



VETBIONET

Veterinary Bio-contained facility Network for excellence in animal infectiology research and experimentation

Deliverable D5.8

Organization of 1 Summer Course at RI premises

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Confidential, only for members of the consortium (including Commission Services)	
Classified, as referred to in Commission Decision 2001/844/EC	

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Summary

Objectives

The objective of the event was to demonstrate the progress being made in techniques of flow cytometry in the field of avian immunological research. The course comprised of one day with online participation where expert speakers across the field of avian immunology demonstrated current efforts to study phenotype and function of avian immune cells. The second day of the course was an in-person workshop at the Roslin Institute where the aim was to provide novice and experienced avian researchers insights into flow cytometry techniques, pitfalls, reagents and analytical practices.

Rationale

The rationale was to engage attendees in a productive, highly interactive discussions concerning the successes, pitfalls and limitations to working on avian immune cells with limited reagents. These limitations will not only be specific to avian research, and it is hoped that the success of this symposium will lead to further workshops encompassing more species in future CVIG meetings.

Teams involved

Lonneke Vervelde and Kate Sutton, RI, University of Edinburgh, Scotland
Tina Dalgaard, Aarhus University, Denmark

Not VetBioNet partners:

Sonja Hartle, Ludwig Maximilians University, Germany, Avian immunologist co-organiser

Becks McRobb, Conference and Events Planner British Society for Immunology; organised the website, registration and managed technical part of the online event
<https://www.immunology.org/events/avian-immunology-flow-cytometry-symposium>

Organization of 1 Summer Course at RI premises



1.1 Description

The online event comprised talks by 6 invited speakers and an open discussion. A set of poll questions were used through-out the day to interact with the online participants. The in-person workshop focused on pitfalls/method development and comprised presentations from all participants followed by technical discussions.

1.2 Agenda

The agenda, sent to the attendants one week before the starting of the course, was as follows:

Symposium Programme

21st March 2022



COMPARATIVE & VETERINARY
IMMUNOLOGY GROUP

Talks sponsored by CVIG/BSI

Chair: Prof. Lonneke Vervelde Department of Infection and Immunity, The Roslin Institute, University of Edinburgh, U.K.

14:00-14:05 Welcome and introduction to Avian Immunology Flow Cytometry Symposium

Prof. Lonneke Vervelde, The Roslin Institute, University of Edinburgh, U.K.

14:05-14:35 Avian T cells

Dr. Tina Dalgaard, Department of Animal Science, Aarhus University, Denmark.

14:35-15:00 Avian B cells

Dr. Sonja Härtle, Department of Veterinary Sciences, Ludwig-Maximilians-Universität München, Germany.

15:00-15.25 Avian Macrophages and Conventional Dendritic Cells

Dr. Adam Bálic, The Roslin Institute, University of Edinburgh, U.K.

15.25-15.40 **Tea Break**

15:40-16.00 Analysing APC functionality using Flow Cytometry

Dr. Kate Sutton, The Roslin Institute, University of Edinburgh, U.K.

16:00-16:25 PrimeFlow RNA Assay

Dr. Wihelm Gerner, The Pirbright Institute, U.K.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°731014

16:25-16:35 VetBioNet: Challenges working with BSL3 samples

Prof. Lonneke Vervelde, The Roslin Institute, University of Edinburgh, U.K.

16:35-16:45 Short Break

Invited abstract

16:45-17:00 The search for chicken NK cells

Dr Christine Jansen, Wageningen University Research, The Netherlands

17:00-17:30 Open discussion

Workshop Programme

22nd March 2022

Sponsored by VetBioNet



The Good, the Bad and the Ugly in Chicken Flow Cytometry

Workshop participants will drive the discussion, topics that are discussed based on their questions and needs.

9:00 – 12:00 Session I: Potential Topics

Considerations for chicken cells sample preparation

Considerations for cell staining protocols:

Fixation procedures:

Functional assays

12:00-13:00 **Lunch Break**

13:00-15:00 **Session II:** Potential Topics

Introduction in Multiparameter flow

Conjugating chicken antibodies

Verifying new antibodies and their cross-reactivity

The future of chicken flow cytometry – new applications and reagents

15:00-15:15 **Coffee/Tea break**

15:15-17:00 Participants Data and Open Discussion

Annex 1: Participants' list

Participants* list for the in person workshop (2 days)

- X.X. (PhD student), Dept of Veterinary Medical Sciences, University of Bologna / Italy
- X.X. (Post Doc), University of Hohenheim, Institute of Animal Science / Germany
- X.X. (Research fellow), University of Leipzig, Veterinary Faculty, Institute of Virologie/ Germany
- X.X. (coming PhD student), The University Of Edinburgh / UK
- X.X. (PhD student), Seoul National University / South Korea
- X.X. (PhD student), University of Liverpool/ UK
- X.X. (Post Doc), Royal Veterinary College/ UK
- X.X. (PhD student), INRAE/ France

Participants list for the online workshop (1 day)

N	ATTENDED	NAME*	CURRENT EMPLOYER/ORGANISATION / COUNTRY
1	yes	X.X.	The Roslin Institute, University of Edinburgh/ UK
2	no	X.X.	WashU/USA
3	yes	X.X.	University of Liverpool/ UK
4	no	X.X.	Sri Venkateswara Veterinary University/ India
5	yes	X.X.	University of Maryland/USA
6	yes	X.X.	LMU Munich/ Germany
7	yes	X.X.	University of Reading - School of Biological Sciences/Malaysia
8	yes	X.X.	University of Guelph / Canada
9	yes	X.X.	Charles University Prague / Czech Republic
10	yes	X.X.	Technical University Munich/ Germany
11	yes	X.X.	University of Munich/ Germany
12	yes	X.X.	LMU Munich - Freistaat Bayern/ Germany
13	yes	X.X.	Department of Veterinary Medical Sciences- U. of Bologna/ Italy
14	yes	X.X.	Southeast Poultry Research Laboratory - USDA/ USA
15	yes	X.X.	Wageningen University & Research/ NL
16	no	X.X.	Colorifix/ UK
17	yes	X.X.	USDA-ARS-USNPRC / USA
18	no	X.X.	DARVET
19	yes	X.X.	Agilent Technologies/ France
20	yes	X.X.	University of Veterinary Medicine, Vienna /Austria
21	yes	X.X.	LMU Munich, Department of Veterinary Science/ Germany

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22	no	X.X.	National Veterinary Research Institute Vom/ Nigeria
23	yes	X.X.	Sciensano - ULB/ Belgium
24	yes	X.X.	The Roslin Institute/ UK
25	yes	X.X.	St. George's University of London/ UK
26	yes	X.X.	National Veterinary Institute Upsala/ Sweden
27	no	X.X.	Poultry Health Division, Ghazi Brothers /Pakistan
28	yes	X.X.	Sciensano - ULB/ Belgium
29	yes	X.X.	INRAE/ France
30	yes	X.X.	INRAE/ France
31	yes	X.X.	University of Torino / Italy
32	yes	X.X.	SRUC, University of Edinburgh/ UK
33	yes	X.X.	Dept of Veterinary Medical Sciences, U. of Bologna/ Italy
34	yes	X.X.	UNAM / Mexico
35	no	X.X.	Miltenyi Biotec ,Scotland/ UK
36	yes	X.X.	INRAE / France
37	yes	X.X.	ULB - IMI / Belgium
38	yes	X.X.	Technical University of Munich / Germany
39	yes	X.X.	National Veterinary Institute / Sweden
40	no	X.X.	Debre Tabor University / Ethiopia
41	yes	X.X.	Technical University Munich/ Germany
42	yes	X.X.	LMU Munich / Germany
43	yes	X.X.	INRAE / France
44	no	X.X.	University of Surrey/ UK
45	no	X.X.	WBVR/ NL
46	yes	X.X.	University of Surrey / UK
47	yes	X.X.	University of Veterinary Medicine Hannover/ Germany
48	no	X.X.	Royal Veterinary College/ UK
49	yes	X.X.	USDA ARS / USA
50	yes	X.X.	University of Veterinary Medicine Hannover/ Germany
51	yes	X.X.	Vetsuisse/ University of Zurich/ Swizerland
52	yes	X.X.	The Roslin Institute/ UK
53	yes	X.X.	Seoul National University/ South Korea
54	yes	X.X.	The Pirbright Institute/ UK
55	yes	X.X.	University of Leipzig, Veterinary Faculty/ Germany
56	yes	X.X.	University of Edinburgh/ UK
57	yes	X.X.	Swedish University of Agricultural Science/ Sweden
58	yes	X.X.	The Roslin Institute / UK
59	yes	X.X.	University of Veterinary Medicine Vienna/ Austria
60	yes	X.X.	The University Of Edinburgh/ UK
61	yes	X.X.	Instituto de Biotecnologia - IABIMO - INTA/ Argentina
62	no	X.X.	National Institute of Agricultural Technology/ Argentina
63	yes	X.X.	The Pirbright Institute/ UK
64	yes	X.X.	University of Leipzig, Veterinary Faculty/ Germany
65	yes	X.X.	US Department of Agriculture Agricultural Research Service/USA
66	yes	X.X.	Technical University of Munich/ Germany
67	yes	X.X.	Auburn University / USA

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68	yes	X.X.	Freie Universität Berlin/ Germany
69	yes	X.X.	Technical University of Munich/ Germany
70	yes	X.X.	MSD Animal health/ NL
71	yes	X.X.	Universität Hohenheim/ Germany
72	no	X.X.	University of Montreal/ Canada
73	yes	X.X.	The University Of Edinburgh/ UK
74	yes	X.X.	Vaxxinova /NL
75	yes	X.X.	University of Zurich, Vetsuisse Faculty
76	yes	X.X.	Bio-Rad/ USA
77	yes	X.X.	Wageningen University & Research/ NL
78	yes	X.X.	National Veterinary Institute/ Sweden
79	yes	X.X.	University of Veterinary Medicine Hannover/ Germany
80	yes	X.X.	Aarhus University/ Denmark
81	yes	X.X.	WBVR Wageningen Bioveterinary Research/ NL
82	yes	X.X.	University of Bologna / Italy
83	yes	X.X.	CENTRE INRAE VAL DE LOIRE/ France
84	yes	X.X.	Reproductive Biotechnology, TU Munich/ Germany
85	yes	X.X.	The Pirbright Institute/ UK
86	yes	X.X.	The Roslin Institute, The University of Edinburgh/UK
87	yes	X.X.	Wageningen Bioveterinary Research/ NL
88	yes	X.X.	Animal Plant and Health Agency/University of Surrey /UK
89	yes	X.X.	INTA-CONICET/ Argentina
90	yes	X.X.	University of Hohenheim/ Germany
91	yes	X.X.	Ludwig Maximilians University Munich/ Germany
92	yes	X.X.	Swedish University of Agricultural Sciences/ Sweden
93	yes	X.X.	the Roslin Institute/ UK
94	yes	X.X.	Touchlight / UK
95	yes	X.X.	Poultry Clinic / Brazil
96	yes	X.X.	Friedrich-Loeffler-Institute/ Germany
97	yes	X.X.	University of Hohenheim, Institute of Animal Science/ Germany
98	no	X.X.	Obafemi Awolowo University/ Nigeria
99	yes	X.X.	Technical University Munich/ Germany
100	yes	X.X.	Aarhus University/ Denmark
101	yes	X.X.	University of Calabar Teaching Hospital/ Nigeria
102	no	X.X.	The Pirbright Institute/ UK
103	yes	X.X.	LMU München/ Germany
104	yes	X.X.	INRAE/ France
105	yes	X.X.	The Pirbright Institute/ UK
106	yes	X.X.	Moredun Research Institute/ UK
107	yes	X.X.	The Roslin Institute/ UK
108	yes	X.X.	The Roslin Institute / UK

*Names have been anonymized.

Annex 2: Assessment from attendants

We did not send a questionnaire but some feedback received by email from participants can be found below.

" Dear Lonneke, Tina and Sonja, hi—I just wanted to say what a fantastic success your symposium was yesterday. I explained it to our three youngsters as a workshop, in which interested people get together to try to sort things out in a friendly and constructive way. It was a model for how such a workshop might work, and all three people (and myself) enjoyed it immensely. I hope that today the workshop part of the symposium is an equal success. With many thanks again both for the symposium and for the conversations beforehand"

"Hi everyone, I'm waiting for my flight back (...) and I would like to take the opportunity to thank you all for this brilliant 2 days. Many thanks to all the organisers for your warm welcome and for providing us with such incredible insights with avian flow cytometry. This will definitely be a game changer for what comes next in my PhD project. I also want to thank all the participants, I really enjoyed spending these couple of days with you guys and I really hope that we can keep in touch!

"Hi everyone, Nice to hear that you arrived safe and sound! It was definitely a lovely time in Edinburgh. Friendly people, great talks, outstanding city!"

"Hello to everyone, I would also like to say a big thank you once again. For me, who is now starting avian flow cytometry, it was a very interesting and exciting exchange. I got important hints for the start of my projects."

"Thank you very much for the organization, the insights into the possibilities and of course into your fields of work as well as the interesting discussions and the exchange on these and many other (off) topics! I would also be very delighted about a further exchange."

"Good morning everyone, also from me a big thank you for two informative, interesting days with all the useful discussions. Thank you for the organization and the warm way we were received. Through the relaxed, friendly atmosphere, one has felt at no time unwanted or "stupid".

"Thank you very much for hosting such a helpful and valuable symposium. (...), I had very little opportunity to interact and discuss with fellow avian immunologists. It was very nice to get to know you and share various experiences with you this time. Hope to see you again in the near future."
