2013- N°2

NEWSLETTER

NOVEMBER 2013

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Ongoing Selection Process

◊ **Sept-Nov, 2013**

Publication of the selected projects, call for candidates

◊ **Dec 2013-Feb, 2014**

Validation of applications, interviews of the best applicants, selection

◊ **May, 2014**

Publication of the main list of doctoral candidates and of the reserve list

◊ **September, 2014**

Start of the PhD projects

COORDINATOR'S WORD

EGS-ABG is now a well running programme. Three groups of doctoral candidates are on tracks and we are currently in the process of evaluation and selection of the fourth group of candidates.

In 2013, a major event was the organization of our "welcome" course and our Research Scholl in partnership with ILRI. Both courses took place in October, on the ILRI campus of Addis Ababa (Ethiopia). Almost all PhD candidates from the three groups attended the Research School focused on "animal breeding and food security". It was a great learning experience and I warmly thank our ILRI partners for their essential input to this event!

PhD candidates from the first group are now half-way and many of them obtained interesting results. Several communications have been given in international congresses, some of them having being awarded, and some good papers have been published (see in the present issue). The next issue of the Newsletter will provide with more detailed information about the results obtained and their impact in selection and livestock production.

Etienne Verrier, EGS-ABG coordinator

NEW PHD CANDIDATE REPRESENTATIVE

Belén Jiménez Mena was elected in October 2013 new representative for the EGS-ABG PhD candidates. Belén is part of the first group of EGS-ABG PhD candidates; after two years in AgroParisTech, she recently moved to Aarhus University to continue her doctoral research. She will be the voice of the PhD candidates in the EGS-ABG Consortium.

Congratulations to her!

EGS-ABG IS ON FACEBOOK !

Follow EGS-ABG activities on Facebook!

www.facebook.com/egsabg

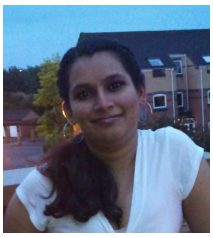
EGS-ABG FACTS AND FIGURES

- 4 European Partner Institutions
- 6 International Associated partners
- 3 groups of PhD candidates
- 25 PhD candidates of 19 nationalities

Contact: egsabg@agroparistech.fr — **Website**: www.egsabg.eu — **Director of publication:** Etienne Verrier — **Editor:** Delphine Deschamps

THE DOCTORAL CANDIDATES FOR 2013-2017 AND THEIR PHD PROJECT

Anoop ARYA



« miRNA mediated regulation of Pig Genome: case studies in production traits and disease», AgroParisTech—Wageningen University

I have Bechelor in Veterinary Science and Animal Husbandry from India. I did MRes in Bioinformatics from The University of Nottingham. I studied phylogeny in budding yeast Saccaromyces cerevisiea, in relation to distribution of novel genes. For my PhD I would be looking at regulatory layer that miRNA on gene expression.

Sonia EYNARD

« Genetic erosion and long term genetic improvement »

Wageningen University—AgroParisTech

I am from France, I have a Bachelor in biology from Grenoble university (France) and a Master in biodiversity conservation from Montpellier university (France) and the university of the Aegean (Greece). During my Master I worked on population genetics of wildlife species for conservation purposes and now switched to genetics of livestock species. My PhD project focuses on the impact of selection strategies on the loss of genetic diversity.

Zih-Hua FANG

« Genomics of bovine milk protein composition »

AgroParisTech — Wageningen University

I'm Zih-Hua from Taiwan. I obtained my BSc in animal science at Taiwan and my MSc in animal breeding and genetics from the University of Natural Resource and Applied Life Sciences of Vienna and Agroparistech within EM-ABG program. My PhD project is to investigate the genetic background of bovine milk protein composition, in order to provide the opportunity to tailor the protein components in milk. I am happy to join EGS-ABG program!

Bingjie LI

« Genomic and phenotypic indicators of feed efficiency »

Swedish University of Agricultural Sciences — Aarhus University

I am Bingjie from China. I studied Veterinary Medicine for my Bachelor of Science, and did my Master in Animal Breeding and Genetics at the Norwegian University of Life Sciences and AgroParisTech. I am very interested in association studies and my MSc. thesis was on a GWAS of mastitis resistance in sheep. I am now studying feed efficiency by trying to explore more robust phenotypic indicators and the underlying genetic basis of this trait.

Jovana MARJANOVIC

« Genetics of social interactions in Aquaculture »

Wageningen University— Swedish University of Agricultural Sciences

My name is Jovana and I come from Bosnia and Herzegovina. I have bachelor and master degree in Molecular biology, that I obtained at the University of Novi Sad. During my master I worked on DNA barcoding, and now I am excited to do a PhD project that aims to connect two important research areas in quantitative genetics – social interactions and inherited variability, using Nile Tilapia as focal species and focusing on growth rate.

Wossenie MEBRATIE

« Genomics of feed conversion efficiency in poultry »

Aarhus University — Wageningen University

I am wossenie Mebratie from Ethiopia. I did my B.Sc in Animal and Rage science at Mekelle University, Ethiopia and M.Sc in Animal breeding and Genetics at Haramaya University, Ethiopia. I am now a first year EGS-ABG PhD candidate at Aarhus University, Denmark and my second institution will be Wageningen University, the Netherlands.

My PhD project is entitled "The Genomics of Feed Conversion Efficiency in Poultry" and it is expected to come with a new knowledge about the genetic factors affecting feed conversion efficiency in poultry. I am looking forward to see the results of my project which will have significant contribution to food security especially in developing countries like Ethiopia.

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THE DOCTORAL CANDIDATES FOR 2013-2017 AND THEIR PHD PROJECT

Christina ROCHUS

« Genetics of coat colour and reproduction traits in sheep »

Swedish University of Agricultural Sciences—AgroParisTech

I am from Canada, where I completed a Bachelor of Science (Honours) in Animal Biology and a Master of Science in Integrative Biology at the University of Guelph. I'm very excited to be part of the EGS ABG programme: to study at SLU and the Institut National de la Recherche Agronomique (INRA) and to have many wonderful networking opportunities with fellow students and researchers. My project will be looking at the genetics of coat colour and reproduction traits as well as the interaction that these traits may have with each other in sheep. I will also be studying the genetic relatedness between different sheep breeds.

Tao XIANG

« Genomic evaluation with cross-bred and pure-bred animals »

Aarhus University—AgroParisTech

I am from the east part of China. In 2011, I obtained a Bachelor degree from Northwest A&F University, which belongs to the Chinese "985 project" university league. Then, a master degree of animal breeding and genetics was issued to me by Wageningen University in July, 2013. This specific PhD project fits firmly into my educational background. It is a concrete step towards continuance of my interests in the field of quantitative genetics and animal breeding.

Qianqian ZHANG

« Methods of association study for rare variants using NGS »

Aarhus University—Wageningen University

I am from China and I have done my bachelor in Animal Science in Northwest Agriculture and Forestry University, China. In 2011, I was admitted to the European Master program of Animal Breeding and Genetics (EMABG) with Erasmus Mundus scholarship. I obtained my Master degree from University of Natural Resources and Applied life Sciences in Vienna and Wageningen University. I worked with next generation sequencing data in pigs in my Master thesis and my PhD project is about using next generation sequencing data to develop the methods of genome wide association study for rare variants in cattle. It is very exciting for me to exploit rare variants in sequence data and map rare variants affecting functional traits in dairy cattle and I am also looking forward to learning and exchanging knowledge between different institutions.

FROM ERASMUS MUNDUS TO ERASMUS + AND MARIE CURIE ACTIONS

The Erasmus Mundus programme will come to an end on 31 December 2013. However, ongoing projects will continue their activities until the end of their grant agreement.

As from 2014, certain activities supported up to now by Erasmus Mundus will be part of a new cooperation programme named « Erasmus+ ». In the context of the Framework Partnership Agreement signed between AgroParisTech, coordinator of the EGS-ABG programme, and the Education, Audiovisual & Culture Executive Agency (EACEA) and covering five consecutive intakes of PhD participants, the European Commission will award fellowships for the remaining cohorts drawing from the budget of the up-coming « Erasmus + programme ». EGS-ABG will subsequently join a new Joint Doctoral Degree Action created as part of the « Marie Sklodowska Curie Actions » under to up-coming « Horizon 2020 » programme.

More information on the transition from Erasmus Mundus Joint Doctorate to Erasmus + and Marie Curie Actions will be available in 2014.

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EGS-ABG PHD CANDIDATES IN MOTION

NEW MEMBER OF IUCN SSC CONSERVATION BREEDING SPECIALIST GROUP

After an application, last July I was invited to join the group of members of the Conservation Breeding Specialist Group (CBSG, http://www.cbsg.org) which is « a global network of conservation professionals that provides species conservation planning expertise to governments, Specialist Groups, zoos and aquariums, and other wildlife organizations ». It is one of the disciplinary groups of the Species Survival Commission (SSC) from the International Union for the Conservation of Nature (IUCN). In terms of population genetics, domestic animal populations have the same issues as wild and captive species populations, genetically speaking, so both "worlds" can complement each other in terms of scientific learning and conservation applications. In this sense, one of my personal interests is to provide the link between these two separate "worlds" at the research level. Collaborating with CBSG is an incredible start and CBSG could benefit from the research we are in contact with, where there is a lot of research going on. This opportunity is great both to learn from an international level and to establish a network of conservationists working in these fields. It can give to my career the view of conservation in an International background, which I have the impression is fundamental to pushing conservation at local levels.

Belén Jiménez Mena, Group 1

PUBLICATIONS

Esinam N. Amuzu-Aweh published recently in « Heredity » an article entitled «Prediction of heterosis using genome-wide SNP-marker data: application to egg production traits in white Leghorn crosses », co-authored with P. Bijma, B. P. Kinghorn, A. Vereijken, J. Visscher, J. AM. van Arendonk and H. Bovenhuis.

Photo: Irene Van den Berg

EGS-ABG IN EAAP 2013

Photo: Elise Norberg

At the 64th EAAP conference held in Nantes, France, Esinam N. Amuzu-Aweh won the award for the Best oral presentation of the Genetics Session. Her presentation was entitled: "Genomic prediction of heterosis for egg production traits in white Leghorn crosses." It was a report on her findings on the prediction of heterosis using SNP markers. The full paper was recently published in « Heredity ».

Hadi Esfandyari won the award for Best Poster. His poster was entitled « Medium to long-term effects of selection in finite locus models with non-additive effects ».

Congratulations to them !

Five other EGS-ABG PhD candidates from groups 1 and 2 presented their work during EAAP 2013 (for more information, check EGS-ABG newsletter 2013-n°1).

The 65th EAAP edition will take place in Copenhagen, Denmark, 25-28 August 2014.

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EGS-ABG IN ETHIOPIA

IN PARTNERSHIP WITH ILRI AND WORLDFISH

This year, the European Graduate School in Animal Breeding and Genetics (EGS-ABG) organized its annual Welcome Course and Research School in association with the International Livestock Research Institute (ILRI) in Addis Ababa, Ethiopia.

The new intake of EGS-ABG PhD candidates participated in four days of classes on October 23rd-26th introducing them to all aspects of the doctoral programme they have just begun: history, past and future of animal breeding, ethics in animal breeding, introduction to scientific communication, project planning and management, etc. It was also the first opportunity for the nine candidates of the 2013 intake, dispatched between four universities, to meet each other and to interact with teachers and representatives of the EGS-ABG Consortium.

The newest batch of EGS-ABG PhD candidates was joined on October 27th by 30 other PhD candidates from the EGS-ABG programme, from Ethiopian Universities and from the Consortium Universities to participate in a one-day field-trip to the Debre Zeit Agricultural Research Center.

All candidates then participated in the EGS-ABG Research School, from October 28th to November 1st. This year, the EGS-ABG Research School focused on the concepts of value chain and food security applied to Animal Breeding and Genetics. Different speakers from ILRI, the EGS-ABG Consortium and WorldFish offered lectures on value chain applied to each group of animal: dairy cattle, small ruminant, chicken and fish. Lectures were followed in the afternoon by group assignments.

On the last day, PhD candidates had the opportunity to reflect on the impact of their project and of the EGS-ABG programme on food security. Each group suggested a new slogan for EGS-ABG in the light of what they had learned during the week, and they proposed the following taglines, all approved by the EGS-ABG representatives!

*"**E**xcellent training in*

***G**enetics and*

***S**election of*

***A**nimals to*

***B**enefit Society and conserve*

***G**enetic resources"*

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EGS-ABG IN ETHIOPIA!

"The aim of EGS-ABG is to train animal breeders who will be able to tackle future food security challenges of the world!"

"EGS-ABG: Experience from yesterday, innovations today, better tomorrow!"

"Training animal breeders for better livelihood around the world"

"Tailored research and training in animal breeding for sustainable food productivity"

"Securing food by human resource development in animal breeding and genetics"

Pictures by ILRI and Thomas Heams

EGS-ABG would like to thank its associated partners, ILRI and WorldFish, for their support in the organization of the Welcome course and Research School 2013. The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. WorldFish is an international, nonprofit research organization committed to improving the livelihoods of those who are especially poor and vulnerable in places where fisheries and aquaculture can make a difference and achieving large scale, environmentally sustainable, increases in supply and access to fish at affordable prices for poor consumers in developing countries.

For more information, please consult the websites: www.ilri.org and www.worldfishcenter.org

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