



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 6435

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia**

Scientist- in - charge: **Professor Filippo Geuna**

ABHISEK BISWAS

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	BISWAS
Name	ABHISEK

LATEST OCCUPATION

Appointment	Structure
01/01/2022 - 10/2022	Researcher, Level - III CREA - Council for Agricultural Research and Economics https://www.crea.gov.it/en/home Name of unit or department: Research Centre for Genomics and Bioinformatics Address: Via Pausanias 28, 26836, Montanaso Lombardo (LO), Italy City: Montanaso Lombardo Country: Italy

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Bachelor Degree	Agriculture	Visva-Bharati University	2015
Master Degree	Scienze della Produzione e Protezione delle Piante	Università degli Studi di Milano, Italy	2017
PhD	In Agriculture, Environment and Bioenergy	Università degli Studi di Milano, Italy	ongoing



Specialization			
Degree of medical specialization			
Degree of European specialization			
Other			

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	C2
Italian	A1
Hindi	C2
Bengali	C2

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2015	<p>BRAVE, Erasmus Mundus Scholarship, Awarding institution: Erasmus Mundus, European Commission</p> <p>Fully funded scholarship for a two-year master's degree program at the University of Milan, from 10/10/2015 to 10/07/2017.</p> <p>http://brave.aua.gr/index.php?lang=en</p>
2017	<p>PhD Scholarship, Awarding institution: University of Milan, University research grand for three-years' PhD program https://sites.unimi.it/dottorato_aab/</p>
2019	<p>63rd Italian Society of Agricultural Genetics (SIGA2019) annual congress poster prize</p> <p>Awarding institution: Italian Society of Agricultural Genetics</p> <p>Poster title: Quest for barley canopy architecture genes in the HorTILLUS population and WHEALBI germplasm collection</p> <p>Place: Napoli, Italy</p> <p>Date: 10/13 September, 2019</p>
2020	<p>ERASMUS+ Student Traineeship scholarship, Awarding institution: ERASMUS+, European Commission</p> <p>Three-months of traineeship at the University of Potsdam, Germany with ERASMUS+ scholarship.</p>



TRAINING OR RESEARCH ACTIVITY

1. Internship abroad during PhD (01/12/2019 - 31/07/2020)

At the University of Potsdam

Address: Institute for Biochemistry and Biology, AG Genetics, Building 26, Karl- Liebknecht-Str. 24-25, 14476, Potsdam, Germany

Main subject / occupational skills covered:

Candidate gene (CG) validation using co-segregation analysis, allelism test and re-sequencing the cDNA

- Development and application of gene-based molecular markers for co-segregation analysis
- RNA analysis techniques, e.g. extraction and quality controls, reverse transcription, cDNA synthesis and sequencing
- Phenotyping and data analysis for allelism tests

Image-analysis based phenotyping using ImageJ and Python custom scripts.

Protein interaction assay

- Gene cloning using Gateway technology
- Yeast two-hybrid (Y2H) screening

2. Summer School - Climate Change and Crop Productivity: the Role of Plant Physiology, Breeding and Biotechnology (12/06/2018 - 15/06/2018)

VII Annual Meeting of the Plant Genetic and Biotechnology Network

Summer school in collaboration with the Italian Society for Plant Biology (SIBV)

Isola Polvese del lago Trasimeno, Perugia, Italy <http://www.sibv.eu/congressi-ed-eventi/summer-school-2018>

3. Summer School - in Plant Phenotyping (03/07/2019 - 05/07/2019)

Organized by the Working Groups of "Cell and Molecular Biology" and "Biotechnology and Differentiation" of the Italian Botanical Society, at ALSIA - Lucana Agency for Development and Innovation in Agriculture, Metaponto (MT), Italy

4. Research Integrity - Natural and Physical Sciences (14/06/2018)

Epigeum online course offered by Oxford University press 2018

5. Rural Awareness Work Experience (RAWE) training program (01/2015 - 06/2015)

Institute of Agriculture, Visva-Bharati University <http://psbvb.in>

Address: Sriniketan, 731204, Bolpur, India

Main subject / occupational skills covered: Under this programme, the students of B.Sc. (Ag.) Hons. (Semester VIII) were placed in villages as well as different organisations, where they interacted with the farmers, farm women, rural youth, scientists of research stations, subject matter specialists of KVK, officials of line departments, financial institutions and agro - based industries in order to blend their theoretical knowledge with practical life to have realistic experiences in the concerned field.

6. Other occupational skills developed during Masters' degree and PhD:

Laboratory/Biotechnology skills

Expertise in

- DNA extraction
- RNA extraction
- cDNA preparation
- PCR



- RT-PCR
- Sanger sequencer (capillary electrophoresis)
- Gene cloning (Gateway technique)
- Yeast two-hybrid (Y2H) screening
- Agarose & polyacrylamide gel run
- Preparation of different growth mediums
- Plant dissection for microscopy and other fundamental laboratory techniques

Field skills

- Proficient in phenotyping large size of plant population
- Skilled at crossing cereals/vegetable crops (Breeder)
- Growing plants in greenhouses and fields
- 6 months of work experience in India's rural fields with village farmers during the final year of graduation under the Rural Awareness Work Experience (RAWE) program (certificate attached)
- During PhD research, conducted several field and greenhouse trials with barley plants, phenotyped thousands of plants over the generations, and collected around 20 phenotypic trait data from each plant.

Bioinformatics skills

- Good command of sequence alignment software and web database.
- Proficient in R programming language (population genetics-GWAS, multivariate analysis, basic statistical analysis)
- Trained user of Python programming and other data analysis programs like SPSS, SAS
- Image-analysis based phenotyping using ImageJ and Python custom scripts.

PROJECT ACTIVITY

Year	Project
2017 - 2020	<p>BarPLUS</p> <p>Participant- as a PhD student at the University of Milan, working on the BarPLUS project under the supervision of Principal Investigator Professor Laura Rossini.</p> <p>https://barplus.wordpress.com</p>
2022	<p>BIOTECH Project sub-projects "QUALIMEC - Improvement of qualitative properties in eggplant through genome editing and cisgenesis"</p> <p>Statistical analyzes, basic bioinformatics analyzes on genomes; identification, cloning and functional analysis of genes underlying QTL of total and partial resistance to Fusarium oxysporum f.sp. melongenae, development and validation of molecular markers associated with resistance and phenotypic characterization of traits.</p>

PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place



CONGRESSES		
06/12/2013 - 09/12/2013	5th Indian Youth Science Congress	Visva-Bharati University, Sriniketan, West Bengal, India https://www.mssrf.org
08/03/2018 - 09/03/2018	BarPLUS III Mid-Term Meeting	Organised by BarPLUS consortium in association with the University of Lleida University of Lleida - Av. Rovira Roure 191, Lleida, Spain https://barplus.wordpress.com
30/05/2018 - 31/05/2018	WHEALBI workshop 6: Wheat and Barley Pre-breeding	Organised by KWS and the WHEALBI consortium Sophi Tailor Building, Park Farm, Villa Road, Cambridge, United Kingdom https://www.whealbi.eu/trainings-crop-management-innovative-cropping-systems-practical-assisted-pre-breeding-may-2018-cambridge/
25/06/2018 - 27/06/2018	Second International Barley Mutant Workshop 2018 (iBMW2018)	Dalhousie Building, University of Dundee, DD1 5EN Dundee, United Kingdom https://ics.hutton.ac.uk/ibmw2018/
10/07/2018 - 11/07/2018	Rice Days at the University of Milan (UNIMI)	University of Milan, Via Mangiagalli 25, Milan, Italy
25/09/2018 - 28/09/2018	62nd Italian Society of Agricultural Genetics (SIGA2018) Annual Congress	Topic: Plant development and crop productivity for sustainable agriculture. Verona, Italy http://www.geneticagraria.it/congress_abstract.asp?a_pag=4&id=62
10/07/2019 - 11/07/2019	BarPLUS Workshop - Final Meeting	Topic: Plant architecture traits and efficient energy assimilation for improved biomass and grain production in cereals. University of Silesia, Katowice, Poland https://barplus.wordpress.com/
24/10/2019 - 25/10/2019	BarleyGenomeNet (BGN) Kick-Start Meeting	Accademia dei Georgofili, Logge Uffizi Corti, 50122 Florence, Italy http://pgrc.ipk-gatersleben.de/barleynet/
10/09/2019 - 13/09/2019	63rd Italian Society of Agricultural Genetics (SIGA2019) Annual Congress	Topic: Science and innovation for sustainable agriculture intensification: the contribution of plant genetics and breeding. Naples, Italy http://www.geneticagraria.it/congress_abstract.asp?a_pag=4&id=63
06/09/2022 - 09/09/2022	65th Italian Society of Agricultural Genetics (SIGA2022) Annual Congress	Topic: ON MENDEL'S FOOTSTEPS - FROM GENES TO FORK Piacenza, Italy http://www.geneticagraria.it/congress_abstract.asp?a_pag=4&id=69



SEMINARS		
11/09/2016	Bioavailability of photochemicals: intestinal biotransformations and their consequences on the study of polyphenols	SANA Academy, Bologna, Italy
19/03/2018	Biotechnologies in the breeding program: the asparagus genome and sex chromosome, a case study	University of Milan, Italy
05/06/2018	Genome editing to modify agricultural traits in rice and grape	University of Milan, Italy
07/09/2018	Genomics and Transcriptomics approaches for cereals and medicinal plants improvement	University of Milan, Italy
14/09/2018	Genetic studies on Japanese plum for phenolic compound content	University of Milan, Italy
19/09/2018	Innovative strategies for agricultural and environmental management	Fognano di Brisighella, University of Milan, Italy
04/04/2019	Employing barley mutants to dissect a chlorophyll bio-synthetic enzyme	Research Center for Genomics and Bioinformatics (CREA), Fiorenzuola d'Arda, Italy
25/09/2019	New biological archives for exploiting e DNA based biodiversity survey across space and time	Institute of Emiliani, Fognano di Brisighella, University of Milan, Italy

PUBLICATIONS

Articles and reviews
Genetics of barley tiller and leaf development https://doi.org/10.1111/jipb.12757 Authors: Shaaf, S., Bretani, G., Biswas, A., Fontana, I. M., & Rossini, L. Journal of Integrative Plant Biology, 61(3), 226-256, 2019
Resistance monitoring for conventional and new chemistry insecticides on Bemisia tabaci genetic group Asia-I in major vegetable crops from India https://doi.org/10.1007/s12600-018-00707-w Authors: Roy, D., Bhattacharjee, T., Biswas, A., Ghosh, A., Sarkar, S., Mondal, D., & Sarkar, P. K. Phytoparasitica, 47(1), 55-66, 2019



<p>Antixenosis, tolerance and genetic analysis of some rice landraces for resistance to Nilaparvata lugens (Stål.)</p> <p>https://doi.org/10.1016/j.aspen.2020.10.012</p> <p>Authors: Roy, D., Chakraborty, G., Biswas, A., & Sarkar, P. K.</p> <p>Journal of Asia-Pacific Entomology, 24(1), 448-460, 2020</p>
<p>Insecticide resistance status of Hyposidra talaca (Lepidoptera: Geometridae) in major tea growing zone of India</p> <p>https://doi.org/10.1007/s12600-021-00934-8</p> <p>Authors: Roy, D., Samanta, A., Biswas, A., Chakraborty, G., & Sarkar, P. K.</p> <p>Phytoparasitica, 49(5), 983-1002, 2021</p>
<p>Toxicity and Sublethal Effects of Fluxametamide on the Key Biological Parameters and Life History Traits of Diamondback Moth Plutella xylostella (L.).</p> <p>https://doi.org/10.3390/agronomy12071656</p> <p>Authors: Gope, A.; Chakraborty, G.; Ghosh, S.M.; Sau, S.; Mondal, K.; Biswas, A.; Sarkar, S.; Sarkar, P.K.; Roy, D.</p> <p>Agronomy, 12(7):1656, 2022</p>
<p>Field-evolved resistance and mechanisms in Bemisia tabaci Asia I to a novel pyropene insecticide, afidopyropen in India,</p> <p>https://doi.org/10.1016/j.cropro.2022.106078</p> <p>Authors: Mahalanobish, D., Dutta, S., Roy, D., Biswas, A., Sarkar, S., Mondal, D., Gaber, A., Hossain, A., Sarkar, P.K</p> <p>Crop protection, 162, 106078, 2022</p>
<p>Can insecticide mixtures be considered to surmount neonicotinoid resistance in Bemisia tabaci?</p> <p>https://doi.org/10.1016/j.aspen.2022.101901</p> <p>Authors: Roy, D., Biswas, S., Biswas, A., Chakraborty, G., Sarkar, P.K</p> <p>Journal of Asia-Pacific Entomology, 25(2), 101901, 2022</p>
<p>Evaluation and characterization of indigenous rice (Oryza sativa L.) landraces resistant to brown planthopper Nilaparvata lugens (Stål.) biotype 4</p> <p>https://doi.org/10.7717/peerj.14360</p> <p>Authors: Roy, D., Biswas, A., Sarkar, S., Chakraborty, G., Gaber, A., Kobeasy, Ml., Hossain, A.</p> <p>PeerJ, 10, e14360, 2022</p>
<p>Resistance risk assessment in diamondback moth, Plutella xylostella (L.) to fluxametamide</p> <p>https://doi.org/10.1016/j.cropro.2022.106101</p> <p>Authors: Roy, D., Sau, S., Adhikary, S., Biswas, A., Biswas, S., Chakraborty, G., Sarkar, P.K</p> <p>Crop protection, 163, 10610, 2023</p>

<p>Congress proceedings</p>
<p>Title: 62nd Italian Society of Agricultural Genetics (SIGA2018) annual congress, Structure: PhD student, Place: Verona, Italy, Year: 2018 http://www.geneticagraria.it/congress_abstract.asp?a_pag=4&id=62</p>
<p>Title: 63rd Italian Society of Agricultural Genetics (SIGA2019) annual congress, Structure: PhD student,</p>



Place: Naples, Italy, Year: 2019 http://www.geneticagraria.it/congress_abstract.asp?a_pag=4&id=63

Title: 65th Italian Society of Agricultural Genetics (SIGA2022) annual congress, Structure: Researcher level III, Place: Piacenza, Italy, Year: 2022 http://www.geneticagraria.it/congress_abstract.asp?a_pag=4&id=69

OTHER INFORMATION

For further detailed CV please see another CV attached in EuroPass format.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

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Place and date: Milan, 28th February, 2024