ISAG 2012

33rd CONFERENCE

CAIRNS, AUSTRALIA

July 15 – 20, 2012

33rd Conference of the

International Society for Animal Genetics

July 15–20, 2012, Cairns, Australia

Conference Program

ISAG 2012 Conference Program – At – A- Glance

Time	Sunday, July 15th	Monday, July 16th	Tuesday, July 17th	Wednesday, July 18th	Thursday, July 19th	Friday, July 20th
8:30 - 9:00		**Opening Ceremony**				
9:00 - 10:30		Plenary session #1: Quantitative meets molecular genetics I	Plenary session #3: Quantitative meets molecular genetics II		Workshop session #3: Publishing in Animal Genetics; Cattle Molecular Markers & Parentage Testing; Pig Genetics & Genomics; Dog and Cat Genetics & Genomics; Domestic Animal Epigenetics	Plenary session #5: Epigenetics
9:00 - 9:45		Mike Goddard	Morris Soller			Anne Ferguson-Smith
9:45 - 10:30		John Gibson	Takashi Gojobori			Emma Whitelaw
10:30 - 11:00		Morning tea	Morning tea		Morning tea	Morning tea
11:00 - 12:30		Plenary session #2: DNA analysis	Plenary session #4: Quantitative meets molecular genetics III		Workshop session #3 (continued)	Plenary session #6: New technologies
11:00 - 11:45		Alan Cooper	John McEwan			Ning Li
11:45 - 12:30		Kathy Belov	John Quackenbush			Claire Wade
12:30 - 14:00	**REGISTRATION**	Lunch + poster session (even numbers)	Lunch + poster session (odd numbers)	**FREE DAY FOR TOURS & SIGHTSEEING**	Lunch + poster session (all numbers)	Lunch (12:30 - 13:30)
14:00 - 15:30		Workshop session #1: Animal Forensic Genetics; Horse Genetics & Genomics; Domestic Animal Sequencing; Llama and Alpaca Working Group; Genetics of Immune Response	Workshop session #2: Avian Genetics & Genomics; Ruminant Genetics & Genomics; Equine Genetics & Thoroughbred Parentage Testing; ISAG-FAO Genetic Diversity; Comparative MHC		Workshop session #4: Comparative & Functional Genomics; Genetics & Genomics of Aquaculture Species; Applied Genetics of Companion Animals; Applied Sheep & Goat Genetics; Livestock Genomics for Developing Countries	Alan Wilton Memorial Session (13:30 - 14:15): Barbara Zangerl Award Ceremony (14:15-14:30)
15:30 - 16:00		Afternoon tea	Afternoon tea		Afternoon tea	Business Mtg + Closing (14:30 - 16:00)
16:00 - 17:30		Workshop session #1 (continued)	Workshop session #2 (continued)		Workshop session #4 (continued)	Afternoon tea
17:30 - 19:30	**Welcome Reception**					
19:00 - 23:00					**Conference dinner**	

33rd CONFERENCE OF THE INTERNATIONAL SOCIETY OF ANIMAL GENETICS

JULY 15 – 20, 2012, CAIRNS, AUSTRALIA

CONFERENCE PROGRAM

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WELCOME TO THE 33RD INTERNATIONAL SOCIETY OF ANIMAL GENETICS

CAIRNS, AUSTRALIA July 15 – 20, 2012

G'day,

It is with great pleasure that the ISAG 2012 Organising Committee welcomes you to Cairns, Australia. We trust that you will enjoy the wonderful hospitality of the Aussies, delight in the beautiful sights of this land down under, and have a fantastic scientific conference. The hospitality and the natural delights will take care of themselves, but delivering the science would not be possible without three important groups – our sponsors, our workshop chairs and our speakers. So we are deeply indebted to them for their contributions to making this a great conference.

The theme of the conference is "Quantitative Genetics Meets Molecular Genetics" as these two fields of genetics are becoming increasingly intertwined. Molecular tools are being applied as never before, and as a consequence, genetics as a discipline is evolving with amazing speed. How genomics can be implemented is of interest from an animal production standpoint in all countries. From the scientific standpoint, the opportunities are equally tremendous as genomics helps unravel the mysteries of epigenetics, microRNA, gene expression and genome evolution to name but a few. These developments are really another recurrent theme of the conference. Thus, we trust that everyone will find the conference interesting, diverse, exciting and most of all, inspiring.

We know that many of you will have traveled great distances to join us. So we hope that the schedule will allow you to absorb some science as well as some sun. To avoid getting burned out, Wednesday is a planned free day for you to relax before you dive back into the science. To avoid getting sunburned, we strongly recommend lots of sun block and hats before you venture into the great outdoors. We do not want any red faces!

Now, let us have some fun! On with the science!

Cheers,

Cindy Bottema on behalf of the ISAG 2012 Organising Committee

ISAG 2012 Organising Committee

Chair: Assoc. Prof. Cynthia Bottema, University of Adelaide
Assistant to the Chair: Dr. Hayley McGrice, University of Adelaide
Dr. Enoch Aduli, University of Tasmania
Prof. David Adelson, University of Adelaide
Dr. Yizhou Chen, NSW Department of Primary Industries
Dr. Brian Dalrymple, CSIRO Livestock Industries
Assoc. Prof. David Groth, Curtin University
Dr. Greg Harper, CSIRO Livestock Industries
Prof. Stefan Hiendleder, University of Adelaide
Dr. James Kijas, CSIRO Livestock Industries
Prof. Chris Moran, University of Sydney
Prof. Stephen Moore, University of Queensland
Dr. Kylie Munyard, Curtin University
Prof. Frank Nicholas, University of Sydney
Prof. Hutton Oddy, University of New England
Assoc. Prof. Wayne Pitchford, University of Adelaide
Prof. Herman Raadsma, University of Sydney
Dr. Mohammad Shariflou, University of Sydney
Dr. Imke Tammen, University of Sydney
Dr. Ross Tellam, CSIRO Livestock Industries
Assoc. Prof. Ann Trezise, University of Queensland
Dr. Dianne Vankan, University of Queensland
Prof. Claire Wade, University of Sydney

DEDICATION: We would like to dedicate this conference to the late Associate Professor Alan Wilton of the University of New South Wales, who was the inspiration to hold the ISAG 2012 Conference in Australia.

ISAG 2012 SPONSORS

We are very grateful to our following sponsors without whom this conference would not have been possible. Please take the opportunity to visit with them.

Sponsor	Level	Exhibition Booth
IFAG/ISAG/Wiley	Platinum	1, 11
Illumina	Gold	7, 8
Millennium Science - Affymetrix	Gold	2
Millennium Science - Fluidigm		4
GeneSeek (Neogen)	Silver	10
UQ Animal Genetics Laboratory	Silver	9
Australian Genome Research Facility	Bronze	3
DNA Landmarks	Bronze	5
GeneWorks - Sequenom	Bronze	6
Golden Helix	Bronze	12

ISAG 2012 WORKSHOP CHAIRS

Workshops and Symposia	Chair
Animal Forensic Genetics	Sree Kanthaswamy
Horse Genetics & Genomics	Bianca Haase
Domestic Animal Sequencing	James Reecy, Dave Burt
Llama and Alpaca Working Group	Cecilia Penedo, Eberhard Manz
ISAG-FAO Genetic Diversity	Johannes (Hans) Lenstra
Avian Genetics & Genomics	Richard Crooijmans
Ruminant Genetics & Genomics	Fiona Buchanan
Equine Genetics & Thoroughbred Parentage Testing	Ann Trezise
Comparative MHC Workshop	Keith Ballingall, Mike Stear
Pig Genetics & Genomics	Barbara Harlizius
Cattle Molecular Markers & Parentage Testing	Romy Morrin-O'Donnell, Marie-Yvonne Boscher
Dog and Cat Genetics & Genomics	Kathryn Graves, Leslie Lyons
Publishing in Animal Genetics	Chris Moran
Domestic Animal Epigenetics	Ross Tellam
Comparative & Functional Genomics	Klaus Wimmers
Genetics & Genomics of Aquaculture Species	Bjorn Hoyheim
Genetics of Immune Response	Claire Rogel-Gaillard, Sue Lamont, Stephen White
Applied Genetics of Companion Animals	Leslie Lyons, Cindy Harper
Applied Sheep & Goat Genetics	Gesine Luehken, Stephen White
Livestock Genomics for Developing Countries	Wayne Pitchford

GENERAL INFORMATION

Welcome to the 33rd Conference of the International Society of Animal Genetics in Cairns, Australia. The conference is being held at the Cairns Convention Centre from July 15th – July 20th, 2012. The Cairns Convention Centre is located in the central business district of Cairns and is within walking distance of most accommodation and restaurants (see map on last page). For more information on travel, tours, accommodation, etc., please visit our website (http://www.isag.us/2012/). Note that ***Destination Cairns*** will have a desk at the Cairns Convention Centre on Sunday (July 15th) and Monday (July 16th) to assist you with any of your travel, touring or accommodation needs.

Cairns Convention Centre

All scientific sessions and the welcome reception will be held at the Cairns Convention Centre (see inside back cover for map). The registration desk is in the main foyer. Plenary sessions, opening ceremony, award ceremonies and business meeting will be in Hall A. Concurrent workshops will be in Hall A, Meeting Rooms 1 & 2, Meeting Room 3, Meeting Rooms 5 & 6 and Meeting Room 8 as listed in the program. Poster sessions, exhibits and catering will be in Hall 2. Hall 2 is entered from the ground floor. Hall A and all the Meeting Rooms are entered from the mezzanine level. Conference rooms for the scheduled meetings are on level 3 near the Convention Centre reception desk.

The welcome reception and the farewell afternoon tea will be on the Outdoor Plaza. Additional scheduled meetings will be held in the conference rooms as listed below. If you require a room for a meeting, please ask at the registration desk. Note that wireless internet is available throughout the Convention Centre.

Registration Desk

Registration will commence at 12:30 pm on Sunday, July 15th at the registration desk. The registration desk will be open until 5:30 pm on Sunday. The registration desk will re-open at 7:30 am on Monday, July 16th and remain open until approximately 6 pm. On Tuesday (July 17th), Thursday (July 19th) and Friday (July 20th), the registration desk will be open from 8:00 am until 5:30 pm. If you have any problems or questions or need a room for a meeting, please visit the registration desk and we will do our best to assist you.

Award Ceremonies

ISAG strongly encourages the participation of early career scientists and students in ISAG conferences. To this end, funds have been provided by the Society for the heavily discounted student conference registration fees and travel bursaries. We would like to honour those who won travel bursaries for the ISAG 2012 Conference at the Opening Ceremony. So if you received an ISAG travel bursary, please be sure to attend the Opening Ceremony.

In addition, the Society promotes excellence in early career scientists and students. To this end, the Society provides posters awards for the 12 best posters, including the prestigious Yoshi Suzuki award for the poster judged as the best poster at the conference. This year, in memorial of Assoc. Prof. Alan Wilton, the ISAG 2012 Organising Committee is also offering an Alan Wilton award for the best abstract submitted by an early career scientist or student. So if you applied as an early career scientist or student, please attend the Award Ceremony on Friday afternoon. You may have won a prize!!!

Business Meeting

The business meeting will be held just before the close of conference on Friday afternoon from 2:30 pm – 4:00 pm. This is an important meeting for the Society because many decisions will be made involving the operation of the Society and the location of future ISAG conferences. The election results for the Executive Committee will be also announced. So your participation is strongly encouraged. To become a member of the Society, please visit the ISAG booth in Hall 2. To learn more about the ISAG 2014 Conference in China, please also visit the ISAG 2014 booth in Hall 2.

Abstracts

Abstracts for the plenary sessions, invited workshop talks and posters are available in the ISAG 2012 Conference Abstract Proceedings. These abstracts are also available on the ISAG website.

Oral presentations

For the oral presentations, Power Point slides are preferred. For the upstairs meeting rooms (Meeting Rooms 1-8), the screens are 16:10 format. For the bigger hall (Hall A), the slides need to be 4:3 format. So please check the location of your session and choose the correct format.

There is a speaker ready-room (Meeting Room 9) on the ground floor near the registration desk for you to load your presentation into the system. You can load your presentation into the system in this room. If you are speaking on Monday, can you kindly load your talk on Sunday? A technician will be available to help you from 3 pm to 6 pm on Sunday afternoon (July 15th). If you are speaking on Tuesday, Thursday or Friday, please load your talk on Monday (July 16th). The speaker ready room will be open from 7:30 am to 5:30 pm each day. However, it would help us greatly if the talks for the week were all loaded on Monday.

Please plan to arrive at your session at least 15 minutes before the start of that session and make yourself known to the chair. You will be given instructions regarding the operation of equipment at that time.

Posters

Posters will be on display throughout the meeting, but poster viewing sessions will be held during lunch on Monday, Tuesday and Thursday. Even numbered posters should be attended from 1 - 2 pm on Monday and odd numbered posters should be attended from 1 - 2 pm on Tuesday. On Thursday, all posters should be attended from 1 - 2 pm.

Posters should be mounted on the afternoon of Sunday, July 15th in Hall 2 based on the abstract number. Poster numbers are assigned based on the session (see conference abstract proceedings) and will be provided on the poster boards. Note that pins will be provided to mount the posters. If Velcro is preferred, then you should bring your own. Posters must be on display no later than 9 am on Monday, July 16th and must remain on display until 2 pm on Friday, July 20th. All posters must be collected by 5 pm on Friday, July 20th or they will be removed and destroyed.

If you applied to be eligible for a poster award as a student or early career scientist, be sure to attend the Award Ceremony on Friday afternoon. You might win a prize!

Poster sessions

Posters 1000–1041: Bioinformatics, statistical genetics, and genomic technologies
Posters 2000–2066: Functional genomics
Posters 3000–3076: Genetic diversity and polymorphisms
Posters 4000–4069: Genetic markers and selection
Posters 5000–5069: Genetics and disease
Posters 6000–6015: Structural and comparative genomics
Sponsor technical posters

Catering

Morning and afternoon teas and lunches will be served in Hall 2 with the exhibits and posters at the scheduled times. Do not forget to take the opportunity to visit the exhibitors and posters during these breaks! [Note: Only halal meat is served. If you have specific dietary requirements, please make yourself known to the catering staff as we have made special arrangements to match your needs.]

Accompanying Partners Program

For those registered in the Accompanying Partners Program, this includes the Welcome Reception, the Conference Dinner, and a "Meet & Greet". The "Meet & Greet" will start at 9:00 am on Monday, July 16th on the Outdoor Plaza at the Cairns Convention Centre. [If the weather is inclement, then the "Meet & Greet" will be in the Sheridan Street Foyer.] The "Meet & Greet" will be an opportunity to meet the other partners and to plan activities. ***Destination Cairns*** staff will be available to answer questions and assist with any of your travel or tour needs.

Social events

One of the great aspects of ISAG conferences is the opportunity to meet old friends and to make new ones. Therefore, we are hoping that you will join us for the both the Welcome Reception and the Conference Dinner, which are included as part of your conference registration. These events have been specifically organised to encourage interaction amongst conference delegates.

Welcome Reception

The Welcome Reception is on Sunday, July 15th on the Outdoor Plaza of the Cairns Convention Centre with "drinkies and nibblies" from 5:30 pm to 7:30 pm. During the Reception, we would like to provide you with a very special traditional welcome from the Djajengi Aboriginal Performance Troupe. The Aboriginal Welcome will commence at 6:15 pm on the Outdoor Plaza stage and take approximately 30 minutes. [Note: in the case of inclement weather (heaven forbid), the Welcome Ceremony will be held in the Registration Foyer with good views from the mezzanine level.]

Conference Dinner

The Conference Dinner will be held at the Pullman Reef Hotel on Thursday, July 19th from 7 pm to 11 pm. The Dinner will be held in the Urchin Rooms on level 2 and the Coral Lounge and outdoor Pool Deck on the top floor. The Pullman Reef Hotel is part of the Casino and Wildlife Dome complex located at 35-41 Wharf Street and is within easy walking distance of the Cairns Convention Center (see map on last page).

Dress is smart casual. However, with regards to your choice of clothing, be forewarned. This is not your traditional conference dinner. There will be plenty of seating, but food and drink stations will be set up everywhere to promote mingling. Also there will be animals from the Wildlife Dome in the outdoor pool deck available for viewing and handling from 7:15 pm to 8:15 pm. Of course, there will be music for dancing throughout the evening. If you want to carry on with more dancing into the wee hours, the bars downstairs in the Casino will be open. (Just remember that there is a great plenary session planned for Friday morning.)

Farewell tea

After the business meeting, there will be afternoon tea on the Cairns Convention Centre Outdoor Plaza. Please join us to bid farewell and to plan for the ISAG 2014 Conference in China.

Scheduled meetings

Please note that a number of meetings are occurring during the conference as well as the ASGGN meeting directly after the ISAG 2012 Conference on Saturday, July 21st. Please attend these meetings as relevant.

Meeting	Purpose	Location	Time	Contact person
Workshop Chairs	Facilitate workshops and workshop reports	Conference room 1 & 2	Monday, 1 pm – 2 pm	Ingrid Olasker
Animal Genetics Editorial Board	Annual board meeting	Conference room 1 &2	Tuesday, 1 pm – 2 pm	Chris Moran
IGGC (International Goat Genome Consortium)	Open meeting to discuss international collaborations involving goat genomics	Meeting Room 4	Monday, 2 pm – 3:30 pm (agenda on website: www.goatgenome.org)	Brian Sayre
ISGC (International Sheep Genomics Consortium)	Open meeting to discuss international collaborations involving sheep genomics	Meeting Room 4	Thursday, 12:45 pm – 2 pm	James Kijas
*ASGGN (Animal Selection, Genetics & Genomics Network)	Open meeting to discuss collaborations involving ruminant methane research	Novotel Resort (122 Lake Street, Cairns)	Saturday, 8 am – 4 pm	Grant Shackell Hutton Oddy

*Note that the ASGGN Satellite Meeting is open to anyone that is interested. However, if you have not already contacted Grant Shackell or Hutton Oddy regarding your attendance of this meeting, please leave your name and contact details at the ISAG registration desk for catering purposes. The agenda for the meeting is available (see page 23).

ISAG 2012 CONFERENCE PROGRAM

Sunday, July 15th

Registration (12:30 pm – 5:30 pm), Cairns Convention Centre Foyer

Welcome Reception (5:30 pm – 7:30 pm) Cairns Convention Centre Outdoor Plaza
6:15 pm -6:45 pm Welcome Ceremony by the Aboriginal Performance Troupe Djajengi

Monday, July 16th

Opening Ceremony (8:30 am – 9:00 am), Hall A

8:30 am: Welcome Address, Cynthia Bottema, ISAG 2012 Organising Committee Chair

8:40 am: Travel Bursary Award Ceremony, ISAG Executive Committee

8:50 am: Official Opening, Ernest Bailey, ISAG President

Plenary Session #1 (9:00 am – 10:30 am): Quantitative Genetics Meets Molecular Genetics I
Hall A (Chairs: Steve Moore, University of Queensland, and Wayne Pitchford, University of Adelaide), SPONSORED IN PART BY ILLUMINA

9:00 am

Prof. Mike Goddard, Professorial Fellow in Animal Genetics at the University of Melbourne and the Victorian Department of Primary Industries (Abstract S0107):
"Genetic architecture of complex traits and prediction of genetic value"

9:45 am

Prof. John Gibson, Director of the Centre for Genetic Analysis and Applications at the University of New England (Abstract S0105):
"How genomic technologies can bring benefits to livestock farmers of the developing world"

MORNING TEA (10:30 am – 11:00 am), Hall 2

Plenary Session #2 (11 am – 12:30 pm): DNA Analysis
Hall A (Chairs: James Kijas, CSIRO Livestock Industries, and Frank Nicholas, University of Sydney), SPONSORED IN PART BY MILLENNIUM SCIENCE - FLUIDIGM

11:00 am

Prof. Alan Cooper, Australian Research Council Future Fellow and Director of the Australian Centre for Ancient DNA at the University of Adelaide (Abstract S0103):
"Using ancient DNA to identify genetic diversity lost during the domestication process, past hybridization events, and cryptic species: From bovids to chickens"

11:45 am

Assoc. Prof. Kathy Belov, Australian Research Council Future Fellow and Associate Professor in Animal Genetics at the University of Sydney (Abstract S0100):
"Can genomics save the Tasmanian devil from extinction?"

LUNCH (12:30 pm – 2:00 pm), Hall 2

Poster Session #1 (1:00 pm – 2:00 pm): Even numbered posters (Hall 2)

Monday, July 16th continued ~

Workshop Session #1 (2:00 pm – 3:30 pm)

- Domestic Animal Sequencing Workshop (Hall A)
- Horse Genetics & Genomics Workshop (Meeting Rooms 1 + 2)
- Animal Forensic Genetics Workshop (Meeting Room 3)
- Genetics of Immune Response Workshop (Meeting Rooms 5 + 6)
- Llama and Alpaca Working Group (Meeting Room 8)

AFTERNOON TEA (3:30 pm – 4:00 pm), Hall 2

Workshop Session #1 continued (4:00 pm – 5:30 pm)

- Domestic Animal Sequencing Workshop (Hall A)
- Horse Genetics & Genomics Workshop (Meeting Rooms 1 + 2)
- Genetics of Immune Response Workshop (Meeting Rooms 5 + 6)
- Llama and Alpaca Working Group (Meeting Room 8)

Tuesday, July 17th

Plenary Session #3 (9 am – 10:30 am): Quantitative Genetics Meets Molecular Genetics II
Hall A (Chairs: Max Rothschild, US Agency for International Development and Iowa State University, and Brian Dalrymple, CSIRO Livestock Industries); SPONSORED IN PART BY ISAG/IFAG

9:00 am

Prof. Morris Soller, Professor (Emeritus) at the Hebrew University of Jerusalem (Abstract S0116):
"60 generations of broiler breeding: Secondary effects and the SIGV model for continued response to selection"

9:45 am

Prof. Takashi Gojobori, Vice-Director of the National Institute of Genetics and Professor at the Center for Information Biology and DNA Data Bank of Japan (Abstract S0108):
"Evolutionary origin and genetic differentiation of Japanese domesticated chickens"

MORNING TEA (10:30 am – 11:00 am), Hall 2

Plenary Session #4 (11 am – 12:30 pm): Quantitative Genetics Meets Molecular Genetics III
Hall A (Chairs: Hutton Oddy, University of New England, and Bill Barendse, CSIRO Livestock Industries); SPONSORED BY IN PART BY MILLENNIUM SCIENCE - AFFYMETRIX

11:00 am

Mr. John McEwan, Senior Scientist at AgResearch in New Zealand (Abstract S0112):
"Sheep genomics in New Zealand: research progress and industry applications"

11:45 am

Prof. John Quackenbush, Professor of Computational Biology and Bioinformatics at Harvard University and the Director of the Center for Cancer Computational Biology at the Dana-Farber Cancer Institute (Abstract S0113):
"Moving beyond the mean: The role of variation in determining phenotype"

LUNCH (12:30 am – 2:00 pm), Hall 2

Poster Session #2 (1:00 pm – 2:00 pm): Odd numbered posters (Hall 2)

Tuesday, July 17th continued ~

Workshop Session #2 (2:00 pm – 3:30 pm)

- Ruminant Genetics & Genomics Workshop (Hall A)
- ISAG-FAO Genetic Diversity Workshop (Meeting Rooms 1 + 2)
- Avian Genetics & Genomics Workshop (Meeting Rooms 5 + 6)
- Equine Genetics & Thoroughbred Parentage Testing Workshop (Meeting Room 3)
- Comparative MHC Workshop (Meeting Room 8)

AFTERNOON TEA (3:30 pm – 4:00 pm), Hall 2

Workshop Session #2 continued (4:00 pm – 5:30 pm)

- Ruminant Genetics & Genomics Workshop (Hall A)
- ISAG-FAO Genetic Diversity Workshop (Meeting Rooms 1 + 2)
- Avian Genetics & Genomics Workshop (Meeting Rooms 5 + 6)
- Equine Genetics & Thoroughbred Parentage Testing Workshop (Meeting Room 3)
- Comparative MHC Workshop (Meeting Room 8)

Wednesday, July 18th

FREE DAY FOR TOURS AND SIGHTSEEING = ENJOY!

Thursday, July 19th

Workshop Session #3 (9:00 am – 10:30 am)

- Pig Genetics & Genomics Workshop (Hall A)
- Domestic Animal Epigenetics Workshop (Meeting Rooms 1 + 2)
- Dog and Cat Genetics & Genomics Workshop (Meeting Room 3)
- Cattle Molecular Markers & Parentage Testing Workshop (Meeting Rooms 5 + 6)
- Publishing in *Animal Genetics* Symposium (Meeting Room 8)

MORNING TEA (10:30 am – 11:00 am), Hall 2

Workshop Session #3 continued (11:00 am – 12:30 pm)

- Pig Genetics & Genomics Workshop (Hall A)
- Domestic Animal Epigenetics Workshop (Meeting Rooms 1 + 2)
- Dog and Cat Genetics & Genomics Workshop (Meeting Room 3)
- Cattle Molecular Markers & Parentage Testing Workshop (Meeting Rooms 5 + 6)
- Publishing in *Animal Genetics* Symposium (Meeting Room 8)

LUNCH (12:30 pm – 2:00 pm), Hall 2

Poster Session #3 (1:00 pm – 2:00 pm): All posters (Hall 2)

Workshop Session #4 (2:00 pm – 3:30 pm)

- Comparative & Functional Genomics Workshop (Hall A)
- Applied Sheep & Goat Genetics Workshop (Meeting Rooms 1 + 2)
- Applied Genetics of Companion Animals Workshop (Meeting Room 3)
- Livestock Genomics for Developing Countries Symposium (Meeting Rooms 5 + 6)
- Genetics & Genomics of Aquaculture Species Workshop (Meeting Room 8)

AFTERNOON TEA (3:30 pm – 4:00 pm), Hall 2

Thursday, July 19th continued ~

Workshop Session #4 continued (4:00 pm – 5:30 pm)

- Comparative & Functional Genomics Workshop (Hall A)
- Applied Sheep & Goat Genetics Workshop (Meeting Rooms 1 + 2)
- Applied Genetics of Companion Animals Workshop (Meeting Room 3)
- Livestock Genomics for Developing Countries Symposium (Meeting Rooms 5 + 6)

CONFERENCE DINNER: 7:00 pm – 11:00 pm, Pullman Reef Hotel

Friday, July 20th

Plenary Session # 5 (9 am – 10:30 am): Epigenetics
Hall A (Chairs: Ross Tellam, CSIRO Livestock Industries, and Stefan Hiendleder, University of Adelaide); SPONSORED BY IN PART BY ISAG/IFAG

9:00 am

Prof. Anne Ferguson-Smith, Professor of Developmental Genetics at Cambridge University (Abstract S0104):
"Intergenerational epigenetic consequences of environmental compromise in a mouse model of under-nutrition"

9:45 am

Prof. Emma Whitelaw, Senior Scientist and Department Coordinator of Cell & Molecular Biology at Queensland Institute of Medical Research (Abstract S0122):
"Epigenetics in development"

MORNING TEA (10:30 am – 11:00 am), Hall 2

Plenary Session #6 (11 am – 12: 30 pm): New Technologies
Hall A (Chairs: Clare Gill, Texas A&M University, and Chris Moran, University of Sydney); SPONSORED IN PART BY ISAG/IFAG

11:00 am

Prof. Ning Li, Professor of Animal Molecular Genetics at the China Agricultural University and Director of the State Key Laboratory of Agrobiotechnology (Abstract S0110):
"Genomic editing of large farm animals comes of age"

11:45 am

Prof. Claire Wade, Chair of Computational Biology and Animal Genetics at the University of Sydney (Abstract S0120):
"Efficiency of light Illumina HiSeq 2000 whole-genome sequence for mutation detection"

LUNCH (12:30 pm – 1:30 pm), Hall 2

Alan Wilton Memorial Session (1: 30 pm – 2:30 pm)
Hall A (Chairs: Cindy Bottema, University of Adelaide, and David Groth, Curtin University)

1:30 pm

Dr. Barbara Zangerl, Research Assistant Professor of Medical Genetics at the University of Pennsylvania and Australian School for Advanced Medicine at Macquarie University (Abstract S0124):
"When genetics goes to the dogs"

2:15 pm Alan Wilton Abstract Awards and Yoshi Suzuki & ISAG Poster Awards

ISAG Business Meeting (2:30 pm – 4:00 pm), Hall A

AFTERNOON TEA (4:00 pm), Outdoor Plaza

WORKSHOP SCHEDULES

Monday afternoon, July 16th: Workshop Session #1 (2 pm – 5:30 pm)

Domestic Animal Sequencing Workshop (Chairs: James Reecy, Dave Burt) **Hall A**

Time	Speaker	Presentation title	Abstract
2:00 pm	Denis Larkin	Pig genome evolution: chromosomal rearrangements and their impact on gene networks	P6005
2:20 pm	Yu Jiang	A reference genome of the domestic goat (*Capra hircus*) generated by Illumina sequencing and whole genome mapping	P1008
2:40 pm	George Liu	Mapping cattle copy number variation by population-scale genome sequencing	P6007
3:00 pm	Zhi-Liang Hu	Databases for animal genome research: the needs, the trends, and the potentials – a case study on development of the pig genome database	P1017
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Bibaswan Ghoshal	Understanding the microbial diversity of the bovine rumen in relation to feed efficiency	P1013
4:20 pm	Elisabetta Giuffra	The Need To Build Additional Infrastructure to Facilitate Livestock Genomic	
4:40 pm	Alan Archibald	Enabling the reading of genome sequences for farmed and companion animals - a proposal for ENCODE consortia	P2003
5:00 pm	David Burt	Sequencing of Avian Genomes	
5:20 pm **5:30 pm**		Business meeting Close	

Horse Genetics & Genomics Workshop (Chair: Bianca Haase) **Meeting Rooms 1 + 2**

Time	Speaker	Presentation title	Abstract
2:00 pm	Bianca Haase	Welcome	
2:10 pm	James Mickelson	Genomic signatures of selection in the horse	P4036
2:30 pm	Christa Kühn	A genome wide association study for withers height in German Warmblood Horses	P4062
2:50 pm	Brandon Velie	Genetic selection for racing durability in Thoroughbreds	P4065
3:10 pm	Anne Ricard	First results on genomic selection in French show-jumping horses	P4048
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Clémence Desjardin	Molecular mechanisms involved in equine osteochondrosis	P5018
4:20 pm	Krista Lynn Fritz	Whole genome association study of Type 2 Polysaccharide Storage Myopathy (PSSM) in Quarter Horses	P5022
4:40 pm	LuAnn Glaser	Advances in Animal Genotyping Using the Affymetrix Axiom Platform	
5:15 pm **5:30 pm**		Business meeting Close	

Monday afternoon, July 16th: Workshop Session #1 (2 pm – 5:30 pm) continued ~

Genetics of Immune Response Workshop (Chairs: Claire Rogel-Gaillard, Stephen White, Sue Lamont) (Meeting Rooms 5 + 6)

Time	Speaker	Presentation title	Abstract
2:00 pm	Claire Rogel-Gaillard	Welcome and Introduction	
2:05 pm	Bonnie Mallard	Genetic Selection for High Immune Response	P5045
2:35 pm	Jordi Estellé	Genome-wide association study for immunity traits in French Large White pigs	P5019
2:50 pm	Joan Lunney	Swine immune responses to PRRSV infection	P5042
3:05 pm	Mark Fife	Case-control study for Salmonellosis confirms genetic resistance in commercial chickens	P5021
3:20 pm	Leslie Ann Lyons	Three Burmese cat specific diseases identified by genome-wide association studies	P5043
3:35 pm	**AFTERNOON TEA**		
4:00 pm	Ernest Bailey	Genetics of carrier status for equine arteritis virus: Association with in vitro virus infectivity assay and a haplotype on ECA11	P5004
4:15 pm	Stephen White	Extended scrapie incubation time in goats singly heterozygous for *PRNP* S146 or K222	P5064
4:30 pm	Peter Hunt	New options for assessing disease susceptibility traits	P5028
4:45 pm 4 min per presentation followed by a unique set of questions	Nikki le Roex	Novel SNP identification and association with bovine TB in African buffalo	P5035
	Leonardo Murgiano	A de novo germline mutation in *MYH7* causes a progressive dominant myopathy in pigs	P5050
	Jason Abernathy	Fine-mapping of chicken genomic aberrations by identifying CNVs associated with *Campylobacter jejuni* colonization	P5000
	Marie-Laure Endale	MiRNA targeting in host-virus interaction: inter-strain comparison in Pseudorabies Virus (PrV)	P1009
	The four speakers	Questions	
5:05 pm **5:30 pm**	For general discussion	How to go for programs on integrated management of livestock health? Any other Committee Business Close	

Animal Forensic Genetics Workshop (Chair: Sree Kanthaswamy) Meeting Room 3

Time	Speaker	Presentation title	Abstract
2:00 pm	Sree Kanthaswamy	Welcome and Introductions	
2:10 pm	Christina Lindquist	Making your Process, Evidence, and Reports Bullet-Proof	S0111
2:30 pm	Denise Andrade de Oliveira	A Real-Time PCR-based method to detect and quantify bovine content in buffalo derived products	P4027
2:50 pm	Guillermo Giovambattista	Comparison of the effectiveness between STR and SNP panels for forensic DNA analysis in bovine breeds	S0106
3:10 pm **3:30 pm**		Committee Meeting Update on Animal Forensic Genetics Other Business Close	
3:30 pm	**AFTERNOON TEA**		

Monday afternoon, July 16th: Workshop Session #1 (2 pm – 5:30 pm) continued ~

Llama and Alpaca Working Group (Chairs: Cecilia Penedo, Eberhard Manz) **Meeting Room 8**

Time	Speaker	Presentation title	Abstract
2:00 pm	Eberhard Manz, Cecilia Penedo, Deanne Waine	Welcome and overview of meeting agenda	
2:10 pm	Cecilia Penedo	Update on status of the Working Group	
2:20 pm	Maria Daverio	Identification of allelic variants in Melanocortin-1 receptor gene in llama (*Lama glama*)	P3016
2:40 pm	Felicity Jackling	Mapping of the blue-eyed white phenotype in alpacas: the genetic links between pigmentation and deafness	P5029
3:00 pm	Eberhard Manz	DNA program of the AZVD (German Alpaca Association) – History and model for parentage assessment of alpacas in Europe	
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Eberhard Manz, Cecilia Penedo	2011-2012 Comparison Test Report from Duty Laboratory Report from Computer Laboratory	
5:00 pm		Selection of Duty Laboratory for 2012-2014 Comparison Test	
5:10 pm **5:30 pm**		Other business: Election of Standing Committee Members (2), contingent upon outcome of Business Meeting Close	

Tuesday afternoon, July 17th: Workshop Session #2 (2 pm – 5:30 pm)

Ruminant Genetics & Genomics Workshop (Chair: Fiona Buchanan) **Hall A**

Time	Speaker	Presentation title	Abstract
2:00 pm	James Kijas	Whole genome sequencing of 75 sheep for variant detection and design of an HD chip	P3037
2:30 pm	Tad Sonstegard	Lethal haplotypes in dairy cattle: What lies beneath?	S0118
3:00 pm	Marina Fortes	Mutations in the *PLAG1* region are associated with height, weight, puberty, IGF1 levels and fat deposition in beef cattle	P4013
3:15 pm		Business meeting	
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Fiona Buchanan	Nutrigenetics of vitamin A supplementation and *ADH1C* genotype on intramuscular fat in feedlot cattle	S0101
4:15 pm	Michael Lee	GWAS of economically important traits in NZ sheep of data with significant sample structure	S0109
4:30 pm	Akiko Takasuga	Re-analysis of the *CW-1* QTL revealed the *PLAG1-CHCHD7* QTN for stature in Japanese Black cattle	S0119
4:45 pm	Ana María Pérez O'Brien	Finding selection sweeps through variation in linkage disequilibrium of *taurine* and *indicine* cattle	P3053
5:00 pm	Pauline Brenaut	Contribution of mammary epithelial cells to the immune response during early stages of a bacterial intramammary infection	P2006
5:15 pm	Emma Svensson	Prehistoric cattle breeding	
5:30 pm		Close	

Tuesday afternoon, July 17th: Workshop Session #2 (2 pm – 5:30 pm) continued ~

ISAG-FAO Genetic Diversity Workshop (Chair: Johannes (Hans) Lenstra) **Meeting Rooms 1 + 2**

Time	Speaker	Presentation title	Abstract
2:00 pm	Paul Boettcher	New opportunities and new objectives for the ISAG-FAO Advisory Group on Animal Genetic Diversity	P3005
2:20 pm	William Barendse	The use of single nucleotide polymorphism array data to analyse the genetic structure of a cattle herd	P3027
2:40 pm	Shalanee Weerasinghe	Genetic Structure and Diversity of Australian Sheep Breeds	P3072
3:00 pm	Laurence Liaubet	Genetic and phenotypic fine characterizations of French porcine reference populations	P3043
3:20 pm	Shengguo Zhao	Phylogeny and Assessment of Conservation Priority for Asian Native Chicken Genetic Resources	P3075
3:40 pm	**AFTERNOON TEA**		
4:10 pm	Rytis Juras	Genetic analysis of feral horse population from Brittany Triangle, British Columbia	P4025
4:30 pm	Hans Lenstra	Compilation and analysis of high-density SNP and genomic sequence data for investigation of livestock diversity	P3047
4:50 pm	Imtiaz Randhawa	Combining multiple evidence can localize high-resolution signals of selection in cattle and sheep	P1029
5:10 pm	Jaime Gongora	DNA sequence capture to study major histocompatibility complex evolution and diversity in suids and peccaries	P1014 P6011
5:30 pm		Business meeting Close	

Comparative MHC Workshop (Chairs: Keith Ballingall, Mike Stear) **Meeting Room 8**

Time	Speaker	Presentation title	Abstract
2:00 pm	Keith Ballingall	Welcome and Introduction An Update on the IPD-MHC databases	
2:15 pm	Jun-Heon Lee	The Swine Leukocyte Antigen (SLA) Nomenclature System: Current Status after 10 Years of its Establishment	P3041
2:30 pm	Nuria Mach	Diversity studies of SLA haplotypes by targeted high-throughput re-sequencing	P3044
2:45 pm	Alvaro Perdomo	Evolution and diversity of MHC class I and class II genes in suids and peccaries	P6011
3:00 pm	Keith Ballingall	Functional diversity arising from intra and inter haplotype combinations of DQ loci within the sheep MHC	P3001
3:15 pm	Mike Stear	Characterization of Diversity in the Sheep MHC class II antigen presenting genes	P3068
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Weerachai Jaratlerdsiri	MHC class I diversity in saltwater crocodiles and its association with Lymphoid Proliferation, Vasculitis and Encephalitis syndrome	P5030
4:15 pm	Liming Ren	Characterization of the duck MHC class II genes	P3060
4:30 pm	Yoko Aida	Identification of bovine leukocyte antigen (BoLA) class II haplotypes that are regulated bovine leukemia virus (BLV) proviral load in Japanese Black cattle	P5003
4:45 pm **5:15 pm**	Discussion	Can high density SNP chips be used for MHC genotyping in sheep and cattle? Any other Committee Business Close	

Tuesday afternoon, July 17th: Workshop Session #2 (2 pm – 5:30 pm) continued ~

Avian Genetics & Genomics Workshop (Chair: Richard Crooijmans) **Meeting Rooms 5 + 6**

Time	Speaker	Presentation title	Abstract
2:00 pm	Richard Crooijmans	Welcome	
1. QTL/traits			
2:05 pm	Susan Lamont	Genomics of heat stress in poultry	P5034
2:15 pm	Zachary Lowman	The response of gene expression of *HSP90AA* to heat stress in broiler chickens	P2037
2:25 pm	Millor Fernandes do Rosario	Multitrait composite interval mapping reveals pleiotropic QTL on chicken chromosome 1	P1030
2:35 pm	Christopher Ashwell	Association mapping of the chicken L alloantigen	P5001
2. Genome			
3:00 pm	Laure Fresard	Use of Next Generation Sequencing to explore the chicken epigenome: application to imprinting search	P3021
3:10 pm	Xiaojuan Liu	Efficient production of transgenic chickens based on piggyBac	P2033
3. Variation detection			
3:20 pm	Richard Crooijmans	Global variation in copy number in the chicken genome	
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Jason Abernathy	Fine-mapping of chicken genomic aberrations by identifying CNVs associated with *Campylobacter jejuni* colonization	P5000
4:10 pm	Jianlin Han	Identification and screening for long deletions in *BF1* gene of Silkie chicken	P3026
4:20 pm	Frederique Pitel	SNP detection for QTL analysis of social behaviour and production traits in quail	P3057
4:30 pm **5:00 pm**		Standing committee meeting of Avian Genetics and Genomics Close	

Equine Genetics & Thoroughbred Parentage Testing Workshop (Chair: Ann Trezise) **Meeting Room 3**

2:00 pm Welcome (Ann Trezise)

Current ISAG Equine Standing Committee: 2010-2014

ISAG Horse Comparison Test 2011-2012

- Report from HCT Duty Laboratory
- Report from HCT Results Analysis Laboratory

HCT Results: Genotyping Accuracy

HCT Results: Parentage Analysis Accuracy

Certificates of Participation and Performance in the 2011-2012 ISAG Horse Comparison Test

ISAG Horse Comparison Test 2013-2014

- Appointment of Duty Laboratory for 2013-2014 HCT
- Appointment of Results Analysis Laboratory for 2013-2014 ISAG HCT

3:30 pm Afternoon tea

Current ISAG Recommendations for:

- Equine Identification and Parentage Analysis Standards
- Transfer of Equine DNA Profiles (Genotypes) and/or Parentage Analysis Results Between ISAG Member Laboratories

Matters for Consideration Regarding the Use of SNP Genotyping for the Parentage Analysis of Horses

DNA Testing for Disease and Colour Markers

Other Business

5:00 pm Close

Thursday morning, July 19th: Workshop Session #3 (9 am – 12:30 pm)

Pig Genetics & Genomics Workshop (Chair: Barbara Harlizius) **Hall A**

Time	Speaker	Presentation title	Abstract
I. Structure and expression of the Pig Genome			
9:00 am	Barbara Harlizius	Introduction	
9:10 am	Denis Larkin	Pig genome evolution: chromosomal rearrangements and their impact on gene networks	P6005
9:30 am	Nicholas Hudson	Tissue specific regulatory network of the porcine transcriptome	P2022
9:50 am	Christiane Neuhoff	Proteome analysis of skeletal muscle in high and low drip loss Duroc × Pietrain F2 pigs	P2044
10:05 am	Jianfeng Liu	A genome-wide detection of copy number variations using SNP genotyping arrays in swine	P6008
II. Applied genomics: Genomic selection			
10:20 am	Aisaku Arakawa	Validation of genomic breeding value predicted in a Duroc closed population	P4000
10:30 am	**MORNING TEA**		
II. Applied genomics: Congenital diseases			
11:00 am	Leonardo Murgiano	A de novo germline mutation in *MYH7* causes a progressive dominant myopathy in pigs	P5050
11:15 am	Anneleen Stinckens	Promising loci for the susceptibility to both scrotal hernia and cryptorchidism in pigs	P5058
II. Applied genomics: Quantitative health traits			
11:30 am	Eduard Murani	Identification of a functional variant of the porcine glucocorticoid receptor with a major effect on the activity of the HPA axis	P2043
11:45 am	Claire Rogel-Gaillard	Genome-wide association and transcriptome study for immunity traits in French Large White pigs	S0114
12:05 pm	Joan K. Lunney	Genetic control of swine responses to PRRSV infection: Progress of the PRRS Host Genetics Consortium	P5042
12:25 pm		Business meeting	
12:30 pm		Close	

Publishing in Animal Genetics Symposium (Chair: Chris Moran) **Meeting Room 8**

9:00 am Welcome

Introduction to editorial staff and workflow for manuscripts submitted to *Animal Genetics* - Chris Moran, Editor in Chief

How to improve your chances of publication in *Animal Genetics*. Presentations by:

- James Kijas, Associate Editor (Biodiversity)
- Anna Sonesson, Associate Editor (Quantitative and Aquaculture) – to be delivered by Chris Moran
- John Bastiaansen, Associate Editor (Quantitative)
- Chris Tuggle, Associate Editor (Gene Expression) – to be delivered by Chris Moran

Suggestions from Contributors

10:30 am Morning tea

11:00 am Open forum discussion

12:00 pm Close

Thursday morning, July 19th: Workshop Session #3 (9 am – 12:30 pm) continued ~

Dog and Cat Genetics & Genomics Workshop (Chairs: Kathryn Graves, Leslie Lyons) **Meeting Room 3**

Time	Speaker	Presentation title	Abstract
9:00 am	Kathryn Graves	Opening remarks	
9:05 am	Barbara Zangerl	In remembrance of Alan Wilton	
9:15 am	Claire Wade	A pilot study of the genetic basis of separation-related stress disorder in dogs	S0121
10:00 am	Max Rothschild	Genome-wide association study for cryptorchidism in dogs	P5056
10:15 am	Tomas Bergström	Pigmentary chorioretinopath: A novel disease in Chinese Crested dogs	P5006
10:30 am	**MORNING TEA**		
11:00 am	Tosso Leeb	Genetic analysis of hereditary nasal parakeratosis (HNPK) in Labrador Retrievers	P5037
11:15 am	Katarina Sundberg	Genome-wide association mapping identifies several major susceptibility loci for Canine Lymphocytic Thyroiditis	P5060
11:30 am	Bianca Haase	Feline Osteochondrodysplasia of Scottish Fold cats	S0123
11:45 am	Maria Longeri	Pedigree of Abyssinian cats with Amyloidosis and polymorphism of *SAA* gene in several feline breed	P5041
12:00 pm **12:30 pm**		Business meeting Would the group be interested in adding cats to the dog workshop, leading to a renaming as "Companion Animal Genetics and Genomics"? Close	

Domestic Animal Epigenetics Workshop (Chair: Ross Tellam) **Meeting Rooms 1 +2**

Time	Speaker	Presentation title	Abstract
9:00 am	Ruidong Xiang	Maternal and paternal genetics differentially affect myofibre characteristics and muscle weights of bovine fetuses at midgestation	P1038
9:30 am	Martin Braunschweig	Is RNA involved in transgenerational epigenetic inheritance?	P2005
10:00 am	Ross Tellam	Histone deacetylase 9 is a negative regulator of myogenesis	P2057
10:30 am	**MORNING TEA**		
11:00 am	Yu Jiang	The imprintome of a domestic sheep	P1020
11:20 am	Laure Fresard	Transcriptome-wide investigation of genomic imprinting in chicken	P3021
11:40 am	Ali Javadmensh	Genetic and sex effects on insulin-like growth factor system components in brain of bovine purebred and hybrid fetuses	P2024
12:00 pm **12:30 pm**		Business meeting Close	

Thursday morning, July 19th: Workshop Session #3 (9 am – 12:30 pm) continued ~

Cattle Molecular Markers & Parentage Testing Workshop (Chairs: Romy Morrin-O'Donnell, Marie-Yvonne Boscher) **Meeting Rooms 5+ 6**

9:00 am Comparison tests

Cattle STR comparison Test 2011-2012

- Presentation by Duty Lab
- Presentation by Computer Lab STR
- Evaluation results by chair

Cattle SNP comparison Tests (two) 2011-2012

- Presentation by Computer Lab SNP

Next Comparison Test 2013-2014

- Selection of new Duty Lab
- Selection of new Computer Lab

10:00 am STR/SNP imputation panel

- Presentation by Tad Sonstegard, (USDA) (Speaker abstract S0117)

10:20 am Morning tea

10:50 am Discussion on SNPs

- Development of SNP panel suitable for parentage verification, recommended set of markers and strategies
- Definition of a Minimum core set SNP?
- Additional Panels or SNPs?
- SNP for STR imputation?

11:50 am Different type of accreditation

- Role of ISAG (definition of panels, nomenclature, comparison test)
- Possible expansion of comparison tests, nomenclature... to SNP chips used for selection in cattle?
- Role of ICAR: Update about ICAR accreditation for SNP typing by Wim Van Haeringen

12:10 pm Business

- Election of Committee
- Any other business

12:30 pm Close

Thursday afternoon, July 19th: Workshop Session #4 (2 pm – 5:30 pm)

Genetics & Genomics of Aquaculture Species Workshop (Chair: Bjorn Hoyheim) **Meeting Room 8**

Time	Speaker	Presentation title	Abstract
2:00 pm	Lee Chee Yang	Introducing Mouse, Canine, and Zebrafish Exomes Using the Agilent Technologies SureSelectTM Target Enrichment System	P1021
2:15 pm	Bruno Louro	Differential growth rate sea bass population gene expression study with SOLiD4-SuperSAGE sequencing	P2036
2:30 pm	Rouvay Roodt-Wilding	SNP marker technologies and applications for genetic improvement in the South African abalone (*Haliotis midae*)	P3063
2:45 pm	Liliana Di Stasio	Mitochondrial DNA sequencing detected additional variability in tench (*Tinca tinca, L.*)	P3019
3:00 pm	Amanda Chong	Genome-wide identification of endogenous retroviruses from a crocodilian genome	P5015
3:15 pm		Business meeting	
3:30 pm		Close	
3:30 pm	**AFTERNOON TEA**		

Thursday afternoon, July 19th: Workshop Session #4 (2 pm – 5:30 pm) continued ~

Livestock Genomics for Developing Countries Symposium (Chair: Wayne Pitchford) Meeting Rooms 5 + 6

Time	Speaker	Presentation title	Abstract
2:00 pm	Heather Burrow	Value of Beef CRC genomics research for developing countries	S0102
3:00 pm	Max Rothschild	Consideration of genomic solutions to food security in the developing world	S0115
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Rashedul Hoque	Discrimination of Korean native chicken lines using fifteen microsatellite markers	P4057
4:20 pm	Kwan-Suk Kim	Characterization and exploitation of the unique genomes and adaptations of Ethiopian cattle to changing environments	P3002
4:40 pm	Brian Sayre	Goat Improvement in Africa: Genomic tool development and application in a Feed the Future project	P4055
5:00 pm		Discussion points from this session & John Gibson plenary session	
5:15 pm **5:30 pm**		Business meeting Canvass support for another workshop at ISAG 2014 Close	

Comparative & Functional Genomics Workshop (Chair: Klaus Wimmers) Hall A

Time	Speaker	Presentation title	Abstract
2:00 pm	Klaus Wimmers	Welcome and opening remarks	
2:05 pm	Fiona McCarthy	Enabling functional and comparative analysis of genomic data sets for agriculture	P2039
2:20 pm	Morris Soller	Constrained GERP elements and the annotated bovine genome	P1032
2:35 pm	David Hume	A Gene Expression Atlas of the Domestic Pig	P2023
2:50 pm	George Liu	Fine mapping of copy number variations on two cattle genome assemblies using high density SNP array	P6007
3:05 pm	Fenge Li	Discovery of potential piRNAs from next generation sequences of the sexually mature porcine testes	P2029
3:20 pm	Yizhou Chen	Profiling bovine liver microRNA by deep sequencing	P2010
3:35 pm	**AFTERNOON TEA**		
4:05 pm	Xinyun Li	Identification of NF-κB transcription factor binding sites in promoters of miRNA genes in C2C12 myoblast	P6010
4:20 pm	Lelou Guan	Developing biomarkers for bovine health using whole blood transcriptome profiling	P2048
4:35 pm	Núria Mach	The peripheral blood transcriptome dynamically reflects immunocompetence in swine	P2038
4:50 pm	Klaus Wimmers	Genome-wide expression and association analyses to identify genes either affecting or responding to plasma cortisol in pigs	P2063
5:05 pm **5:30 pm**		Business meeting Close	

Thursday afternoon, July 19th: Workshop Session #4 (2 pm – 5:30 pm) continued ~

Applied Genetics of Companion Animals Workshop (Chairs: Leslie Lyons, Cindy Harper) **Meeting Room 3**

2: 00 pm **Welcome and Agenda – Harper/Lyons**

Cat CT Duty Lab Report – Corinne Cherbonnel, GENINDEXE

Cat CT Analysis Lab Report – Leslie Lyons, UC Davis

3:30 pm **Afternoon Tea**

4:00 pm Dog CT Duty Report – Lina Muselet, Antagene

Dog CT Analysis Lab Report - Cindy Harper, University of Pretoria

Other Business

Motions and Votes

Selection of 2012 - 2014 Standing Committee:

Chairs:

Cat 2014 CT Duty Laboratory

Cat 2014 CT Analysis Laboratory

Dog 2014 CT Duty Laboratory

Dog 2014 CT Analysis Laboratory

5:30 pm **Meeting adjourn**

Applied Sheep & Goat Genetics Workshop (Chairs: Gesine Luehken, Stephen White) **Meeting Room 1 + 2**

Time	Speaker	Presentation title	Abstract
2:00 pm	Yu Jiang	The domestic sheep reference genome assembly	P1019
2:15 pm	Tracy Hadfield	Identifying genomic regions associated with production traits in Rambouillet sheep using a 50K SNP array	P4017
2:30 pm	Magda Benavides	Identification of SNPs associated to Red Maasai x Dorper resistance to gastrointestinal parasite infections	P5005
2:45 pm	Loys Bodin	Novel mutations controlling ovulation rate in sheep	P3004
3:00 pm	Dorothy Robinson	Comparison of potential traits for reducing methane emissions in sheep	P3061
3:15 pm	James Kijas	SNP based parentage assignment in sheep: Application in Australian flocks	P4026
3:30 pm	**AFTERNOON TEA**		
4:00 pm	Brian Sayre	Update of the International Goat Genome Consortium projects	
4:15 pm	Jianhua Cao	A whole-genome radiation hybrid map for goat and comparative genomics	
4:30 pm	Zhihong Liu	Study on microRNAome associated with goat hair cycle	P2027
4:45 pm	Lucie Genestout	Execution of the sheep comparison test 2011/12	
5:00 pm	Cecilia Penedo	Summary of sheep and goat comparison test results 2012 Decisions on next comparison tests and duty laboratory	
5:15 pm		Election of new committee members	
5:30 pm		Close	

ISAG 2012 WORKSHOP & SYMPOSIA SPEAKER LIST

Speaker	Title	Workshop
Abernathy	Fine-mapping of chicken genomic aberrations by identifying CNVs associated with *Campylobacter*	Avian (Tues PM)
Abernathy	Fine-mapping of chicken genomic aberrations by identifying CNVs associated with *Campylobacter*	Immune (Mon PM)
Aida	Identification of bovine leukocyte antigen (BoLA) class II haplotypes that are regulated bovine	MHC (Tues PM)
Arakawa	Validation of genomic breeding value predicted in a Duroc closed population	Pig (Thurs AM)
Archibald	Enabling the reading of genome sequences for farmed and companion animals - a proposal for	Sequencing (Mon PM)
Ashwell	Association mapping of the chicken L alloantigen	Avian (Tues PM)
Bailey	Genetics of carrier status for equine arteritis virus: Association with in vitro virus infectivity assay	Immune (Mon PM)
Ballingall	Functional diversity arising from intra and inter haplotype combinations of DQ loci within the sheep	MHC (Tues PM)
Barendse	The use of single nucleotide polymorphism array data to analyse the genetic structure of a cattle herd	Diversity (Tues PM)
Benavides	Identification of SNPs associated to Red Maasai x Dorper resistance to gastrointestinal parasite	Sheep & Goats (Thurs PM)
Bergström	Pigmentary chorioretinopathy: A novel disease in Chinese Crested dogs	Dog and Cat (Thurs AM)
Bodin	Novel mutations controlling ovulation rate in sheep	Sheep & Goats (Thurs PM)
Boettcher	New opportunities and new objectives for the ISAG-FAO Advisory Group on Animal Genetic	Diversity (Tues PM)
Braunschweig	Is RNA involved in transgenerational epigenetic inheritance?	Epigenetics (Thurs AM)
Brenaut	Contribution of mammary epithelial cells to the immune response during early stages of a bacterial	Ruminant (Tues PM)
Buchanan	Nutrigenetics of vitamin A supplementation and *ADH1C* genotype on intramuscular fat in feedlot	Ruminant (Tues PM)
Burrow	Value of Beef CRC genomics research for developing countries	Developing (Thurs PM)
Burt	Sequencing of Avian Genomes	Sequencing (Mon PM)
Cao	A whole-genome radiation hybrid map for goat and comparative genomics	Sheep & Goats (Thurs PM)
Chen Y	Profiling bovine liver microRNA by deep sequencing	Comparative (Thurs PM)
Chong	Genome-wide identification of endogenous retroviruses from a crocodilian genome	Aquaculture (Thurs PM)
Crooijmans	Global variation in copy number in the chicken genome	Avian (Tues PM)
Daverio	Identification of allelic variants in Melanocortin-1 receptor gene in llama (*Lama glam)*	Llama/Alpaca (Mon PM)
Desjardin	Molecular mechanisms involved in equine osteochondrosis	Horse (Mon PM)
Di Stasio	Mitochondrial DNA sequencing detected additional variability in tench (*Tinca tinca, L.*)	Aquaculture (Thurs PM)
Endale	MiRNA targeting in host-virus interaction: inter-strain comparison in Pseudorabies Virus (PrV)	Immune (Mon PM)
Estellé	Genome-wide association study for immunity traits in French Large White pigs	Immune (Mon PM)
Fife	Case-control study for Salmonellosis confirms genetic resistance in commercial chickens	Immune (Mon PM)
Fortes	Mutations in the *PLAG1* region are associated with height, weight, puberty, IGF1 levels and fat	Ruminant (Tues PM)
Fresard	Use of Next Generation Sequencing to explore the chicken epigenome: application to imprinting	Avian (Tues PM)
Fresard	Transcriptome-wide investigation of genomic imprinting in chicken	Epigenetics (Thurs AM)
Fritz	Whole genome association study of Type 2 Polysaccharide Storage Myopathy (PSSM) in Quarter	Horse (Mon PM)
Ghoshal	Understanding the microbial diversity of the bovine rumen in relation to feed efficiency	Sequencing (Mon PM)
Giovambattista	Comparison of the effectiveness between STR and SNP panels for forensic DNA analysis in bovine	Forensic (Mon PM)
Giuffra	The Need To Build Additional Infrastructure to Facilitate Livestock Genomic	Sequencing (Mon PM)
Glaser	Advances in Animal Genotyping Using the Affymetrix Axiom Platform.	Horse (Mon PM)
Gongora	DNA sequence capture to study major histocompatibility complex evolution and diversity in suids	Diversity (Tues PM)
Guan	Developing biomarkers for bovine health using whole blood transcriptome profiling	Comparative (Thurs PM)
Haase	Feline Osteochondrodysplasia of Scottish Fold cats	Dog and Cat (Thurs AM)
Hadfield	Identifying genomic gegions associated with production traits in Rambouillet sheep using a 50K	Sheep & Goats (Thurs PM)
Han	Identification and screening for long deletions in BF1 gene of Silkie chicken	Avian (Tues PM)
Hoque	Discrimination of Korean native chicken lines using fifteen microsatellite markers	Developing (Thurs PM)
Hu ZL	Databases for animal genome research: the needs, the trends, and the potentials – a case study on	Sequencing (Mon PM)
Hudson	Tissue specific regulatory network of the porcine transcriptome	Pig (Thurs AM)
Hume	A Gene Expression Atlas of the Domestic Pig	Comparative (Thurs PM)
Hunt	New options for assessing disease susceptibility traits	Immune (Mon PM)
Jackling	Mapping of the blue-eyed white phenotype in alpacas: the genetic links between pigmentation and	Llama/Alpaca (Mon PM)
Jaratlerdsiri	MHC class I diversity in saltwater crocodiles and its association with Lymphoid Proliferation,	MHC (Tues PM)
Javadmensh	Genetic and sex effects on insulin-like growth factor system components in brain of bovine purebred	Epigenetics (Thurs AM)
Jiang Yu	The imprintome of a domestic sheep	Epigenetics (Thurs AM)
Jiang Yu	A reference genome of the domestic goat (Capra hircus) generated by Illumina sequencing and	Sequencing (Mon PM)
Jiang Yu	The domestic sheep reference genome assembly	Sheep & Goats (Thurs PM)
Juras	Genetic analysis of feral horse population from Brittany Triangle, British Columbia	Diversity (Tues PM)
Kijas	Whole genome sequencing of 75 sheep for variant detection and design of an HD chip	Ruminant (Tues PM)
Kijas	SNP based parentage assignment in sheep: Application in Australian flocks	Sheep & Goats (Thurs PM)
Kim	Characterization and exploitation of the unique genomes and adaptations of Ethiopian cattle to	Developing (Thurs PM)
Kuhn	A genome wide association study for withers height in German Warmblood Horses	Horse (Mon PM)
Lamont	Genomics of heat stress in poultry	Avian (Tues PM)
Larkin	Pig genome evolution: chromosomal rearrangements and their impact on gene networks	Pig (Thurs AM)
Larkin	Pig genome evolution: chromosomal rearrangements and their impact on gene networks	Sequencing (Mon PM)
Le Roex	Novel SNP identification and association with bovine TB in African buffalo	Immune (Mon PM)

ISAG 2012 WORKSHOP & SYMPOSIA SPEAKER LIST (continued)

Lee Chee Yang	Introducing Mouse, Canine, and Zebrafish Exomes Using the Agilent Technologies SureSelectTM	Aquaculture (Thurs PM)
Lee Jun Heon	The Swine Leukocyte Antigen (SLA) Nomenclature System: Current Status after 10 Years of its	MHC (Tues PM)
Lee Michael	GWAS of economically important traits in NZ sheep of data with significant sample structure	Ruminant (Tues PM)
Leeb	Genetic analysis of hereditary nasal parakeratosis (HNPK) in Labrador Retrievers	Dog and Cat (Thurs AM)
Lenstra	Compilation and analysis of high-density SNP and genomic sequence data for investigation of	Diversity (Tues PM)
Li Fenge	Discovery of potential piRNAs from next generation sequences of the sexually mature porcine testes	Comparative (Thurs PM)
Li Xinjun	Identification of NF-$\kappa#$B transcription factor binding sites in promoters of miRNA genes in	Comparative (Thurs PM)
Liaubet	Genetic and phenotypic fine characterizations of French porcine reference populations	Diversity (Tues PM)
Lindquist	Making your Process, Evidence, and Reports Bullet Proof	Forensic (Mon PM)
Liu George	Fine mapping of copy number variations on two cattle genome assemblies using high density SNP	Comparative (Thurs PM)
Liu George	Mapping cattle copy number variation by population-scale genome sequencing	Sequencing (Mon PM)
Liu Jianfeng	A genome-wide detection of copy number variations using SNP genotyping arrays in swine	Pig (Thurs AM)
Liu Xiaojuan	Efficient production of transgenic chickens based on piggyBac	Avian (Tues PM)
Liu Zhihong	Study on microRNAome associated with goat hair cycle	Sheep & Goats (Thurs PM)
Longeri	Pedigree of Abyssinian cats with Amyloidosis and polymorphism of SAA gene in several feline	Dog and Cat (Thurs AM)
Louro	Differential growth rate sea bass population gene expression study with SOLiD4- SuperSAGE	Aquaculture (Thurs PM)
Lowman	The response of gene expression of HSP90AA to heat stress in broiler chickens	Avian (Tues PM)
Lunney	Swine immune responses to PRRSV infection	Immune (Mon PM)
Lunney	Genetic control of swine responses to PRRSV infection: Progress of the PRRS Host Genetics	Pig (Thurs AM)
Lyons	Three Burmese cat specific diseases identified by genome-wide association studies	Immune (Mon PM)
Mach	The peripheral blood transcriptome dynamically reflects immunocompetence in swine	Comparative (Thurs PM)
Mach	Diversity studies of SLA haplotypes by targeted high-throughput re-sequencing	MHC (Tues PM)
Mallard	Genetic Selection for High Immune Response	Immune (Mon PM)
Manz	DNA program of the AZVD (German Alpaca Association) – History and model for parentage	Llama/Alpaca (Mon PM)
McCarthy	Enabling functional and comparative analysis of genomic data sets for agriculture	Comparative (Thurs PM)
Mickelson	Genomic signatures of selection in the horse	Horse (Mon PM)
Murani	Identification of a functional variant of the porcine glucocorticoid receptor with a major effect on the	Pig (Thurs AM)
Murgiano	A de novo germline mutation in MYH7 causes a progressive dominant myopathy in pigs	Immune (Mon PM)
Murgiano	A de novo germline mutation in MYH7 causes a progressive dominant myopathy in pigs	Pig (Thurs AM)
Neuhoff	Proteome analysis of skeletal muscle in high and low drip loss Duroc × Pietrain F2 pigs	Pig (Thurs AM)
Oliveira	A Real-Time PCR-based method to detect and quantify bovine content in buffalo derived products	Forensic (Mon PM)
Perdomo	Evolution and diversity of MHC class I and class II genes in suids and peccaries	MHC (Tues PM)
Perez O'Brien	Finding selection sweeps through variation in linkage disequilibrium of *taurine* and *indicine* cattle	Ruminant (Tues PM)
Pitel	SNP detection for QTL analysis of social behaviour and production traits in quail	Avian (Tues PM)
Ponsuksili	MicroRNAs and functionally linked mRNAs affecting meat and carcass traits in pigs	Comparative (Thurs PM)
Randhawa	Combining multiple evidences localized high-resolution signals of selection in cattle and sheep	Diversity (Tues PM)
Ren	Characterization of the duck MHC class II genes	MHC (Tues PM)
Ricard	First results on genomic selection in French show-jumping horses	Horse (Mon PM)
Robinson	Comparison of potential traits for reducing methane emissions in sheep	Sheep & Goats (Thurs PM)
Rogel-Gaillard	Genome-wide association and transcriptome study for immunity traits in French Large White pigs	Pig (Thurs AM)
Roodt-Wilding	SNP marker technologies and applications for genetic improvement in the South African abalone	Aquaculture (Thurs PM)
Rosario	Multitrait composite interval mapping reveals pleiotropic QTL on chicken chromosome 1	Avian (Tues PM)
Rothschild	Consideration of genomic solutions to food security in the developing world	Developing (Thurs PM)
Rothschild	Genome-wide association study for cryptorchidism in dogs	Dog and Cat (Thurs AM)
Sayre	Goat Improvement in Africa: Genomic tool development and application in a Feed the Future project	Developing (Thurs PM)
Sayre	Update of the International Goat Genome Consortium projects	Sheep & Goats (Thurs PM)
Soller	Constrained GERP elements and the annotated bovine genome	Comparative (Thurs PM)
Sonstegard	STR/SNP imputation panel	Cattle markers (Thurs AM)
Sonstegard	Lethal haplotypes in dairy cattle: What lies beneath?	Ruminant (Tues PM)
Stear	Characterization of Diversity in the Sheep MHC class II antigen presenting genes	MHC (Tues PM)
Stinckens	Promising loci for the susceptibility to both scrotal hernia and cryptorchidism in pigs	Pig (Thurs AM)
Sundberg	Genome-wide association mapping identifies several major susceptibility loci for Canine	Dog and Cat (Thurs AM)
Svensson	Prehistoric cattle breeding	Ruminant (Tues PM)
Takasuga	Re-analysis of the *CW-1* QTL revealed the *PLAG1-CHCHD7* QTN for stature in Japanese Black	Ruminant (Tues PM)
Tellam	Histone deacetylase 9 is a negative regulator of myogenesis	Epigenetics (Thurs AM)
Velie	Genetic selection for racing durability in Thoroughbreds	Horse (Mon PM)
Wade	A pilot study of the genetic basis of separation-related stress disorder in dog	Dog and Cat (Thurs AM)
Weerasinghe	Genetic Structure and Diversity of Australian Sheep Breeds	Diversity (Tues PM)
White	Extended scrapie incubation time in goats singly heterozygous for *PRNP* S146 or K222	Immune (Mon PM)
Wimmers	Genome-wide expression and association analyses to identify genes either affecting or responding to	Comparative (Thurs PM)
Xiang	Maternal and paternal genetics differentially affect myofibre characteristics and muscle weights of	Epigenetics (Thurs AM)
Zhao Shegguo	Phylogeny and Assessment of Conservation Priority for Asian Native Chicken Genetic Resources	Diversity (Tues PM)

Animal Selection, Genetics & Genomics Network (ASGGN) Meeting, Saturday July 21, 2012

Venue: Room M1 Novotel, Cairns Oasis Resort, 122 Lake Street Cairns, QLD

Agenda

0800 **Coffee**

0830 **Welcome and introductions (Chair: Hutton Oddy)**

0845 **Origin of ASGGN, what we hope to achieve at this meeting**

0900 **Overview:**

Summary of preliminary Australia and NZ meeting (May 2012) (John McEwan)

0930 **Presentation of submitted papers**

1. Y de Haas – Reducing emissions from dairy cows in Netherlands
2. George Liu – Use of CNVs in understanding genetic basis of RFI

1000 **Coffee**

1030 **The trait –Methane emission intensity and/or gross methane emissions**

1045 **Discussion:**

– *The basic measurements are the same (viz, methane and feed intake, along with existing traits) but overall breeding objective(s) combinations are specific to industry, country, region etc*

1100 **Phenotyping methane emissions traits**

Examples of work in progress e.g. Dairy combination of RFI and methane, Beef Methane on animals with RFI EBVs etc

Discussion:

– *Strengths / weaknesses of work to date.*
– *Intake together with CH_4 measures*
– *Methodology and protocols (SF6, Chambers, PACs, Sniffers)*
– *Integration of data across methods and protocols / countries (need for error structures / repeatability estimates etc)*

1200 **Interested organisations**

Collate list of people around the world who can collect Production phenotypes, host DNA and Rumen content on appropriately structured populations

1230 **Lunch**

1330 **Genotyping: GWAS and genomic selection**

Discussion: *around info about numbers and effective population sizes in an international collaboration environment (*Ben Hayes)

– Design and data sharing arrangements
– Anticipate species specific solutions
– *B. indicus, B. taurus, O. aries*

1430 **Process to build ASGGN activities**

– Communication channels
– List of people who are interested in continuing
– Common goals
– Work program and outcomes of this meeting written up and communicated, including publicly available on GRA Livestock GHG website
– Potential for GRA application that covers
  - collection and storage of host DNA and rumen content samples, covers host genotyping (by species Dairy, Beef, Sheep)
  - Phenotypes, DNA, Rumen samples are collected locally and contributed into the GRA project to increase scale and deliver basis for genomic breeding values from international collaboration back to local genetic evaluation schemes.

1525 **Next meeting**

– when where and how (face to face versus phone etc)

1530 **Finish and coffee**

Note: If you wish to attend this meeting, but have not already contacted Hutton Oddy or Grant Shackell, then please leave your name and contact details at the ISAG registration desk for catering purposes.

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It is our mission to provide the livestock industries with a quality service in a timely manner, whilst simultaneously continuing research and development in many areas of molecular diagnostics.

The AGL is a self sustaining, not for profit organisation that redirects its proceeds back into research and test development. We continue to maintain strong collaborative ties with other service laboratories for inherited disease testing and the delivery of markers to industry for production traits.

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The AGL supports research in all areas of animal genetics including wildlife population genetics, traits of economic importance in domestic livestock species, zoonotic and exotic disease surveillance, as well as research surrounding disease detection and prevention in domestic animals.

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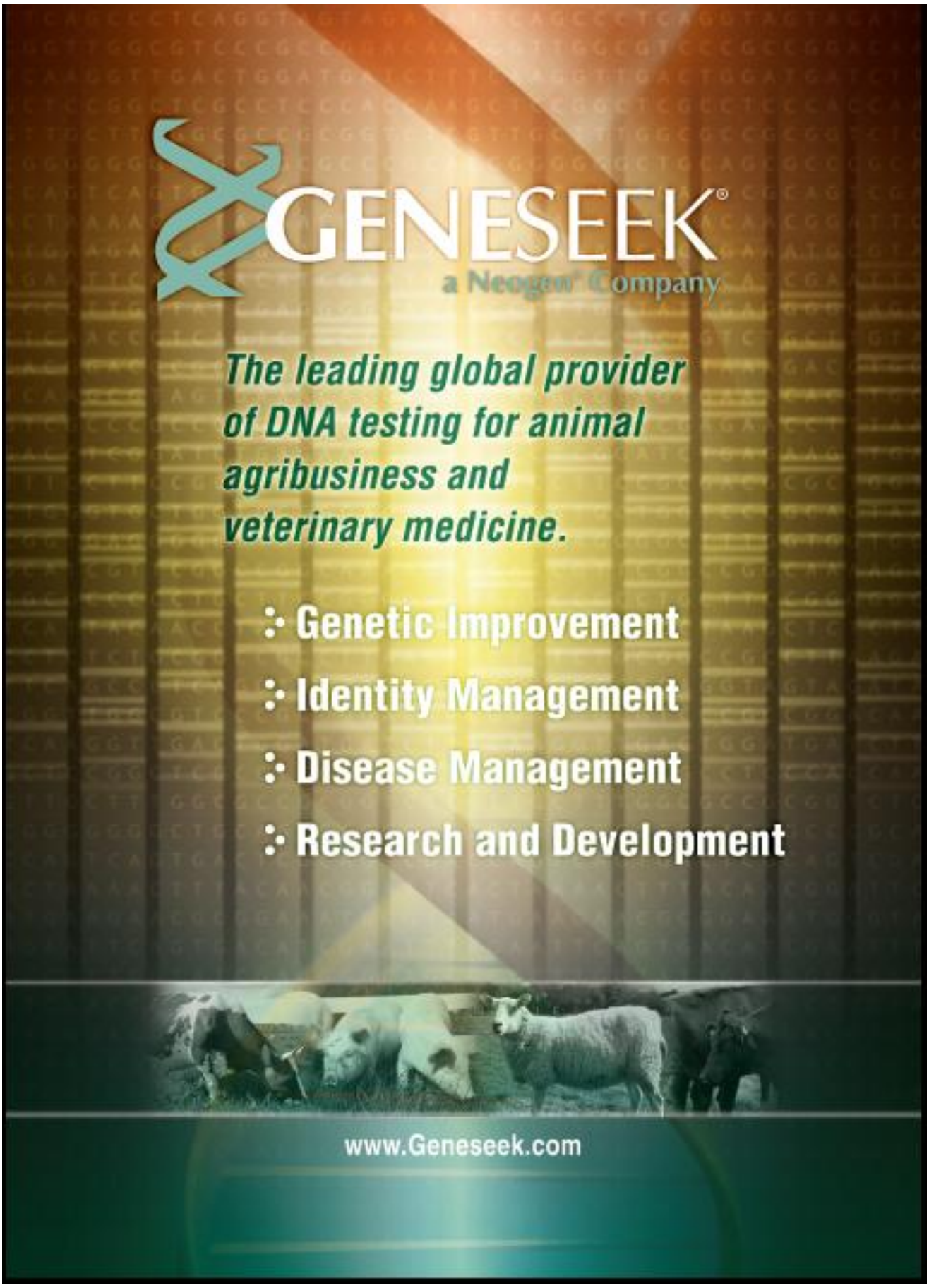
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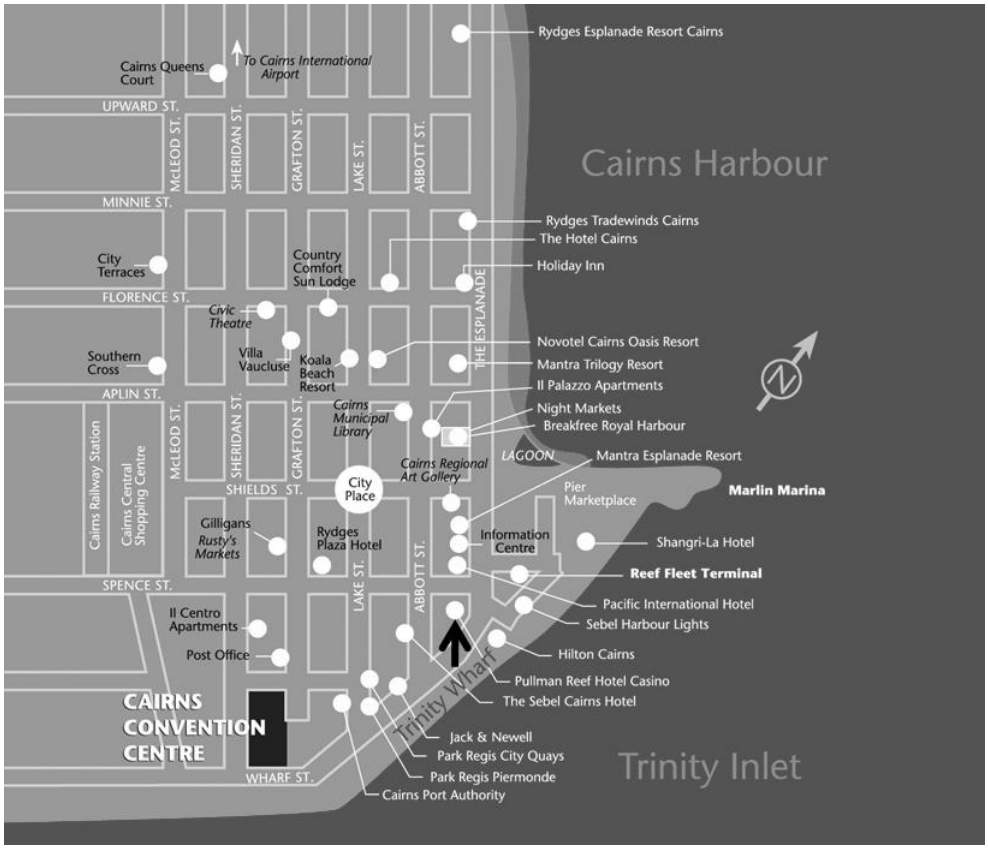
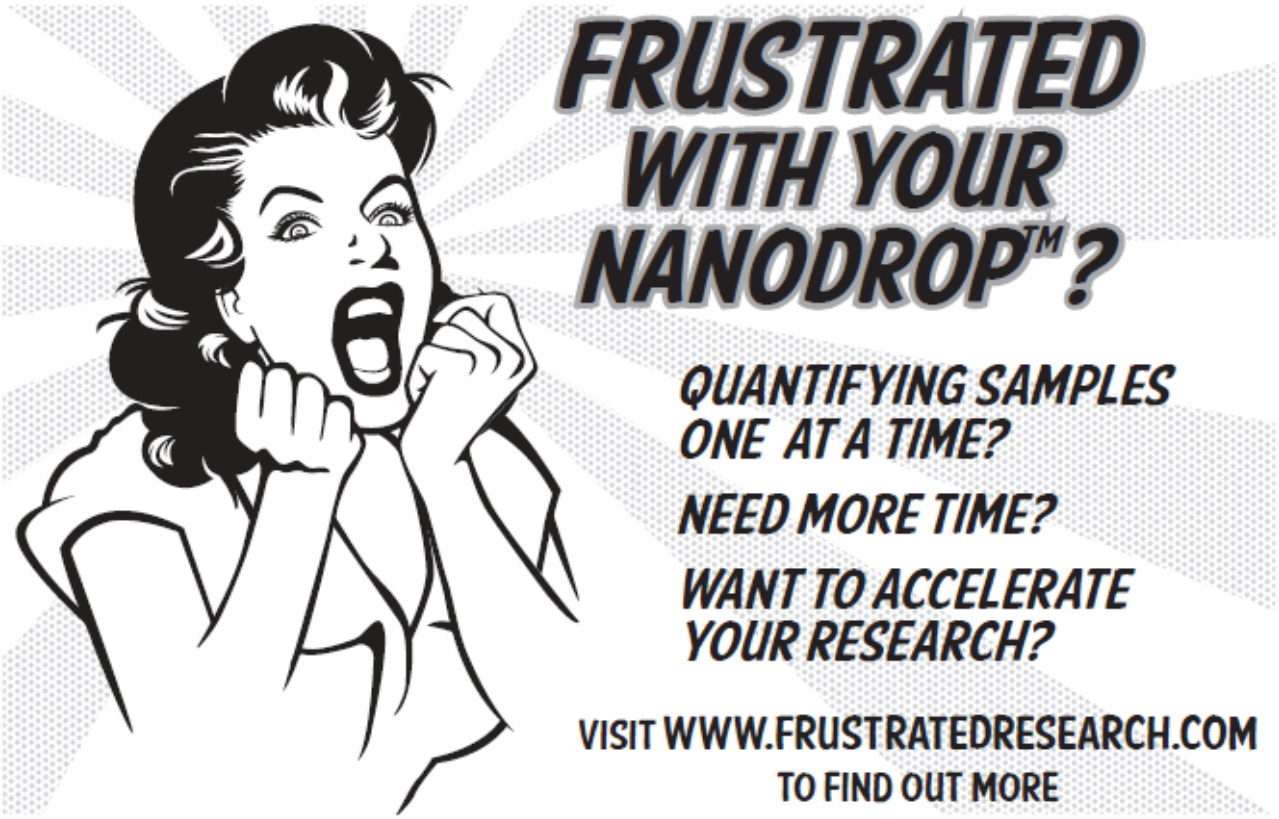
Cairns Map:

Convention Centre (Corner of Wharf & Sheridan Streets); Pullman Reef Hotel (35-41 Wharf Street, arrow)

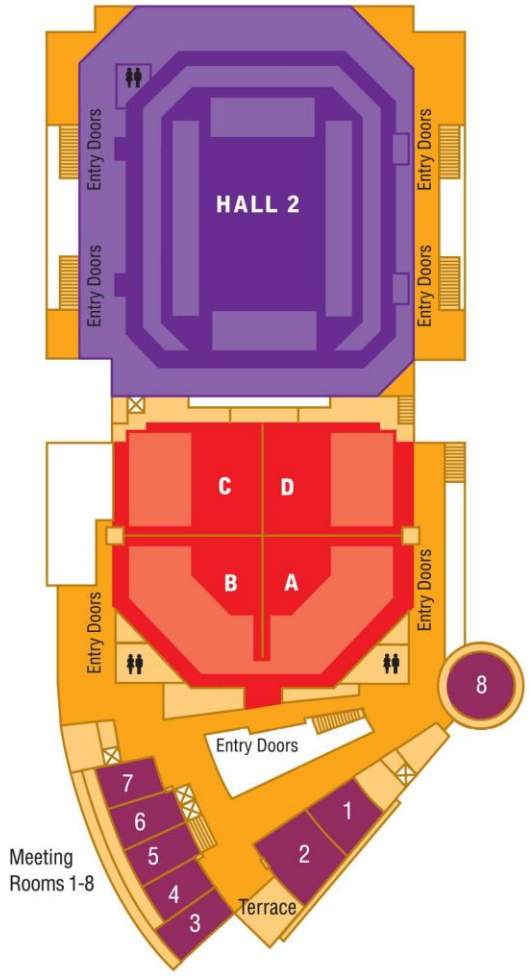




Cairns Convention Centre Floor Plans

EXHIBITION LEVEL

MEZZANINE LEVEL



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