



Dr. P. A. Abhinand

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RESEARCH INTRESTS

Chem-informatics, Systems biology, Structural bioinformatics, Next Generation Sequencing, Microarray, Metabolomics, Biostatistics, Meta-analysis, Machine learning

EDUCATION

- ❖ **PhD in Bioinformatics** from Faculty of Biomedical Sciences, Technology & Research, Department of Bioinformatics, Sri Ramachandra Institute of Higher Education and Research in 2018
- ❖ **Master of Science in Bioinformatics** from Department of Bioinformatics, Sri Ramachandra University in 2010 with 74.3%
- ❖ **Bachelor of Science in Biotechnology** from Kumara Rani Meena Muthiah College, University of Madras in 2008 with 70.2%

EXAMS QUALIFIED

- ❖ The Graduate Aptitude Test in Engineering (GATE) in Life Science Category– 2011 with a score of 319 (84.7 Percentile)
- ❖ International English Language Testing System (IELTS): Candidate Number: 73428

Overall Band Score = 8.5

Listening	Reading	Writing	Speaking
9.0	9.0	7.5	7.5

- ❖ Qualified the online program of The Collaborative Institutional Training Initiative (CITI Program) at the University of Miami in Biomedical Research

CURRENT POSITION

Assistant Professor at the Department of Bioinformatics, Sri Ramachandra Institute of Higher Education and Research

PUBLICATIONS

Papers = 14

h-index = 5

Citations = 126

1. Abhinand, P. A., Faraz Shaikh, Soumendranath Bhakat, Ashish Radadiya, L. V. K. S. Bhaskar, Anamik Shah, and P. K. Ragunath. **"Insights on the structural perturbations in human MTHFR Ala222Val mutant by protein modeling and molecular dynamics."** *Journal of Biomolecular Structure and Dynamics* (2015): 1-14.
2. Jonnalagadda, Bhavana, Sumathy Arockiasamy, Umashankar Vetrivel, and Abhinand P. A. 2020. **"In Silico Docking of Phytocompounds to Identify Potent Inhibitors of Signaling Pathways Involved in Prostate Cancer."** *Journal of Biomolecular Structure and Dynamics* 0 (0): 1–27.
3. Abhinand, P. A., M. Manikandan, R. Mahalakshmi, and P. K. Ragunath. **"Meta-analysis study to evaluate the association of MTHFR C677T polymorphism with risk of ischemic stroke."** *Bioinformation* 13, no. 6 (2017): 214.
4. Abhinand, P. A., A. Dharani-E-mail, D. R. Ezhilarasi-E-mail, and G. Priyadarsini-E-mail. **"Multi-epitope vaccine candidate design for dengue virus."** *Bioinformation* 19, no. 5 (2023): 628-632.
5. C. V. Sathyanathan, B. Jyothirmayi, L. R. Sundaram, P. A. Abhinand, R. Eswaramoorthy, and K. M. E. Gnanambal, **"Pheophytin a isolated from the seagrass *Syringodium isoetifolium* plausibly blocks umuC proteins of select bacterial pathogens, in silico,"** *J. Appl. Microbiol.*, vol. 121, no. 6, pp. 1592–1602, Dec. 2016.
6. R. Sugumar, P. Abhinand Adithavarman, A. Dakshinamoorthi, D. C. David, and P. K. Ragunath, **"Virtual Screening of Phytochemicals to Novel Target (HAT) Rtt109 in Pneumocystis Jirovecii using Bioinformatics Tools,"** *J. Clin. Diagn. Res.*, vol. 10, no. 3, p. FC05-8, Mar. 2016.
7. Ragunath, P. K., R. Chitra, Shiek Mohammad, and P. A. Abhinand. **"A systems biological study on the comorbidity of autism spectrum disorders and bipolar disorder."** *Bioinformation* 7, no. 3 (2011): 102.
8. Shaikh, Faraz, P. A. Abhinand, and P. K. Ragunath. **"Identification & Characterization of lactobacillus salavarius bacteriocins and its relevance in cancer therapeutics."** *Bioinformation* 8, no. 13 (2012): 589.
9. Ragunath, P. K., and P. A. Abhinand. **"Systems biological approach to investigate the lack of familial link between Down's Syndrome & Neural Tube Disorders."** *Bioinformation* 9, no. 12 (2013): 610.
10. Ragunath, P. K., B. Vanaja Reddy, P. A. Abhinand, and Shiek SSJ Ahmed. **"Relevance of systems biological approach in the differential diagnosis of invasive lobular carcinoma & invasive ductal carcinoma."** *Bioinformation* 8, no. 8 (2012): 359.
11. Ghanta, Mohankrishna, Elango Panchanathan, Bhaskar Venkata Kameswara Subrahmanya Lakkakula, Anbumani Narayanaswamy, P. A. Abhinand, and Stalin Antony. **"Molecular docking analysis of phytoconstituent from *Momordica charantia* with Guanylate Cyclase catalytic domain."** *Bioinformation* 14, no. 7 (2018): 378.
12. Hemalatha, C. R., P. A. Abhinand, Maithreyi Iyer, Benedict C. Paul, Anupma Jyoti Kindo, and Thyagarajan Ravinder. **"Phytochemical derivatives targeting fliJ flagellar protein from *Escherichia coli*."** *Bioinformation* 14, no. 9 (2018): 465.
13. Vijayaraj, M. (2019) **"Virtual screening of a MDR-TB WhiB6 target identified by gene expression profiling"**, *Bioinformation*, 15(8), pp. 557–567.
14. Mahalakshmi Vijayaraj. 2020. **"An ANN Model for the Differential Diagnosis of Tuberculosis and Sarcoidosis."** *Bioinformation* 16 (7): 539–46.

CONFERENCE POSTERS/ PAPERS

- ❖ Presented poster titled **"Development of Competency-Based Curriculum for Bioinformatics Based on National Education Policy (NEP) 2020"** at the NAAC Sponsored National Conference on "Health Professional Education and NEP 2020
- ❖ Presented poster titled **Subtractive Proteomic Approach to Combat Lymphatic Filariasis Caused by *Brugia malayi*** at the International Science Symposium on HIV and Infectious Diseases. Abstracts from the International Science Symposium on HIV and Infectious Diseases (ISSHID 2019): Infectious diseases. BMC Infect Dis 20 (Suppl 1), 324 (2020). <https://doi.org/10.1186/s12879-020-05038-y>
- ❖ Presented paper on **Artificial Neural Network Model to Recognize Potential MAO-B inhibitors for Parkinson's Treatment** at the 23rd ISCB (Indian Society of Chemical Biologists) International Conference at SRM University.

- ❖ Co-authored the poster titled **A 3-hydroxypropane derivative from a marine snail induces mortality in A498, renal cancer cell types by possibly interfering with ABCB1 drug efflux system** at the Indo-UK conference on Emerging Frontiers in Health Care and Research
- ❖ Co-authored the poster titled **Relevance of Systems Biology in Exploring Molecular Interactions Associated with Doping in Sports** presented (by my doctoral supervisor - Prof. PK.Ragunath) at the 2nd International SystemsX.ch Conference, Zurich, Switzerland in Oct 2014
- ❖ Co-authored the paper titled **Relevance of Machine Learning Approach in Analyzing Metabolomic Data to gain insights on Comorbidity issues in COPD & Asthma** presented (by my doctoral supervisor - Prof. PK.Ragunath) at the 4th International Conference and Exhibition on Metabolomics & Systems Biology, Philadelphia, USA in April 2015

BOOKS AUTHORED

- ❖ Ragunath, P. K., P. A. Abhinand, and K. Archanna. **"Relevance of Bioinformatics in Biopesticide Management: A Comparative Comprehensive Review."** *Basic and Applied Aspects of Biopesticides*. Springer India, 2014. 345-356.
- ❖ **Systems Biology** - PK. Ragunath, R. Chitra and P.A. Abhinand, Publisher: LAP L Publishing (May 2012), ISBN-10: 365912785X

EXPERIENCE

- ❖ 10+ years of working experience as a part time teaching faculty handling subjects such as Genomics, Proteomics, Bioinformatics Algorithms and Structural Bioinformatics, Research methodology, Bibliometrics
- ❖ Invited reviewer by the Journal of Biomolecular Structure and Dynamics
- ❖ Invited reviewer by the Journal – Bioinformation
- ❖ Other academic experience includes:
 - Hands-on training for students
 - Research project guidance
 - Evaluating new software
 - Curriculum design

WORKSHOP CONDUCTED & INVITED TALKS

- ❖ Resource person at the 'Recent Trends in Computer-Aided Drug Discovery (RTCADD 2023)' organized by Department of Plant Biology and Biotechnology, Loyola College, Chennai in February 2023
- ❖ Invited talk on 'Data Analytics in Drug Discovery' at the Department of Data Sciences, Loyola College, Chennai in January 2023
- ❖ Resource person at the 'Machine Learning in Medicine Conference' at Alpha College of Arts & Science in October 2022
- ❖ Invited speaker to the 2 Faculty Development Programme (FDP) on the theme "Recent Updates in the Healthcare Research" Organized by Chettinad School of Physiotherapy, Chettinad Academy of Research and Education, Kelambakkam, Chennai in December 2022
- ❖ Resource person at the 'Aspire 18', Annual Sri Ramachandra Medical College Pharmacology Insight & Review Course held in Jan 2018
- ❖ Speaker at the First National Workshop on Medical Bioinformatics organized by Department of Bioinformatics, Sri Ramachandra University in association with Indian Council of Medical Council in August 2016
- ❖ Resource person at the 'National Level Workshop on Molecular Docking of Marine Compounds' conducted by School of Science, Hindustan College of Arts & Science, Chennai in Feb 2016

TECHNICAL SKILLSETS

BIOINFORMATICS SKILLS

- ❖ NGS data analysis: Ability to analyze large NGS datasets using software such as BWA, Samtools, GATK, Picard, and various bioinformatics pipelines.
- ❖ Genomics: Familiarity with gene sequencing technologies, such as DNA-seq, RNA-seq, ChIP-seq, ATAC-seq, and single-cell RNA-seq.
- ❖ Quality control: Knowledge of quality control metrics for NGS data, including sequencing depth, mapping quality, base quality, and duplication rate.
- ❖ Variant calling: Proficiency in detecting and calling variants using different algorithms and tools, such as GATK, FreeBayes, and Strelka.
- ❖ Database management: Ability to store, manage, and retrieve NGS data using different database systems, such as MySQL and PostgreSQL.
- ❖ Programming: Fluency in programming languages commonly used in NGS data analysis, such as Python, R, and Perl.
- ❖ Statistical analysis: Knowledge of statistical methods and software for data analysis and interpretation of NGS data.
- ❖ Data visualization: Proficiency in visualizing NGS data using tools such as ggplot, matplotlib, and other data visualization packages.
- ❖ Machine learning: Familiarity with machine learning algorithms and their application to NGS data analysis.
- ❖ Collaborative skills: Ability to work effectively in a team and collaborate with scientists and other stakeholders
- ❖ Multiple genome alignment, Genome annotation, phylogenetic analysis, pathway analysis
- ❖ Structural Bioinformatics Toolkits - Schrodinger - Biovia - Autodock,; CCL work bench
- ❖ DMTA cycle pipelining - KNIME
- ❖ Experience running molecular dynamic stimulations with GROMACS and AMBER
- ❖ System Biology tools – Cytoscape, Cell designer

STATISTICAL & DATA MINING SKILLS

- ❖ Vast experience working with SPSS and working knowledge of R-Language
- ❖ Functional knowledge of working on Artificial Neural Networks and SVM

COMPUTER SKILLS

- ❖ **Programming language:** C, C++, PERL, Matlab, R-Language, Python, HTML/HTML5, ORACLE, MySQL
- ❖ **Operating system:** MS Windows, Unix, Linux – RedHat, Ubuntu, Fedora
- ❖ **General application:** MS Office Suite, MS Visual Studio, Endnote, Mendley

PROFESSIONAL ACTIVITIES

2017 – Present American Chemical Society, Member Number: 31266633

2017 - Present Indian Society of Chemists & Biologists member

EXTRACURRICULAR ACTIVITIES

- ❖ Passionate about quizzing, won several quizzes at Inter School and Inter College events. Quiz master for the Republic Day Quiz Contest - 2018 organized by the Human Resource department of Sri Ramachandra Institute of Higher Education and research
- ❖ Voracious reader - Love doing book reviews. Reviewed several books such as The Selfish Gene, The Double Helix, Guns Germs and Steel, The Planet of Viruses, Freakanomics, *Homo deus*
- ❖ Public Speaking: Addressed students of various schools and colleges to create awareness about several issues such as - dangers of substance abuse, rise of antibiotic resistance and career guidance talks.

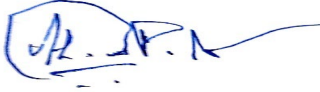
- ❖ Love reading, writing and critically examining poetries both in English and Tamil, especially Sangam literature

PERSONAL DETAILS

Father's Name:	Mr. P.A. Adithavarman	Marital Status:	Single
Birthday:	March 11, 1988	Nationality:	Indian
Gender:	Male		

DECLARATION

I, Abhinand.P.A, hereby declare that the information contained herein is true and correct to the best of my knowledge and belief.



Dr. Abhinand P.A