

Memorandum of Understanding (MoU) Between Department of Biotechnology, Government City College Autonomous and PINE BIOTECH, Inc. USA

Overview: Online industry driven research curriculums and training programs on the BIG DATA Bioinformatics and Application of Data Science on translational sciences leading to Industrial Skill Sets and capability to work on Independent Big Data Projects in Biotechnology, Biology & Life Science

The objective of this MOU is to establish a formal relationship between Industry (Pine Biotech, Inc) and the partner organization (Department of biotechnology, Government city college autonomous, Nayapul, Hyderabad). This MoU proposal outlines the collaborative objective of the association, educational training models and proposed timeframe and other terms and conditions that will allow both the organizations to work together efficiently.

Pine Biotech, Inc. is a US-based company that provides resources, solutions, and training for research and education in biomedical informatics. Since 2017, we have been developing an innovative approach to incorporate bioinformatics training, educational materials, and biomedical specializations into high school, undergraduate, and graduate degrees around the world. We call this program Omics Logic (<https://learn.omicslogic.com/>). Pine Biotech sees a common mission to be a catalyst in developing a new generation of computational biologists across the globe.

Together, we will be working to engage educators, researchers (biologists, clinicians, and bioinformaticians), and students to increase the awareness of biology as data science. We see an urgent need to encourage, train, and mentor people to leverage available public domain datasets and tools to explore the world of biology. Our team is working with academic and industry partners around the world to adapt and utilize our training resources for the needs of universities, colleges, professional development programs, and schools. Our major academic partner is the Tauber Bioinformatics Research Center at the University of Haifa in Israel. Scientists from this center are providing academic oversight and guidance in curriculum preparation and the development of the current bioinformatics analysis platform (T-BioInfo) that allows non-bioinformaticians to run complex algorithms on large-scale datasets. Other collaborating institutions help adapt our materials to important research areas and improve student engagement.

Collaborative Agreement

Both Parties are pleased to enter upon an agreement to promote academic cooperation, mutual understanding and identify areas where staff and students of both organizations can work together to promote international excellence in research and teaching in higher education.

1. OBJECTIVES OF THE AGREEMENT

The objectives of this agreement are:

1. The two organizations will actively seek to promote mutual faculty and students' research, training & development support for mutually agreed periods.
2. Pilot the collaborative Partnership Program for the Department of Biotechnology, Government City College students from non-bioinformatics background
3. Omics Logic Research fellowship program for interested researchers from undergraduate, graduate & postgraduate students: training using research & industry-driven curriculum to prepare them for reproducible research and bioinformatics in industry.
4. Develop skills for employability and provide hands-on experience through internships.
5. To provide paid internships offered by Pine Biotech, the USA for select students and a pathway to join industry internships with partners from Pharma & Big Data companies.
6. Faculty development program to introduce big data bioinformatics for non-bioinformaticians and life science research areas.
7. Integrated Omics Logic faculty specialization programs around topics of interest from Department of Biotechnology, Government City College.
8. Joint development of training resources for the broader student community, including international students.
9. Encouragement of the academic faculty to co-author publications, joint research activities, and joint project possibilities is subject to applicable copyright and/or other laws of each country, as well as rules and regulations of the respective universities. Any publication created would be co-authored by the contributors from both institutions.
10. Co-hosting and participating in International Conferences, Symposia, and Seminars.
11. Any other activity that is mutually agreed upon and is beneficial to both parties.

2. PROPOSED MODES OF COLLABORATION

- a) Free Bioinformatics & Data Science Awareness Meetings & Webinars
Pine Biotech in collaboration with the faculty coordinator and with permission of the management to pre-schedule online scientific events for graduate, postgraduate

To develop research projects with student groups and faculty at Department of Biotechnology, Government City College, by introducing the research fellowship program after the asynchronous online basic training. The Research Fellowship Program has been designed to help young researchers and students take advantage of the bioinformatics resources for analysis of complex high-throughput life science data and become versed in bioinformatics. This program offers students the opportunity to participate in real & cutting-edge bioinformatics research and to be a part of the renowned bioinformatics community. The University will provide a platform to encourage students and faculty to showcase research and development.

e) Paid Industrial Internship Program for selected students

Provide opportunities for selected students and researchers for industrial and academic jobs and internships.

f) Joint Bioinformatics Research Project.

Our Team at Pine Biotech specializes in bioinformatics and big data project-driven curriculums that integrate with the university's Curricula helping students take advantage of the resources, working with industry experts to develop cutting-edge research projects and data analysis skills sets.

g) International Omics Logic Research symposium & Bioinformatics Hackathon

Omics Research Symposium is a bi-annual virtual event that brings together experts, students and the coordinator training team from Omics Logic to discuss new developments in bioinformatics education, research and industry.

HackOmics is a 2-day hackathon organized by Pine Biotech and its partner organizations to develop translational bioinformatics MVP products. The projects address challenges at the intersection of business, computer science and biotechnology.

h) Placement Guidance and Start-up development

Pine Biotech will provide students with opportunities in Bioinformatics and data science domains and can help facilitate start-up development with related ideas.

3. PROPOSED TIMEFRAME

The MOU shall come into effect from the date of signing and shall remain valid for a period of three (03) years and will be automatically renewed unless terminated by either of the parties and prior to termination both parties should ensure that the obligations outlined in this MOU are fully executed. Amendments and additions may be made to the MOU subject to the written consent of both parties.

4. CONFIDENTIALITY

During the period of this AGREEMENT and for a period of two years from the date of disclosure, each party agreed to consider as confidential all information disclosed by the other party in written or tangible form or, if orally disclosed in written within thirty days of disclosure and identified as confidential by the disclosing party.

The obligations above shall not extend to any confidential information for which the receiving party can prove that this information:

- Is in the public domain at the time of disclosure or comes within the public domain without fault of the receiving party.
- Is already known or become known to the receiving party.
- Is received from a third party having no obligations of confidentiality to the disclosing party.
- Is independently developed by the receiving party; or
- Is required to be disclosed by law or court order.

5. NON-EXCLUSIVITY

The relationship of the parties under this AGREEMENT shall be nonexclusive and both parties, including their affiliates, subsidiaries, and divisions, are free to pursue other AGREEMENTs or collaboration of any kind.

6. TERMS AND TERMINATION

This AGREEMENT may be amended or terminated early by mutual written AGREEMENT of the parties at any time. Either party shall have the right to unilaterally terminate this AGREEMENT upon 30 days prior written notice to the other party. However, no such early termination of this AGREEMENT, whether mutual or unilateral, shall affect the obligations of the participants under any Research AGREEMENT. Neither party is entitled to any compensation in the event of termination of this AGREEMENT.

7. COSTS OF THE AGREEMENT

There is no financial implication on both the party under this AGREEMENT.

8. SIGNED IMPLICATE

This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective on and onwards 22, August 2022.

On behalf of, Department of Biotechnology,
Government City College autonomous,
Nayapul, Hyderabad

On behalf of Pine Biotech, Inc.
1441 Canal St. Suite 411, New Orleans

By

By

Name: Dr P Bala Bhaskar

Name: Dr. Mohit Mazumder

Title: Principal, Government City College (A),
Nayapul, Hyderabad.

Title: Director, Business
Development, Pine Biotech

Sign:

Sign:

By

By

PRINCIPAL
GOVT. City College
Nayapul Hyderabad-02
Name: *Dr. P. Bela Bhaskar*
Title: *Principal*
(Course in-charge)

Name: Elia Brodsky

Title: CEO, Pine Biotech

Sign:

Sign:

Mrs. P. Pushpalatha.
1/c dept of Biotechnology,
Govt. City College (A).

P. Pushpa

