



Internship Opportunity in Ancient Genomics, Bio-Archaeology, Cancer Genomics & Drug Discovery at the Department of Genetics, Madurai Kamaraj University (Jan 2026 – Jun 2026)

Decode the past with science – Join India's first Ancient Genomics Internship

ANCIENT GENOMICS RESEARCH AT MKU

The Ancient Genomics Laboratory at the Department of Genetics, School of Biological Sciences, Madurai Kamaraj University, is working to decode the genetic ancestry and cultural practices of the inhabitants of Ancient Tamil Nadu through archaeological excavations conducted by the Department of Archaeology, Govt. of Tamil Nadu. This is an interdisciplinary science, primarily employing genomics, molecular biological, proteomics, organic molecular analysis, and computational genomics methods.

Understand the Biology and Genomics of Cancers to develop leads for Targeted Therapeutics & Genomic Medicine

Our research involves integrative genomic investigation of cancer genomes and transcriptomes to understand the molecular, cellular, and signaling processes in human cancers. We work to understand the genomics and mechanisms of drugs, and develop leads for precision genomic medicine for cancers. Also working to understand the benefits and off-targets of drugs, including traditional medicines, using molecular, cellular, and genomics methods.

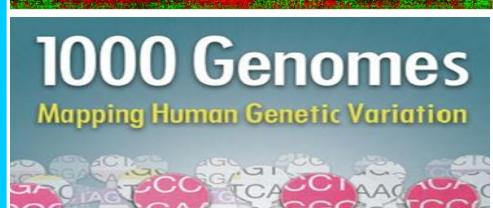
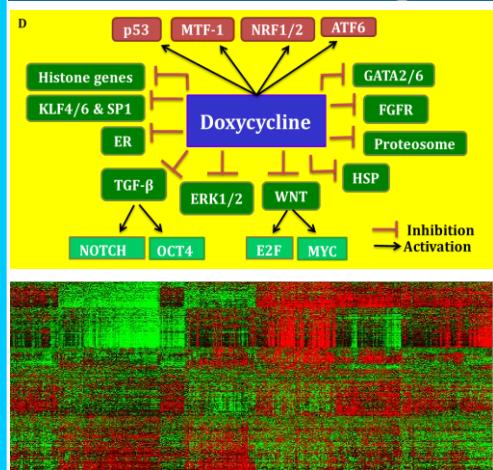
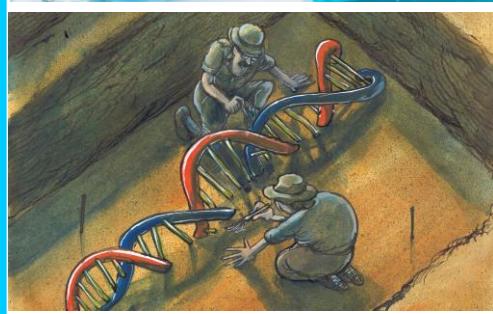
INTERNSHIP

Duration: 4-6 months at the Department of Genetics, School of Biological Sciences, MKU

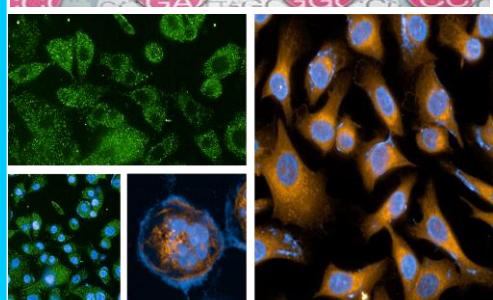
Eligibility: Those completed M.Sc. / M.Tech. / B.Tech. in Life Sciences, Biotechnology, Bioinformatics, and Related courses; M.C.A. / M.Tech. / B.Tech. Computer applications, etc.

Prof. G. Kumaresan

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1000 Genomes Mapping Human Genetic Variation



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RESEARCH DIRECTIONS OF THE LAB

Our Laboratory at Department of Genetics, Madurai Kamaraj University, is working to decode the genetic ancestry and cultural practices of ancient inhabitants of Tamil Nadu from the archaeological remains by working in the following aspects. Also working to understand the heterogeneity in gastric and breast cancers and to define novel subtypes in cancers by genomics-guided manner. Also decoding the unknown targets of drugs in use by molecular, cellular, and genomic methods.

Research Areas	Methods Involved
Ancient Human Genomics	➤ Ancient DNA isolation ➤ NGS Library preparation & QC ➤ Computational genomic data analysis ➤ Molecular biological assays
Ancient Rice & Millet Genomics	➤ Computational genomic data analysis ➤ population genomics methods
Ancient Animal Genomics	➤ Molecular biological assays
Population Genomics	➤ Computational genomic data analysis ➤ population genomics methods
Medical Genomics	➤ Human genomic data analysis of different non-infectious diseases
Cancer Genomics	➤ Cancer genomic data analysis ➤ Genomic data modelling ➤ ML/DL methods in cancer genomics ➤ Integration of multiple cohorts of Transcriptome (RNA-Seq), Genome-wide / Whole-exome sequence, etc. ➤ Molecular cellular genomics experiments ➤ cancer cell biology ➤ Testing genomic models in cancer cell lines
Drug Discovery	➤ Drug target identification by integrative genomics ➤ Cellular evaluation of targets ➤ High content cellular imaging
Proteomics	➤ Protein isolation & characterization ➤ LC-MS-MS ➤ Proteomics data analysis
Organic Molecular Analysis	➤ GC-MS-MS ➤ Organic molecular & Fatty acid analysis
Computing for Bioarchaeology	➤ Implementing the tools, scripts, and methods for various applications

INTERNSHIP: Duration: 4-6 months at Dept. of Genetics, MKU.

Eligibility: Those who have completed the course and degree M.Sc. / M.Tech. / B.Tech. Students of Life Sciences, Biotechnology, Bioinformatics & M.Tech / M.C.A. / M.Sc. / B.Tech. Computer Applications and Related courses.

WHAT YOU'LL GAIN

- Exposure to cutting-edge workflows and Research Methods in Ancient Genomics / Population Genetics / Computational Biology / Bioinformatics Pipelines / Molecular Profiling / Genomic Data Analytics / Organic Molecular Analysis / Proteomics / Cancer Genomics / Drug Discovery / etc.
- Opportunity to contribute to real research projects with publication potential.
- Enhance your employability / higher studies in the leading Institutions in the globe.

REQUIREMENTS

- Strong research interest in Life Sciences, Biotechnology, Genomics, and Computing Methods - Interdisciplinary Research
- Commitment to full-time lab work at MKU during internship
- Basic knowledge of Molecular Biology or Bioinformatics or Strong Coding Skills
- Ability to comprehend the literature and to write the reports in a short time.

HOW TO APPLY

Register your details in the link below by uploading i) mark sheets, ii) CV, iii) brief proposal of 2 pages (in one of the above-listed areas with the components of a) what you would propose to work, if selected, b) what are the key objectives, c) how will you achieve that, d) how you will make the work productive and progressive every week, and e) how would you accomplish a scientific outcome in 4-6 months) & **Register in the link below** before **18th Jan, 2026:** <https://forms.gle/KX95Uak13QkJVjp7>

Shortlisted candidates may be invited for a selection process/discussion, conducted by the Department of Genetics, MKU.



EXPECTATIONS

- The interns are expected to work in one of the objectives and problems related to one of the above-listed areas assigned by the Coordinator.
- The interns are expected i) to extensively explore the literature & comprehend, ii) to perform the assigned laboratory and computational investigation works, iii) document the experiments and outcome in the record book on daily basis, and iv) prepare brief reports at the end of every week, v) consolidated reports for every month, and vi) try hard to complete the assigned work and prepare consolidated report at the end of tenure, v) prepare a part of manuscript or scientific document with the guidance of Coordinator.
- For the interns, authorship is assured if they can generate/contribute publishable information/data/knowledge from the work, upon publication, which would be decided by the Coordinator, based on contribution and its significance. However, the interns are not permitted to present/publish the work anywhere.

CONTACT Prof.G.Kumaresan, Head, Dept. of Genetics, School of Biological Sciences, Madurai Kamaraj University, kumaresan@mkuniversity.ac.in

MKU Ancient DNA and Cancer Genomics Research Work, Publications & News

	https://pubmed.ncbi.nlm.nih.gov/?term=Kumaresan+Ganesan%5BAuthor%5D+(Madurai+Kamaraj+OR+National+Cancer+Centre+Singapore)
	https://scholar.google.com/citations?user=IW9ckW8AAAAJ&hl=en
	https://www.researchgate.net/profile/Kumaresan-Ganesan/research
Research Publications	
Research Summary in the Indus 100 Conference, 2025	https://www.facebook.com/watch/?v=1289559412316995&rdid=kcqMgctit2anw9Yx
About our work on 200 Years of Mendel	https://youtu.be/WyAsQIAQdAs?feature=shared
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News18 Tamil Nadu	https://www.youtube.com/watch?v=5IUaKmkAGJw
Sun TV	https://www.youtube.com/watch?v=XVBl1RY7WEc https://www.youtube.com/watch?v=jLKSdKqPqis https://www.youtube.com/watch?v=4gl1hWMs9MA
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BBC News	https://www.bbc.com/news/articles/c9d061dv36lo
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Deccan Herald	https://www.deccanherald.com/india/tamil-nadu/keeladi-inhabitants-involved-in-animal-husbandry-says-report-3771393
Live Science	https://www.livescience.com/archaeology/new-reconstructions-show-piercing-eyes-of-men-who-lived-2-500-years-ago-in-mysterious-indian-civilization

