Personal information

Surname(s) / First name(s)	**Berretta, Serena**
Address(es)	
Telephone(s)	
Email(s)	
Nationality(-ies)	
Date of birth	
Gender	

Work experience

Date	November 2018 – Now
Name and address of employer	University of Genoa, Department of Mathematics, Via Dodecaneso 35, 16146 Genova
Occupation or position held	PhD with a scolarship funded by CNR, Istituto di Matematica Applicata e Tecnologie Informatiche "Enrico Magenes"
Main activities	The area of interest of my PhD program is Geostatstics. In particular, I'm working on the evaluation of uncertainty in spatial analysis and the usage of this uncertainty in the definition of a new sampling design optimizing the arrangement of points in the domain to have a better representation with fewer points as possible. The setting of the field is three dimensional and the support is represented with tetrahedrons with different scales.

Date	December 2017 – October 2018
Name and address of employer	CNR, Istituto di Matematica Applicata e Tecnologie Informatiche "Enrico Magenes". Via dei Marini, 6, 16149 Genova, Italy
Occupation or position held	Research Fellow
Title of research project	"Studio e sviluppo di metodi adattivi per il campionamento e l'approssimazione di campi scalari relativi a parametri fisici/ambientali basati su mappe di incertezza"

Main activities	One of the aims of the research project is define a new adaptive sampling method to improve the monitoring procedures in marine waters. In this research project I deal with the statistical component (Geostatistics). In particular, my goals are both select the subsequent positions to be sampled optimizing some criterion, either choice the stop criterion of the adaptive sampling. Since April 1st, I'm a member of the CNR research team working on the international project: MATRAC-ACP. The goal of the project is contribute to enhancing the protection of marine waters in ports by improving monitoring procedures through the use of highly automated robotic technologies and adaptive sampling methods. Project partners are CNR-ISSIA (Istituto di Studi sui Sistemi Intelligenti per l'Automazione), UNIGE-DISTAV (Department of Earth, Environmental and Life Sciences) and IFRE-MER (Unité Systémes sous-marins). In particular, the goal of the CNR-IMATI 's component will be design and develop an adaptive sampling system and a real-time analysis system. My research program will contribute to the development of the ROV control engine and to the definition of the strategy of adaptive sampling system.

Education and training

Place and Date	University of Padua, 2014 – 2017
Title of qualification awarded	MSc in Statistics
Vote	103/110
Place and Date	University of Genoa, 2011 – 2014
Title of qualification awarded	BSc in Statistics, Mathematics and Data Management
Vote	110 with honors

Pubblications

Type	Paper
Title	"Adaptive Environmental Sampling: The Interplay Between Geostatistics and Geometry"
Author	Serena Berretta, Daniela Cabiddu, Simone Pittaluga, Michela Mortara, Michela Spagnuolo and Marino Vetuschi Zuccolini
Year	2018
Journal	Smart Tools and Apps for Graphics - Eurographics Italian Chapter Conference
Type	Technical Report
Title	"Adaptive sampling of enviromental variables (ASEV)"
Author	Serena Berretta, Daniela Cabiddu, Simone Pittaluga, Michela Mortara, Michela Spagnuolo and Marino Vetuschi Zuccolini
Data	18/06/2018
Journal	IMATI - CNR Genova
Type	Poster
Title	"Real-time volumetric modelling based on adaptive sampling of environmental scalar fields derived by uncertainty maps"
Author	Serena Berretta, Daniela Cabiddu, Simone Pittaluga, Michela Mortara, Michela Spagnuolo and Marino Vetuschi Zuccolini
Data	Accepted by e-mail on 17/05/2018
Journal	Shape Modeling International (SMI) 2018

Personal skills and competences

Mother tongue(s) | **Italian**

Other language(s) | English

Self-assessment
European level(*)

English

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
good	good	good	good	good

(*) *Common European Framework of Reference (CEF) level*

Social skills and competences

Good social skills due to years of academic experience, in which I often studied and did some reports with classmates. Furthermore, social skills have been expanded also due to an off-site student experience since 2014 to 2017, which led me to adapt and interact with many people.

Organisational skills and competences

Excellent organisational skills and competences evolved due to both in study and several personal experiences. I believe that knowing how to plan one's own days leads to better results for any area.

Technical skills and competences

Excellent technical skills and competences. Over the years I have learned to use various statistical/computer science programs and programming languages. Furthermore, I have a very good knowledge about probability, statistic, maths and computer science, thanks to my five academic years.
Experience of team working in international projects carried out of CNR-IMATI with which I am working with the shape and semantic modeling group

Computer skills and competences

Good competences in computer science. The program in which I am more specialized is certainly R, which has been used in many courses of my studies, both in Genoa in the Bachelor and in Padua in the Master.
Other frequently used programs are SQL, SAS and Stata. I also attended courses of C++ and Java programming languages.
Therefore, if necessary, this technical knowledge allows me to be very quick to learn new softwares.

Other skills and competences

I have acquired excellent skills regarding data analysis during my experiences. During my university courses I worked with big data and i studied statistical techniques to process they (Data Mining); in the contest of marketing i could to analyze a lot of data from companies to establish the best way of intervention in the market. In the last period, during my experiences with CNR, I specialized in geostatistics and in the spatial data processing.

Bachelor's Thesis

In the Bachelor's Thesis I analyzed data from database from Allergy Department of the San Martino Hospital, with the aim of identifying the characteristics of the most allergic subjects. To identify this link I used a kind of models to analyze ordinal data (categorical response with an order of the categories): *Ologit model*. This model is used often for the epidemiology analysis.

Master's Thesis	The Master's Thesis cover topics inherent to data analysis and development of new technique to test model's assumptions. In particular, I defined a test that includes two different techniques for the analysis of ordinal data: *Anchoring Vignette* and *CUB (Combination of Uniform and Binomial)* models. This test verifies the validity of the two assumptions of *Anchoring Vignette*, without which the model could not be applied to the data: *Vignette Equivalence* and *Response Consistency*. After the master's degree I continued to work on these issues and currently I'm working on writing an article about the *Vignette Equivalence* test.
Driving license(s)	Driving license B.

Additional information

Personal interests
Gym, Tv series, fashion

References
Michela Spagnuolo (`michela.spagnuolo@ge.imati.cnr.it`),
Marino Zuccolini (`zucco@dipteris.unige.it`)

Date and signature

10 - 12 - 2019