### SRTL-10



# The Tenth International Research Forum on Statistical Reasoning, Thinking and Literacy

SUDIMA HOTEL, ROTORUA, NEW ZEALAND

JULY 2 TO JULY 8, 2017

SRTL Website: http://srtl.info

### FINAL ANNOUNCEMENT

### Kia ora SRTL friends

We are happy to email you the latest information about the SRTL-10 meeting. We look forward to your participation and contribution and hope that the following information will help you in preparing for this unique gathering.

In this final announcement we provide information about:

- General information (Sponsors, SRTL-10 scientific committee, local organising committee and venue)
- Information for your arrival and departure in Auckland
- SRTL-10 invited participants
- SRTL-10 schedule
- Instructions for discussants
- Presentation format
- SRTL-10 Google Drive information
- Publication
- Travel guide: Climate, clothing, electricity, currency, weights & measures, insurance, tax and tipping, time, visas, border control, events in NZ in July and drinking water.

Note: We will NOT provide hard copies of any readings, unless you make a special request. We assume most will review materials on their computers or mobile devices.

We wish you all a good flight!

E kite wawe ia koe

### Ngā Mihi

Maxine Pfannkuch Stephanie Budgett Pip Arnold Local Organizer Local Organizer Local Organizer

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Katie Makar Dani Ben-Zvi Co-chair Co-chair

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### **SPONSORS**

A sincere thank you to the sponsors who have helped to make the Research Forum possible:

- ASA (American Statistical Association) Statistics Education, USA
- Cognition Education, New Zealand
- Department of Statistics, Auckland University, New Zealand
- IASE (International Association for Statistical Education)
- Springer Publishing Company, USA
- The New Zealand Statistical Association

### SRTL-10 SCIENTIFIC PROGRAM COMMITTEE

By reviewing the proposed papers, the members of the Scientific Program Committee have helped to shape the scientific program of SRTL-10.

- Andee Rubin TERC, USA
- Dani Ben-Zvi The University of Haifa, Israel
- Dave Pratt University College London, UK
- Janet Ainley University of Leicester, UK
- Katie Makar The University of Queensland, Australia
- Maxine Pfannkuch The University of Auckland, New Zealand
- Rob Gould University of California, Los Angeles, USA
- Sibel Kazak Pamukkale University, Turkey

### LOCAL ORGANIZING COMMITTEE

Maxine Pfannkuch	Stephanie Budgett	Pip Arnold
Department of Statistics	Department of Statistics	Cognition Education
Auckland University	Auckland University	16 Normandy Rd
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### VENUE AND ACCOMMODATION

The SRTL-10 Research Forum will be held at the <u>Sudima Hotel</u> in Rotorua, New Zealand. We are in the process of organising transport from Auckland to Rotorua (and back) and Pip will be contacting you individually if you did not have your arrival and/or departure information at the time of registration. It is likely that she has done this already. We will be using a mixture of organising committee cars and airport shuttles to transfer those who need it to and from Rotorua. Transfer information will be confirmed closer to the conference time.

If you are still to book your flights we recommend that you plan to arrive before 9am on your flight on Sunday 2 July if you are flying in that day. If you arrive the day before we recommend you stay at a hotel near the airport. Another option is to transfer at <u>Auckland International Airport</u> to a domestic flight to Rotorua, in which case we will arrange for a shuttle to pick you up at the <u>Rotorua Airport</u> to transfer you to the Sudima Hotel. A further option is to hire a car to drive to Rotorua, a three-hour journey from Auckland. For the way back on Saturday July 8, we will leave at about 2pm from Sudima Hotel and arrive at about 5pm at Auckland International Airport. If you intend to leave on Saturday July 8, we recommend that you take a flight *not earlier than 8pm* or that you stay at a hotel near the airport.

We will stay at the <u>Sudima Hotel</u>. The hotel is located in Rotorua City adjacent to the famous <u>Polynesian spa</u> pools overlooking Lake Rotorua.

Sudima Hotel has its own heated swimming pool and private spas. Most meals will take place at Sudima, but a couple of the dinners will take place at other restaurants. You were asked to include your dietary requirements at registration. If these have changed since then please let Pip know parnold@cognitioneducation.com.

### All participants are required to attend the entire Forum programme.

The programme will begin on Sunday afternoon July 2 2017 at 4pm. Meetings will take place through to Saturday July 8 at 2pm, interspersed with local excursions around Rotorua.

### **Transfers**

Pip will be in touch shortly to confirm your individual transfer arrangements for SRTL-10.

### INVITED PARTICIPANTS

The final list of delegates at the time of publication is:

**First Name Last Name Country** Role Keren Aridor Israel Presenter 2 Pip Arnold NZ Local Organiser 3 Matthew Beckman USA Presenter Presenter, Sci. Committee, SRTL co-chair Dani Ben-Zvi 4 Israel 5 Stephanie Budgett NZ Presenter, Local Organiser USA 6 Jason Dolor Presenter 7 Michal Dvir Israel Presenter **USA** 8 Tim Erickson Discussant 9 Anna-Marie Fergusson NZ Presenter 10 Jill Fielding-Wells Australia Presenter 11 Rob Gould USA Discussant, Sci. Committee 12 Nicola Justice **USA** Presenter 13 Sibel Kazak Turkey Presenter, Sci. Committee 14 Vicky USA Laina Presenter USA Presenter, Discussant 15 Rich Lehrer 16 Katie Makar Australia Sci. Committee, SRTL co-chair Noll **USA** 17 Jennifer Presenter NZ 18 Anne Patel Presenter 19 Pfannkuch NZ Maxine Presenter, Sci. Committee, Local Organiser 20 Andee Rubin USA Discussant, Sci. Committee Shinohara USA 21 Mayumi Presenter NZ 22 Chris Wild Keynote Speaker Michelle 23 Wilkerson USA Presenter 24 Lucia Zapata Colombia Presenter 25 USA Presenter, Discussant Andrew Zieffler

### THE SCIENTIFIC PROGRAMME

The working language of the Research Forum is English, all electronic communication will be in English, all sessions will be conducted in English, and all written materials produced will be in English. All participants will be able to download the <u>proceedings</u> by **June 12, 2017** from the <u>shared Google Drive proceedings folder</u> so that the papers can be read before attending the Forum.

During the Forum we shall use this <u>Google Drive</u> to share materials (such as, presentations, video segments and handouts). Please upload all your materials to this folder before the Forum (there is no file size limit).

The activities of the scientific program include:

- Keynote address on opening night (Chris Wild).
- Research presentations to the entire group. There will be 8 long presentations (90 min) and 5 short presentations (30 min). Each presenter, or team of presenters, will be allocated 90 or 30 minutes, which includes interactive whole group discussion and a small subset of video clips (and related handouts), if desired.
- Small group discussion around each cluster's thematic topic (1 hour).
- Short opening session each day for reflection on the presentations and discussions of the previous day (30 minutes).
- Optional afternoon interactive meeting/s devoted to viewing and discussing research using video data, or sharing other projects of the participants.
- Panel presentation by discussants (90 minutes) on closing day.
- Looking backward looking forward summary session on closing day (2 hrs).

### **SCHEDULE**

Conference theme: Innovations in Statistical Modelling to Connect Data, Chance and Context

**Day 1: Sunday 2 July, 2017** 

Focus of the day: Welcome and keynote address

Mod of the day: Katie and Dani

Timing	Activity	Location
Before 1pm	Transfer from Auckland Airport or other location to Rotorua	
1pm – 2pm	Lunch at the hotel	Sudima Hotel Restaurant
2pm	Check in to room	Reception
Post check in – 4pm	Free time to explore venue and local surroundings	
4pm – 5pm	<ul> <li>Welcome reception and session (Katie &amp; Dani)</li> <li>Welcome – Mihi whakatau</li> <li>Getting to know each other: goals, expectations and concerns</li> <li>What we have gained from past SRTLs</li> <li>Introduction to conference theme: Innovations in Statistical Modelling</li> <li>Introduction to scientific and social programme of SRTL-10</li> </ul>	Summit Room
5pm – 6pm	<b>Key note address:</b> Chris Wild: <i>Modelling: Connecting the Worlds</i>	Summit Room
6pm – 6:30 pm	Discussion	Summit Room
6:30pm – 7pm	Free time	
7pm – 8:30pm	Dinner at the hotel	Hotel
8:30pm –	Optional hot pool swim	Hotel or Polynesian Pools

### Day 2: Monday 3 July

Focus of the day: Primary and middle school students' reasoning about modelling

Mod of the day: Andee

Timing	Activity	Location
From 6:30am	Breakfast Physical activities (e.g., yoga, walking, Qigong)	Hotel
8:30am – 9am	Reflection	Summit Room
9am – 10:30am	Long presentation 1: Keren Aridor and Dani Ben-Zvi: Students' aggregate reasoning with sample and sampling in a statistical modelling environment	Summit Room

10:30am – 11am	Morning tea	
11am – 12:30pm	Long presentation 2: Mayumi Shinohara and Richard Lehrer: Narrating lines of practice: Students' views of their participation in statistical practices	Summit Room
12:30pm – 2:30pm	Lunch followed by own choice of walk	Restaurant Lakefront, City, Whaka (additional cost)
2:30pm – 3pm	<b>Short presentation 1</b> : Anne Patel and Maxine Pfannkuch: <i>Developing statistical modeling competencies in Year 7 students</i>	Summit Room
3pm – 4pm	Small group discussions ( <b>SMODs</b> : Rob, Rich, Andy and Tim)	
4pm – 4:30pm	Afternoon tea	
4:30pm – 5:30pm	Free time	
5:30pm -6:30pm	Video viewing and other projects session 1 (optional)	
From 6:30pm	Dinner at the hotel	Hotel

Day 3: Tuesday 4 July Focus of the day: University students' reasoning about modelling

Mod of the day: **Andy** 

Timing	Activity	Location
From 6:30am	Breakfast, Physical activities	Hotel
8am – 8:30am	Reflection	Summit Room
8:30am – 10am	<b>Long presentation 3</b> : Jennifer Noll, Kit Clement, Jason Dolor, and Matthew Petersen: <i>Students' use of narrative when constructing statistical models in TinkerPlots</i> <sup>TM</sup>	Summit Room
10am – 10:30am	Morning tea	
10:30am – 11am	Short presentation 2: Matthew Beckman and Robert delMas: Assessing student understanding of statistical models connecting data, chance and context	Summit Room
11am – 11:30am	Short presentation 3: Michelle Wilkerson and Kathryn Lanouette: Connecting research and creating frameworks: A report from the youth, learning and data science summit	Summit Room
11:30am – 12:30pm	Small group discussions ( <b>SMODs:</b> Stephanie, Maxine, Sibel and Lucia)	
12:30pm – 2pm	Lunch Hobbiton people depart with lunch box	
2pm – 5:30pm	Local activity afternoon	<ul><li>Choice of three activities</li><li>Te Wairoa Buried Village</li><li>Treetops walk</li><li>Hobbiton</li></ul>
5:30pm – 6:30pm	Free time	

From 6:30pm	Dinner at Skyline	
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## Day 4: Wednesday 5 July

Focus of the day: Data modelling from primary to middle school

Mod of the day: Rich

Timing	Activity	Location
From 6:30am	Breakfast, Physical activities	Hotel
8am – 8:30am	Reflection	Summit Room
8:30am – 10am	Long presentation 4: Jill Fielding-	Summit Room
	Wells: Dot plots and Hat plots:	
	Supporting young students emerging	
	understandings of distribution, centre	
	and variability through modelling	
10am – 10:30am	Morning tea	
10:30am – 11am	Short presentation 4: Sibel Kazak,	Summit Room
	Dave Pratt and Rukiye Gökce: Students'	
	emergent reasoning about models and	
	modeling during a data modeling task	
11am – 11:30am	<b>Short presentation 5:</b> Michal Dvir and	Summit Room
	Dani Ben-Zvi: The role of model	
	comparison in young learners' reasoning	
	with statistical models and modeling	
11:30am – 5pm	Excursion including lunch	Waimangu
5pm – 6pm	Small group discussions (SMODs: Jason,	
	Keren, Anne and Mayumi)	
6pm – 6:30pm	Free time	
From 6:30pm	Dinner at the hotel	Hotel

### Day 5: Thursday 6 July

Focus of the day: From university students to teachers' reasoning about modelling

Mod of the day: **Rob** 

Timing	Activity	Location
From 6:30am	Breakfast, Physical activities	Hotel
8:30am – 9am	Reflection	Summit Room
9am – 10:30am	Long presentation 5: Stephanie Budgett and Anna Fergusson: Modelling and linking the Poisson and exponential distributions in the real world and in the model world	Summit Room
10:30am – 11am	Morning tea	
11am – 12:30pm	Long presentation 6: Nicola Justice, Michael Huberty, Andrew Zieffler, and Robert delMas: Secondary teachers' reasoning about statistical models	Summit Room
12:30pm – 2:30pm	Lunch	
2:30pm – 3:30pm	Small group discussions ( <b>SMODs</b> : Vicky, Michelle, Chris and Matthew)	Summit Room
3:30pm – 4pm	Afternoon tea	

4pm – 5pm	Video viewing and other projects session 2 (optional)	
5pm – 6:30pm	Free time	
From 6:30pm	Hangi dinner at Hotel, Maori concert, Music Night	Hotel

## Day 6: Friday 7 July

Focus of the day: **Data modelling in the middle school** 

Mod of the day: **Tim** 

Timing	Activity	Location
From 6:30am	Breakfast, Physical activities	Hotel
8am – 8:30am	Reflection	Summit Room
8:30am – 10am	<b>Long presentation 7</b> : Vasiliki Laina and Michelle Wilkerson: <i>Modeling data by visualizing it</i>	Summit Room
10am - 10:30am	Morning tea	
10:30am – 12noon	Long presentation 8: Lucía Zapata- Cardona and Mónica Marcela Parra- Zapata: Students' construction and use of models for informal inferential reasoning	Summit Room
12noon – 1pm	Small group discussions ( <b>SMOD</b> s: Michal, Anna, Jill and Nicola)	
1pm - 5:30pm	Excursion including lunch	Lakes
5:30pm – 6:30pm	Free time	
From 6:30pm	SRTL dinner at Princes Gate Hotel	

## Day 7: Saturday 8 July

Focus of the day: Wrap-up and plan ahead - farewell

Mod of the day: **Jennifer** 

Timing	Activity	Location
From 6:30am	Breakfast, Physical activities	Hotel
8:30am – 9am	Reflection	Summit Room
9am – 10:30am	Discussants' panel (Andee, Rob, Tim, Rich and Andy)	Summit Room
10:30am – 11am	Morning tea	
11am – 1pm	Looking back and looking forward – Whole group discussion (Katie and Dani) Closing – Whakawaatea	Summit Room
1pm – 2pm	Lunch and departures after 2pm	Hotel

### INSTRUCTIONS FOR DISCUSSANTS

Discussants will actively participate in all sessions and discussions. In addition they will have time to share their own reflections and comments on the Forum in a panel on the concluding day.

### PRESENTATION FORMAT

The scientific program groups presentations thematically into clusters. A cluster consists of:

- 2–3 presentations (long and short), combined with
- small group discussion (60 min), and
- reflection discussion (30 min on the following day).

This structure allows each presenter to share the details of their research with the entire group, and in addition, permits the entire group to process the research findings and substantively interact with the cluster topic.

**Long presentations** will be 90 minutes long: 60 min for presentation and 30 minutes for discussion (not necessarily as two blocks). Presenters of long presentations are encouraged to present short excerpts of video clips (if available). All handouts of transcribed interviews/observations or other materials as needed for presentations will be in digital format. If presenters wish to have hard-copy handouts then it is their responsibility to provide them at their session. Material will be uploaded to the SRTL-10 <u>Google Drive Folder</u>. In the presentation, just a small subset of short research video will be presented, but presenters will have the opportunity to interact with video research data during two dedicated one-hour long sessions for this task. All presenters are requested to bring their video segments and upload them to the SRTL-10 <u>Google Drive Folder</u>.

**Short presentations** will be 30 minutes long: 15 min for presentation and 15 minutes for discussion (not necessarily as two blocks). Presenters are requested to prepare their slides accordingly in a concise and clear format, and to include discussion questions. We assume there is no room for video clips in such a short time, however if you wish to show one, please make sure it is about 1-2 min long, and provide a transcript. All materials should be uploaded to the designated Google Drive Folder.

### GOOGLE DRIVE: SHARED SRTL-10 FOLDER

During the Forum we will use Google Drive to share materials. See: Google Drive Folders

### **PUBLICATION**

We have successfully negotiated for the completed versions of papers presented at SRTL-10 to be submitted to a special issue of ZDM Mathematics Education entitled *Innovations in Statistical Modelling to Connect Data, Chance and Context*. Invitations to submit to this special issue were also given to SRTL-9 participants. In total 18 papers are planned, including a required substantive overview of the research in the area by the Guest Editors: Maxine, Stephanie and Dani.

ZDM has very strict requirements, one of which is that the time for submitting your papers to ZDM will be between the 1<sup>st</sup> November and the 30<sup>th</sup> November 2017. ZDM also has very strict limits on the length of a paper – not more than 60,000 characters including spaces. Because ZDM aims to publish papers within one year from original submission, their deadlines for submission, report back to authors, and resubmission are adhered to. It is expected that papers will go through two revisions. ZDM will choose independent reviewers as well as reviewers from people who submit a paper. Therefore if you submit a paper you will be expected to complete at least one review.

More information about requirements and submission to ZDM will be sent to authors at a later date.

### TRAVEL GUIDE

### **Climate and clothing**

SRTL-10 will take place in Rotorua during winter. In July, the average daytime temperature typically ranges from 9 to 16°C (approximately 50 to 60°F) with overnight lows ranging from about 1 to 9°C (approximately 34 to 50°F). It is recommended that you bring warm clothing including a puffer jacket, warm hat, gloves, raincoat and umbrella. There is a 42% chance of rain on a day so do bring wet weather clothing. Also bring your togs (bathing suit) to enjoy the hot pools and a good pair of walking shoes for the excursions. For more information on the climate in Rotorua area: <a href="https://www.timeanddate.com/weather/new-zealand/rotorua/historic">https://www.timeanddate.com/weather/new-zealand/rotorua/historic</a>



Puffer jacket

### **Electricity**

Supply runs at 220–240V, 50Hz AC; sockets require a three-pin plug with straight prongs. All visitors except the Australians will need an adaptor.



### **Currency**

NZD=100 cents. Notes are in denominations of \$100, 50, 20, 10 and 5. Coins are in denominations of \$2 and \$1, and 50, 20, and 10 cents. Transactions in cash are rounded to the nearest 10 cents. Credit cards are widely accepted in shops, petrol stations, restaurants and hotels. All major credit cards are accepted, but it is advisable to carry cash as well. Cheques are very rarely used.

### Weights and measures

New Zealand uses the metric system for all measures, including road signs (kilometres/hour) and petrol (price displayed is per litre).

### **Insurance**

It is recommended that participants arrange insurance for medical expenses, loss and accidents that may occur during the Forum. The University of Auckland/Cognition Education cannot be held responsible for any losses, damages or injuries.

If you have the misfortune to need a doctor or hospital care you will need to pay up front and claim it back from your insurance company. (Be sure to keep the originals safe.) Alternatively, you might be sent an invoice in the post. If you are involved in an accident the New Zealand Health system will take care of you through ACC (see: link).

### Tax and tipping

Tax is included in prices.

Tipping is not expected in New Zealand. Occasionally you may give a tip in a restaurant if the meal or service is superb.

### **Time**

New Zealand in terms of time is among the first in the world. See your smartphone world clock.

#### Visas

Every international traveller needs to check with their own authorities regarding travel visas for travelling to New Zealand.

### **Border Control**

New Zealand is very strict about bringing in food items, wood products, dirty hiking boots (if they are dirty you will have to wait while they are cleaned) etc. If you are not sure DECLARE any item you have on the passenger arrival form you are given, otherwise you may find that a forgotten apple, for example, lands you an instant fine of \$400. Expect sniffer dogs around your luggage, and that your bags will be x-rayed. New Zealand needs to protect its farming and horticulture industry and does not want new pests introduced into the country. See: <a href="http://www.fourcorners.co.nz/new-zealand/customs-and-visas/">http://www.fourcorners.co.nz/new-zealand/customs-and-visas/</a>

### **Events in July in New Zealand**

The national obsession in New Zealand is rugby. The British and Lions **rugby tour** to New Zealand is from 3<sup>rd</sup> **June 2017** to 8<sup>th</sup> **July 2017**. It is expected that 20,000 UK supporters will be touring New Zealand during this time. (Note we could not get into some hotels for this conference because they were pre-booked by rugby tour operators in 2015.) **School holidays** in New Zealand start on the 8<sup>th</sup> **July 2017**. New Zealand is also having a tourist boom meaning hotel accommodation and tourist attractions are at a premium.

### **Drinking water**

Tap water is very good quality and is strictly monitored. It can be freely used for consumption.

For detailed information on New Zealand, please see official site for Tourism New Zealand <a href="http://www.newzealand.com/int/">http://www.newzealand.com/int/</a>