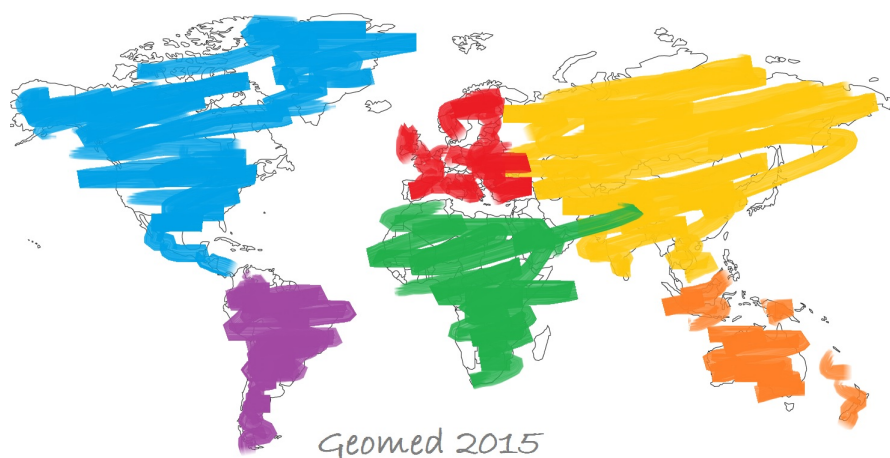# GEOMED 2015 PROGRAM

up to date: September 3, 2015

September, 10-12 – Florence, Italy

Meeting venue:
September, 10-11– Via Gino Capponi, 9 (rooms 4 and 5 – ground floor)
September, 12 – Via Laura, 48 (rooms 3 and 5 – first floor)

Supported by

UNIVERSITÀ DEGLI STUDI FIRENZE

DiSIA
DIPARTIMENTO DI STATISTICA,
INFORMATICA, APPLICAZIONI
"GIUSEPPE PARENTI"

ELSEVIER

08:30 – 08:50 - Registration

08:50 – 09:00 - room 4 - Welcome to Geomed 2015 Annibale Biggeri and Emanuela Dreassi

09:00 – 10:40 - Sessions

- (Chair) DUNCAN LEE - room 4
Estimating the effects of air pollution on health using spatio-temporal data
09:00 – 09:25 (Invited) **Gavin Shaddick**
Mitigating the effects of preferentially selected monitoring sites for environmental policy and health risk analysis
09:25 – 09:50 (Invited) **Sujit Sahu**, Sabyasachi Mukhopadhyay
On generating a flexible class of non-stationary spatial models using Gaussian predictive processes
09:50 – 10:15 (Invited) **Duncan Lee**, Alastair Rushworth
Quantifying the long-term effects of air pollution on health using spatio-temporal data
10:15 – 10:40 (Contributed) **Silvia Liverani**, Marta Blangiardo, Aurore Lavigne
Modelling highly collinear spatial data: application to pollution and the multiple deprivation index

- (Chair) ROBERT HAINING - room 5
Geography and Public Health
09:00 – 09:25 (Invited) **Matthew Wang**, Robert Haining
Inequality and inequity of access to primary care in China: a GIS based study from Jinan City
09:25 – 09:50 (Invited) **Clive Sabel**
Public health impacts of city policies to reduce climate change: findings from the URGENCE EU-China project
09:50 – 10:15 (Invited) **Ravindra Maheswaran**
Outdoor air pollution and stroke - an overview
10:15 – 10:40 (Invited) **Yu-tzu Wu**
Adding an environmental context to public health research: community environment and the health of older people

10:40 – 11:00 - Coffee Break

11:00 – 12:40 - Sessions

- (Chair) RENATO MARTIN ASSUNÇÃO - room 4
New directions in Bayesian analysis of spatial epidemiology
11:00 – 11:25 (Contributed) Francesco Bartolucci, **Gaia Bertarelli**, Maria Giovanna Ranalli
Bayesian spatial latent Markov models for disease mapping
11:25 – 11:50 (Invited) **Veronica J Berrocal**, Alan E Gelfand
A generalized conditionally autoregressive (CAR) model
11:50 – 12:15 (Invited) **Marcos O Prates**, Erica C Rodrigues, Renato M Assunção
Where geography lives? A spectral projection approach for spatial confounding
12:15 – 12:40 (Invited) **Miguel A Martinez-Beneito**, Marc Marí-Dell'Olmo
Incorporating statistical design in multivariate ecological regression studies

- (Chair) ANNETTE ERSBØLL - room 5
Health geographics using nation-wide health-related registers and individual level data
11:00 – 11:25 (Invited) **Ulf Strömberg**, Stefan Peterson, Erik Holmberg, Anders Holmén
Geomapping of melanoma incidence per stage - a method for addressing skin screening targets
11:25 – 11:50 (Invited) **Annette Kjær Ersbøll**, TM Kjærulff, GH Gislason, J Schipperijn
Geographical differences in mortality of acute myocardial infarction in Denmark, 2005-11
11:50 – 12:15 (Invited) **Eero Pukkala**
Mapping cancer risk and related issues? Nordic experiences of using small area based smoothing
12:15 – 12:40 (Invited) **Elias T Krainski**, Finn Lindgren, Daniel Simpson, Håvard Rue
Applying a non-separable spatio temporal model to a point referenced public health data

12:40 – 14:00 - Lunch

14:00 – 15:40 - Sessions

- (Chair) ROBERT DEARDON - room 4
Recent advances in spatial infectious disease modelling
14:00 – 14:25 (Invited) **Niel Hens**, Giancarlo De Luca, Kim Van Kerckhove, Chiara Poletto, Vittoria Colizza
Meta-population models and the spread of infectious diseases: quantifying the impact of spatio-temporal mixing behaviour of adults and children
14:25 – 14:50 (Invited) **Sebastian Meyer**, Leonhard Held
Combining social contact data with time series models for infectious diseases
14:50 – 15:15 (Invited) **Gyanendra Pokharel**, Rob Deardon
Gaussian process emulators for spatial models of infectious disease
15:15 – 15:40 (Contributed) Alexander Hohl, **Eric M Delmelle**, Wenwu Tang, Irene Casas
Accelerating the detection of space-time clusters for vector-borne diseases

- (Chair) SUE C GRADY - room 5
Geospatial Technology Applications in Health Intervention Studies
14:00 – 14:25 (Invited) **Raechel A Bianchetti**
Geospatial modeling the urban green environment for health intervention studies
14:25 – 14:50 (Invited) **Arika Ligmann-Zielinska**
Using time-dependent variance based sensitivity analysis to identify the drivers of lifestyle change in an agent-based model of obesity dynamics
14:50 – 15:15 (Invited) **Sue C Grady**
Population health in planned shrinkage urban areas
15:15 – 15:40 (Contributed) **Marta Blangiardo**, Michela Cameletti, Francesco Finazzi
Using drug prescriptions to assess the effect of air pollution on respiratory diseases in England

15:40 – 16:00 - Coffee Break

16:00 – 17:40 - Sessions

- (Chair) MARIA DOLORES UGARTE - room 4
Tests and models in spatial epidemiology
16:00 – 16:25 (Invited) **Toshiro Tango**
On the recent debate on SatScan for prospective surveillance
16:25 – 16:50 (Invited) **Alessandro Fassò**
Spatio temporal estimation of the population exposure distribution for functional epidemiology
16:50 – 17:15 (Invited) **Cristina Rueda**, Dolores Ugarte, Ana Militino
Checking unimodality using isotonic regression: an application to breast cancer mortality rates
17:15 – 17:40 (Contributed) **Thomas Neyens**, Christel Faes, Geert Molenberghs
The spatial combined model for overdispersed zero-inflated count data

- (Chair) MARTA BLANGIARDO - room 5
Small area case event data
16:00 – 16:25 (Contributed) **Chawarat Rotejanaprasert**, Andrew B Lawson
Online Bayesian surveillance for small area case event data
16:25 – 16:50 (Contributed) **Helena Batista**, Jorge M Mendes
The risk of alcohol abuse disorder in Portugal. A disease mapping approach
16:50 – 17:15 (Contributed) **Roseanne Autran**, Hugo Teixeira, Ana Isabel Ribeiro, Maria de Fátima de Pina, Jan Degrín, Jorge Mota, Maria Paula Santos
Association between neighborhood walkability, residential density, land-use mix and moderate physical activity: an exploratory study in Porto
17:15 – 17:40 (Contributed) **Rachel Moss Carrol**, AB Lawson, C Faes, RS Kirby, M Aregay, K Watjou
Spatially-dependent model selection for disease mapping

09:00 – 10:40 - Sessions

- (Chair) ANDREW B LAWSON - room 4
Health surveillance and infectious diseases
09:00 – 09:25 (Invited) **Ana Corberán-Vallet**, Andrew B Lawson
Surveillance of small area disease data with a Bayesian model-based approach
09:25 – 09:50 (Invited) **Robert Deardon**
Approximate inference for spatial epidemic models
09:50 – 10:15 (Invited) **Andrew Lawson**, Chawarat Rotejanaprasert
Kullback-Leibler measures and spatial surveillance of small area health data
10:15 – 10:40 (Invited) **Christel Faes**
Spatio-temporal dynamics of new emerging diseases

- (Chair) FRANCESCO FINAZZI - room 5
Ecological studies
09:00 – 09:25 (Contributed) **Neil Coffee**, Lockwood, Rossini, Niyonsenga
Spatial socioeconomic status and health research
09:25 – 09:50 (Contributed) **Ana Isabel Ribeiro**, A Pires, M Sá Carvalho, MF Pina
Neighbourhood correlates of physical activity among southern European older adults: parks and non-residential destinations matter, but crime doesn't
09:50 – 10:15 (Contributed) **Lianne McLeod**, C Waldner, L Bharadwaj, S Jin, L Lix, L Ford, S Ferris
Ecological study of associations between water quality and type 2 diabetes in rural Saskatchewan
10:15 – 10:40 (Contributed) **Tomki Nakaya**, Yuri Ito, Akiko Ioka, Tomio Nakayama
Modelling geographic disparities in relative cancer survival at the neighbourhood level in Osaka prefecture, Japan

10:40 – 11:00 - Coffee Break

11:00 – 12:40 - Sessions

- (Chair) YING C MACNAB - room 4
Recent works in disease mapping and spatial statistics
11:00 – 11:35 (Invited) **Rhonda J Rosychuk**
Spatial Scan statistics using data on emergency department presentations
11:35 – 12:10 (Invited) **Maria Dolores Ugarte**, Adin A, Goicoa T
Two-level spatial effects in space-time disease mapping
12:10 – 12:40 (Invited) **Ying C MacNab**
Linear model of coregionalization for multivariate lattice data

- (Chair) PENELOPE VOUNATSOU - room 5
Spatial epidemiology: methods and applications
11:00 – 11:35 (Invited) **Penelope Vounatsou**
Geostatistical modelling of sparse survey data
11:35 – 12:10 (Invited) **D Catelan**, Cecconi, Grisotto, Lagazio, Rinaldi, Musella, Cringoli, Biggeri
Preferential sampling and Bayesian geostatistics
12:10 – 12:40 (Invited) **Frédérique Chammartin**, Guojing Yang
Modelling spatial patterns of cause-specific mortality in Switzerland

12:40 – 14:00 - Lunch

14:00 – 15:15: Poster session

- **Sandra Alves**, Carla Oliveira, Vanderlei Matos, Ana Isabel Ribeiro, Hugo Teixeira, Maria de Fatima de Pina
Empirical bayesian rates: currently available tools are not age-standardizing the rates!
- **Shabnam Asghari**, Oliver Hurley, Alvin Simms, Marshall Godwin, James Valcour, Kris Aubrey-Bassler, Douglas Howse, John Knight, Saeed Samet
Digital epidemiology chronic disease tool (depict): dynamic visualization of health data for chronic disease in newfoundland and labrador
- **Claudia Berlin**, Radoslaw Panczak, Marcel Zwahlen
Do CVD and stroke mortality vary by distance to hospitals in Switzerland?
- **Gianluca Boo**, SI Fabrikant, S Leyk, A Pospischil
An innovative geographical approach to spatial epidemiology: dasymetric refinement of dog tumor incidence location data in Switzerland
- **Areti Boulieri**, Marta Blangiardo
Disease surveillance on asthma using baystdetect
- **Rachel Moss Carrol**, AB Lawson, C Faes, RS Kirby, M Aregay, K Watjou
Comparing INLA and OpenBugs for hierarchical Poisson modeling in disease mapping
- **Yi Gong**, Chris White, Scott Orford, David Fone
Can the physical environment you live in influence your disability-free life expectancy?
- **Guowen Huang**, Duncan Lee, Marian Scott
An integrated Bayesian model for estimating the long-term health effects of air pollution by fusing modelled and measured pollution data: a case study of nitrogen dioxide concentrations in Scotland
- **Oliver Hurley**, Shabnam Asghari, Alvin Simms
Health selective migration analysis of patients diagnosed with diabetes in newfoundland and labrador
- Mehreteab Aregay, **Andrew B Lawson**, Christel Faes, Russell S Kirby, Rachel Carroll, Kevin Watjou
Multiscale measurement error models for aggregated small area health data
- **Denis Leroux**, Lyne Cloutier
Sexually transmitted diseases, blood-borne infections and geography: from spatial data to geostatistics
- **Hanna Leona Lokys**, Jürgen Junk, Andreas Krein
Combined impact of air quality and thermal stress on human health
- **Edgar Mojica Urosa**
Search for spatial patterns in the transmission of influenza in Mexico
- **Gary Napier**, Duncan Lee, Chris Robertson
Quantifying the changing health inequalities in measles susceptibility in Scotland as a result of the mmr vaccination scare
- **Rikke Baastrup Nordsborg**, Bjarne Laursen, Annette Kjær Ersbøll
Clusters of multile sclerosis in Denmark 1971–2013
- **Carla Oliveira**, Teixeira H, Economou T, Bailey T, Pina MF
Effects of regional drinking water composition on the spatial distribution of hip fracture risk in women
- **John Pearce**
Development of exposure metrics for multipollutant air quality in for health effects studies.
- **Saraya Tavornpanich**, Edgar Brun, Mathilde Paul
Spatio-temporal analysis of gill disease in norwegian farmed atlantic salmon
- **Hugo Teixeira**, P Norton, A Azevedo, MF Pina
Indoor geographical information system: an innovative approach to analyze health events inside an hospital

15:15 – 15:35: Coffee Break

15:35 – 17:40 - Sessions

- (Chair) DANIELA COCCHI - room 4
Human health and environment
15:35 – 16:05 (Invited) **Tomas Goicoa**, Etxeberria J, Ugarte MD, Militino AF
Aproximate bayesian inference for age-space-time P-spline models
16:05 – 16:35 (Invited) **Francesco Finazzi**, Michela Cameletti
Identification of spatio-temporal patterns in Italian hospitalization rates using time series and cluster analysis
16:35 – 17:05 (Invited) **Janine B Illian**
Spatial point process modelling in practice - implications for model fitting and interpretation
17:05 – 17:40 (Invited) **Andrea Riebler**, Daniel Simpson, Geir-Arne Fuglstad, Finn Lindgren, Sigrunn H Sørbye, Håvard Rue
Choosing sensible priors for Bayesian spatial analysis in epidemiology

- (Chair) MARIA DE FÁTIMA PINA - room 5
Health geography and spatial data
15:35 – 16:05 (Contributed) **Radoslaw Panczak**, Luta X, Maessen M, Stuck AE, Egger M, Zwahlen M, Clough-Gorr K
The geography of cost of end of life care in Switzerland
16:05 – 16:35 (Contributed) **Fanjasoa Rakotomanana**, Hobiniaina A Rakotoarison, Noël H Ratovonirina, Felana A Ihantamalala, Voahangy Rasolofo, Rindra V Randremanana, Patrice Piola
Case studies of GIS in public health: benefits and limits in Madagascar
16:35 – 17:05 (Contributed) **Carla Oliveira**, Maria de Fátima Pina
Spatial-temporal analysis of climate factors effects on stroke hospitalization (2000-2010)
17:05 – 17:40 (Contributed) **Mathilde C Paul**, Flavie L Goutard, Floriane Roulleau, Davun Holl, Weerapong Thanapongtharm, Annelise Tran
Validation of a spatial multicriteria decision analysis of the risk of highly pathogenic avian influenza H5N1 in Thailand and its application in Cambodia

19:30 – 24:00 - Social Dinner – Caffetteria delle Oblate (Via dell'Oriuolo, 24/26)

09:00 – 10:40 - Sessions

- (Chair) EMANUELA DREASSI - room 3
Space-time dependencies
09:00 – 09:25 (Invited) **Emanuela Dreassi**
Space-time shared models: some compatibility issues on model specification
09:25 – 09:50 (Invited) D Catelan, AM Vicedo-Cabrera, L Grisotto, **Corrado Lagazio**, A Biggeri
A spatio-temporal Bayesian kriging to predict children exposure to gaseous air pollutants in a high risk area in Italy
09:50 – 10:15 (Invited) J Goldstein, **Murali Haran**, O Bjornstad, A Liebhold
Quantifying Spatio-Temporal Variation of Invasion Spread
10:15 – 10:40 (Contributed) **Thora Majlund Kjærulff**, Annette Kjær Ersbøll, Gunnar Gislason, Jasper Schipperijn
Geographical clustering of incident acute myocardial infarction in Denmark: a spatial analysis approach

- (Chair) CHIARA SEGHIERI - room 5
Advances in the modelling of the spatial distribution of diseases
09:00 – 09:25 (Contributed) **C Sloan**, R Bradshaw, T Philip, B Barber, V Walker, R Graul, C Tuttle, J Johnston
GPS-enable real-time concentration and composition of PM2.5 in an infant population
09:25 – 09:50 (Contributed) **Alexandre Magalhães**, Castiglione D, Ramos E, Pina MF
Proximity to urban green spaces can reduce social inequalities in levels of physical activity and practice of sports among teenagers
09:50 – 10:15 (Contributed) **Kristine Bihrmann**, Søren Saxmose Nielsen, Annette Kjær Ersbøll
Spatial pattern in prevalence of an infectious disease subject to diagnostic misclassification
10:15 – 10:40 (Contributed) Loren Cobb, **Ashok Krishnamurthy**
Bayesian tracking of the 2014-15 western African Ebola virus disease epidemic using data assimilation

10:40 – 11:00 - Coffee Break

11:00 – 12:40 - Sessions

- (Chair) PATRICK BROWN - room 3
Point location data in spatial epidemiology
11:00 – 11:25 (Invited) **Rasmus Waagepetersen**
Analysis of multi-species point patterns using multivariate log gaussian Cox processes
11:25 – 11:50 (Invited) **Peter Neal**
Efficient MCMC for spatial $S - > I$ epidemic models
11:50 – 12:15 (Contributed) **Christian Kreis**, Michael Grotzer, Heinz Hengartner, Ben Spycher
Space-time clustering of childhood cancers in Switzerland
12:15 – 12:40 (Contributed) **Nikoline Nygård Knudsen**, Jörg Schullehner, Lisbeth Flindt Jørgensen, Birgitte Hansen, Lars Vedel Kessing, Annette Kjær Ersbøll
Lithium in drinking water and suicide: a danish nationwide register-based cohort study using spatial analysis

- (Chair) LAURA GRISOTTO - room 5
Spatial and space-time analyses of health data

11:00 – 11:25 (Contributed) Simone Del Sarto, **Pasquale Pepe**, Marco Marchi, Giuseppe Rossi
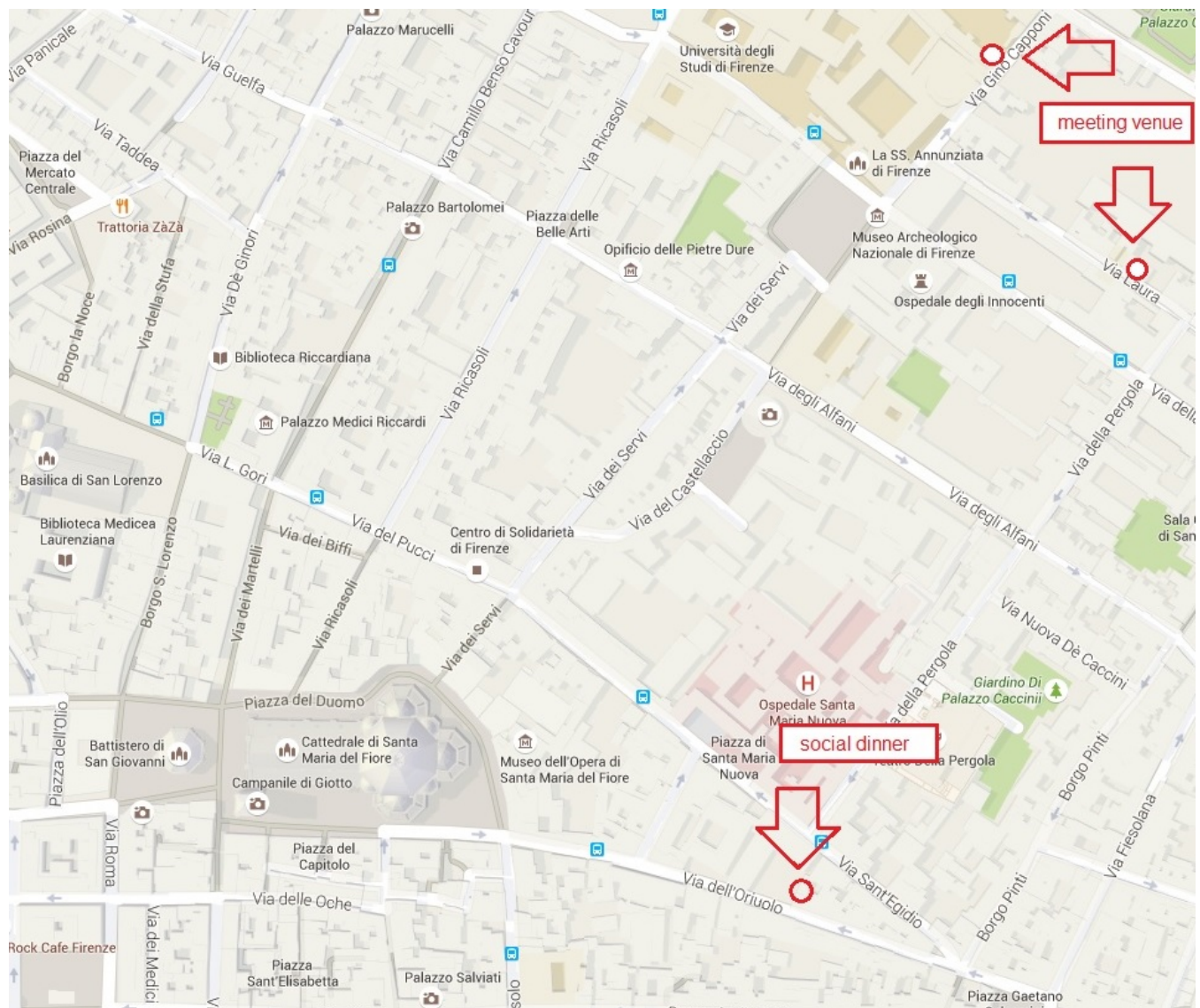A new global test for disease clustering
11:25 – 11:50 (Contributed) **Tom De Smedt**, K Simons, A Van Nieuwenhuyse, G Molenberghs
Comparing MCMC and INLA for disease mapping with bayesian hierarchical models
11:50 – 12:15 (Contributed) **Shabnam Asghari**, Oliver Hurley, Alvin Simms, Marshall Godwin
Assessing geographic variations in diabetes in newfoundland and labrador: disparities in diabetes
diagnosis in rural and urban areas
12:15 – 12:40 (Contributed) **Francesca Pannullo**, D Lee, E Waclawski, AH Leyland
Improving spatial nitrogen dioxide prediction using diffusion tubes for better health effects estima-
tion: a case study in west central Scotland

12:40 – 13:00 - room 3 - See you at Geomed 2017, Porto (PT) Maria de Fátima Pina

GEOMED 2015 MAP

Meeting venue:
September, 10-11– Via Gino Capponi, 9 (rooms 4 and 5 – ground floor)
September, 12 – Via Laura, 48 (rooms 3 and 5 – first floor)