the Survey Statistician

The Newsletter of the International Association of Survey Statisticians

INTERNATIONAL ASSOCIATION OF SURVEY STATISTICIANS

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In this Issue

Letter from the Editors

Dear Readers, happy New Year 2021!

Last year we wished you health but unfortunately, our wish did not materialize for the whole world. Now we would like to wish you to resist to the disasters and to continue your activities in the best possible adapted way. In this vein, the current issue of TSS presents papers on ways to adapt the statistical work to changes in the world: Dealing with rising non-probability samples from large amounts of data and their integration with probability samples; finding a balance between high quality statistical results and data confidentiality; performing graph sampling using graphs which may reflect current spread of the virus.

The country reports present the work of statistical offices under pandemic conditions: Population census in Argentina; visualization of statistical results in Australia; use of machine learning techniques for statistical production in Canada; recent and upcoming surveys in Fiji; and a Covid-19 data portal in New Zealand. The issue presents information about the forthcoming conferences including the 63rd World Statistics Congress online and the contents of journals of interest to survey statisticians.

We would like to thank everyone who has provided inputs to this issue, all authors of the articles, and all people who worked in the preparation of the current issue. James Chipperfield is now responsible for the New and Emerging Methods section. Please let James (james.chipperfield@abs.gov.au) know if you would like to contribute to the New and Emerging Methods section in the future. Also, if you have any question which you would like to see answered by an expert, please send it to the new Ask the Experts section editor Ton de Waal from Statistics Netherlands (t.dewaal@cbs.nl). If you are interested in writing a book or software review or suggesting a source to be reviewed, please get in touch with the Book & Software Review section editor Emilio López Escobar from the Quantos Investigación Cuantitativa in Mexico (emilio@quantos.mx). Finally, the country reports should be sent to Peter Wright from Statistics Canada (peter.wright2@canada.ca). If you have any information about conferences, events or just ideas you would like to share with other statisticians – please do go ahead and contact any member of the editorial board of the newsletter.

The Survey Statistician is available for downloading from the IASS website at http://isi-iass.org/home/services/the-survey-statistician/.

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Eric Rancourt (eric.rancourt@canada.ca)

Letter from the President

Dear IASS members!

We are starting 2021 still facing many challenges and adapting to the new circumstances presented to all of us in 2020. Even though, I keep in mind the message of a Brazilian journalist who wrote: "whoever had the idea to cut time into slices, called the year, was a brilliant individual. Industrialized hope, making it work at the limit of exhaustion. Twelve months is enough for any human being to get tired and retreat". Then "… comes the miracle of renewal and it all starts again, with another number and another desire to believe that from now on everything will be different". So, being positive about 2021, I would like to highlight IASS successful actions and activities during the last semester of 2020 and compliment the IASS community members who contributed to the good news.

As planned, the IASS webinars, launched in June, became a successful regular activity. Overall, the webinar series was composed of four IASS webinars plus one joint IAOS-IASS webinar, celebrating the World Statistics Day and fostering collaboration between the associations. I thank the organisers, speakers, attendees, and the ISI PO for making it happen. These webinars were part of the ISI and Associations' Webinar programme and, with financial support from the World Bank (WB) Trust for Capacity Building, all videos are available at https://www.isi-web.org/webinars. The IASS ones can also be found in our website. Besides the webinars, IASS organised a virtual short course in Spanish on Survey Sampling and Survey Methods Topics in R for Latin American attendees. I express my gratitude to Pedro Silva and Guilherme Jacob, course instructors, and Leonardo Trujillo, course organiser. The News and Announcements session contains more information about this course. In addition, Marcel Vieira prepared a short course in English about the same topic that will be available as a self-learning material soon.

For the first time, in August, we held a virtual IASS Annual General Assembly. This was possible since the ISI have been given an exception (in Dutch law) for such meetings to occur virtually in 2020, even if this is not included in the articles of association. In the occasion, an amendment of the IASS Statutes was approved to allow a meeting of the General Assembly of the association to be held at each ISI biennial World Statistics Congress, at another conference or in virtual form. We thank all members who could attend the meeting for their inputs and support. A special thank you goes to Gordon Brackstone (IASS President 2005-2007) who responded to our call to complete information about past council members. Please have a look at (http://isi-iass.org/home/past-committees/).

Last semester was also marked by preparations for the World Statistics Congress 2021 (WSC2021) and the announcement of the 2021 Cochran-Hansen Prize (http://isi-iass.org/home/cochran-hansen-prize/). We ask the members to advertise the award, motivating young statisticians to join the competition. IASS vice-president Isabel Molina is the chair of the C-H Prize Committee. Also, if you have submitted an invited session proposal to the WSC2021, please let Monica Pratesi (IASS representative in the WSC2021 Scientific Programme Committee) and James Chipperfield know about it.

Although 2020 was a difficult year, many people devoted their time to our association. I will not list all of them here, but I would like to acknowledge that for every IASS initiative, committee, webinar, course, its website and each TSS page, there is someone keen to contribute. This is great and it

means that IASS matters for all of us. Let us keep this collaborative environment for the sustained development of IASS.

I wish you and your families a year with health, peace, harmony, and that you may be engaged in many gratifying professional projects in 2021.

With my best wishes,

Denise Silva

denisebritz@gmail.com

Report from the Scientific Secretary

It has again been a busy 6 months for me in the role of Scientific Secretary. In this report I introduce the article in the *New and Emerging Methods* section of the Survey Statistician, mention IASS-sponsored webinars that are available for you to watch, mention three invited session proposals for the World Statistics Conference that are sponsored by the IASS, advertise the Cochran-Hansen Prize 2021 and the Waksberg 2022 awards, and list upcoming conferences.

I encourage you to share your views on the functions of the Scientific Secretary with me.

New and Emerging Methods

Professor Li-Chun Zhang gives a thought-provoking account of sampling from a graph, defined as a population of units and connections between them. The concept of connections is applicable to the modern world (e.g., spread of disease and social networks) and it's great that statisticians are working on frameworks for incorporating them in sampling.

The format of *The New and Emerging Methods* articles is 8-10 pages and should cover the presenting challenge, the methods and their application, and the relevance to the development of survey methods. Please contact me if you are interested in writing such an article for future editions of *The Survey Statistician*.

Webinars

At time of writing, the IASS EC has held five webinars during 2020. Three were in response to the Covid-19 pandemic, one on population size estimation, and another to celebrate 2020 World Statistics Day. They are popular, attracting an audience of between 60 and 100. All of these are available on the IASS website (see http://isi-iass.org/home/webinars/). If you would like to contribute to the webinar series or would like to suggest a topic, please contact me.

IASS Website

We are very proud of the IASS website and we encourage you to check it out. It has monthly IASS newsletters, links to IASS webinars and much more! Thanks to Harry Raymond, Australian Bureau of Statistics and IASS Webmaster, for posting the information to our website.

Invited Session Proposals for the WSC 2021 Supported by IASS

If you are an IASS member and have submitted an ISP, please let me and Monica Pratesi (monica.pratesi@unipi.it) know. We are trying to keep track of them. The IASS EC has assisted the UNSD Inter-secretariat Working Group on Household Surveys on their ISP submission called Big Data for Official Statistics - Tips, Tricks and Techniques. I am aware of three ISPs for the WSC 2021 that are supported by the IASS. For your interest, the session's titles and contributors are listed below. Additional information about the sessions will be available in the IASS Newsletter for December 2020.

- *Session: Women in survey sampling research and practice*
  - Organiser: Alina Matei (University of Neuchatel)
  - Chair: Giovanna Ranalli (University of Perugia)
  - Discussant: Monica Pratesi (University of Pisa)
  - Speakers: Frauke Kreuter (University of Maryland), Claudia Rivera Rodriguez (University of Auckland, New Zealand), and Anne Ruiz-Gazen (University of Toulouse 1)

- *Session: Counting People with Administrative Data instead of a Traditional Census*
  - Chair: Prof. James Brown, (University Technology Sydney)
  - Discussant: Prof. Li-Chun Zhang (Southampton University)
  - Speakers: Ms Alison Whitworth (Office of National Statistics), Ms. Nicoletta Cibella (National Institute of Statistics), Ms. Antonella Bernardini (National Institute of Statistics), Dr. Ahmad Hleihel (Israel Central Bureau of Statistics)
- *Session: The Evolution of the 21st Century Census of Population and Housing*
  - Chair: Dr. James Chipperfield (Australian Bureau of Statistics)
  - Discussant: Prof. James Brown (University Technology Sydney)
  - Speakers: Ms. Gemma Van Halderen, (United Nations), Ms. Ms Valérie Roux (INSEE), Mr. Gary Dunnet (Statistics New Zealand)

Invitation to apply for Prizes and Awards

Cochran-Hansen Prize 2021: In celebration of its 25th anniversary in 1999, the International Association of Survey Statisticians (IASS) established the Cochran-Hansen Prize, which is awarded every two years for the best paper on survey research methods submitted by a young statistician from a developing or transition country. In the 2021 edition, the Cochran-Hansen Prize consists of research expenses in a total of €1500 to be executed until 15 February 2023. For details see http://isi-iass.org/home/cochran-hansen-prize/cochran-hansen-prize-2021/.

2022 Waksberg Award: The journal Survey Methodology has established an annual invited paper series in honour of the late Joseph Waksberg to recognize his outstanding contributions to survey statistics and methodology. Each year a prominent survey statistician is chosen to write a paper that reviews the development and current state of an important topic in the field of survey statistics and methodology. The paper reflects the mixture of theory and practice that characterized Joseph Waksberg's work. For more details see http://isi-iass.org/home/waksberg-award/.

WB capacity Building Fund for Analysis of survey data using R short course

The IASS was funded by the World Bank to organise the delivery of courses on Analysis of survey data using R during 2020 to developing countries. We are pleased to announce that the IASS has arranged two such courses. Marcel Vieira from Brazil has prepared a short course (video and slides) in English that can be used as a self-learning activity and will be available on the ISI webinar. Prof. Pedro Luis do Nascimento Silva, with support from teaching assistant Guilherme Anthony Pinheiro Jacob, also delivered a course in Spanish.

Conferences

If you would like to advertise a conference, workshop, or course that would be of interest to IASS members please let me know.
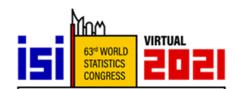
James Chipperfield

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IASS Scientific Secretary

News and Announcements

ISI World Statistics Congress 2021 goes VIRTUAL!

The International Statistical Institute's biennial 'World Statistics Congress 2021 - The Hague' (https://isi2021.org/), will be held virtually in July 2021.

This is an opportunity for the ISI to host a more inclusive conference than ever before. It will allow us to have the greatest ever participation, reaching out to a wide diversity of members who would not otherwise be able to afford to attend an international conference, at lower costs, and with a lower carbon footprint. We hope to see a large number of first-time participants, including many early career statisticians and students along with colleagues from developing countries.

Holding a WSC in 2021 will maintain the continuity of WSCs. There will still be a strong link with The Hague, the original venue, in the virtual conference. The ISI will take the opportunity to develop new formats and harness new technology to modernise our meeting.

Please visit the website for information on the scientific programme (https://isi2021.org/scientific-programme.html), including the timetable, and for registration (https://isi2021.org/registration.html) categories and fees.

ISI World Statistics Congress 2023: OTTAWA is chosen!

The ISI is (also) pleased to announce that the World Statistics Congress 2023 will be held in Ottawa, Canada. The Congress will be held from 15 to 20 July, in the Shaw Centre (https://www.shaw-centre.com/), in the heart of the city.

The venue was chosen after competitive bids from a number of venues in Canada were assessed. We are grateful to the Statistical Society of Canada and to Statistics Canada for their support. We are confident that the Congress will build on the experience of WSC 2021 and will include a virtual element.

We look forward to meeting up with colleagues and friends again in Canada!

Announcement: New editor of Survey Methodology

Statistics Canada is pleased to announce the appointment of Jean-François Beaumont, senior statistical advisor at Statistics Canada, as the new Editor of *Survey Methodology*, effective January 1st, 2021. Jean-François Beaumont has been associated with the Journal for 20 years; he first served as assistant editor from 2000-2010, and then as associate editor from 2010-2020. He published several papers in a number of peer-reviewed journals, including nine in *Survey Methodology*.

Jean-François Beaumont succeeds Dr. Wesley Yung, who has been the Editor of *Survey Methodology* since 2015. Dr. Yung will remain a member of the Management Board and will continue to contribute to the Journal as associate editor. We deeply thank him for his valuable contributions as editor over the past five years. Amongst other achievements, he steered the journal into publishing more than 80 papers. He also led the journal in publishing a special issue as part of a

collaboration with the *International Statistical Review* in honour of Prof. J.N.K. Rao's contributions. Dr. Yung was also instrumental in the implementation of the ScholarOne online manuscripts submission system in 2019.

Survey Methodology has evolved tremendously over the past 45 years under the leadership of the previous editors, starting with Dr. M.P. Singh (1975-2005), and then John Kovar (2006-2009), Dr. Michel Hidiroglou (2010-2015) and recently Dr. Wesley Yung (2016-2020). In the first years after its creation, the Journal published papers mainly from Statistics Canada's authors, but it soon acquired the worldwide reputation of a high-quality journal for survey statisticians and methodologists under the dedicated editorship of Dr. M.P. Singh. *Survey Methodology* continued to thrive under the subsequent editors to become the journal we know today. It nowadays publishes innovative theoretical or applied statistical research papers from international authors on issues relevant to the activities of National Statistical Offices.

While the contributions of previous editors were invaluable in making *Survey Methodology* a journal with international stature, we look forward to see where Jean-François Beaumont will take the Journal in the years to come. There is a new publication landscape with many players in the field and authors have heighten expectations in terms of review expediencies. While navigating this new ecosystem, we are confident that *Survey Methodology* will continue to flourish under the editorship of Jean-François Beaumont and that it will keep its same essential core value of scientific rigour.

Survey Methodology is available for free at www.statcan.gc.ca/SurveyMethodology.

Analysis of survey data using R short course

The short course on 'Analysis of survey data using R' (**Análisis de datos de encuestas usando R**) was held in six remote sessions of 3 hours each, on November 13, 14, 20, 21, 27 and 28. The course was taught by Prof. Pedro Luis do Nascimento Silva, with support from teaching assistant Guilherme Anthony Pinheiro Jacob. Teaching was carried out in Spanish, with course notes and all other relevant material (R code, data sets, references etc.) provided to the participants.

A total of 47 participants completed the course, with 1 from Panama, 4 from Peru and 42 from Colombia.

The course was hosted by the Universidad Nacional de Colombia, sede Bogotá, under the leadership of Prof. Leonardo Trujillo Oyola. It had support from several scientific and professional organizations, namely:

- International Statistical Institute (ISI) – Statistical Capacity Building Committee;
- International Association of Survey Statisticians (IASS);
- Instituto InterAmericano de Estadística (IASI);
- Sociedad Colombiana de Estadística;
- Escola Nacional de Ciências Estatísticas (ENCE/IBGE).

The course covered aimed to develop participants' capacity to analyse complex sample survey data using modern methods and tools available in the R statistical software, including tools for weighting survey data, computing point and standard error estimates, model fitting, selection and diagnostics. Numerous examples using real survey data were provided and formed an integral part of the training.

Pedro Luis do Nascimento Silva

December 2020

A tribute to Ken Brewer

Ken Brewer, one of the giants of survey sampling, passed away peacefully in the early hours of 3 January, 2021 in Canberra.

Ken was a great scholar, very wise and showed interests in many areas of statistical applications, on which he published extensively. He had also published two books and over 100 papers on survey sampling, many of which were highly cited.

Apart from his academic achievements, Ken was also a very kind man. He never stopped sharing his insights and knowledge on statistics with the more junior colleagues. He also generously offered help to many others in the different stages of their career - I was one of those who benefitted from his advice to settle in Canberra in the mid 1980's as a new immigrant and, since that time, learned a lot from working alongside with him.

Summarising one of Ken's most noticeable contributions very well when, announcing Ken's passing away to the subscribers of the Survey Research Methodology Section of the American Statistician, Phil Knot said:

 "One of Ken Brewer's most remarkable achievements was a paper effectively summarizing over 20 years of the design-based vs model-based debate, which ranged from Richard Royall's infamous 1970 Biometrika paper till the model-assisted synthesis coined and described in Särndal, Swensson, and Wretman's 1992 Book. Ken published this paper in the Journal of Australian Statistics in 1963."

In many areas of research, Ken was ahead of his time.

Ken was an excellent researcher, colleague, friend and teacher to many of us. Ken will be sorely missed.

Siu-Ming Tam

Honorary Professorial Fellow, University of Wollongong