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PERSONAL DATA

Date of Last Update: May 12, 2023

Name: Leong Sally Ann
Last First Middle

Department: Plant Pathology, University of Wisconsin-Madison

Position: Professor of Plant Pathology, USDA-ARS Research Scientist

EDUCATION

High School graduated from Skyline High School Year 1971

Name and location of University attended	Dates Attended From	To	Years Completed		Degree
University of California Berkeley	71	76	B.A.	76	Biochemistry
Sorbonne	73	73		73	Certificate of French Language
University of California Berkeley	76	80	Ph.D.	80	Comparative Biochemistry

Ph.D. Subject: High affinity transport systems in phytopathogenic bacteria

GENERAL VITAE

Date of Original Appointment at The University of Wisconsin - Madison: June 6, 1983

Professorial Promotions:

Assistant Professor of Plant Pathology, University of Wisconsin, 1983-1989
Associate Professor of Plant Pathology, University of Wisconsin, 1989-1994
Professor of Plant Pathology, University of Wisconsin, Madison, 1994-2008
Professor Emeritus, University of Wisconsin, Madison, 2008
Research Chemist GS-12, USDA-ARS, Plant Disease Resistance Unit, 1983-1986
Research Chemist GM-13, USDA-ARS, Plant Disease Resistance Unit, 1986-1990
Research Chemist GM-14, USDA-ARS, Plant Disease Resistance Unit, 1990-1995

Research Chemist GM-15, USDA-ARS, Plant Disease Resistance Unit, 1995-2008

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Research Program 100% Appointment

Membership and Participation in Scientific, Professional and Honorary Societies

Society for Molecular Plant Microbe Interactions
Gamma Sigma Delta

Honorary Degrees and Special Awards

Governor's Scholar, California, 1971.
Edward Frank Kraft Scholarship Award, 1971.
NIH National Research Service Award, 1980-1982.
Pound Research Excellence Award, College of Agricultural and Life Sciences, University of Wisconsin, 1989.
USDA-ARS Outstanding Early Career Scientist Award for research on the molecular genetics and biochemistry of *Ustilago maydis*, 1990.
Arthur S. Flemming Award, Scientific Category, 1991.
Lifetime Achievement Award for Research on Rice Blast Disease, 2010.

Sabbatical Leave

Research working with Dr. Gunther Winkelmann on the transport mechanism of iron delivery to and within Ustilago cells using radiolabeled ferrichrome and Mossbauer spectroscopy at the University of Tubingen, Germany, January-March,1995.

Research Description

My research focused on two primary areas. The first was an analysis of pathogenicity genes of *Ustilago maydis* with an examination of the role of high affinity iron transport in disease of corn by *U. maydis*. This work led to the development of a gene transfer system and associated genome manipulation technologies as well as the isolation of mutants defective in iron transport by the siderophores ferrichrome and ferrichrome A and the isolation and characterization of genes involved in biosynthesis of this iron chelator. This work has formed the foundation for this field of study in many other fungi. No role for ferrichrome siderophores was found in laboratory-based pathogenicity studies of *U. maydis* of maize. A study of mating type control which controls the conversion of nonpathogenic haploid strains to diploid pathogenic strains led to the isolation and characterization of the two mating type loci *a* and *b* of *U. maydis* which were confirmed to control pathogenesis.

Another goal of my research was to understand the molecular basis of host and cultivar specificity and the evolution of cultivar specificity genes in the fungus *Magnaporthe grisea* and reciprocal resistance genes in graminaceous hosts of *M. grisea*. I developed a genetic map of the fungus which enabled the mapping, cloning and characterization of avirulence gene *AVR1-CO39* from *M. grisea*. The gene is predicted to encode a small 89 amino acid polypeptide with a secretion sequence. I also mapped the complementary disease resistance locus *Pi-CO39 (t)* from rice. The DNA sequence of a 410 kb segment of chromosome 11 of the susceptible *japonica* rice variety Nipponbare was determined as part of the International Rice Sequencing Project; a 230 kb syntenic region in resistant variety CO39 containing the *Pi-CO39 (t)* locus was also sequenced for comparative analysis leading to the identification of three classes of candidate *LRR*-containing disease resistance genes and serpin genes. I was also involved in the production of an optical map of the rice genome and explored microarray technology to rapidly genotype rice and fingermillet.

Source of Research Support

From 1983-2008, I received funding from extramural grants from the NIH, NSF, USDA-NRI, the Mcknight Foundation, the Rockefeller Foundation and Japan Tobacco Inc. totaling $2,519,315 in total costs to her laboratory. I wrote the rice genome biology background and rice methods portion of an NSF grant for $1.5 million that was awarded to Prof. David Schwartz to create an optical map of the rice genome. In addition, support for a research assistant or research associate for 10 separate years has been provided through 10 independent project grants from the Graduate School of the University of Wisconsin. I have received two one-year USDA ARS postdoctoral associate fellowships and one personal USDA-ARS fellowship for a short-term sabbatical to Tubingen, Germany. Direct support for my salary and research program with USDA-ARS amounted to an estimated $5 million over 25 years.

Trainees of S. A. Leong

Former:

Name	Current/Last Employer	Position	Source of Support
Research Associates			
H. Corby Kistler	USDA/ARS Cereal Rust Lab Department of Plant Pathology University of Minnesota	Geneticist Adjunct Professor	USDA/NIH 1983-1985
Dan Cullen	US Forest Products Laboratory University of Wisconsin, Madison	Research Microbiologist Adjunct Professor	USDA 1983-1984

Helga Forster	Department of Plant Pathology University of California, Riverside	Project Scientist	VonHumbolt Fellowship 1986-1987
William Russin	Biological Imaging Facility Northwestern	Adjunct Lecturer	USDA 1987
David Holden	Centre for Molecular Bacteriology and Infection Imperial College of London	Director Professor	USDA/NIH 1986-1989
Robert Gilbertson	Department of Plant Pathology University of California, Davis	Professor	USAID 1985-1989
James Kronstad	Michael Smith Laboratories Department of Microbiology and Immunology University of British Columbia	Director Professor	USDA/NIH 1987-1989
Peilin Xu	Key Laboratory of Gene Engineering Zhongshan University	Professor	NIH 1988-1989
Frank Cantone	Environmental Health & Safety Cornell University	Safety Officer	Rockefeller Foundation 1990-1991
Daniel Skinner	USDA/ARS Wheat Health, Genetics & Quality Research Pullman, WA	Geneticist Research Leader	Rockefeller Foundation 1987-1989
Eunice Froeliger	Department of Health Vermont	Microbiology Progam Chief	Grad School/ USDA 1989-1990
Christophe Voisard	Swiss Meterological Instititute Zurich	Meterologist	Swiss Foundation for Research/NIH 1990-1992
James R. Smith	USDA/ARS Crop Genetics Research Stoneville, Mississippi	Geneticist	USDA 1991-1993
Baigen Mei	Lucigen Madison, WI	Director of Protein Chemistry	NIH 1990-1993
Barry Saville	Forensic Science Program Trent University	Associate Professor	NSERC Fellow 1991-1993
James McEvoy	USDA/ARS Produce Quality and Safety Beltsville, MD	Plant Pathologist	NIH 1991-1993
Shuxian Li	USDA/ARS Crop Genetics Research Stoneville, Misssissippi	Plant Pathologist	USDA 1991-1993
Zhiqiang An	Texas Therapeutics Institute Welch Distinguished Chair in Chemistry University of Texas	Director Professor	NIH 1993-1996
Mark Farman	Department of Plant Pathology	Professor	Rockefeller

	Advanced Genetic Technologies Center University of Kentucky	Director	Foundation 1990-1996
Satoru Taura	Department of Plant Breeding Kagoshima University	Professor	Japanese Ministry of Education, Science and Culture 1994-1995
Rajinder S. Chauhan	Jaypee University of Information Technology Himachal Pradesh, India	Dean of Biotechnology	Indian Govt. 1997-1998 USDA 1998-1999 University of Wisconsin 1999-2003
Shulan Tian	Mayo Clinic Rochester, MN	Bioinformatics Scientist	Mcknight 2003-2005
Jacob Kitzman	Computational Medicine and Bioinformatics University of Michigan Ann Arbor	Associate Professor	USDA-NRI/USDA 2006-2008

Research Assistants:

Jun Wang	Department of Biochemistry University of Hong Kong	Professor Industry Professor	NIH 1983-1988
Deborah Samac	USDA/ARS Plant Science Research University of Minnesota	Plant Pathologist Adjunct Professor	USDA 1983-1988
Jens Mullen	Newberg Natural Health Center Newberg, OR	Doctor of Oriental Medicine	Hatch/Graduate School 1986-1989
Frank v.d. Wilk	Netherlands Commission on Genetic Modification	Executive Director	Dutch Government 1985
Timothy Smith	Human Longevity, Inc. San Diego, CA	Deputy General Counsel Head Intellectual Property	USDA 1983-1985
Paul Bosland	Department of Horticulture New Mexico State University	Regent's Professor	1985-1986
Sushen Gan	Department of Plant Breeding Cornell	Professor	Rockefeller 1989-1990
Qin Zhao	formerly at Promega Madison, WI	Biotech Entrepreneur	NIH 1993-1997
Walter Yuan	MobLab Pasadena, CA	CEO Software Engineer	USDA/NIH 1995-1999
Pradeep Kachroo	Department of Plant Pathology University of Kentucky	Professor	Rockefeller Foundation 1993-1994
Guillaume Gentil	Department of Linguistics Carleton University	Professor	NIH 1994-1996

Dominic Lazaro	Falls Church, VA	U.S. Patent Attorney	Graduate School 1999-2003

Visiting Scientists

Hei Leung	Genetics and Biotechnology Division International Rice Research Institute	Head	USDA 1990
Paul Tooley	USDA/ARS Foreign Disease-Weed Science	Geneticist	1990
Yukio Tosa	Faculty of Agriculture Kobe University, Japan	Professor	Japanese Ministry of Education, Science and Culture 1992-1993
Naoto Nitta	JAICAF	Scientific Technical Advisor	Japan Tobacco Co. 1992-1995
Narayan Punekar	Indian Institute of Techology Bombay, India	Professor	Rockefeller Foundation 1996-1998
Sam Gnanamanickam	University of Madras Madras, India	Professor (retired)	Rockefeller Foundation 1997-199

Teaching: 0% Appointment

I was a trainer in several graduate training programs including Plant Pathology, Bacteriology, Genetics, Molecular Biology, Environmental Toxicology, and Plant Breeding and Genetics.

I provided guest lectures in courses when requested, taught seminar programs in Plant Pathology, Environmental Toxicology, and Plant Breeding and Genetics where students were required to give a departmental seminar on a specific topic area. I also taught a special topics course on emerging tools and methods for research in Plant Pathology with Kyle Willis. Finally, I taught for 9 years the Oncology 675 course on The Responsible Conduct of Science to graduate students and postdocs in several graduate programs including oncology, molecular biology, biochemistry and genetics.

Additional Information

Offices and Committee Assignments in Professional and Honorary Societies

I have served on numerous committees of professional societies and the University of Wisconsin, Madison. The most significant include:

American Phytopathological Society Genetics Committee, 1985-1988.

University of Wisconsin Committees on Academic Affairs of Minorities and Disadvantaged Students (1991-1996), Affirmative Action and Compliance (1992-1996), and the Biotron (1993-1997, chair) as well as the Graduate School Biological Research Awards Committee (1994-1997), Committee on Faculty Rights and Responsibilities (1996-1999), Genomics Initiative Committee (1998-2002), Advisory Board of the International Students and Scholars Service (1999-2000), Institutional Biosafety Committee (2000-2003), Biotechnology Center Faculty Advisory Committee (2000-2001), University Lectures Committee (2001-2005, chair), and the Diversity Oversight Committee (2002-2005). I served on an ad hoc campus-wide committee that developed a brochure describing the environmental sciences on campus (1992-1994).

I served as a Board Member of the International Society for Molecular Plant Microbe Interactions and served as Secretary of the Society (1992-1996, 1999-2001). I served as the editor of the Society's newsletter The Reporter for 6 years. I organized and hosted the society's 10th International Congress in Madison in 2001 and served as the senior editor of the proceedings preparing a camera-ready copy for printing. I served as the society's affiliate member for the AAAS Section Committee on Societal Impacts of Science and Engineering.

Advisory and Consultant Activities

I have conducted numerous professional advisory and consulting activities.

Most notably:

Reviewed grants for the following agencies: NIH, USDA Competitive Grants Program, National Science Foundation, US-Israel Binational Agricultural Research and Development Fund, Department of Energy, Montanans on a New Trac for Science Program, USDA/ARS CRIS Projects, The Land Institute, Human Frontiers of Science Program, Austrian Science Foundation and the National Science and Engineering Research Council of Canada. I served from 1990-1994 as a member of the Microbial Physiology and Genetics Study Section of the NIH Study Section on Microbial Physiology and Genetics and attended panels three times a year. I declined to serve on USDA and NSF grant panels.

Reviewed or was invited to review manuscripts for: Journal of Bacteriology, Proceedings of the National Academy, EMBO Journal, Archives of Biochemistry and Biophysics, Gene, Genetics, Physiological Plant Pathology, Phytopathology, Experimental Mycology, Biotechnology, Journal of Molecular Biology, Molecular and Cellular Biology, Canadian Journal of Plant Pathology, Molecular Microbiology, Current Genetics, Molecular Plant-Microbe Interactions, Symbiosis, Plant Pathology, Plant Cell, Theoretical and Applied Genetics, Applied and Environmental Microbiology, Science, Nature Biotechnology, Fungal Genetics and Cell Biology, Biometals, Plant Physiology, Journal of Medicinal Chemistry, Molecular Genetics and Genomics, Mycological Research, Nucleic Acids Research, Journal of Biological Chemistry, Biotechniques, Molecular Breeding,

and Biochemistry. I have declined service as editor of Gene and Molecular Plant-Microbe Interactions.

In 1990, 1992, 1995, and 1997, I served on USDA ARS Research Position Evaluation System panels.

Founded the Wisconsin Foodshed Working Group (1992-1996). In 1992, I circulated an article from the *Permaculture Activist* entitled "Urban Foodsheds," which generated considerable interest in the food and agriculture community in Madison as well as the local farm community. This grassroots group was comprised of university faculty, staff and students, and farmers and citizens of Wisconsin concerned with issues such as land use planning and loss of farmland and, hunger, food security, community gardens, nutrition, food access, local food systems, community supported farms, sustainable agriculture, the environmental cost of long-distance transport of food, etc. Meetings were held monthly to learn about and discuss these topics. The group attempted to obtain a grant from the Minnesota Food Association for the development of a food policy council in Dane County but failed. The organization REAP (Research, Education, Action and Policy on Food Group) now plays a similar but more formal role as a nonprofit organization. The term "foodshed" had now gained national use among the nascent, national community food security and food systems movements in the United States, and USDA now funds a "community food security" grant program area.

Co-organized the first International Rice Blast Conference at the University of Wisconsin. Over 100 scientists from around the world were in attendance. Used a breakout group meeting to engage all participants in discussion about conference topic and to learn about research interests and expertise. I edited the Proceedings of the conference with Drs. Robert Zeigler and Paul Teng, which has remained a major reference book for this disease.

Invited to serve on The Land Institute advisory team on Natural Systems Agriculture (1996).

Member of the Editorial Committee of *Annual Reviews of Phytopathology* (1998-2002).

Invited reviewer for nominees for MacArthur Foundation Fellows Program (1998, 2004).

In 1999, I was invited to become a member of the University of Wisconsin Genome Center Faculty Staff. I prepared the rice background and biology and methods for the NSF-funded optical map of rice which was funded and the NSF grant application to sequence the rice genome which was one of only two selected for further consideration at the national level but was not funded.

In 2000-2005, I became a member of the International Rice Genome Sequencing Project and took responsibility to sequence a portion of chromosome 11 with India and other U. S. laboratories. In collaboration with the UW Genome Center, I sequenced 410 kb of the Nipponbare rice genome and a 210 kb corresponding region in a resistant variety associated with the *Pi-CO39 (t)* rice blast resistance locus. A patent application was submitted on this work.

In 2001, I hosted the 10th International Congress on Molecular Plant-Microbe Interactions. Over 1000 scientists including 89 speakers from 43 countries attended. I coedited the Proceedings of the congress with Drs. Caitilyn Allen and Eric Triplett and created a camera-ready copy for the publisher.

In 2002 and 2003, co-organized a workshop for underrepresented minorities in middle school on "The Biological Mysteries of Plants" involving ARS scientists. In 2003 and 2004, she hosted underrepresented minority high school and college research interns. In 2003, I worked with gifted 3rd grade students on a science project applying GIS mapping to debris from the Columbia Space Shuttle. The group included African American students and they called themselves the Kids Columbia Research Group.

In 2002, I was appointed to the University of Wisconsin Diversity Oversight Committee that oversees initiatives to improve the diversity of the faculty, staff and student body of the University. At the time, the personnel at the ARS location in Madison and University of Wisconsin-Madison did not reflect the demographics of Wisconsin, which has a higher percentage of minorities. I was actively involved in development, evaluation, assistance, and participation in pipeline programs to improve the numbers of qualified minorities for admission to institutions of higher education as well as retention of these students once admitted.

In 2003, I was invited to join the NSF-sponsored Center for Integration of Teaching and Research Diversity Team at the University of Wisconsin. The team developed resources to improve teaching, learning and research by all persons, with special attention to underrepresented minorities and women.

In 2004, I served as an invited member of the institutional review committee for the Department of Botany, University of Wisconsin.

Publications

As of September 2023, my publications have received 8,946 citations with an h index of 46 (Research Gate).

Journal Articles (63)

1. Ong, S. A. and J. B. Neilands. 1979. Siderophores in microbially processed cheese. J. Agric. Food Chem. 27:990-995.
2. Ong, S. A., Peterson, T. and J. B. Neilands. 1979. Agrobactin, a siderophore from *Agrobacterium tumefaciens.* J. Biol. Chem. 254:1860-1865.
3. Peterson, T., Falk, K.-E., Leong, S. A., M. P. Klein and J. B. Neilands. 1980. Structure and behavior of spermidine siderophores. J. Amer. Chem. Soc. 102:7715-7718.
4. Leong, S. A., and J. B. Neilands. 1981. Relationship of siderophore-mediated iron assimilation to virulence in Crown Gall Disease. J. Bacteriol. 147:482-491.
5. Leong, S. A. and J. B. Neilands. 1982. Production of siderophores by phytopathogenic microbial species. Arch. Biochem. Biophys. 218:351-359.
6. Leong, S. A., Ditta, G. and D. R. Helinski. 1982. Heme biosynthesis in *Rhizobium*: Identification of a cloned gene coding for delta-aminolevulinic acid synthetase from *Rhizobium meliloti*. J. Biol. Chem. 257:8724-8730.
7. Leong, S. A., Williams, P. and G. S. Ditta. 1985. Analysis of the 5' regulatory region of the gene for delta-aminolevulinic acid synthetase of *Rhizobium meliloti*. Nucl. Acids Res. 13:5965-5976.
8. Kistler, H. Corby and S. A. Leong. 1986. Linear plasmid-like-DNAs in the plant pathogenic fungus *Fusarium oxysporum* f. sp. *conglutinans*. J. Bacteriol. 167:587-593.
9. Kistler, H. C., Bosland, P. W., Benny, U., Leong, S. A., and P. H. Williams. 1987. Relatedness of strains of *Fusarium oxysporum* from crucifers measured by examination of mitochondrial and ribosomal DNA. Phytopathology 77:1289-1293.
10. Cullen, D., Leong, S. A., Wilson, L. J., and S. J. Henner. 1987. Transformation of *Aspergillus nidulans* with the hygromycin resistance gene *hph*. Gene 57:21-26.
11. Forster, H., Kinscherf, T. G., Leong, S. A. and D. P. Maxwell. 1987. Molecular analysis of the mitochondrial genome of *Phytophthora*. Curr. Genet. 12:215-218.
12. Xu, P., Leong, S. A., and L. Sequeira. 1988. Molecular cloning of genes that control virulence in *Pseudomonas solanacerum*. J. Bacteriol. 170:617-622.
13. Wang, J., Holden, D. and S. A. Leong. 1988. Gene transfer system for the phytopathogenic fungus *Ustilago maydis*. Proc. Natl. Acad. Sci. USA 85:865-869.
14. Kinscherf, T. and S. A. Leong. 1988. Molecular analysis of the karyotype of *Ustilago maydis*. Chromosoma 96:427-433.
15. Samac, D. A. and S. A. Leong. 1988. Two plasmids from *Fusarium solani* f. sp. *cucurbitae*. Plasmid 19:57-67.
16. Kronstad, J. and S. A. Leong. 1989. Isolation of two alleles of the *b* locus of *Ustilago maydis*. Proc. Natl. Acad. Sci. USA 86:978-982.
17. Holden, D., J. Wang and S. A. Leong. 1988. DNA-mediated transformation of *Ustilago hordei* and *Ustilago nigra*. Physiol. Mol. Pl. Pathol. 33:235-239.

18. Wang, J., Budde, A. and S. A. Leong. 1989. Analysis of ferrichrome biosynthesis in the phytopathogenic fungus *Ustilago maydis*: Cloning of an ornithine-N^5-oxygenase gene. J. Bacteriol. 171:2811-2818.
19. Kronstad, J., Wang, J., Covert, S., Holden, D. W., McKnight, G. and S. A. Leong. 1989. Isolation of metabolic genes and demonstration of gene disruption in *Ustilago maydis*. Gene 79:97-106.
20. Holden, D. W., Kronstad, J. and S. A. Leong. 1989. Mutation in a heat-regulated *hsp70* gene of *Ustilago maydis*. EMBO J. 8:1927-1934.
21. Samac, D. A. and S. A. Leong. 1989. Lack of association of mitochondrial plasmids and pathogenicity in *Nectria haematococca* (*Fusarium solani* f. sp. *cucurbitae*). Mol. Plant-Microbe Inter. 2:128-131.
22. Samac, D. A. and S. A. Leong. 1989. Characterization of the termini of linear plasmids from *Nectria haematoccoca* and their use in construction of an autonomously replicating transformation vector. Curr. Genet. 16:187-193.
23. Samac, D. A. and S. A. Leong. 1989. Disease development in *Cucurbita maxima* (squash) infected with *Fusarium solani* f. sp *cucurbitae*. Can J. Bot. 67:3486-3489.
24. Gilbertson, R., Maxwell, D. P., Hagedorn, D. and S. A. Leong. 1989. Development and application of a plasmid DNA probe for detection of bacteria causing common bacterial blight of bean. Phytopathology 79:518-525.
25. Forster, H., Kinscherf, T. G., Leong, S. A. and D. P. Maxwell. 1989. Restriction fragment length polymorphisms of the mitochondrial DNA of *P. megasperma* isolated from soybean, alfalfa and fruit trees. Can. J. Bot. 67:529-537.
26. Forster, H., Kinscherf, T. G. and S. A. Leong. 1989. Alpha subunit of ATPase of *Phytophthora megasperma* is mitochondrially encoded. Nucl. Acids Res. 17:7109.
27. Budde, A. D. and S. A. Leong. 1989. Characterization of siderophores from *Ustilago maydis.* Mycopathologia.108:125-133.
28. Leung, H., Lehtinen, U., Karjalainen, R., Skinner, D., Tooley, P., Leong, S. A. and A. Ellingboe. 1990. Transformation of the rice blast fungus *Magnaporthe grisea* to hygromycin B resistance. Curr. Genet. 17:409-411.
29. Kronstad, J. W. and S. A. Leong. 1990. The *b* mating type locus of *Ustilago maydis* contains variable and constant regions. Genes and Dev. 4:1384-1395.
30. Smith, T. and S. A. Leong. 1990. Isolation and characterization of a glyceraldehyde-3-phosphate dehydrogenase gene from *Ustilago maydis*. Gene 93:111-117.
31. Gilbertson, R. L., Hidayat, S. H. , Marinez, R. T., Leong, S. A., Faria, J. C., Morales, R. and D. P. Maxwell. 1991. Differentiation of bean-infecting Geminiviruses by nucleic acid hybridization probes and aspects of Bean Golden Mosaic in Brazil. Plant Dis.75:336-342.
32. Froeliger, E. and S. A. Leong. 1991. The *a* mating-type alleles of *Ustilago maydis* are idiomorphs. Gene 100:113-122.

33. Tooley, P.W., Leung, H.. and S. A. Leong. 1992. Meiotic and mitotic stability of transforming DNA in the phytopathogenic fungus *Magnaporthe grisea*. Curr. Genet. 21: 55-60.
34. Bakkeren, G., Gibbard, B., Yee, A., Froeliger, E., Leong, S. and J. Kronstad. 1992. The *a* and *b* loci of *Ustilago maydis* hybridize with DNA sequences from other smut fungi. Mol. Plant Microb. Inter. 5:347-355.
35. Mei, B., Budde, A. D. and S. A. Leong. 1993. *sid1*, a gene initiating siderophore biosynthesis in *Ustilago maydis*: Molecular characterization, regulation by iron and role in phytopathogenicity. Proc. Natl. Acad. Sci. U. S. A 90:903-907.
36. Skinner, D. Z., Budde, A., Farman, M., Smith, R., Leung, H. and S. A. Leong. 1993. Genetic map, molecular karyotype and occurrence of repeated DNAs in the rice blast fungus *Magnaporthe grisea*. Theor. Appl. Genet. 87:545-557.
37. Li, Shuxian, Harris, C. P. and S. A. Leong. 1993. Comparison of fluorescence *in situ* hybridization and primed *in situ* labeling methods for detection of single-copy genes in the fungus *Ustilago maydis*. Exper. Mycol.17:301-308.
38. Voisard, C., Wang, J., McEvoy, J., Xu, P. and S. A. Leong. 1993. *urbs1*, a gene regulating siderophore biosynthesis in *Ustilago maydis* encodes a protein similar to the erythroid transcription factor GATA-1. Mol. Cell. Biol. 13:7091-7100.
39. Smith, J. R. and S. A. Leong. 1994. Mapping of a *Magnaporthe grisea* locus affecting rice (*Oryza sativa*) cultivar specificity. Theoret. Appl. Genet. 88:901-908.
40. Kachroo, P., Leong, S. A. and Chattoo, B.B. 1994. Pot2, an inverted repeat transposon from the rice blast fungus *Magnaporthe grisea*. Mol. Gen. Genet. 245:339-348.
41. Farman, M. and S. A. Leong. 1995. Physical and genetic mapping of telomeres of *Magnaporthe grisea*. Genetics 140:479-492.
42. Farman, M. L. and S. A. Leong. 1995. Restriction maps of the telomeres of *Magnaporthe grisea*. Fungal Genetics Newsletter 42:24-25.
43. Tosa, Y., Nakayashiki, H., Hyodo, H., Mayama, S., Kato, H.. and S. A. Leong. 1995. Distribution of retrotransposon MAGGY in *Pyricularia* species. Annals Phytopathol. Soc. Japan. 61:549-554.
44. Kachroo, P., Leong, S. A. and B. B. Chattoo. 1995. Mg-SINE: A short interspersed nuclear element from the rice blast fungus *Magnaporthe grisea*. Proc. Natl. Acad. Sci. U.S.A. 92:11125-11129.
45. Farman, M., Tosa, Y., Nitta, N. and Leong, S. A. 1996. MAGGY, a retrotransposon in the genome of the rice blast fungus *Magnaporthe grisea*. Mol. Gen. Genet. 251:665-674.
46. Farman, M. L., Taura, S. and S. A. Leong. 1996. The MGR586 fingerprinting repeat contains the 3' end of an inverted repeat transposon from the rice blast fungus *Magnaporthe grisea*. Mol. Gen. Genet. 251:675-681.

47. An, Z., Farman, M. L., Taura, S. and S. A. Leong. 1996. New cosmid vectors for library construction, systematic chromosome walking and rapid restriction mapping in filamentous fungi. Gene 176:93-96.
48. Li, W., Yourman, L. F., Leong, S. A., Spear, R. N. and J. H. Andrews. 1997. Assay of B-glucuronidase activity in intact transformed fungal cells. Fungal Genetics Newsletter. 44:29-33.
49. An, Z., Zhao, Q., McEvoy, J., Yuan, W., Markley, J. and S. A. Leong. 1997. The C-terminal finger domain of Urbs1 is required for iron-mediated regulation of siderophore biosynthesis in *Ustilago maydis*. Proc. Natl. Acad. Sci. U.S.A. 94:5882-5887.
50. An, Z., Mei, B., Yuan, W. and S. A. Leong. 1997. The distal GATA sequences of the *sid1* promoter mediate repression of siderophore production and interact directly with Urbs1, a GATA family transcription factor. EMBO J. 16:1742 - 1750.
51. Kachroo, P., Ahuja, M., Leong, S. A. and B. B. Chattoo. 1997. Organization and evolution of repeated DNA sequences in the rice blast fungus *Magnaporthe grisea*. Curr. Genet. 31: 361-336.
52. Nitta, N., Farman, M. and S. A. Leong. 1997. Genome organization of *Magnaporthe grisea*: Integration of genetic maps, clustering of transposable elements, and identification of genome duplications and rearrangements. Theor. Appl. Genetics 95:20-32.
53. Farman, M. L. and S. A. Leong. 1998. Chromosome walking to the *AVR1-CO39* avirulence gene of *Magnaporthe grisea*: discrepancy between the physical and genetic maps. Genetics 150:1049-1058.
54. Yuan, M. W., Gentil, G. D., Budde, A. D. and S. A. Leong. 2001. Characterization of the *Ustilago maydis sid2* gene encoding a multidomain peptide synthetase in the ferrichrome biosynthetic gene cluster. J. Bacteriol. 183:4040-4051.
55. Farman, M. L., Eto, Y., Nakao, Y., Tosa, Y., Nakayashiki, H., Mayama, S., and S. A. Leong. 2002. Analysis of the structure of the *Avr1-CO39* avirulence locus in virulent rice-infecting isolates of *Magnaporthe grisea.* Mol. Plant-Microbe Interactions 15:6-16.
56. Chauhan, R. S., Farman, M. L., Zhang, H.-B., and Leong, S. A. 2002. Genetic and Physical Mapping of a Rice Blast Resistance Locus, *Pi-CO39(t),* Corresponding to *AVR1-CO39* of *Magnaporthe grisea* Mol. Gen. Genomics. 267:613-617.
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