

Dr. S. KATHIRESAN

Assistant Professor

Department of Molecular Biology

School of Biological Sciences



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Educational Qualifications

: M.Sc (Agri), Ph.D.,

Professional Experience

: Teaching : 08 Yrs ; Research : 14Yrs.

FIELD OF SPECIALIZATION

- Plant Genomics
- Recombinant DNA Technology
- Metabolic Regulation

RESEARCH SPECIALIZATION

- Plant Molecular Biology
- Metabolic Pathway Regulation and Genetic Engineering
- Microalgal Biotechnology

Research Supervision:

Program	Completed	Ongoing
Ph.D	-	05
M.Phil	-	-

PROFESSIONAL EXPERIENCE

No	Institution	Position	From (date)	To (date)	Duration
1	Madurai Kamaraj University	Assistant Professor (Senior Scale)	19.03.2014	Till Date	4 Years
2	Madurai Kamaraj University	Assistant Professor	19.03.2010	18.03.2014	4 Years
3	TNAU, Coimbatore	Research Associate,	Feb - 2010	Mar - 2010	1 Month
4	Bharathidasan University, Trichy	Guest Lecturer	03.08.2009	21.01.10	5 Months
5	Central Food Technol. Res. Institute, Mysore.	CSIR-SRF	Mar-2006	Mar-2009	3 Years
6	Central Food Technol. Res. Institute, Mysore.	CSIR-JRF	Mar-2004	Mar-2006	2 Years
7	University of Agricultural Sciences, GKVK, Bangalore	ICAR-JRF	Nov-2001	Nov-2003	2 Years

RESEARCH COLLABORATION (BOTH NATIONAL & INTERNATIONAL)

Name of the Collaborator	Institute	Collaboration Details	Collaboration Output (Papers/Patents/Research/Online)
Dr.P.Varalakshmi	Madurai Kamraj University	Co-PI in the CSIR Project	Jawaharraj K, Karpagam R, Ashokkumar B, Kathiresan S and Varalakshmi P (2016) Green renewable energy production from <i>Myxosarcina</i> sp.: media optimization and assessment of biodiesel fuel properties. RSC Adv. 5: 51149 -51157 IF- 3.8

COMPLETED RESEARCH PROJECT

No	Title of the Project	Funding Agency	Total Grant	Year
1	Studies on Expression Levels of Essential Fatty acid Biosynthetic Genes in Micro Algae	SERB, New Delhi	22,90,000.00	2012-2015
2	Exploration of micro algal genes for the production of high value polyunsaturated fatty acids in plants	UGC, New Delhi	14,23,800.00	2013-2017

ON-GOING RESEARCH PROJECT

No	Title of the Project	Funding Agency	Total Grant	Year
1	Metabolic Regulation of PUFA Biosynthesis in Soybean using Microalgal Desaturase and Elongase Genes	SERB, New Delhi	Rs. 11,00,000.00	2016-2018

HONORS/AWARDS/RECOGNITIONS

S.No	Name of the Award	State/ National/ International	Awarding Agency	Month and Year	Place
1	Young Scientist	National	DST (SERB)	April 2012	New Delhi
2	Post Doctoral Fellow	National	UGC	2009	New Delhi
3	International Travel award	National	DST	2008	New Delhi
4	Joint CSIR – UGC JRF & NET	National	CSIR	2003	New Delhi
5	Joint CSIR – UGC SRF	National	CSIR	2005	New Delhi
6	NET	National	ICAR	2004 & 2009	New Delhi
7	JRF	National	ICAR	2001	New Delhi
8	Best Poster Award	International	NFMC, Bharathidasan University	Aug-2016	Trichy

PUBLICATIONS

S. No	Title	Author(s)	Journal Number	Yr	Vol	Pages	Impact Factor
1.	<i>Agrobacterium</i> mediated transformation in green alga <i>Haematococcus pluvialis</i> (Chlorophyceae, Volvocales)	S. Kathiresan, A. Chandrashekar, G. A. Ravishankar, and R. Sarada	Journal of Phycology	2009	45	642–649	2.5
2.	Culture media optimization for growth and phycoerythrin production from <i>Porphyridium purpureum</i>	S. Kathiresan, R. Sarada, Sila Bhattacharya, G.A. Ravishankar	Biotechnology and Bioengineering	2006	96	456-463	4.2
3.	Towards genetic improvement of commercially important microalga <i>Haematococcus pluvialis</i> for biotech applications	S. Kathiresan & R. Sarada	Journal of Applied Phycology	2009	21	553-558	2.4
4.	Regulation of astaxanthin and its intermediates through cloning and genetic transformation of β -carotene ketolase in <i>Haematococcus pluvialis</i> .	Kathiresan S, Arun Chandrashekar, Ravishankar GA, and Sarada R	J. Biotechnol	2015	196 – 197	33 – 41	2.8
5.	Green renewable energy production from <i>Myxosarcina</i> sp.: media optimization and assessment of biodiesel fuel properties.	Jawaharraj K, Karpagam R, Ashokkumar B, Kathiresan S and Varalakshmi P	RSC Adv.	2016	5	51149 - 51157	3.8
6.	Culture media optimization of <i>Porphyridium purpureum</i> : production potential of biomass, total lipids, arachidonic, and eicosa pentaenoic acid.	Kavitha MD, Kathiresan S, Sila Bhattacharya and Sarada R	J Food Sci Technol	2016	53 (5)	2270–2278	2.2

7.	Expression of heterologous oxalate decarboxylase in HEK293 cells confers protection against oxalate induced oxidative stress as a therapeutic approach for calcium oxalate stone disease	Abhishek A, Vidhi T, Eldho P, Divya G, Mahesh A, Ritu Kujur, Sasikumar P, Kathiresan S, Luciano S and Selvam GS	Journal Enzyme Inhibition and Medicinal Chemistry	2017	. 32 (1)	426–433	3.4
8.	Improved biomass and lipid production in <i>Synechocystis</i> sp. NN using industrial wastes and nano-catalyst coupled transesterification for biodiesel production	Jawaharraj K, Karpagam R, Ashokkumar B, Kathiresan S, Ganesh Moorthy I, Arumugam M and Varalakshmi P	Bioresource Technology	2017	242	128–132	4.9
9.	Hypolipidemic Effect of Alpha-Linolenic Acid Rich Blended and Interesterified of Refined Palm Olein Oil With Flaxseed Oil as Compared to Native Oil Fed Rats	Kasthuri Thilagam R, Kathiresan S, Jeyakumar B, Kanchana S, Sugasini D, Hemalatha G, Chidambaranathan N, Murugan M, Prabakaran K	SM Liver Journal.	2017	2(1)	1005	-
10.	Functional characterization and substrate specificity analysis of Δ 6-Desaturase from marine microalga <i>Isochrysis</i> sp. CASA CC101	S. Thiyagarajan M. Arumugam; N. Senthil; S. Vellaikumar; S. Kathiresan	Biotechnology Letters	2018	40:	577–584	1.8
11.	Kinetin and Gibberellic acid (GA3) act synergistically to produce high value polyunsaturated fatty acids in <i>Nannochloropsis oceanica</i> CASA CC201	Aswathy Udayan, Kathiresan Shanmugam Muthu Arumugam	Algal Research	Accepted			4.0

PAPER PRESENTED IN CONFERENCE/SEMINAR/WORKSHOP

Name of the conference	Date	Place	Title	Author(s)
International conference on algal biorefinery: a potential source of food, feed, Biochemicals, biofuels and biofertilizers	Jan 10-12, 2013	IIT, Khargpur	Identification of High Value Poly unsaturated Fatty acid Biosynthetic Genes from Marine Micro Algae	S. Kathiresan
National symposium on PTC & Biotechnology for food and nutritional security	11-13 March 2013	CFTRI, Mysore	Enhanced Production of Astaxanthin, a high value antioxidant -Through Genetic	S. Kathiresan and R. Sarada

			Engineering of green alga <i>Haematococcus pluvialis</i>	
44 th National science day Aqua-Terr conference	28 Februa ry, 2013	MKU, Madurai	Towards Characterization of High Value Polyunsaturated Fatty Acids Genes from Marine Microalgae	S. Thiyagarajan, S. Kathiresan
Algae For Sustainable Agricultural Production	Sep 29&30, 2014	TNAU, Madurai	Nitrogen starvation enhances the Eicosapentaenoic acid (EPA) production in the marine microalga <i>Isochrysis</i> sp.	B.Jeyakumar, A.Parthasarathy &S. Kathiresan
Recent Trends in Modern Biology & 45 th Aqua-Terr Annual Conference	Feb 27- 28 th , 2014.	MKU Madurai	Effect of Nitrate and Phosphate stress on growth and total lipid production in marine microalgae <i>Isochrysis</i> sp.	B.Jeyakumar, A.Parthasarathy &S. Kathiresan
National Conference on Recent Advances in Algology, Mycology and Plant Pathology (NCRAAMPP-2014)	19-20 Februa ry, 2014	Universit y of Madras, Chennai	Variation of $\Delta 6Des$ - HVPUFA Biosynthetic Gene from different Marine Microalgae	S. Thiyagarajan, S. Kathiresan
National Conference on trends in Modern Biology& 46 th Aqua-Terr annual conference	27-28 Februa ry 2015	MKU, Madurai	Identification of $\Delta 4 des$ from marine micro algae <i>Nannochloropsis</i> sp for the high value PUFA (poly unsaturated fatty acids) production.	A.Parthasarathy S.Thiyagarajan B.Jeya kumar S.Kathiresan
International conference on “Microalgal and Cyanobacterial Biotechnology	Aug 29 th &3 1 st , 2016	BDU, Trichy	Optimization of Different Environmental Factors for the Biomass and Docosahexaenoicacid (DHA) Production from Marine Microalga <i>Isochrysis</i> sp. CASA CC101	B.Jeyakumar, A.Parthasarathy &S. Kathiresan
National Conference on Recent Trends in Modern Biology & 47 th Aqua-Terr Annual Conference	Feb 27- 28 th ,20 16	MKU Madurai	Marine Microalga <i>Isochrysis</i> sp SKMKUIso1 as a vegan source for High Value Polyunsaturated fatty acids (HVPUFA)	B.Jeyakumar, A.Parthasarathy &S. Kathiresan
National Conference on Recent Trends in Modern Biology & 47 th Aqua-Terr Annual Conference	Feb 27- 28 th ,20 16	MKU Madurai	Marine Microalga <i>Isochrysis</i> sp SKMKUIso1 as a vegan source for High Value Polyunsaturated fatty acids (HVPUFA)	B.Jeyakumar, A.Parthasarathy &S. Kathiresan
International conference on Microalgal and Cyanobacterial Biotechnology (MACB- 2016)	30 Aug - 1 Sep16	BDU, Trichy	<i>In silico</i> analysis of $\Delta 6Des$ – A High Value PUFA Biosynthetic Gene from Marine Microalga <i>Isochrysis</i> sp	S. Thiyagarajan*, S. Kathiresan
The National Conference on innovations in Modern Biology & 48 th Aqua-Terr annual conference	27-28 Februa ry 2017	MKU, Madurai	Isolation, cloning and <i>in silico</i> analysis of cDNA of $\Delta 4 des$ from marine microalga <i>Isochrysis</i> sp CASA CC101.	A.Parthasarathy B.Jeya kumar S. Kathiresan
National Conference on Recent trends in Modern Biology & 46 th Aqua Terr	Februa ry 26 th & 27 th 2017	MKU, Madurai.	Preliminary Studies on <i>Agrobacterium</i> mediated genetic transformation of $\Delta 6$ Desaturase ($\Delta 6 Des$) in <i>Arabidopsis thaliana</i> for the regulation of lipid biosynthesis	M Ram Kumar, S.Govendan S Muthu Lakshmi &S. Kathiresan
National Conference on	9-10	Universit	Cloning, Characterization and	S.

Biodiversity, Biology and Biotechnology of (NCBBB-2016)	January, 2017	University of Madras, Chennai	Expression of $\Delta 5$ -Desaturase ($\Delta 5Des$) Isolated from Marine Microalga <i>Isochrysis</i> sp. CASA CC101	Thiyagarajan*, S. Kathiresan
National seminar on Conservation and sustainable utilization of Marine Resources		TDMNS college, T.Kallikulam,	Microalgal Biotechnology for food and health applications	S. Kathiresan

CONFERENCE/WORKSHOP/SEMINAR/TRAINING ORGANIZED

Type	Name	Date(s)	Place	Role Played	Funding Agency
Workshop	33rd Winter UGC-NRCBS Winter School on Differential Gene Expression on Plants & Bacteria	01.02.17 to 14.02.17	SBS, MKU, Madurai	Convener	UCG

BOOK PUBLISHED

Title of the Book / Chapter	Author	Publisher	Year	ISBN Number
Book Chapter on -Application of in vitro plant systems and nursery techniques	Co-Author	MKU, Madurai	2013	
Microalgal Biotechnology for food and health applications in the Proceeding of National seminar on Conservation and sustainable utilization of Marine Resources	S. Kathiresan	TDMNS college, T.Kallikulam, TN	2014	ISBN-978-81-927330-7-4

MEMBERSHIP IN ACADEMIC BODIES

- Member – Board of Studies in M.Sc Microbial Gene Technology, MKU
- Member – NIRF Committee, MKU
- Member – UPE Committee, MKU

MEMBERSHIP IN PROFESSIONAL BODIES

- Life Member - Indian Society for Plant Biochemistry and Biotechnology
- Life Member - Aqua-Terr Society of School of Biological Sciences, MKU

INTELLECTUAL PROPERTY RIGHTS (Patents)

- **S. Kathiresan,** R. Sarada, Sila Bhattacharya and G.A.Ravishankar. An improved culture medium useful for enhancement of Phycobiliproteins in *Porphyridium* spp. **335/DEL/06.**

ADMINISTRATIVE EXPERIENCE

Role Played	Responsibilities	Period (Month & Year)
Campus Development Officer	Maintained the campus green in front of the main building, near quarters	During 2010-11



CONTACT

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