



**ITA ■  
COSM  
2022**

**PERUGIA  
& ASSISI  
7-10 JUNE**

**7th Italian Conference on Survey Methodology**

**CONFERENCE  
PROGRAM**



I TA -  
COSM  
2022

## Scientific Program Committee

**Maria Giovanna Ranalli** (chair) Università degli Studi di Perugia, Italy

**Roberto Benedetti**, Università degli Studi "G. d'Annunzio" di Chieti-Pescara, Italy

**Gaia Bertarelli**, Scuola Superiore Sant'Anna, Pisa, Italy

**Annamaria Bianchi**, Università degli Studi di Bergamo, Italy

**Maria Michela Dickson**, Università di Trento, Italy

**Maria Rosaria Ferrante**, Università di Bologna, Italy

**Danila Filippini**, ISTAT, Italy

**Risto Lehtonen**, University of Helsinki, Finland

**Giorgio Eduardo Montanari**, Università degli Studi di Perugia, Italy

**Pier Francesco Perri**, Università della Calabria, Italy

**Paolo Righi**, ISTAT, Italy

**Maria del Mar Rueda**, Universidad de Granada, Spain

**Natalie Shlomo**, University of Manchester, United Kingdom

**Alina Matei**, Université de Neuchâtel, Suisse

## Organizing Committee

**Gaia Bertarelli** (chair) Scuola Superiore Sant'Anna, Pisa, Italy

**Simone Del Sarto**, Università degli Studi di Perugia, Italy

**Marco Doretti**, Università degli Studi di Perugia, Italy

**Francesco Pantalone**, University of Southampton, United Kingdom

**Maria Giovanna Ranalli**, Università degli Studi di Perugia, Italy

**Francesco Schirripa Spagnolo**, Università di Pisa, Italy

**Dear colleagues,**

on behalf of the Scientific Program Committee and of the Organizing Committee, we welcome you to Perugia and to the 7th Italian COncference on Survey Methodology – ITACOSM 2022 “Survey Methods for Statistical Data Integration and New Data Sources”. ITACOSM is a bi-annual international conference organized by the Survey Sampling Group (S2G) of the Italian Statistical Society (SIS) whose aim is promoting the scientific discussion on the developments of theory and application of survey sampling methodologies in the fields of economics, social and demographic sciences, of official statistics and in the studies on biological and environmental phenomena.

Survey researchers and practitioners have always combined data from various data sources (auxiliary data from Censuses, Administrative registers, GIS data) to enhance sampling designs and estimation. Statistical data integration represents the new frontier of combining information from representative samples with data from multiple sources, some of which may have uncontrolled selection mechanisms (non-probability samples, big data, smartphone data, integrated register data). ITACOSM2022 will provide a showcase for methods and applications that combine sources of data for better sampling strategies using classical survey methods or new data science tools such as Machine Learning methods.

The Conference is scheduled in 3 Keynote sessions, 1 Invited session in memory of Jean-Claude Deville, 1 Round table, 11 Invited sessions on specific topics and 7 Contributed sessions. A short course by Jae-Kwang Kim (Iowa State University) is also held on “Survey Data Integration” the day before the conference starts.

The Scientific Program Committee, the Local Organizing Committee and many volunteers have contributed substantially to the organization of this conference. We acknowledge their work and the support of Dept. of Political Science of the University of Perugia, the University of Pisa, the International Association of Survey Statisticians (IASS), and the Italian Statistical Society (SIS).

We wish you a productive and stimulating conference and a pleasant stay at the University of Perugia!

**Maria Giovanna Ranalli**

*chair of the Scientific Program Committee*

**Gaia Bertarelli**

*chair of the Organizing Committee*





## The Venue

The venue of the conference is the Department of Political Science of the University of Perugia (via Alessandro Pascoli 20, 06123 Perugia). The Department can be reached with a 10-minute downhill walk from the town center and with a 10-minute bus trip from the main train station of Perugia Fontivegge (Perugia Railway Station, Piazza Vittorio Veneto, 06124 Perugia PG). With bus lines B, P and TS, the bus stop closest to the Department is named Porta Conca, whereas with bus line C one should get off at Piazza Università. Alternatively, taxis are readily available in front of the train station Perugia Fontivegge. An overground service (MiniMetrol) also operates in Perugia, connecting a big car park (free of charge) in the immediate suburbs (Piazzale Umbria Jazz - Pian di Massiano) to the town center (Pincetto). The MiniMetrol calls at the Fontivegge train station, while the MiniMetrol stops that are closest to the conference venue (15-minute walking distance) are the Pincetto and Cupa stops.

All the keynote, invited and contributed sessions take place in three rooms: Aula 1, Aula 4 and Aula D. The first room is located at the entrance of the building, Aula 4 on the first floor, whereas Aula D is situated on the basement floor.

The short course is held in Assisi, which is about 30 km away from Perugia. The venue of the short course is Palazzo Bernabei – via San Francesco 19, 06081 Assisi. The building is located in the town center of Assisi, about 200 meters away from the Basilica di San Francesco, which is a UNESCO World Heritage site. The closest train station is located in Santa Maria degli Angeli and can be reached with a 25-minute train trip from Perugia Fontivegge. A 20-minute bus trip (bus line C) connects the train station in Santa Maria degli Angeli with the town center of Assisi. The bus stop closest to Palazzo

Bernabei is named S. Francesco Assisi. A bus service also operates from the bus Terminal of Perugia – Piazza Partigiani to the town center of Assisi (lines E006 and E007).

The short course is given in the main room Aula Magna - Sala del Camino, on the first floor of Palazzo Bernabei.



## Social Events

There will be a one-hour Touristic Guide on Tuesday, June 7th in Assisi (17:30 in front of the Basilica of San Francesco) and a one-hour Touristic Guide of Perugia on Wednesday, June 8th (19:00 in front of the Fontana Maggiore, piazza IV Novembre).

The Social Dinner will take place at Ristorante del Sole, Via della Rupe, 1, <https://www.ristorantesole.com/> in the center of Perugia (close to the MiniMetrol stop "Pincetto"), starting at 20.30 on Thursday June 9th. The cost of the Social Dinner is included in the conference fees. Please communicate any dietary requirement at the registration desk by Wednesday late afternoon.



# OTHER INFORMATION

## Coffee breaks and lunch

Coffee breaks and lunches will take place in the “aquarium” of the Conference venue, 1st floor.

## Visiting Perugia

You can find useful information for visiting Perugia on the Official Perugia Tourism website <https://turismo.comune.perugia.it/pagine/visit-perugia>.

## Organizers

S2G - Survey Sampling Group of the Italian Statistical Society  
DISP - Dipartimento di Scienze Politiche, Università degli Studi di Perugia

## Partners and Sponsors

International Association of Survey Statisticians  
Centro Studi e Alta Formazione LEPA - Legality and Participation <http://www.lepa.unipg.it/>  
Società Italiana di Statistica  
Università di Pisa

## Internet WiFi

EDUROAM Internet connection is available: don't forget to bring your EDUROAM credentials.

If you don't have an EDUROAM account, you can ask at the registration desk for a temporary Unipg account. Please bring your ID document in order to facilitate account registration.

## Abstracts

The Conference abstracts are available on the Conference website.

## Taxi

If you need Taxis (also to and from the airport or the train station) you can call: (+39) 075 500 4888.



# CONFERENCE PROGRAM

## WEDNESDAY June, 8

**11:00 | Hall**  
Registration

**11:00 | Aquarium**  
Light Lunch

**12:10 - 12:30 | Aula 1**  
Welcome ceremony

**12:30 - 13:30 | Aula 1**  
KEY1 - Multiple system estimation using covariates having missing values and measurement error: estimating the size of the Maori population in New Zealand

**13:30 - 15:00 | Aula 1**  
INVO - A scientist devoted to innovation in official statistics, in sample selection and estimation from survey data. Session in memory of Jean-Claude Deville

**15:00 - 15:30 | Aquarium**  
Coffee Break

**15:30 - 16:30 | Aula 1**  
CON1 - New methods for spatial populations

**15:30 - 16:30 | Aula 4**  
CON2 - New perspectives in data integration

**15:30 - 16:30 | Aula D**  
CON3 - New approaches for uncertainty evaluation and data collection

**16:30 - 18:00 | Aula 1**  
INV1 - Combining Data from Probability and Non-probability Surveys

**16:30 - 18:00 | Aula 4**  
INV2 - Sampling network populations

**19:00 - 20:00 | Piazza IV Novembre**  
Perugia Touristic tour

## THURSDAY June, 9

### 9:00 - 10:30 | Aula 1

INV3 - Small Area Estimation and Economic Policy

### 9:00 - 10:30 | Aula 4

INV4 - Sample selectivity and mode of data collection

### 10:30 - 11:30 | Aula 1

KEY2 - Statistical Data Integration using a prediction approach

### 11:30 - 12:00 | Aquarium

Coffee Break

### 12:00 - 13:30 | Aula 1

INV5 - Sampling and non-sampling errors

### 12:00 - 13:30 | Aula 1

INV6 - Country Experiences on Data Integration for Censuses

### 13:30 - 14:30 | Aquarium

Lunch

### 14:30 - 15:30 | Aula 1

KEY3 - Propensity score weighting for handling selection bias in voluntary samples

### 15:30 - 16:30 | Aula 1

CON4 - Machine learning and nonparametric regression for new estimation approaches

### 15:30 - 16:30 | Aula 4

CON5 - Recent developments for unit and item nonresponse

### 15:30 - 16:30 | Aula D

CON6 - New inference methods from non-probability surveys

### 16:30 - 17:00 | Aquarium

Coffee Break

### 17:00 - 18:30 | Aula 1

INV7 - Data Integration for Survey Estimation: New Methods and Applications

### 17:00 - 18:30 | Aula 4

INV8 - Developments in Population Size Estimation and integration of new data sources

### 18:30 - 19:00 | Aula D

S2G Assembly

### 20:30 | Ristorante del Sole

Social Dinner

## FRIDAY June, 10

### 9:00 - 10:30 | Aula 1

INV9 - Indirect questioning techniques for sensitive surveys

### 9:00 - 10:30 | Aula 4

CON7 - New developments in Small Area Estimation

### 10:30 - 11:00 | Aquarium

Coffee Break

### 11:00 - 12:00 | Aula 1

Round Table - How can data integration enhance statistics for knowledge and policy making?

### 12:00 - 13:30 | Aula 1

INV10 - Recent advances in dealing with linkage errors

### 12:00 - 13:30 | Aula 4

INV11 - Smart surveys and new data sources

### 13:30 - 13:45 | Aula 1

Closing remarks

### 13:45 | Aquarium

Light Lunch







## WEDNESDAY

June, 8

11:00 | Hall  
REGISTRATION

---

11:00 | Aquarium  
LIGHT LUNCH

---

12:10 - 12:30 | Aula 1  
WELCOME CEREMONY

*Chair*

*M.G. Ranalli*

*Speakers*

*G.E. Montanari, Head of the  
Dept. of Political Science,  
Università degli Studi di Perugia  
C. Crocetta, President SIS -  
Società Italiana di Statistica  
N. Shlomo, President Elect IASS-  
International Association of  
Survey Statisticians  
P.F. Perri, Coordinator S2G -  
Survey Sampling Group*

---

12:30 - 13:30 | Aula 1  
KEY1 - MULTIPLE SYSTEM  
ESTIMATION USING  
COVARIATES HAVING

MISSING VALUES AND  
MEASUREMENT ERROR:  
ESTIMATING THE SIZE OF THE  
MAORI POPULATION IN NEW  
ZEALAND

*P. Van Der Heijden, Utrecht  
University & University of  
Southampton; M. Cruyff, Utrecht  
University; P.A. Smith, University  
of Southampton*

*Chair*

*P. F. Perri*

---

13:30 - 15:00 | Aula 1  
INVO - A SCIENTIST  
DEVOTED TO INNOVATION  
IN OFFICIAL STATISTICS, IN  
SAMPLE SELECTION AND  
ESTIMATION FROM SURVEY  
DATA. SESSION IN MEMORY  
OF JEAN-CLAUDE DEVILLE

*Organizer*

*R. Benedetti*

*Chair & Discussant*

*Y. Tillé*

*New challenges on balanced  
sampling*

*F. Pantalone, University of  
Southampton; M. Russo, ISTAT -  
Istituto Nazionale di Statistica;  
F. Piersimoni, ISTAT - Istituto  
Nazionale di Statistica*

**Bootstrap variance estimation for a rotating panel survey: case of the Life History and Wealth French Survey**

G. Chauvet, ENSAI - École Nationale de Statistique et Analyse de l'Information

**Calibration Techniques in Survey Sampling, Missing Data Analysis and Causal Inference**

C. Wu, University of Waterloo

---

15:00 - 15:30 | Aquarium  
COFFEE BREAK

---

15:30 - 16:30 | Aula 1  
CON1 - NEW METHODS FOR SPATIAL POPULATIONS

**Chair**

F. Pantalone

**Harmonization of design-based mapping for spatial populations**

A. Marcelli, Università della Toscana; L. Fattorini, Università di Siena; S. Franceschi, Università di Siena

**Sequential Spatially Balanced Sampling**

R. Jauslin, Université de Neuchâtel; B. Panahbehagh,

Kharazmi University, Tehran; Y. Tillé, Université de Neuchâtel

**Design-based properties of k-*nn* predictors**

S. Franceschi, Università di Siena; L. Fattorini, Università di Siena; C. Pisani, Università di Siena

**Sampling designs for global forest monitoring using remotely sensed data**

C. Bocci, Università degli Studi di Firenze; G. Chirici, Università degli Studi di Firenze; G. D'Amico, Università degli Studi di Firenze; S. Francini, Università degli Studi di Firenze; E. Rocco, Università degli Studi di Firenze

---

15:30 - 16:30 | Aula 4  
CON2 - NEW PERSPECTIVES IN DATA INTEGRATION

**Chair**

D. Filippini

**Inference for Non-probability Samples and Survey Data Integration: Mapping the Literature through Text Mining Approaches**

C. Salvatore, Università degli Studi di Milano - Bicocca

**Record Linkage of Multiple**

**Data Sources**

M. Mingione, Sapienza Università di Roma; M. Vichi, Sapienza Università di Roma;

**Inference for Big Data assisted by Small area methods**

F. Schirripa Spagnolo, Università di Pisa; G. Bertarelli, Scuola Superiore Sant'Anna di Pisa; S. Marchetti, Università di Pisa; M. Pratesi, Università di Pisa & ISTAT; N. Salvati, Università di Pisa

**Multi-source statistics on employment status in Italy, a machine learning approach**

R. Varriale, ISTAT - Istituto Nazionale di Statistica; M. Alfò, Sapienza Università di Roma

---

15:30 - 16:30 | Aula D  
CON3 - NEW APPROACHES FOR UNCERTAINTY EVALUATION AND DATA COLLECTION

**Chair**

M. Dickson

**Correcting Italian municipalities' size for under- and over-coverage using administrative data: A Bayesian approach**

V. Ballerini, Università degli Studi di Firenze; S. Toti, ISTAT - Istituto Nazionale di Statistica; M. Di Zio, ISTAT - Istituto Nazionale di Statistica; B. Liseo, Sapienza Università di Roma

**7th Agriculture Census: strategies, and methodological and technological innovations for the survey**

L. De Gaetano, ISTAT - Istituto Nazionale di Statistica; C. Fabi, ISTAT - Istituto Nazionale di Statistica; V. Triolo, ISTAT - Istituto Nazionale di Statistica

**If the tools to gather information affect data quality: Violence Against Women Survey case**

I. Corazziari, ISTAT - Istituto Nazionale di Statistica; G. Ascari, ISTAT - Istituto Nazionale di Statistica; M. Muratore, ISTAT - Istituto Nazionale di Statistica

**Variance estimation for a family of probability-based case-mix adjusting performance indices: challenges from small samples**

M. Doretti, Università degli Studi di Perugia; G.E. Montanari, Università degli Studi di Perugia

---

16:30 - 18:00 | Aula 1  
**INV1 - COMBINING DATA  
FROM PROBABILITY AND  
NON-PROBABILITY SURVEYS**

**Organizer**

M.d.M. Rueda

**Chair**

P.F. Perri

**Combining Probability Non-  
probability Samples**

M.R. Elliott, University of  
Michigan

**Two-stage dose-response  
modeling of community  
annoyance survey data**

R. Ferg, Westat

**Handling non-probability  
samples through inverse  
probability weighting with  
an application to Statistics**

**Canada's crowdsourcing data**

J.F. Beaumont, Statistics Canada

16:30 - 18:00 | Aula 4  
**INV2 - SAMPLING NETWORK  
POPULATIONS**

**Organizer & Chair**

M. Dickson

**Discussant**

G. Chauvet

**Graph spatial sampling**

L-C. Zhang, University of  
Southampton & Statistics  
Norway

**Sampling Hard-to-Reach  
Networked Populations**

M.S. Handcock, University of  
California, Los Angeles

**Graph Sampling for Network  
Embedding**

H. Seba, Université  
Claude Bernard Lyon 1

19:00 - 20:00 |  
**PERUGIA TOURISTIC GUIDE**

**THURSDAY  
June, 9**

9:00 - 10:30 | Aula 1  
**INV3 - SMALL AREA  
ESTIMATION AND ECONOMIC  
POLICY**

**Organizer & Chair**

M.R. Ferrante

**Discussant**

S. Pacei

**Small area estimation with  
multiply imputed survey data**

M. Runge, Freie Universität  
Berlin; T. Schmid, Otto-Friedrich-  
Universität Bamberg

**Estimating heterogeneous  
causal effects in observational  
studies using small area  
predictors**

S. Ranjbar, CHUV Lausanne  
University Hospital

**Supporting policy making  
through granular and timely  
evidence. Challenges and  
opportunities from cross-  
country applied research**

P. Veneri, OECD

9:00 - 10:30 | Aula 4  
**INV4 - SAMPLE SELECTIVITY**

**AND MODE OF DATA  
COLLECTION**

**Organizer**

P. Righi

**Chair**

P. Lugtig

**Implementing and Adjusting a  
Non-probability Web Survey:  
Experiences of EVENs (Survey  
on the Impact of COVID19 on  
Ethnic Minorities in the United  
Kingdom)**

N. Shlomo, University of  
Manchester; A. Aparcio-Castro,  
University of Manchester;  
D. Ellingworth, University  
of Manchester; A. Moretti,  
Manchester Metropolitan  
University; H. Taylor, University  
of Manchester; N. Finney,  
University of St. Andrews;  
J. Nazroo, University of  
Manchester

**Comparing Respondents  
Profiles between Personal  
Interviews and Web Surveys:  
Territorial evidences from the  
Italian Permanent Population  
Census**

A. Naccarato, Università degli  
Studi Roma Tre; E. Grimaccia,  
ISTAT - Istituto Nazionale di  
Statistica

**Robustness to misspecification of non-response model in a Responsive-Adaptive Survey Design approach: An application on the Italian Census**

A. Guandalini; C. De Vitiis;  
S. Falorsi; F. Inglese; M.  
Dionisio Terribili, ISTAT -  
Istituto Nazionale di Statistica

---

**10:30 - 11:30 | Aula 1  
KEY2 - INFORMATION  
PROJECTION APPROACH TO  
PROPENSITY ESTIMATION FOR  
HANDLING MISSING DATA**

A. Ruiz-Gazen, Toulouse School  
of Economics; E. Medous,  
Toulouse School of Economics;  
C. Goga, Université de  
Bourgogne Franche-Comté; J.F.  
Beaumont, Statistics Canada;  
A. Dessertaine, La Poste; P.  
Puech, La Poste

**Chair**  
D. Haziza

---

**11:30 - 12:00 | Aquarium  
COFFEE BREAK**

---

**12:00 - 13:30 | Aula 1  
INV5 - SAMPLING AND NON-  
SAMPLING ERRORS**

**Organizer & Chair**  
A. Matei

**Sampling and non-sampling  
errors in consumer price  
indices**

P.A. Smith, University of  
Southampton

**Recent Developments in  
Balanced Sampling**

Y. Tillé, Université de Neuchâtel

**Total survey error in income  
surveys when unit non-  
response and measurement  
error are correlated**

A. Neri; E. Porreca, Banca  
d'Italia

---

**12:00 - 13:30 | Aula 1  
INV6 - COUNTRY  
EXPERIENCES ON DATA  
INTEGRATION FOR CENSUSES**

**Organizer, Chair & Discussant**  
N. Shlomo

**Estimation of population  
counts: lessons learnt from  
the first cycle of the Italian  
Permanent Population Census**

D. Zindato; A. Bernardini; A.  
Chieppa; N. Cibella; F. Solari,

ISTAT - Istituto Nazionale di  
Statistica

**Development of a  
Demographic Accounting  
framework for England and  
Wales**

L. Blackwell, Office for National  
Statistics, UK

**On the road to Administrative  
Census: placing individuals  
in their residential addresses  
Using ML methods**

Y. Feinstein, Central  
Bureau of Statistics, ISRAEL

---

**13:30 - 14:30 | Aquarium  
LUNCH**

---

**14:30 - 15:30 | Aula 1  
KEY3 - PROPENSITY SCORE  
WEIGHTING FOR HANDLING  
SELECTION BIAS IN  
VOLUNTARY SAMPLES**

J. Kim, Iowa State University

**Chair**  
L-C. Zhang

---

**15:30 - 16:30 | Aula 1  
CON4 - MACHINE LEARNING  
AND NONPARAMETRIC  
REGRESSION FOR NEW**

**ESTIMATION APPROACHES**

**Chair**  
R. Varriale

**Estimation of Spatial  
Regression Models with  
different and unconventional  
data sources**

V. Nardelli, Università degli  
Studi di Milano - Bicocca; G.  
Arbia, Università Cattolica del  
Sacro Cuore

**Usage of non-probability  
sample and scraped data to  
estimate proportions**

V. Nekrasaite-Liege, Statistics  
Lithuania & Vilnius Gediminas  
Technical University; A. Ciginas,  
Statistics Lithuania & Vilnius  
University

**Synthetic data for "safe" data  
release: An application to the  
Italian women safety survey**

I. Corazziari; A. Capobianchi;  
L. Di Consiglio, ISTAT - Istituto  
Nazionale di Statistica

**A data-driven, design-based  
inference for mapping forest  
resources**

R. Di Biase, Università degli  
Studi di Milano - Bicocca; S.  
Franceschi, Università di Siena;  
L. Fattorini, Università di Siena

---

**15:30 - 16:30 | Aula 4  
CON5 - RECENT  
DEVELOPMENTS FOR UNIT  
AND ITEM NONRESPONSE**

**Chair**

A. Neri

***Inference from Sampling  
with Response Probabilities  
Estimated via Calibration***

C. Hasler, *Université de  
Neuchâtel*

***Balanced donor imputation  
handling Swiss cheese  
nonresponse***

E. Eustache; A. Vallée; Y. Tillé,  
*Université de Neuchâtel*

***Comparison between the  
“SwissCheese” method and  
missForest method in the case  
of partial non-response in  
fortune module of SILC***

A. Tripet, *Université de  
Neuchâtel*; M. Leuenberger,  
*Swiss Federal Statistical Office*;  
D. Kilchmann, *Swiss Federal  
Statistical Office*; E. Eustache,  
*Université de Neuchâtel*

***Recreational Fisheries  
strategies and the precision of  
participation rate estimates: a  
Monte Carlo Simulation study  
in Italy***

A. Bartolini, *Università di Trento*;

F. Cevenini, *Università di Trento*;  
M. Scanu, *Università di Bologna  
& CNR-IRBIM*; L. Bolognini, *CNR-  
IRBIM*; V. Franza, *CNR-IRBIM*;  
S. Raicevich, *ISPRA*; S. Ferrini,  
*Università di Siena & CSERGE*;  
F. Grati, *CNR-IRBIM*

---

**15:30 - 16:30 | Aula D  
CON6 - NEW INFERENCE  
METHODS FROM NON-  
PROBABILITY SURVEYS**

**Chair**

F. Schirripa *Spagnolo*

***Assessing Selection Error in  
Non-Probability Data by Means  
of Historical Data***

T. de Waal, *Statistics  
Netherlands & Tilburg University*;  
A. van Delden, *Statistics  
Netherlands*; I. Csorba, *Vrije  
Universiteit Amsterdam*

***Non-probability sample  
integration in the survey of  
Lithuanian census***

A. Ciginas, *Statistics Lithuania  
& Vilnius University*; I.  
Burakauskaitė, *Statistics  
Lithuania*

***Sampling and post-  
stratification weighting in a  
COVID-19 survey promoted***

***through social networks***

M. Silan; R. Bellide, *Università di  
Padova*

***On the use of machine  
learning methods in non-  
probability surveys***

L. Castro-Martín; M. Rueda; R.  
Ferri-García, *Universidad de  
Granada*

---

**16:30 - 17:00 | Aquarium  
COFFEE BREAK**

---

**17:00 - 18:30 | Aula 1  
INV7 - DATA INTEGRATION  
FOR SURVEY ESTIMATION:  
NEW METHODS AND  
APPLICATIONS**

**Organizer**

R. Lehtonen

**Chair**

E. Fabrizi

**Discussant**

M.R. Ferrante

***High-dimensional convergence  
for model-assisted estimators***

M. Dagdou, *Université de  
Bourgogne Franche-Comté*; C.  
Goga, *Université de Bourgogne  
Franche-Comté*; D. Haziza,  
*University of Ottawa*

***Machine Learning to Augment  
Stratification Frames in  
the context of Multilevel  
Regression and Post-  
Stratification (MrP)***

R. Cerina, *University of  
Maastricht*

***Multiply robust data  
integration procedures for  
handling non-probability  
samples***

D. Haziza, *University of Ottawa*;  
S. Chen, *University of Oklahoma*

---

**17:00 - 18:30 | Aula 4  
INV8 - DEVELOPMENTS  
IN POPULATION SIZE  
ESTIMATION AND  
INTEGRATION OF NEW DATA  
SOURCES**

**Organizer**

D. Filipponi

**Chair**

G. Bertarelli

***Semi-parametric Bayesian  
approach for estimating the  
size of criminal populations  
modeling the excess of  
singletons***

D. Di Cecco, *ISTAT - Istituto  
Nazionale di Statistica*;  
A. Tancredi, *Sapienza Università  
di Roma*; T. Tuoto, *ISTAT -*

Istituto Nazionale di Statistica

**Digital trace data collection  
through data donation**

L. Boeschoten, Utrecht  
University

**Dual-frame estimation  
approaches for combining  
probability and nonprobability  
samples**

J. Breidt, NORC at the University  
of Chicago

---

**18:30 - 19:00 | Aula D  
S2G ASSEMBLY**

---

**20:30 | Ristorante del Sole  
SOCIAL DINNER**

---

## FRIDAY June, 10

**9:00 - 10:30 | Aula 1  
INV9 - INDIRECT  
QUESTIONING TECHNIQUES  
FOR SENSITIVE SURVEYS**

**Organizer & Chair**  
P.F. Perri

**Comparing direct and indirect  
questioning techniques in  
online surveys: Evidences from  
a case of sexual behavior**

S.-H. Hsieh, Center for Survey  
Research, Research Center for  
Humanities and Social Sciences,  
Academia Sinica, Taipei

**Surveying Sensitive Questions:  
Potentials and Limits of the  
Item Count Technique (ICT)**

F. Wolter, University of Konstanz

**Two-Sample and One-Sample  
Item Count Techniques**

A. Quatember, Johannes Kepler  
University JKU Linz

---

**9:00 - 10:30 | Aula D  
CON7 - NEW DEVELOPMENTS  
IN SMALL AREA ESTIMATION**

**Chair**  
G. Bertarelli

**Model-assisted calibration  
and MRP methods for small  
area estimation: an empirical  
comparison**

R. Lehtonen; A. Veijanen,  
University of Helsinki

**A diagnostic evaluation of the  
prediction mean squared error  
in the Eblup-type small area  
estimation models**

R. Salvatore; L. Marcis; M.  
Pagliarella, Università di  
Cassino e del Lazio Meridionale

**Defining the sample designs  
for small area estimation**

V. Nardelli, Università degli  
Studi di Milano - Bicocca; P.  
Falorsi; S. Falorsi, ISTAT - Istituto  
Nazionale di Statistica; P. Righi,  
ISTAT - Istituto Nazionale di  
Statistica

**Machine Learning Approach  
for Estimation of Commuting  
in the Italian Population Census**

F. Solari; C. Ciccaglioni; L. Di  
Consiglio; T. Pichiorri, ISTAT -  
Istituto Nazionale di Statistica

**Violence against women  
survey: when capillarity of  
information is important**

I. Corazziari; M. D'Alò; A. Fasulo;  
M. Terribili, ISTAT - Istituto  
Nazionale di Statistica

*Prediction of Poverty Indicators under Informative Sampling between and within Small Areas and Informative Nonresponse within Areas*  
A.A. Eideh, Al-Quds University

---

10:30 - 11:00 | Aquarium  
COFFEE BREAK

---

11:00 - 12:00 | Aula 1  
ROUND TABLE - HOW CAN DATA INTEGRATION ENHANCE STATISTICS FOR KNOWLEDGE AND POLICY MAKING?

**Speakers**

A. Petrucci, Università degli Studi di Firenze  
N. Torelli, Università degli Studi di Trieste  
R. Chambers, University of Wollongong, Australia  
M. Pratesi, Università di Pisa & ISTAT

**Chair**

D. Cocchi, Università di Bologna

---

12:00 - 13:30 | Aula 1  
INV10 - RECENT ADVANCES IN DEALING WITH LINKAGE

**ERRORS**

**Organizer**

G. Bertarelli

**Chair**

D. Filipponi

**Discussant**

L-C. Zhang

**Correcting for Linkage Errors in Contingency Tables. A Cautionary Tale**

S. Scholtus, Statistics Netherlands; N. Shlomo, University of Manchester; T. de Waal, Statistics Netherlands & Tilburg University

**On Linkage Errors in repeated count data for population size estimation**

T. Tuoto, ISTAT - Istituto Nazionale di Statistica & Sapienza Università di Roma; A. Tancredi, Sapienza Università di Roma; D. Di Cecco, Sapienza Università di Roma

**Robust inference in linear regression models using probabilistically linked data**

E. Fabrizi, Università Cattolica del S. Cuore; R.L. Chambers, University of Wollongong; N. Salvati, Università di Pisa; S. Wang, Texas A & M University

---

12:00 - 13:30 | Aula 4  
INV11 - SMART SURVEYS AND NEW DATA SOURCES

**Organizer**

A. Bianchi

**Chair**

P. Righi

**Smartphones: collecting better social data for official statistics**

P. Lugtig, Utrecht University; B. Schouten, Statistics Netherlands; B. Struminskaya, Utrecht University; E. Rodenburg, Utrecht University; D. McCool, Utrecht University & Statistics Netherlands

**The Conceptual Framework for the European Platform for Trusted Smart Surveys: Methodological aspects**

C. De Vitiis; F. Inglese, ISTAT - Istituto Nazionale di Statistica

**Augmenting Information by combining Traditional Data with Textual Data**

C. Salvatore, Università degli Studi di Milano - Bicocca; A. Bianchi, Università degli Studi di Bergamo; S. Biffignandi, Università degli Studi di Bergamo

---

13:30 - 13:45 | Aula 1  
CLOSING REMARKS

---

13:45 | Aquarium  
LIGHT LUNCH

---



**TUESDAY June, 7**

# SHORT COURSE

## Survey Data Integration

**Instructor:** Jae-Kwang Kim (Iowa State University)

*Incorporating information from several sources is a fundamental problem in statistics. In statistical agencies, the desire to combine information from different sources to obtain an improved official statistic is increasing and survey data integration becomes an emerging area of research. In this workshop, we review the current state-of-the-art methods for survey data integration and discuss some future research direction*

**Venue:** Palazzo Bernabei - Assisi (Aula Magna - Sala del Camino)

### SCHEDULE:

**9:30 - 11:00** - Part 1: Survey data integration: Introduction

**11:00 - 11:30** - Coffee Break

**11:30 - 13:00** - Part 2: Prediction model approach to survey data integration

**13:00 - 13:45** - Lunch

**13:45 - 15:15** - Part 3: Weighting approach to Survey data integration

**15:15 - 15:45** - Coffee Break

**15:45 - 17:15** - Part 4: Advanced topics in survey data integration

**17:30 - 18:30** - Touristic Guide of St. Francis Basilica / Assisi - UNESCO World Heritage site



ITA-COSM  
2022





33

35





ITA  
COSM  
2022



Società  
Italiana di  
Statistica



A.D. 1908  
**unipg**

DIPARTIMENTO  
DI SCIENZE POLITICHE  
DIPARTIMENTO DI ECCELLENZA



A.D. 1308  
**unipg**

UNIVERSITÀ DEGLI STUDI  
DI PERUGIA