

Profile in brief

An Agricultural Microbiologist with experience in plant-microbe interactions. He has expertise in molecular biology, DNA analyses, research planning and execution, and science communications. He has a vast experience in in culturing and maintenance of bacteria, fungi and their genomic identification, whole genome and metagenome studies, PCR, qPCR, cloning and CE-MS system; planning and execution of greenhouse trials.

Education & Training

Post doctorate

Metabolic engineering division – Department of Agricultural Biotechnology
Rural Development Administration, South Korea

Doctorate

Ph D Agricultural Chemistry - Department of Environmental and Biological Chemistry
Chungbuk National University, South Korea

Masters

M. Sc Applied Microbiology - School of Biosciences and Technology
VIT University, India

Undergraduate

B. Sc Plant Biology and Plant Biotechnology - Department of Botany, Madras Christian College
University of Madras, India

Publications and Patents

Google scholar profile: <https://scholar.google.com/citations?user=vVO3O68AAAAJ&hl=en&oi=ao>

Publications	22 (16 SCI)	Book chapters	2
Patents	1	<i>h</i> -index (Scopus)	11

Publications

Book Chapters

- Seifeddine Ben Tekaya, Sherlyn Tipayno, Kiyoon Kim, **Parthiban Subramanian**, Tongmin Sa: *Rhizobacteria: Restoration of Heavy Metal-Contaminated Soils*. Physiological Mechanisms and Adaptation Strategies in Plants Under Changing Environment, Edited by Parvaiz, Wani, Mohd Rafiq, Ahmad, 01/2014: chapter Rhizobacteria: Restoration of Heavy Metal Contaminated Soils: pages 297-323; Springer New York., ISBN: 978-1-4614-8600-8
- Anbazhagan Mageswari, **Parthiban Subramanian**, Ramachandran Srinivasan, Sivashanmugam Karthikeyan, K M Gothandam: *Nanomaterials: Classification, Biological synthesis and Characterization*. Nanoscience in Food and Agriculture. Springer-Verlag. 2016

Journal Publications

2020:

- Merlene Ann Babu, Ramachandran Srinivasan, Parthiban Subramanian, Gothandam Kodiveri Muthukaliannan, *RNAi silenced ζ -carotene desaturase developed variegated tomato transformants with increased phytoene content*. **Plant Growth Regulation** DOI: 10.1007/s10725-020-00678-1 (Impact Factor 2.4)
- Ramachandran Srinivasan, Amballa Chaitanyakumar, Parthiban Subramanian, Anbazhagan Mageswari, Ajitha Gomathi, Velmurugan Aswini, Aathi Muthu Sankar, Mohandass Ramya, Kodiveri Muthukaliannan Gothandam, *Recombinant engineered phage-derived enzymatic in *Pichia pastoris* X-33 as whole cell biocatalyst for effective biocontrol of *Vibrio parahaemolyticus* in aquaculture*. **International Journal of Biological Macromolecules** DOI: 10.1016/j.ijbiomac.2019.11.042 (Impact Factor 5.2)

2018:

- Joon-Soo Sim, Mahipal Singh Kesawat, Manu Kumar, Su-Yeon Kim, Vimalraj Mani, Parthiban Subramanian, Soyoung Park, Chang-Muk Lee, Seong-Ryong Kim, Bum-Soo Hahn, *Lack of the α 1, 3-Fucosyltransferase gene (*Osfuct*) affects anther development and pollen viability in rice*. **International Journal of Molecular Sciences** 19 (4):1225 (Impact Factor 4.6)
- Ramachandran Srinivasan, Anbazhagan Mageswari, **Parthiban Subramanian**, Chandrasekaran Suganthi, Amballa Chaitanyakumar, Velmurugan Aswini, Kodiveri Muthukaliannan Gothandam, *Bicarbonate supplementation enhances growth and biochemical composition of *Dunaliella salina* V-101 by reducing oxidative stress induced during macronutrient deficit conditions*. **Scientific reports** 8(1): 6972 (Impact Factor 3.99)

2017:

- Inchan Choi*, **Parthiban Subramanian***, Dongwan Shim, Byung-Ju Oh, Bumsoo Hahn, *RNA-seq of plant-parasitic nematode *Meloidogyne incognita* at various stages of its development*. **Frontiers in Genetics** 8: 190 DOI:10.3389/fgene.2017.00190 (Impact Factor 3.8)
- Parthiban Subramanian**. Byungju Oh.; Vimalraj Mani, Jaekook Lee, Changmuk Lee, Junsoo Sim, Jachoon Koo, Bumsoo Hahn, *Differential metabolic profiles during the developmental stages of plant-parasitic nematode *Meloidogyne incognita**. **International Journal of Molecular Sciences** 18:1351. (Impact Factor 4.6)
- Anbazhagan Mageswari, **Parthiban Subramanian**, Suganthi Chandrasekaran, Sivashanmugam Karthikeyan, K M Gothandam: *Systematic functional analysis and application of a cold-active serine protease from a novel *Chryseobacterium* sp.* **Food chemistry** 217:18–27 (Impact Factor 6.3)

2016:

Parthiban Subramanian, In-Chan Choi, Mani Vimalraj, Junhyung Park, Sathiyamoorthy Subramaniyam, Kang-Hyun Choi, Joon-Soo Sim, Chang-Muk Lee, Ja Choon Koo and Bum-Soo Hahn: *Stage-dependent differential expression of microRNAs in root-knot nematode *Meloidogyne incognita**. **International Journal of Molecular Sciences** 17:1758. (Impact Factor 4.6)

Parthiban Subramanian, Kiyoon Kim, Ramasamy Krishnamoorthy, Anbazhagan Mageswari, Gopal Selvakumar, Tongmin Sa: *Cold stress tolerance in psychrotolerant soil bacteria and their conferred chilling resistance in tomato (*Solanum lycopersicum* Mill.) under low temperatures*. **PLOSone** 11(8):e0161592. doi: 10.1371/journal.pone.0161592 (Impact Factor 2.7)

Ramasamy Krishnamoorthy, Kiyoon Kim, **Parthiban Subramanian**, M. Senthilkumar, Rangasamy Anandham and TongminSa: *Arbuscular mycorrhizal fungi and associated bacteria isolated from salt-affected soil enhances the tolerance of maize to salinity in coastal reclamation soil*. **Agriculture Ecosystems and Environment** 231:233-239. (Impact Factor 4.2)

2015:

Anbazhagan Mageswari, **Parthiban Subramanian**, Sivashanmugam Karthikeyan and Kodiveri Muthukaliannan Gothandam: *Astaxanthin from *Sphingomonas faeni* exhibits antagonism against food-spoilage bacteria at low processing temperatures*. **Microbiological Research** 179:38-44. (Impact Factor 3.9)

Parthiban Subramanian, Anbazhagan Mageswari, Kiyoon Kim, Yi Lee, TongminSa: *Psychrotolerant endophytic *Pseudomonas* spp. OB155 and OS261 induced chilling resistance in tomato plants (*Solanumlycopersicum* Mill.) by activation of their antioxidant capacity*. **Molecular Plant-Microbe Interactions** 28(10):1073-81 doi: 10.1094/MPMI-01-15-0021-R (Impact Factor 3.2)

Ramasamy Krishnamoorthy, Chang-Gi Kim, **Parthiban Subramanian**, Ki-Yoon Kim, Gopal Selvakumar, Tong-Min Sa: *Arbuscular mycorrhizal fungi community structure, abundance and species richness changes in soil by different levels of heavy metal and metalloids concentration*. **PLOS one** doi: 10.1371/journal.pone.0128784 (Impact Factor 2.7)

Parthiban Subramanian, Ramasamy Krishnamoorthy, Mak Chanratana, Kiyoon Kim, Tongmin Sa: *Expression of an exogenous 1-aminocyclopropane-1-carboxylate deaminase gene in psychrotolerant bacteria modulates ethylene metabolism and cold induced genes in tomato under chilling stress*. **Plant Physiology and Biochemistry** 89: 18-23. doi:10.1016/j.plaphy.2015.02.003 (Impact Factor 3.7)

2014:

Parthiban Subramanian, Kiyoon Kim, Ramasamy Krishnamoorthy, Subbiah Sundaram, Tongmin Sa: *Endophytic bacteria improve nodule function and plant nitrogen in soybean on co-inoculation with *Bradyrhizobiumjaponicum* MN110*. **Plant Growth Regulation** 76(3) 327-332 doi:10.1007/s10725-014-9993-x (Impact Factor 2.4)

Anbazhagan Mageswari, **Parthiban Subramanian**, Vini Ravindran, Sreelekha Yesodharan, Asokan Bagavan, Abdul Abdul Rahuman, Sivashanmugam Karthikeyan, Kodiveri Muthukaliannan Gothandam: *Synthesis and larvicidal activity of low-temperature stable silver nanoparticles from psychrotolerant *Pseudomonas mandelii**. **Environmental Science and Pollution Research** doi: 10.1007/s11356-014-3735-5 (Impact Factor 3.1)

Non SCI:

2016:

Vimalraj Mani, Kang-Hyun Choi, **Parthiban Subramanian**, Chang-Muk Lee, Joon-Soo Sim, Ha Young Chung, Inchan Choi, Ja Choon Koo, Bum-Soo Hahn. Comparative genomic analysis for identification and

characterization of common genes among parasitic nematodes. **Journal of Korean Society for International Agriculture**. 2016 28(2): 259~287. doi: 10.12719/KSIA.2016.28.2.259

Ahreum Han, Joon-Soo Sim, Chang-Muk Lee, **Parthiban Subramanian**, Kang-Hyun Choi, Vimalraj Mani, and Bum-Soo Hahn: Expression of codon-optimized tissue-type plasminogen activator gene In transgenic rice seeds. **Journal of Korean Society for International Agriculture**. 2016; 28(1): 65~72. doi: 10.12719/KSIA.2016.28.1.65

2014:

Charlotte C. Shagol, **Parthiban Subramanian**, Ramasamy Krishnamoorthy, Kiyoon Kim, Youngwook Lee, Chaemin Kwak, Suppiah Sundaram, Wansik Shin, Tongmin Sa: *ACC deaminase producing arsenic tolerant bacterial effect on mitigation of stress ethylene emission in maize grown in an arsenic polluted soil*. **Korean Journal of Soil Science and Fertilizer** 08/2014; 47(3):213-216.

2011 and 2012:

Anbazhagan Mageswari, **Parthiban Subramanian**, Suganthi Chandrasekaran, KarthikeyanSivashanmugam, S Babu, K M Gothandam: *Optimization and immobilization of amylase obtained from halotolerant bacteria isolated from solar salterns*. **Journal of Genetic Engineering and Biotechnology**. 12/2012; 10:201-208.

Sung-Man Woo, **Parthiban Subramanian**, KrishnamoorthyRamasamy, M. Melvin Joe, Tong-Min Sa: *EPS Production, PHB Accumulation and Abiotic Stress Endurance of Plant Growth Promoting Methylobacterium Strains Grown in a High Carbon Concentration*. **Korean Journal of Soil Science and Fertilizer** 08/2012; 45(4):572-581.

Parthiban Subramanian, Manoharan Melvin Joe, WoojongYim, Bohui Hong, Sherlyn C. Tipayno, Venkatakrishnan Sivaraj Saravanan, JaehongYoo, Jongbae Chung, Tahera Sultana and Tongmin Sa: *Psychrotolerance Mechanisms in Cold-Adapted Bacteria and their Perspectives as Plant Growth-Promoting Bacteria in Temperate Agriculture*. **Korean Journal of Soil Science and Fertilizer** 08/2011; 44(4):625-636.

Patents

Tong Min Sa, **Parthiban Subramanian**, Ki Yoon Kim, Young Wook Lee, Jae Hong Kim, Jae Kang Lee. *Pseudomonas vancouverensis* OB155 strain promoting plant growth at low temperature and uses thereof **Korean Patent No.: 1015756660000**, Day of Grant: 2015.12.02