Dr. Sakthivel Kailasam   https://orcid.org/0000-0002-6708-4363
Postdoctoral Research Associate
Department of Biochemistry and Molecular Biology
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Education:

- **PhD Biotechnology** (2012-18), National Chung Hsing University, Taichung, Taiwan. **GPA: 4.19/4.3**
  Thesis: Elucidating iron deficiency signaling in Arabidopsis thaliana (Mentor: Dr. Kuo-Chen Yeh)
- **MSc Plant Biotechnology** (2007-10), University of Agricultural Sciences, Dharwad, India. **GPA: 8.76/10**
  Thesis: Development and characterization of transgenic tomato (Mentor: Dr. P.U. Krishnaraj)
- **BSc Horticulture** (2003-07), Tamil Nadu Agricultural University, Coimbatore, India. **GPA: 8.74/10**

Employment:

- **Research Associate** (May 2019 - present), Michigan State University, East Lansing, USA
  Topic: Clarifying the molecular mechanism of metal transport (Mentors: Drs. Jian Hu and Hideki Takahashi)
- **Postdoctoral Fellow** (Mar 2018 - Mar 2019), Academia Sinica, Taipei, Taiwan
  Topic: Investigating the regulation of genes involve in iron-homeostasis (Mentor: Dr. Kuo-Chen Yeh)

Funding:

Role	Value (USD)	Sponsor	Period
Postdoc	101,671	Michigan State University, USA	2019-21
Postdoc	22,900	Ministry of Science and Technology, Taiwan	2018-19
Student	60,600	Indian Council of Agricultural Research, India	2012-15
Intern	2,100	Academia Sinica, Taiwan	May-Jun 2012

Awards:

- **Trainee Early Career Award for Mentoring in Unexplored Problems (TEAM-UP) fellowship,** 2019
  Department of Biochemistry and Molecular Biology, Michigan State University, USA
- **Outstanding poster presentation award**, 2016
  Agricultural Biotechnology Research Center, Academia Sinica, Taiwan

Datasets contribution:

- E-MTAB-8157 (RNA-Seq) and EMTAB-8158 (Ribo-Seq) datasets of ArrayExpress (EMBL-EBI) library.

Featured stories:

- TEAM-UP fellowship award news by MSU, USA (click here)

Peer-review role:

- Reviewed for Plant Physiology; New Phytologist; Scientific Reports; Plant, Cell & Environment.

Expertise:

- **Cloning**: have 12 years of experience and handled a range of platforms.
- **Protein analysis**: well-versed with western blot, phos-tag blot, IP, Y2H and BiFC.
- **Imaging**: operated confocal LSM 780 and Florescence Z1 microscopes.
- **Gene mapping**: performed NGS based EMS-induced mutation identification.
- **Gene expression**: routinely do RT/qPCR; microarray and RNA-seq data generation and analysis.
- **Translatome**: performed polysome profiling and Ribo-seq; can partially analyse the data.
- **Proteome**: performed sample preparation, ingel digestion and can analyse the MS/MS data.
- **Ionomics**: can operate ICP-OES and quantify the tissue elemental levels.
- **Transformation**: routinely do bacterial and yeast transformation; Arabidopsis, tomato and cowpea.
- **Organism handled**: Tomato, cowpea, Arabidopsis, bacteria and yeast.
- **Working style**: mostly independent.
- **Intellectual**: design concepts and experiments, write manuscripts and grant proposals.

Publications:

- **Kailasam S**, Singh S, Liu MJ, Lin CC, Yeh KC*. 2020. A HemK class glutamine-methyltransferase is involved in the termination of translation and essential for iron homeostasis in Arabidopsis. New Phytologist, 226: 1361-1374.
- **Kailasam S**, Chien WF, Yeh KC*. 2019. Small-molecules selectively modulate iron-deficiency signaling networks in Arabidopsis. Frontiers in Plant Science, 10: 8.
- **Kailasam S**, Wang Y, Lo JC, Chang HF, Yeh KC*. 2018. S-Nitrosoglutathione works downstream of nitric oxide to mediate iron-deficiency signaling in Arabidopsis. Plant Journal, 94: 157-168.