CURRICULUM VITAE

SUNG SOO KIM

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EDUCATION

Ph.D. 2011
Dept. of Botany, The University of British Columbia (Canada)
• Supervisor: Prof. Carl J Douglas

M.Sc. 2002
Korea University (Seoul, Korea), Biological science

B.Sc. 1998
Korea University (Seoul, Korea), Dept. of Biology

EXPERIENCE

Postdoctoral Research Associate 2016 – Present
Dept. of Biochemical and Molecular Biology, Michigan State University
• Supervisor: Prof. Dean DellaPenna
• Projects: non-polar metabolites transport between organelles

Deputy Principal Researcher 2015
Dongbu Farm Hannong, South Korea
• Projects: Enzyme engineering of herbicide resistant proteins, Development of yeast screening platform, GMO

Visiting Scholar 2014
Jens Nielsen's Lab in Chalmers Univ., Sweden
• Projects: Development of acid-tolerant yeasts

Research Staff member 2011 – 2014
Samsung Advanced Institute of Technology (SAIT), South Korea
• Projects: Synthetic biology for bulk chemical production from renewable resources (e.g. lactic acid, 3-HP and etc.) in microbes by using metabolic engineering and OMICS tools
• Representative of research collaboration with VTT Technical Research Centre of Finland and Chalmers University, Sweden
• Project manager for GRO (Samsung Global Research Outreach)

Research Scientist 2002 – 2005
R&D Center for Bioproducts, CJ Corp.(CJ Cheiljedang)
• Projects: Metabolic engineering of amino acid metabolic pathway to develop threonine-overproducing *E.coli*

VOLUNTEER EXPERIENCE	**Peer reviewer** • Microbial Cell Factories • FEMS Microbiology Letters	2015 – Present

FELLOWSHIPS AND AWARDS	• Poster award in botany graduate student symposium, UBC	2011
	• Honorable Mention in Plant Biology (ASPB) 2010	2010
	• Duff travel award from Canadian Society of Plant Physiologists	2010
	• Graduate study travel award from UBC	2009
	• Brain Korea 21 fellowship	2000 - 2002

PUBLICATION

https://scholar.google.com/citations?hl=en&user=ivh5xBIAAAAJ&imq=SungSoo+Kim

Fletcher E, Feizi A, **Kim S**, Siewers V, Nielsen J. RNA-seq analysis of Pichia anomala reveals important mechanisms required for survival at low pH. **Microbial Cell Factories** 14:143 (2015)

Kim SS. Building triketide α-pyrone producing yeast platform using heterologous expression of sporopollenin biosynthetic genes. **Journal of Microbiology and Biotechnology** 25-11: 1796-1800 (2015)

Kim SS, Douglas CJ. Sporopollenin Monomer Biosynthesis in Arabidopsis. **Journal of Plant Biology** 56:1-6 (2013)

Colpitts CC, **Kim SS**, Posehn SE, Jepson C, Kim SY, Wee AH, Douglas CJ, and Suh DY. PpASCL, a moss ortholog of anther-specific chalcone synthase-like enzymes, is a hydroxyl alkylpyrone synthase involved in an evolutionarily conserved sporopollenin biosynthesis pathway. **New Phytologist** 192 (4): 855-868 (2011)

Kim SS*, Grienenberger E*, Lallemand B, Colpitts CC, Kim SY, de Azevedo Souza C, Geoffroy P, Heintz D, Krahn D, Kaiser M, Kombrink E, Heitz T, Suh DY, Legrand M and Douglas CJ LAP6/POLYKETIDE SYNTHASE A and LAP5/POLYKETIDE SYNTHASE B Encode Hydroxyalkyl α-Pyrone Synthases Required for Pollen Development and Sporopollenin Biosynthesis in Arabidopsis thaliana. **Plant Cell** 22: 4045-4066 (2010) (* These authors contributed equally to this work)

Grienenberger E*, **Kim SS***, Lallemand B, Geoffroy P, Heintz D, de Azevedo Souza C, Heitz T, Douglas CJ and Legrand M. (2010) Analysis of TETRAKETIDE α-PYRONE REDUCTASE Function in Arabidopsis thaliana Reveals a Previously Unknown, but

Conserved, Biochemical Pathway in Sporopollenin Monomer Biosynthesis. **Plant Cell** 22: 4067-4083 (2010)
(* These authors contributed equally to this work)

Souza Cde A, **Kim SS**, Koch S, Kienow L, Schneider K, McKim SM, Haughn GW, Kombrink E, Douglas CJ. A novel fatty Acyl-CoA Synthetase is required for pollen development and sporopollenin biosynthesis in Arabidopsis. **Plant Cell**; 21(2):507-25. (2009)

PATENTS

Genetically Engineered Yeast Cell Producing Lactate Including Acetaldehyde Dehydrogenase, Method of Producing Yeast Cell, and Method of Producing Lactate Using the Same (US 9617569B2)	Grant Apr 2017
Genetically engineered and stress resistant yeast cell with enhanced MSN2 activity and method of producing lactate using the same (US 9598709B2)	Grant Mar 2017
Yeast cell having reduced ethanol productivity and use of the yeast cell (US 9453246B2)	Grant Sep 2016
Yeast cell with activated lactate dehydrogenase and method of producing lactate using the yeast cell (US 9416380B2)	Grant Aug 2016
Microorganism over-expressing lactic acid transporter gene and having inhibitory pathway of lactic acid degradation, and method of producing lactic acid using the microorganism (US 9353388B2)	Grant May 2016
Modified microorganism for high efficient production of 1,4-butanediol (US 8921083B2)	Grant Dec 2014
Genetically engineered and acid-resistant yeast cell with enhanced activity of radiation sensitivity complementing kinase and method of producing lactate by using the yeast cell (US 20160024484A1)	Applied 2016
Yeast cell with inactivated glycerol-3-phosphate dehydrogenase and activated glyceraldehyde-3-phosphate dehydrogenase and method of producing lactate using the same (US 20150152447A1)	Applied 2015
Cassette including promoter sequence of target gene and method of gene manipulation using the same (US 20140206085A1)	Applied 2014
A microorganism producing L-threonine having an inactivated lysR gene, method for producing the same and method for producing L-threonine using the microorganism (US 20090298138A1)	Applied 2009

PRESENTATION

Gordon Research Conference/Seminar (Plant metabolic engineering) 2017 Sung Soo Kim and Dean DellaPenna	Poster

The Inherent properties of enzymes limit substrate accessibility on transorganellar complementation

International Conference of the Korean Society for Molecular and Cellular Biology (KSMCB) 2013 — Invited talk

SungSoo Kim

Sporopollenin Monomer Biosynthesis for Arabidopsis Pollen Walls

Plant Biology (ASPB) 2010 — Poster

Kim SS, Grienenberger E, Souza Cde A, Lallemand B, Geoffroy P, Heintz D, Heitz T, Legrand M and Douglas CJ.

POLYKETIDE SYNTHASE A and POLYKETIDE SYNTHASE B encode evolutionarily conserved enzymes required for pollen development and sporopollenin biosynthesis in Arabidopsis thaliana.

20th International Conference on Arabidopsis Research 2009 — Poster

Sung Soo Kim, de Azevedo Souza Clarice, Stefanie Koch, Lucie Kienow, Katja Schneide, Che Colpitts, Dae-Yeon Suh, Erich Kombrink, Carl J Douglas.

Analysis of the Arabidopsis 4CL-like ACYL-CoA SYNTHETASE5 gene and co-expressed genes reveals an ancient biochemical pathway required for pollen development and sporopollenin biosynthesis.

92nd Canadian Chemistry Conference and Exhibition 2009 — Poster

Che C. Colpitts, Sung Soo Kim, Carl J. Douglas and Dea-Yeon Suh.

Towards understanding plant male fertility: The role of anther-specific chalcone synthase-like enzymes.

Banff Conference on Plant Metabolism 2008 — Poster

Sung Soo Kim, Clarice Azevedo de Souza, Michael Friedmann, Sarah McKim, George Haughn, Carl J. Douglas.

Genomic analysis of 4CL-like ACYL-CoA SYNTHETASE and co-expressed genes reveals a novel pathway required for pollen wall formation.

7th International Conference on the Biotechnology of Microbial Products 2002 — Poster

J.Y. Park, S.S. Kim, B.C. Lee, Y.H. Park.

Use of mini-DNA microarray containing bio-marker genes of metabolic pathway to produce L-threonine from *Escherichia coli*.