

IRRI Rice Genetic Design and Validation Unit

TERMS OF REFERENCE

Background

Our group is working on understanding the molecular basis of grain micronutrients with the major objective of main-streaming of rice Zinc breeding. This will help in development of micronutrient rich rice varieties through marker assisted selection and genomic selection approaches. We have developed multiple mapping populations by crossing micronutrient rich rice donor lines with several popular rice varieties. Presently we are genotyping and phenotyping these mapping populations to identify major effect QTLs/genes for grain micronutrients, especially for grain Fe and Zn.

Functions/Duties and Output Expectations

The intern will be provided with the opportunities to learn the following:

- Introduction to breeding for biofortification
- Breeding strategies to develop biofortified rice
- Phenotyping of grain micronutrients
- Strategies for Mapping of QTLs and genes for grain micronutrients
- *In silico* analysis of candidate genes
- Statistical analysis of agronomic and grain micronutrients
- Updates on statistical analysis to map QTLs
- Assignments related to biofortification

At the end of the internship, the following outputs will be expected:

1. Gained knowledge and skills on phenotyping for micronutrients, genotyping and mapping of QTLs/genes.
2. Presentation of the intern's outputs to IRRI Education unit

Qualifications and Competencies:

Graduate or undergraduate student interested and has background and knowledge in plant breeding and genetics.

Duration of Work:

- Duration of the internship is for 6 months

Duty Station

On-site Internship (Philippines)

IRRI Business Development Unit

TERMS OF REFERENCE

Background

IRRI's Business Development Unit (BDU) is responsible for strategic planning, knowledge management and coordination on developing new large strategic commissioned funding opportunities across the institute.

Functions/Duties and Output Expectations

Under the direct supervision of IRRI's Business Development Manager, the intern is expected to perform the following tasks:

- Assist in updating BDU's market research files (i.e. rice statistics, country and donor strategies, country and donor briefs, etc.)
- Identify new opportunities and funding sources for IRRI through conducting literature reviews and web-based research
- Monitor global business, economic, social, and political developments that may have potential relevance to IRRI's resource mobilization efforts
- Communicating findings and analysis through written reports, oral briefings, or visual representations using Powerpoint or Excel
- Assist in orchestrating meetings and agendas for BDU team, scientists, or country and regional representatives, where applicable
- Contribute to the improvement of BDU's knowledge base, operations, processes, tools, and promote knowledge sharing

At the end of the internship, the following outputs will be expected:

1. A research report on a donor/s based in a country or region that is determined jointly by the supervisor and intern
2. Presentation of the report to BDU and other selected IRRI staff – Portfolio Management Office (PMO) & IRRI Education Business Development (IE BD)

Qualifications and Competencies:

- Minimum bachelor's/college degree in international development, social science
- Suitability to undertake the responsibilities mentioned above at the required level
- High competency in research and analysis
- Excellent written and verbal communication skills in English
- Highly proficient in Microsoft Office
- Strong organizational skills, attention to detail, able to prioritize multiple tasks, and take direction
- Demonstrates knowledge and understanding of current development (agriculture) issues and challenges
- Proactive in keeping knowledge and skills up to date

Duration of Work:

- Duration of the internship is for 3 months

Duty Station

- On-site Internship (Philippines)

IRRI Portfolio Management Office

I. Portfolio Development TERMS OF REFERENCE

Background

The Portfolio Development (PD) team identifies, reviews, and recommends funding opportunities from open or advertised calls. PD ensures that IRRI's pipeline portfolio matches IRRI's mission, research thrusts, and comparative strengths. The team also supports IRRI's researchers in preparing call-compliant and competitive bids to respond to requests for expressions of interest, concept notes, and/or full proposals. PD, with the support of the Management Information System (MIS) and Financial Planning and Reporting Unit (FPR) maintains the IRRI Pipeline Dashboard, which enables IRRI Senior Management to determine the status of and make forecasts on IRRI's project portfolio. PD works with donors and relevant stakeholders—both directly and in coordination with relevant IRRI units—to translate mutually shared goals and objectives into investments for research and development impact.

Functions/Duties and Output Expectations

Objectives of the assignment:

1. Contribute to the development of donor intelligence information in the field of agriculture research, natural resource management, and other related fields targeting Southeast Asia, South Asia and Africa;
2. Identify relevant, new potential donors and update available information on IRRI's current list of donors
3. Identify and recommend different pathways to access donor funding of identified donors (new and existing) by providing information on their funding replenishment cycle and mode/s of eliciting funding applications.

At the end of the internship, the following outputs will be expected:

Tasks

1. Identify relevant key donors and their funding priorities and programs for the next three to five years in Southeast Asia, South Asia, and Africa;
2. Develop and compile succinct donor briefing notes for existing and new donors each for Southeast Asia, South Asia and Africa;
3. Contribute to the development of a database of relevant donor requirements, funding and intellectual property policies, and contractual obligations with donees such as IRRI through collection of materials, infosheets, documents and the like.

Outputs

1. Donor reports and briefing materials of selected donors
2. Copies of sample contracts, financial and intellectual property guidelines from selected donors and funding programs
3. Brief donor/funding landscape report covering Southeast and South Asia and Africa

Duty Station

On-site Internship (Philippines)

IRRI Portfolio Management Office

II. Portfolio Management TERMS OF REFERENCE

Background

The portfolio management team coordinates and facilitates monitoring and management of active projects at IRRI. The intern will be requested to assist the Portfolio Management team around these activities. Specifically the successful candidate will be tasked to:

- Capture project summaries from project proposals and encode them in an online document (ex: Google docs/ Sheet) for mass uploading in the project system
- Make necessary follow-ups from project teams on the country of benefit, and SDG of active projects and concluded projects as necessary. Help in completing a table for mass uploading in the project system
- Capture and document all categories of terms & conditions that are signed into by IRRI in grant contracts to serve as a directory or profile of conditions that IRRI needs to adhere to in implementing projects
- Counter-check list of active partner letter of agreements and tag contracts that need to be labeled as completed for updating in the system. Research on different types of subrecipient contracts for further refinement of PMO

Qualifications and Competencies required for position:

1. BS/BA degree in international development, social science or any related field; a background in agriculture is an advantage
2. Has perfect command of the English language;
3. Proficient in Word, Excel and Powerpoint
4. Good analytical and writing skills

Duration of Work:

- Duration of the internship is for 6 months

Duty Station

On-site Internship (Philippines)

IRRI Education

I. Marketing Intern TERMS OF REFERENCE

Background

IRRI Education is the education arm of the International Rice Research Institute (IRRI) and its vision is to provide knowledge and skills to all stakeholders in the rice-based agri-food sector.

Functions/Duties and Output Expectations

Under the direct supervision of IRRI Education's Manager, the intern is expected to perform the following tasks:

- Create a social media plan for IRRI Education's platforms (Facebook, Twitter, LinkedIn)
- Develop social media templates and promotional materials for IRRI Education
- Support in updating IRRI Education's website
- Assist in conducting IRRI Ed Alumni Talks, a virtual webinar featuring IRRI Education's scholar
- Communicate findings and analysis through written reports, oral briefings, or visual representations using Powerpoint or Excel
- Contribute to the improvement of IRRI Ed's knowledge base, operations, processes, tools, and promote knowledge sharing

At the end of the internship, the following outputs will be expected:

3. A comprehensive social media plan for IRRI Ed's platforms
4. Presentation of the intern's outputs to IRRI Education unit

Qualifications and Competencies:

- Minimum bachelor's/college degree in development communication, communication arts, marketing
- Suitability to undertake the responsibilities mentioned above at the required level
- High competency in research and analysis
- Excellent written and verbal communication skills in English
- Highly proficient in Microsoft Office (Word, Excel, and Powerpoint) or Google Suite (Docs, Sheets, and Slides)
- Proficient in using design tools (Photoshop, Canva, etc.)
- Strong organizational skills, attention to detail, able to prioritize multiple tasks, and take direction
- Demonstrates knowledge and understanding of current development (agriculture) issues and challenges
- Proactive in keeping knowledge and skills up to date

Duration of Work:

- Duration of the internship is for 3 months

Duty Station

- On-site Internship (Philippines)

IRRI Education

II. Business Development Intern

TERMS OF REFERENCE

Background

IRRI Education is the education arm of the International Rice Research Institute (IRRI) and its vision is to provide knowledge and skills to all stakeholders in the rice-based agri-food sector.

Functions/Duties and Output Expectations

Under the direct supervision of IRRI Education's Manager, the intern is expected to perform the following tasks:

- Identify new opportunities and funding sources for IRRI Education through conducting literature reviews and web-based research
- Generate new leads for IRRI Education's five portfolios – scholars and youth engagement, short courses, e-learning, knowledge platform, and advisory around capacity development
- Conduct market research and/or competition analysis as needed
- Assist in the development of tenders/ proposals as required by possible donors and funders
- Communicating findings and analysis through written reports, oral briefings, or visual representations using Powerpoint or Excel
- Contribute to the improvement of IRRI Ed's knowledge base, operations, processes, tools, and promote knowledge sharing

At the end of the internship, the following outputs will be expected:

1. Learning materials (lecture and presentation)
2. A report on the internship experience highlighting the learning material development.
3. Presentation of the intern's report to IRRI Education unit

Qualifications and Competencies:

- Minimum bachelor's/college degree in international development, development communication, social science
- Suitability to undertake the responsibilities mentioned above at the required level
- High competency in research and analysis
- Excellent written and verbal communication skills in English
- Highly proficient in Microsoft Office (Word, Excel, and Powerpoint) or Google Suite (Docs, Sheets, and Slides)
- Strong organizational skills, attention to detail, able to prioritize multiple tasks, and take direction
- Demonstrates knowledge and understanding of current development (agriculture) issues and challenges
- Proactive in keeping knowledge and skills up to date

Duration of Work:

- Duration of the internship is for 3 months

Duty Station

- On-site Internship (Philippines)

IRRI Education

III. Content Design and Development Interns (2)

TERMS OF REFERENCE

Background

IRRI Education is the education arm of the International Rice Research Institute (IRRI) and its vision is to provide knowledge and skills to all stakeholders in the rice-based agri-food sector.

Functions/Duties and Output Expectations

Under the direct supervision of IRRI Education's Associate Manager, the interns are expected to perform the following tasks:

- Develop multimedia learning materials (manuals, presentation, video, etc.) that supplement the capacity development program
- Review content and materials

At the end of the internship, the following outputs will be expected:

1. A report on leads generated and converted for the unit and findings of market research/ competition analysis conducted
4. Presentation of the intern's report to IRRI Education unit

Qualifications and Competencies:

- Minimum bachelor's/college degree in international development, development communication, social science, agriculture
- Suitability to undertake the responsibilities mentioned above at the required level
- High competency in research and analysis
- Excellent written and verbal communication skills in English
- Highly proficient in Microsoft Office (Word, Excel, and Powerpoint) or Google Suite (Docs, Sheets, and Slides)
- Strong organizational skills, attention to detail, able to prioritize multiple tasks, and take direction
- Demonstrates knowledge and understanding of current development (agriculture) issues and challenges
- Proactive in keeping knowledge and skills up to date

Duration of Work:

- Duration of the internship is for 3 months

Duty Station

- On-site Internship (Philippines)

Rice Breeding Innovation Platform

Understanding Genetics Underlying Nematode Resistance in Rice

Background

The study will involve conducting phenotyping of breeding lines and landraces for the identification of loci conferring resistance to nematodes in Rice. Further, candidate genes will be identified through expression studies, and markers will be designed for use in routine breeding activities. The results will be analyzed and compiled in the form of a manuscript.

Functions/Duties and Output Expectations

The intern will be provided with the opportunities to learn the following:

- Phenotype rice genotypes for nematode resistance
- Conduct GWAS to identify genetic loci for nematode resistance
- Conduct expression studies to identify candidate genes
- Design markers for use in breeding activities
- Summarize the results and compile them as a manuscript

At the end of the internship, the following outputs will be expected:

- Phenotype data
- Genetic loci
- Publications

Qualifications and Competencies:

- Masters or Ph.D. with experience and interest in the field of phenotyping

Duration of Work:

- Duration of the internship is for 6 months

Duty Station

- Face-to-face or onsite internship (Philippines)

Rice Breeding Innovation Platform

Develop Genomic Estimated Breeding Values (GEBV) Database

Background

The project aims to design and develop a database to store Genomic Selection analysis related input and output datasets for medium maturity rice pipeline. If time permits, the intern may also attempt to host the database on Amazon cloud and develop a user friendly GUI for simple queries.

Functions/Duties and Output Expectations

The intern will be provided with the opportunities to learn the following:

- Design and develop a database to store Genomic Selection related input and output datasets for medium maturity rice pipeline
- Host the database on Amazon cloud and develop a user friendly GUI for simple queries

At the end of the internship, the following outputs will be expected:

- A database for storing Genomic Selection related input and output datasets for medium maturity rice pipeline

Qualifications and Competencies:

- Knowledge of programming languages such as R-Shiny or Python, cloud hosting, etc.

Duration of Work:

- 4 months

Duty Station

- Face-to-face or onsite internship (Philippines)

Rice Breeding Innovation Platform

Plant Pathology and Host Plant Resistance Rice pathogen population genomics and evolutionary

Background

The Rice Breeding Innovation Platform involves multiple projects on pathogen population genomics, including sequenced genomes of various rice pathogens from different countries in Asia and Africa. The aim of the project is to study the population structure and evolution of the pathogens and identify emerging strains as well as new virulence mechanisms.

Functions/Duties and Output Expectations

The intern will be provided with the opportunities to learn the following:

- Understand the pathogen population structure, distribution and evolutionary
- Identify genetic factors driving pathogen evolutionary
- Improve the bioinformatic pipeline for rice pathogen genomes analysis

At the end of the internship, the following outputs will be expected:

- An improved bioinformatic pipeline for rice pathogen genomes analysis

Qualifications and Competencies:

- Bachelor/Master students in Plant Pathology, Plant biology, Bioinformatics or Data sciences.
- Students with computational skills
- Highly motivated in learning bioinformatics and plant pathogens

Duration of Work:

- 4 months

Duty Station

- Face-to-face or onsite internship (Philippines)