering Cantal. This French département is mainly located in a rural hilly area, torn between external dynamics and internal difficulties. Its space is parcelled out into various entities, on various scales: there is a wide diversity of territory in Cantal. The organization of the Cantal health care system is characterized by a network of poles which operate in complementary manner or sometimes in competition one with the other, in the middle of vast under-populated areas, attracted sometimes towards zones outside the department.

The management of pathologies related to the marked ageing of the population in Cantal is a particularly interesting marker of the inscription of health in space. These demographic trends raise the issue of the isolation of elderly people, sometimes with reduced mobility, and often accompanied by quite severe poverty, rural as well as urban. The question of health care accessibility is a constant in the Cantal, where large urban and medical poles are located in vast rural zones, poorly served by an unevenly developed transportation system. In this département undergoing recession, the issues of health care are all the more important because they structure the geographical space, the accessibility and proximity of healthcare being two major determining factors for the health of a population.

The problem of health care access illustrates processes of inequality and precariousness which extend well beyond the field of health, to employment, social protection, family life and so forth. Our aim via a geographical approach is to show that the various components of local geography (biogeographic, socio-economic and cultural components) produce particular types of place that can contribute to worsening inequalities. The idea is, by taking a geographical marker of inequality, in this instance medical, to show that the place where you live can be a detrimental – or advantageous - factor of socio-medical inequality.

OVIASU Osaretin
University of Sheffield, UK

Spatial analysis of chronic kidney disease in Nigeria: case study in Edo State

Chronic kidney disease (CKD) is a gradual loss of kidney function. Studies have shown (Collins *et al.*, 2009; Kerri & Cavanaugh, 2007) an increase in CKD incidence worldwide due to hypertension and diabetes. These factors, with the cost of treatment of the disease, have led to an increase in the focus on CKD in health-care planning especially in developed countries (Barsoum, 2006). The effect of CKD in developing countries is its impact on morbidity, mortality, and life expectancy of the population (Arogundade & Barsoum, 2008).

Past studies agreed that to deal with CKD prevalence in Nigeria, the way forward is focusing on improving the early detection of CKD in patients, for instance routine screening (Bosa, 2006) and intensifying the awareness of CKD among the general public. However, absence of a reliable data registry precludes knowledge of its exact prevalence and incidence in the country, thereby hindering any appropriate management, and monitoring of the disease.

This study concerns the spatial analysis of CKD within Edo state; it examines the possible association between demographic factors and CKD prevalence in Edo state as well as identifying the spatial prevalence of CKD across the state, which could help generate interventions that are more effective in managing and treating CKD.

CKD data were collected from the University of Benin Teaching Hospital, which is currently the main referral centre for kidney disease patients in Edo state and neighbouring states. The CKD data, which included patients' demographic details, were in written format and had to be converted into a digital format for subsequent analysis. The measures taken to overcome the data collection challenges encountered will be discussed in this communication.

It is hoped that the outcome of this study will assist health planners formulate strategies that would help reduce the burden of CKD in Edo state.

Session 10: Representation, culture and health

DROUIN Catherine
University of Sherbrooke, Canada

Do linguistic barriers have an impact on health disparities in Québec? A look at the situation for myocardial infarction cases

In Québec (Canada), the official language is French. Nevertheless, 6% of the population declares no knowledge of French and 18% that French is not their first language. Although English-speaking health services are widely available in Montréal, it is not the case in the rest of the province. This situation can have an impact on the health status of linguistic minorities. Some studies have revealed little difference between groups of patients with different language preferences during hospitalization for myocardial infarction (MI). In fact, in-hospital MI management is driven by well established protocols. Since language barriers have been shown to compromise patient understanding of discharge instructions, differences might appear in the year following hospitalisation.

OBJECTIVE: Determine if differences in outcomes related to MI can be associated with differences in the linguistic composition of communities.

DESIGN: Ecological analysis of secondary data.

Data sources: Québec's hospital discharge database, RAMQ registry, Statistic Canada 2001 Census. Data sources are linked using geo-coding.

Unit of analysis: Dissemination area.

Population: Population of the province of Québec living outside the Montréal metropolitan area.

Independent variable: Proportion of the population 1) not knowing French; 2) not having French as first language.

Other variables: Age, gender, deprivation, distance from nearest hospital, rurality.

Outcomes: Data was established on the basis of all patients aged 25 and over,

hospitalized in Québec between 2000 and 2003 with a primary diagnosis of MI (ICD-9: 410).

- Cumulative incidence of MI;
- Mortality and revascularization rates, during initial hospitalization and 12 months later;
- Rehospitalization rates 12 months after MI.

Statistical analysis: Poisson's multiple regressions.

ANTICIPATED RESULTS:

- Associations between variables will be described;
- Locating linguistic minorities and mapping differences in health outcomes will provide useful insight about these communities.

Results will contribute to a better understanding of language barriers and their impact on health disparities in Québec.

MOBILLION Virginie
University of Paris 10, IRD, France

The paradox of national integration through health care practices: the case of Lao PDR.

After 1975, one of the primary missions conducted by the Laotian People's Revolutionary Party (LPRP) was to assemble the nation and give unity to what appeared to most observers as a mix of ethnic groups at the crossroads of strong foreign influences.

It is against this background that we proposed to carry out a study on medical practice and health care in Laos from 1975 to the present. After the revolution, the LPRP made the promotion of modern medicine the spearhead of its health project to integrate all regions of the nation into the process of assimilation and modernization. The Party also distinguished between two aspects of traditional Medicine, the therapeutic non-spiritual approaches to treatment, and the spiritual approaches to treatment; it embraced the therapeutic, non-spiritual approaches, attempting to integrate these into the medical practices deemed to be part of the Lao National Heritage. The spiritual aspects of traditional medicine were however rejected in accordance with the principles of the Party concerning Buddhism and ritual practices.

We conducted interviews with Laotian patients in 2006 in Vientiane in order to follow their therapeutic itineraries and identify how their health care practices align with the politics of the regime. Through our research we became aware that some Laotian patients decide to seek health care in Thai health facilities, attributing their actions to the provision of better quality treatment and/or services across the border. This raises questions regarding the interaction and/or competition between practices of health care provision in Laos and those in Thailand. How is the health-seeking behaviour towards Thailand perceived by Laotian authorities? Does seeking treatment in Thailand represent a threat for Laotian national integration through health care?

We argue that, in the context of Laos PDR, a study on medical practices cannot be fully understood at national scale, but needs to be examined through a regional approach. We emphasise how Vientiane, the capital city of Laos PDR, constitutes a unique geographical location, with different remarkable aspects: it is the central place of political power and close to Thailand; the city hosts a high concentration of health care facilities (modern and traditional). Health care-seeking practices in Vientiane highlight the fact that 'local medicines' may be simultaneously linked to 'national identity' while remaining dependent on a specific geographical situation. From this paradox arises a tension that is discussed at length in our paper.

WINKELMANN Till
University of Bonn, Germany

The relationship between risk perception, health conceptions and stigmatization in the case of HIV/AIDS – research results from urban Ethiopia and rural Malawi

Local agents' perception of risk is crucial for their agencies. Only if they realize their vulnerability are they able to chose or develop adequate coping and adaptation strategies. As their risk perception patterns are influenced by their lay concepts of health, it is very important to gain insight into an understanding of the social construction of HIV and AIDS: Is AIDS understood to be a result of witchcraft (someone bewitched me – it is not my fault), as a punishment from God for my own sins, or as a virus infection in a biomedical understanding?

Health concepts and stigmatization have a strong relationship: Stigmatization is based on the concepts of "them" and "us", thus on the social construction of "normality". Local health concepts – or the definition of "health normality" - have undergone fundamental change in the course of HIV prevention measures over the last 30 years.

In the presentation I want to show how health concepts have changed over time and how this has influenced stigmatization and discrimination of people living with HIV/AIDS. I will trace the change using two examples, one in rural villages in central Malawi (strong influence of witchcraft) and one in the urban environment of Addis Ababa in Ethiopia (mainly Christian orthodox culture).

The presented results derive from 12 months of field work in Ethiopia (2006-2008) and from 4 months of research in Malawi (2004).

SCHMIDT-EHRMANN Marie-José
University of Paris 1, France

Information and communication on transmissible diseases: the case of dengue in Noumea and Papeete

Dengue is among the main uncontrolled and underestimated scourges of humankind. 40 % of the world's population living in tropical areas is exposed to this disease and each year about one hundred million new cases are listed (WHO). There has been a growing awareness, and actions are being undertaken to inform the local people about the health risk. In New Caledonia and Tahiti, the authorities take part in the information campaigns on the means to combat vectors. They are in favour of a visual information campaign including leaflets, posters, articles in newspapers and magazines and an audio-information campaign including commercials on radio, television and films. They work with high school students in order to explain and promote useful actions as part of environmental education, aiming to transmit the message of prevention, precaution and anticipation to the population.

This research sets out to study 400 mental maps provided by high school students aged from 11 to 20 years. The results enable identification of the epidemic locations of dengue during the last epidemics (2008-2009) according to two map scales (the island with its towns and the capital with its districts and suburbs). The data obtained are integrated into a geographic information system in order to produce maps. It reveals the spatial distribution of dengue according to the perception of students during the 2008-2009 epidemics. These results are correlated with the maps drawn up by the authorities according to cases reported during the epidemics.

The problems of coping with health risk issues in an insular area and the question of local environmental management have a major place in this study. In their multidisciplinary approach of dengue, geographers have thus taken a fresh look at the areas of concern, the environment and the perception of the disease.

Poster session

McFANN Hudson
University of Ohio State, USA

Legacies of extraction: landfills and environmental health in Appalachian Ohio, USA

This research explores environmental health issues associated with landfills in Appalachian Ohio, analyzing them as part of the sociopolitical legacy of over a century of coal mining in this region. In the early 1900s, when most mines across the region closed, communities lost employment that had sustained them for decades. Left with endemic poverty and a degraded landscape, many residents felt exploited and abandoned by external authorities ("outsiders"), including coal companies and government agencies. In recent decades, some postindustrial sites have become profitable as landfills. While many see landfills as a desperately needed economic opportunity, others oppose them as an external threat to local health, identity, and economic well-being. Furthermore, while providing jobs, landfills also generate environmental health risks linked to air pollution and groundwater contamination.

This research shows that just as landfills are themselves a legacy of mining, so is local opposition to landfills, which is the legacy of ongoing distrust of outsiders. Using a political ecology framework, I argue that this distrust can help explain residents' contemporary political interactions with external authorities, such as government agencies, and the concerns motivating their resistance to landfills. For example, much of the waste deposited in local landfills is imported from out-of-state, perpetuating the perception among residents that they continue to be exploited by outsiders. This research suggests that in order to effectively address local concerns about landfills, government officials must acknowledge health as not only the absence of disease or disease risk, but also as the outcome of myriad environmental factors affecting well-being (e.g., landfill odours). Ultimately, the results of this research have the potential to foster cross-cultural understanding between residents and external authorities, thereby promoting mutually beneficial resource governance. This investigation also contributes to current academic attempts to explain and model social dimensions of post-industrial land-use change.

MEJRI Wahida
University of Paris 1, France

Healthcare development in Tunisia

Our study shows the development of health and health care in Tunisia over the two last decades. This is reflected by improving health indicators, and evolution of health facilities in the public and private sectors, with improvements in the quality of health care and performance of the system.

In 2008 life expectancy at birth was estimated at 74.4 years, against 67.4 years in 1987; the infant mortality ratio was 17 ‰ in 2008 against 51.4 ‰ in 1985; the maternal mortality ratio was around 35.5 per 100 thousand live births, against 69 per 100 thousand live births in 1994.

The improvements in these health indicators are attributable essentially to the evolution in human and material resources in the public and private sectors. For example, the number of hospitals and health centers increased from 20 to 23, regional hospitals from 22 to 33, and primary health centres from 1359 to 2085 in 2008. We also record an improvement in medical staffing, 1 doctor for 865 inhabitants in 2008, against 1 doctor for 2110 inhabitants in 1987. Health facilities in the private sector have also expanded, the number of clinics and specialized health care centers increasing from 28 in 1987 to 116 today.

But despite the remarkable development in this area, there are recommendations to provide for further reform of the health system. The key issues are rational and sustainable financing of the health sector. Establishment of appropriate evaluation procedures is critical to the success of reform.

COTICHELLI Giordano
Politecnica delle Marche University, Italy

Regional distribution of postpartum depressive symptoms in Italy

INTRODUCTION

Postpartum depressive symptoms (PPDS) can be a dramatic event for the health of the woman and the newborn child; they can be divided into postpartum depression (PPD) which occurs in 13% of mothers, and baby blues (BB) which can affect 26-85% of women up to 10 days following delivery. Among the determinants of depressive symptoms, there are also those related to the geographical area of residence.

OBJECTIVES

To analyse the regional distribution of postpartum depression symptoms in Italy

METHODOLOGY

We analysed cross-sectional data from the "Multipurpose survey" carried out on a 5-year basis by the Italian National Institute of Statistics to study health and social conditions of Italians. The sample was stratified according to geographical area. Data refer to the December 2004-September 2005 period. We focused our analysis on a sample of 5,812 women that had been pregnant in the five years before the interview.

RESULTS

23.49% of women had PPDS, of which, 20.65% had BB and 2.84% PPD. The most affected regions were: Piedmont (OR = 1.45 and p = 0.052), Veneto (OR = 1.81 and p = 0.0001) and Emilia Romagna (OR = 1.83 and p = 0.0001), and all regions of Central Italy: Marche (OR = 3.12 and p <0.0001), Tuscany (OR = 1.94 and p <0.0001), Umbria (OR = 3.22 and p <0.0001) , Lazio (OR = 1.54 and p = 0.02). Compared to these regions, the South and the Islands recorded lower values.

CONCLUSIONS

The postpartum depression syndrome is more marked in Italy in the North and Central areas with higher income levels and an efficient supply of health care than in the South and the Islands. The data suggests the need to carry out more specific studies to better understand the role of health services development, and economic or social deprivation in determining PPDS.

GODILLON Sylvanie
University of Paris 1, France

Environmental justice and road traffic: a typology of neighbourhoods according to accident density in Dresden, Germany

Neighbourhoods are made up of different socio-economic groups and located in differing urban environments. Environmental justice studies show that there is a proximity between poor neighbourhoods and distribution of nuisances or deleterious phenomena (pollution, toxicity, noise, road traffic). This poster explores whether accident density is greater in poor and minority neighbourhoods, using a combination of mapping and statistical methods. The results clarify the spatial distribution of risk and nuisances in the urban area.

Using geographic information system techniques, the density of accidents in each Dresden neighbourhood is calculated and integrated with geo-located social survey information. The results of the hierarchical classification analysis provide a typology of neighbourhoods according to accident density and socio-spatial data. This analysis shows a relationship between socio-spatial distribution and accident distribution. Poor neighbourhoods in Dresden concentrate higher accident rates.

Poor neighbourhoods are targeted by social and urban programs. These programs are an opportunity to mitigate road safety problems by changing road and public spaces. The present results should be taken into account for disadvantaged neighbourhood planning.

LE NEINDRE Charlène
University of Paris 7, France

A multi-scale systemic approach of the links between geographical contexts and population health: asthma in western France

Population's health differ from one place to another. Those differences may result from a variety of determinants' combinations. Some determinants are expressed at the individual level, others at a contextual level. This poster aims at exploring the concept of context, from a geographical point of view.

Three levels of context are considered: local, urban and regional. A fourth one is also explored: the context of «spatial relations» which interlinks spatial units at different level, or neighbourhood ones. Contexts are characterized using socio-economic, environmental, morphological and functional dimensions. Each context creates a combination of dimensions for the populations' health. Intertwining of contexts is described, using a systemic approach.

Then, this framework has been applied to a study of women's and men's hospitalization for asthma in western France. Hospitalizations are examined at the scales of postal districts, urban areas and employment zones. Spatial trends appear at all scales. They may be enlighted by several socio-economic characteristics. Some systematically deprived places and categories of population are identified.

SCHINDLER HAMITI Adélaïde,
University of Clermont-Ferrand, France

What innovations are required to ensure continuity of health care in rural areas of hill areas (the case of the Massif Central uplands)?

Within the national context of the current French health care system (medical demography of the workforce, ageing population, economic strategies...), additional constraints apply to the medical system in the Massif Central uplands. Indeed, this area mainly consists of hilly spaces, usually not readily accessible. Population density is low, and the population in Massif Central is mainly rural with scattered habitations and a network of only small towns. This tends to increase distances between hospitals. Larger cities are rather few and most of the time not autonomous (Clermont-Ferrand, Saint-Etienne, Limoges). Therefore, Massif Central suffers from its low level of attractiveness for health professionals. Moreover, as in the rest of France, the population is ageing, despite the arrival of new residents who contribute to the diversification of the local communities, and this leads to an increase in health care needs.

In France, health care is the responsibility of the national government. Nevertheless local communities have over recent years initiated various measures. They concern both public health issues and health care service distribution. These measures have numerous objectives : supporting territorial health networks, attracting health professionals, elaborating schemes for the organisation of health care on a sub-regional scale, creating multidisciplinary nursing homes, favouring the completion of general medicine internships in rural areas...

Although a large proportion of these projects are run in agreement with government health care institutions that have been decentralised and that have state financial support. Other projects are also emerging and developing in view of the lack of solutions put forward by national institutions to specific local problems.

The strength of this Ph.D. work lies in its focus on actions, methods, and tools, as well as in leadership modes developed by local authorities in terms of health and care offers. We will propose the hypothesis that presence and accessibility of a care offer make for attractiveness and positive development factors for territories concerned. The originality of this work also lies in the choice of setting, interregional and upland area.

COMPUTER ROOM OPENING HOURS

- Thursday 10th June:

8:30 to 9:00 AM

1:00 to 2:30 PM

6:00 to 7:00 PM

- Friday 11th June:

8:30 to 9:00 AM

0:00 to 2:00 PM

The computer room (n°005) is located on the ground floor of the Institute of Geography next to vending machines.

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