

FACULTY ACCOMPLISHMENTS

Yadong Qi, Ph.D.
Professor of Urban Forestry

Urban Forestry Program
College of Agricultural, Family and Consumer Science
Southern University
BATON ROUGE, LOUISIANA

Performance Period: 2008-2009 Academic Year

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Faculty Profile

Name of Faculty: Yadong Qi Title/Rank: Ph.D., Professor

Program Area: Urban Forestry

Program Leader : Dr. Kamran Abdollahi

Annual Appointment:

Teaching **75% for the 9-month period SUBR**

Research **25% for the 9-month period with SUAREC**

100% for the 3-month summer with SUAREC

I. Teaching

Dr. Qi's Courses Load for Academic Yr 2008-2009

| <i>Semester</i> | <i>Course Taught/Credit Hours</i> |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Summer 2008 | UFOR599 Supervised Research (M.S. level course)/3 |
| Fall 2008 | UFOR391 Urban Forestry Ecology/3 UFOR706 Applied Urban Forest Ecology (Ph.D. level course)/3 UFOR599 Supervised Research (M.S. level course) /3 |
| Spring 2009 | UFOR271 Environmental Science/3 UFOR399 Urban Forestry Internship/3 UFOR523 Tree Growth and Development (M.S. level course)/3 |

Laboratories In-Charge

Dr. Qi effectively maintains the urban forestry microscope lab, ecology lab, and urban tree farm. These labs have hosted numerous laboratory activities and fully utilized by the faculty, staff, and students in Urban Forestry Program and other programs in CAFCS for teaching, research and extension.

Undergraduate and Graduate Students Advisement

Dr. Qi served as academic and research advisor for following undergraduate students

- Brittany Foster - Urban Forestry Senior, conducted research on tree decay detection on SU campus – SU-SMART-SUMMER-URE Mentoring
- Ryan Nicholas - Plant Science Major, conducted research on Hibiscus Nutrition
- Urban Forestry Ecology class – participated in experimental design and implementation of bald cypress research
- Advanced Urban Forestry Ecology class – Participated in urban forestry damage survey after Hurricane Gustav in Baton Rouge
- Environmental Science class - Conducted research and made presentations on contemporary environmental issues.

Services on Graduate Committee

Dr. Qi is serving as the Chair of Ph.D. Thesis Committee for

- Vanessa Ferchaud, Ph.D. Candidate, conducting research on Localization and Identification of UV-B Absorbing compounds in selected tree species and
- Yongsheng Li - Ph.D. student, conducting research on nanotechnology application in forest health management.

Dr. Qi is serving as a Member of Thesis Committee for:

- Jason Preuett, Ph.D. Candidate, conducting research on composting and resistance to soil borne diseases
- Wilican Blount, M.S. Thesis Committee Member in the Graduate School of Southeastern Louisiana State University.

Training Certificate

Dr. Qi received Certificate of Training from LICOR Bioscience on LICOR Advanced portable Photosynthesis System Training Courses held December 9-11, 2008 at LI-COR Bioscience, Lincoln, Nebraska.

II. Research and Impacts

Project 1

Effect of Low-cost Tunnel and Formulated Media on Production of Selected Horticultural Crops for Niche Market (Evan Ellen Project, CoPIs: Kit L. Chin and Yadong Qi)

Summary

Roselle is a non-native species to the US. Its calyxes (outer ring of the fruit) and leaves are commonly used in teas, jams, and jellies due to their high flavonoid antioxidants' contents. During 2008-09, we investigated flavonoid content of fresh calyxes and leaves of four different varieties of Roselle (*Hibiscus sabdariffa*). The varieties of Roselle used were South African, Nigerian, Malaysian, and Indian, and the total flavonoid absorbance of the fresh calyxes and leaves for each variety were measured using a spectrophotometer from 250–650nm. The total flavonoid contents and flavonoid profiles of the fresh calyxes among the four varieties were shown to differ from each other with the Malaysian variety having the highest content of anthocyanin, flavone, and flavanone flavonoids in its calyxes. Although the total flavonoid content of the Nigerian, Indian, and South African leaves were generally the same, the Malaysian variety had a much lower total absorbance in its leaves; thus, the variety does affect the flavonoid content in fresh leaves. But overall, the leaves of all varieties showed little anthocyanins and a sharp decrease in flavanones. In conclusion, the Malaysian variety should be used when Roselle products need calyxes and the other three varieties should be used when the leaves of Roselle are needed. Lastly, using Roselle calyxes rather than leaves would make Roselle products healthier because of the large amount of anthocyanins found in calyxes.

Impact

In 2008-2009, the project has hosted four hibiscus workshops, two at St. Landry Parish, one at SU Ag Center, and one in St. Martin Parish and assisted 150 hibiscus growers in the southern Louisiana. The workshop topics included hibiscus production, harvest, insect and disease control, nutritional facts, how to make tea, jelly and jam and cookies. These growers and farmers have been growing the hibiscus for their own use and making the products and selling them in the local farmers' market to generate income. The consumer demand for the fresh hibiscus fruits and dry hibiscus tea is huge.

The project has generated five extension publications on hibiscus biology, nutrition, food value, how to make tea, jelly and jam, and the publication have been made available through SUAREC website. The project scientists have made various presentations at the professional meetings (at the 15th Biennial ARD Symposium, LA Science and Humanity Symposium) and at various the public forums (Fieldtrips, Earth Day, and SU Ag Day Legislative Day, Parish workshops, seminars at Baton Rouge hibiscus club, Baton Rouge Herbal Society, and at International trip to Ghana). The information has reached more than 1,000 clientele including farmers, growers, and general public in US and scientists throughout the world. Farmers from California, Florida,

Texas, and Georgia have contacted us for hibiscus information and products. We also have international growers from Ghana, Malaysia, and India contacting us for research collaborations. Overall, the project has made a significant contribution to the small farmers for developing a niche market crop using hibiscus, to produce value-added and health-conscious products for the well-being of human society. This project has served as a leverage to obtain funding for *Hibiscus* research from USDA/CSREES Capacity Building Grants Program for \$450,000 for next three years.

Project 2

Nanotechnology Application in Forest Health Management (USDA-CBGP-Research Project, 9/1/2008-8/31/2011, \$448,877)

Qi¹, Y., K. Lian², Q. L. Wu³, K. L. Chin¹, D. Collins¹, K. Klepzig⁴

¹Southern University Agricultural Research and Extension Center, Baton Rouge, LA 70813; ²Center for Advanced Microstructure and Devices, Louisiana State University, Baton Rouge LA 70806; ³Louisiana State University Agricultural Center, Baton Rouge, LA 70803; ⁴USDA-Forest Service, Southern Research Station, Asheville, NC 28804;

Summary

Nano-materials have generated tremendous interest because they offer an opportunity to deliver unprecedented material performance. This multi-institutional research project will focus on Nanotechnology Application in Forest Health Management - Using Copper-Carbon Core-Shell Nanoparticles (CCCSNs) to Improve Tree/Forest Health and Pest Resistance. As new generation nanomaterials, the CCCSNs have received increasing attention because of their low cost, unique stabilities, and demonstrated performance against Formosan termite and fungal diseases. The objectives of the project are to characterize physical and chemical properties of CCCSNs and their interactions with environment; to examine CCCSNs uptake/distribution patterns within seedlings and mature trees in loblolly pine and water oak and the effect on primary and secondary metabolism; and to investigate the effects of CCCSNs on southern pine beetles (SPB) and associated fungi, water oak rotten diseases, and termites both for living plants and for wood products made from these trees. The goal is to develop safe and effective formulations and treatment strategies in using nanotechnology to improve forest health and pest resistance and quality of forest products.

Impact

This research offers an opportunity for Southern University Agricultural Center to advance USDA-Forest Service research on SPB and forest pests, as well as to assist with the development of new technologies that protect valuable forest resources. This joint effort will significantly enhance the research capacity at Southern University and its collaborative institutions. It has the potential to result in the development of a new research area and product market in nanotechnology application in forestry and natural resource management. Preliminary studies have shown that CCCSNs does not have detrimental effects on plants but can effectively suppress pests such as aphid and Formosa termites.

III. Dissemination of Information

A. Publications

Refereed Book chapter

1. Qi, Yadong, G. M. Heisler, W. Gao, T. C. Vogelmann, and S. Bai. 2009. Characteristics of UV-B radiation tolerance of broadleaf trees in Southern USA. In: *UV Radiation in Global Change: Measurements, Modeling and Effects on Ecosystem*, W. Gao, D. Schmoldt, J. Slusse (eds) by Springer-Verlag and Tsinghua University Press, Hardcover, ISBN: 978-3-642-03312-4. (Peer-reviewed publication, accepted and in press, available in December 4, 2009, for more information please visit Springer.com).

Proceedings paper

- 1) **Qi, Yadong**, S. Bai, T. C. Vogelmann, and G. M. Heisler. 2008. UV-B Radiation Protection Mechanism in Selected Broadleaf Trees. 11pp. **In: *Proceedings of 2008 National Convention of Society of American Foresters: Forestry in a Climate of Change***. A CD-ROM publication by SAF, Reno, Nevada, Novemembr 5-9, 2008.
- 2) **Qi, Yadong**, B. D. Foster, V. A. Ferchaud, and D. Collins. 2008. Detection of Internal Decay in Water Oak (*Quercus nigra* L.) using Sonic Tomography Technology. 11pp. In: ***The Proceedings of International Society of Arboriculture 84th Annual Conference & Trade Show (CD publication)***, St. Louis, MO. July 26-30, 2008, Published by International Society of Arboriculture.
- 3) Ron Bajon, Kaci Callahan, Y. Qi, and S.M.Guo. 2009. Polymer/Ceramic Composite Nano-Fiber Mat for Lunar Surface Habitat Thermal Control. In: ***The Proceedings of the 17th Annual International Conference on COMPOSITES/NANO ENGINEERING (ICCE – 17)***, 26 July - 1 August 2009 in Hawaii, USA.
- 4) Namwamba, F., D. Collins, K. Abdollahi, Z. Ning, Y. Qi, and R. Stone. 2008. The history and background of urban forestry education at Southern University. p3-6. In: ***Celebrating Minority Professional in Forestry and natural Resources Conservation***. USDA-FS Southern Research Station, General Technical report SRS-106.
- 5) Namwamba, F., D. Collins, K. Abdollahi, Z. Ning, Y. Qi, and R. Stone. 2008. Encouraging minorities to enroll and graduate in urban forestry and related disciplines at Southern University. p15-19. **In: *Celebrating Minority Professional in Forestry and natural Resources Conservation***. USDA-FS Southern Research Station, General Technical report SRS-106.

Abstracts

- 1) **Qi, Yadong.** 2008. Detection of Internal Decay in Water Oak (*Quercus nigra* L.) using Sonic Tomography Technology. **p11. In: *International Society of Arboriculture 84th Annual Conference & Trade Show Program and Registration Guide***, St. Louis, MO, July 26-30, 2008.
- 2) **Qi, Yadong,** S. Self, and W. R. Chaney. 2008. Effects of paclobutrazol on growth performance of three southern tree species. **p15. In: *Plant Growth Regulation Society of America 35th Annual Meeting Program Summary and Abstracts***, August 3-7, 2008, San Francisco, California.
- 3) Harrison, D.D., **Yadong Qi**, and K. Klepzig. 2008. Effects of methyl jasmonate on the resistance of loblolly pine to southern pine beetle. **p16. In: *Plant Growth Regulation Society of America 35th Annual Meeting Program Summary and Abstracts***, August 3-7, 2008, San Francisco, California.
- 4) Chin, K. L., **Yadong Qi**, F. Malekian, V. Bachireddy, O. Bandele, M. Berhane, J. Simon, and G. Hankins. 2009. Roselle Hibiscus (*Hibiscus sabdariffa*) Research at Southern University. p205, In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts*. March 28-April 1, 2009. Atlanta Georgia.
- 5) Ferchaud, V. A., **Yadong Qi** and K. L. Chin, 2009. The Anatomy and Morphology of Four Different Hibiscus Accessions. **p164. In *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts***. March 28-April 1, 2009. Atlanta Georgia.
- 6) Preutt, J., **Y. Qi**, and D. J. Collins, 2009. Effects of Hurricane Gustav on the Urban Forest in the City of Central, East Baton Rouge Parish, Louisiana. **p159 In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts***. March 28-April 1, 2009. Atlanta Georgia.
- 7) **Qi, Yadong,** Y., S. Self, V. A. Ferchaud, W. R. Chaney, and S. Bai. 2009. Application of Paclobutrazol Tree Growth Regulator into Urban and Utility Forest Management. **p111, In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts***. March 28-April 1, 2009. Atlanta Georgia.
- 8) **Qi, Yadong,** K. Lian, Q. Wu, K. L. Chin, D. Collins, K. Klepzig, and Y. Li. 2009. Nanotechnology Application in Forest Health Management. **p186 In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts***. March 28-April 1, 2009. Atlanta Georgia.
- 9) **Qi, Y.,** B. D. Foster, V. A. Ferchaud, and D. Collins. 2009. Application of Sonic Tomography Technology into Detection of Internal Decay in Water Oak (*Quercus nigra* L.). **p190-191 In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts***. March 28-April 1, 2009. Atlanta Georgia.
- 10) Wang, S. Q., **Y. Qi** and K. L. Chin. 2009. Survey of the Total Flavonoid Content in Fresh Calyxes and Leaves of Four Variety of Roselle (*Hibiscus sabdariffa*). **p223. In: *The 15th***

Association of Research Directors Biennial Research Symposium Program and Abstracts.
March 28-April 1, 2009. Atlanta Georgia.

- 11) Chin, K. L., **Y. Qi**, and M. Berhane. 2009. Hibiscus (*Hibiscus sabdariffa*) species grown in Louisiana. **p205 In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts.*** March 28-April 1, 2009. Atlanta Georgia.
- 12) Malekian, F., M. Khachaturyan, K. Chin, M. Berhane, and **Y. Qi**. 2009. A Comparison between Regular Sugar Cookies and Hibiscus Cookies. **p223 In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts.*** March 28-April 1, 2009. Atlanta Georgia.
- 13) Collins, D. J., K. Abdollahi, Z. Ning, A. Johnson, **Y. Qi**, and F. Namwamba. 2009. Training the Next Generation of Agricultural Scientists in Plant Biosecurity. **p114. In: *The 15th Association of Research Directors Biennial Research Symposium Program and Abstracts.*** March 28-April 1, 2009. Atlanta Georgia.

Bulletins, reports, circulars, pamphlets, fact sheets

- 1) **Yadong Qi**, and Daniel Collins, 2008. Detection of Internal Decay of Trees Using Sonic Tomograph Techniques. © SU Ag Center Extension Circular Number 304.
- 2) Chin, K. L. and **Yadong Qi**, 2008. Roselle (*Hibiscus Sabdariffa*): A Functional Food, SU Ag Center Office of Technology & Communication Services • pub.274 • 2/08
<http://www.suagcenter.com/documents/Roselle%20Hibiscus.pdf>
- 3) Yadong Qi made contribution to the report entitled “*Developing a Strategic Road map for Collaborative Agricultural and Environmental Research Among the 1890 Land-Grant Institutions: The Report from Workshop I* prepared by Stephen H. Kolison Jr. and Nannette Cater Martin, May 2008. A Publication of Tennessee State University, Publication Number TSU-08-0027 (B) -11a-13515.
- 4) Yadong Qi. 2008. SU Ag Center Undertakes Nanotechnology Research. P3. Chancellor’s report. November 2008.
- 5) Yadong Qi made contribution to the article entitled “Urban Forestry program is producing more research”, page3 26-27. In: the JAGUAR 2007, Volume 77. Published in 2008.

Magazines or newsletter articles

- 1) Yadong Qi, 2009. Current State of Urban and Community Forestry in the USA. Invited presentation at The 6th China Urban Forest Forum. May 7-8, 2009. Hangzhou, China. The presentation has been featured in *China Economy Daily Network*
http://net.ce.cn/cuf/live/200905/08/t20090508_286580.shtml; and broadcasted on *The State Forestry Administration of China Website*:
<http://www.forestry.gov.cn/distribution/2009/ftzb/2009-05-08-504822.html>;
http://www.forestry.gov.cn/distribution/2009/05/08/zxftzb_zy-2009-05-08-510.html

- 2) Yadong Qi, 2008. Forester touts tree-trimming. *The Advocate*: Metro Section. Published on November 23, 2008. Advocate Capitol News Bureau.
- 3) Yadong Qi, 2008. Trim Trees to cut costs. Published in 2theadvocate.com NEWS. <http://www.2theadvocate.com/news/34945494.html?showALL=y&c=y>
- 4) Yadong Qi, 2008. Experts: Look for Signs of Disease. Featured on SU Ag Center Website Frontpage, <http://www.suagcenter.com/Frontpage%20news/TreeSafety.html>; and the article The article was also featured on Jaguar Nation Update by the SU Office of Media Relations on <http://www.subr.edu>
- 5) Yadong Qi, 2008. Experts Say Minor Tree Trimming Could Save Millions in the Long Run. Featured in WWL First News / Associated Press Reporting <Http://www.wwl.com/Experts-say-minor-tree-trimming-could-save-million/3404633>
- 6) Yadong Qi, 2008. Southern University to hold tree safety seminar. Featured on SUBR website. http://web.subr.edu/index.php?id=146&tx_ttnews%5bttn_news%5d=284&tx_ttnews%5bbackPid%
- 7) Yadong Qi. 2008. Urban Forests Tree Health Assessment. In: Southern University Plant Biosecurity Symposium State TV Video News Release, November 21, 2008 – 51 minutes DVD. Hometown Productions, Inc.

B. Presentations

- 1) Yadong Qi, 2009. Current State of Urban and Community Forestry in the USA. Invited presentation at The 6th China Urban Forest Forum. May 7-8, 2009. Hangzhou, China. **The Conference participants: 500. In addition, the preservation has been featured by the Chinese Premier Websites and news agencies including the China Economy Daily News, the China State Forestry Administration Website etc. The readers are over 50,000.**
- 2) Yadong Qi, Daniel Collins, Fulbert Namwamba and Andra Johnson. 2008. Urban Forests and Tree Health Assessment. Speaker and on-site demonstration at the Plant Biosecurity Symposium, Southern University and A&M College, Baton Rouge, LA. November 20-21, 2008. **The presentation has been broadcasted on the Channel 9, Hometown Network in Baton Rouge. The viewers are more than 50,000.**
- 3) Yadong Qi, Brittany Forester, Fred Feller, and Y. Li, 2008. Is Your Tree Safe? Seminar given at SU Ag Center. November 20, 2008. (Participants: 50) **The seminar was featured by the Advocate Newspaper, The AP Associated Press, the SUBR and SUAREC websites, and other sources. The readers are more than 10,000 statewide and nationally. The work has been commended by Dr. Kirkland E. Mellad, the Vice Chancellor of Research at SUAREC.**

- 4) Yadong Qi. 2009. Nutritional Aspects of *Hibiscus Sabdarrifa*. Presentation at the Fall Hibiscus Workshop in Opelousas. St. Landry Parish. November 11, 2008. **(60 farmers registered and attended)**.
- 5) Yadong Qi. 2009. Nutritional Aspects of *Hibiscus Sabdarrifa*. Presentation at the Spring Hibiscus Workshop. St. Martin Parish Office. April 6, 2009. **(42 farmers registered and attended)**.
- 6) **Roselle Hibiscus (*Hibiscus sabdariffa*) Research at Southern University.** by Chin*, K. L., Y. Qi, F. Malekian, V. Bachireddy, O. Bandele and M. Berhane, **– Scientist Poster presentation – Small scale agriculture and rural development.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 7) **The Anatomy and Morphology of Four Different Hibiscus Accessions.** Ferchaud*, V. A., Y. Qi and K. L. Chin, Graduate Student - Poster Competitive – **Small Scale Agriculture and Rural Development.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 8) **Effects of Hurricane Gustav on the Urban Forest in the City of Central, East Baton Rouge Parish, Louisiana.** Preutt, J.,* Y. Qi, and D. J. Collins, **Graduate Student - Poster Competitive – Renewable Resources and Environmental Stewardship.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 9) **Application of Paclobutrazol Tree Growth Regulator into Urban and Utility Forest Management.** Qi, Y., S. Self, V. A. Ferchaud, W. R. Chaney, and S. Bai. **Scientist – Oral Competitive – Renewable Resources and Environmental Stewardship.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 10) **Nanotechnology Application in Forest Health Management.** Qi, Y., K. Lian, Q. L. Wu, K. L. Chin, D. Collins, K. Klepzig, and Y. Li. **Scientist – Poster Competitive – Emerging Technologies.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 11) **Hibiscus (*Hibiscus sabdariffa*) species grown in Louisiana.** Chin, K. L., Y. Qi, and M. Berhane . **Scientist – Poster presentation – Small scale agriculture and rural development** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 12) **A Comparison between Regular Sugar Cookies and Hibiscus Cookies.** Malekian, F., M. Khachaturyan, K. Chin, M. Berhane, and Y. Qi, **Scientist – Poster Presentation - Food Safety, Human Nutrition and Health.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.
- 13) **Survey of the Total Flavonoid Content in Fresh Calyxes and Leaves of Four Variety of Roselle (*Hibiscus sabdariffa*).** Wang, S. Q., Y. Qi and K. L. Chin **Scientist – Poster –**

Human Nutrition and Health, or renewable natural resources. *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.

14) Application of Sonic Tomography Technology into Detection of Internal Decay in Water Oak (*Quercus nigra* L.) Qi*, Y., B. D. Foster, V. A. Ferchaud, and D. Collins, Urban Forestry Program, Southern University Agricultural Research and Extension Center, Baton Rouge, LA 70813. **Scientist – Poster Competitive – Emerging Technologies.** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.

15) Training the Next Generation of Agricultural Scientists in Plant Biosecurity. Collins*, D. J., K. Abdollahi, Z. Ning, A. Johnson, Y. Qi, and F. Namwamba, **Scientist - Oral Presentation - Renewable Resources and Environmental Stewardship** *The 15th Association of Research Directors Biennial Research Symposium*, March 28-April 1, 2009. Atlanta Georgia.

16) Yadong Qi. 2008. UV_B Radiation Protection Mechanism in Selected Broadleaf trees. Presentation at the Society of American Foresters national Convention. November 5-9, 2008. Reno, Nevada.

IV. External Funds – Grants Awards

List proposals submitted, pending, or funded during this performance period

- (1) **Title of Proposal(s):** Application of Nanotechnology in forest health management
PI: Yadong Qi (PI)
CO-PI, Collaborator: Kun Lian, Qinglin Wu, Kit L. Chin, Daniel Collins, K. Klepzig
Duration: 9/1/2008-8/31/2011
Source of Submission: USDA-CBGP-Research Program
Amount Requested: \$448,877
(X) Approved () Not Approved () Pending
- (2) **Title of Proposal(s):** Adaptability, Flavonoid properties and Value Addition of Hibiscus Sabdariffa
PI: Kit L. Chin
CO-PI: Yadong Qi, F. Malekian, V. Bachireddy, O. Bandede, J. Simon, Q. L. Wu, and G. R. HanKins
Duration: 9/1/2008-8/31/2011
Source of Submission: USDA-CSREES-CBGP
Amount Requested: \$450,000
(X) Approved () Not Approved () Pending

Other On-going externally funded grant projects

- 1) The use of motivational speakers and scientific exposures summer program as a tool for student recruitment. USDA-CSREES-CBGP \$189,758 for the period of 9/15/2004-9/14/2009. (PI: Kit L. Chin, CoPI: Yadong Qi)

- 2) Enhancement of the M.S. and Ph.D. degree programs in urban forestry at SU through biosecurity, USDA-CSREES-CBGP, \$195,800 9/1/2006-8/31/2009 (PI: D.Collins, CoPI: Yadong Qi)
 - 3) The Enhancement of Scanning Electron Microscopy Capability at Energy Dispersive Spectroscopy Capability for Research and Teaching at Southern University. 2007-2009, LA Board of Regent, \$97,995, PI: E. H. Walker, Jr. Co-PI: Yadong Qi
 - 4) US-China Scientific and Technological Exchange in Urban Forestry - Urban Forestry Mulching Production and Utilization Technology Transfer to China, State Forestry Administration National 948 Project. ¥500,000 2006-2010 (Yadong Qi as CoPI from USA).
 - 5) Establishing a Doctoral Degree Program in Urban Forestry at Southern University, approved by the State of LA Board of Regents of Higher Education, total budget \$2,582,635. 2005-2010. (Yadong Qi as CoPI)
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V. University Services

University System Committees

- Editorial Board, *Journal of STEM Research*, SMART, Southern University
- College of Agricultural, Family and Consumer Science Scholarship Committee
- Urban Forestry Program Graduate Committee
- SU/HBCU/ETC Environmental Technology Consortium
- Adjunct faculty, Ph.D. degree program in Environmental Toxicology, SU
- SU Teacher of The Year Selection Committee

SU/AG Center Committees

1. Editorial Board, *Agricultural Edge*, Since 2007
2. Southern University Agricultural Research and Extension Center Proposal Review and Evaluation Committee
3. Southern University Agricultural Research and Extension Center Seminar Committee

Chair of Workshop

Dr. Qi served as the Chair for two workshops on Hibiscus Tea Research Extension. One is for Spring Hibiscus Workshop at St. Martin Parish Office, April 6, 2009, and the other is for the Fall Hibiscus Workshop in Opelousas, St. Landry Parish. November 11, 2008.

Intra-institutional Service Activities-Highlights

1. Qi is collaborating with Dr. K. Chin as a CoPI for the newly funded USDA-CBGP research project entitled “Adaptability, Flavonoid properties and Value Addition of Hibiscus Sabdariffa” for \$450,000 starting 9/1/2008.
2. Qi has been collaborating with Kit L. Chin, Milagro Berhane, Owusu Bandele, and Fatemah Malekian in the CSREES Evan Allen research project titled “Effect of Low-Cost High Tunnel and Formulated Media on Production of Selected Horticultural Crops for Niche Market”. My primary duty is on flavonoids analysis that has been reported on page 4. In addition, I participate in field experimentation, data collection, and dissemination of research results, field day, workshop, and writing of extension publications.
3. Qi Organized SUAREC team in developing a Biofuel proposal, submitted to the 1890 biofuel initiative.
4. Qi worked with [LaVonya](#) Malveaux, Director of Southwest Center for Rural Initiatives in extension activities including hibiscus field day and workshop for farmers, providing planting materials for outreach.
5. Qi worked with Chris R. Robichaux, in hibiscus workshop and urban forestry extension, providing extension publications and on-site presentations.
6. Qi has been working with Daniel Collins in urban forestry extension and research. Activities included:
 - a. Conducting USDA_CBGP_ project entitled “Enhancement of the M.S. and Ph.D. degree programs in urban forestry at SU through biosecurity”, as a CoPI.
 - b. Created urban forestry exhibits at LSU Plant Show
 - c. Urban forestry technology transfer at Earth Day Celebration
 - d. Organizing the Workshop on Tree Decay Detection
 - e. Teaching outdoor classes for k-12 students
7. Qi worked with Andrea Johnson on Urban Forestry Summer Institute in mentoring and recruiting potential urban forestry freshmen, and on urban forestry research in tree decay study.
8. Qi worked with Kit L. Chin, Professor, and Water Wiles, Director of International Program, in US-Ghana scientific and technical exchange project.
9. Qi collaborated with SU SMART Program to provide summer undergraduate research experience and mentoring.
10. Qi worked with SU Department of Chemistry, Dr. Edwin Walker, in obtaining findings from the National Science Foundation. The grant has been used to acquire a Scanning Electron Microscope for the University.
11. Qi has been working with SU Landscape and Ground Department to assess the hazardous trees on SUBR campus using Picus Sonic tomography.

12. Qi has tirelessly assisted many scientists and extension specialists in the CAFCS/SUAREC in large-format scientific poster printing and extension displays.

VI. Professional Activities and Community Services

Editorial/Peer Review Panel –Yadong Qi

1. Editorial Board, *Journal of Chinese Urban Forestry*, Chinese Academy of Forestry
2. Peer Reviewer for the international *Journal of Plant Growth Regulation*
3. Peer Reviewer for the international journal of *Urban Ecosystem*
4. Peer Reviewer for Kentucky State University CSREES project
5. Peer Reviewer for Harry R. Hughes Center for Agro-Ecology, Inc.
6. CollegeBoard® AP® Reader for Environmental Science
7. Panel of USDA-CSREES Multistate Urban Forest Project
8. Panel of USDA/1890 Consortia for Biofuel Research and Development
9. National Science Foundation Multidisciplinary Review Panel, 2009
10. USDA-CSREES Tribal Extension Program Proposal Review Panel, 2009

Professional membership – Yadong Qi

International/National level

1. International Society of Arboriculture
2. Forest Product Society
3. Plant Growth Regulation Society of America
4. International Plant Growth Substances Association
5. American Association of University Women
6. The 7th American Forest Congress
7. Xi Sigma Pi Honor Society (Alpha Zeta Chapter)
8. American Hibiscus Society

Regional level

1. WRKF, National Public Radio
2. Urban Forestry Researcher in the South, USDA Southern Region, TreeLink.com

Local level

1. Baton Rouge Hibiscus Society
2. YWCA, Board of Directors, Membership Committee, Finance Committee

Advisory Board – Yadong Qi

1. Advisory Committee: **Bioenergy Crop Production System Advisory Committee**, Association of Research Directors, Inc, Strategic Initiative for Enhancing Multicultural Research Collaboration
2. Advisory Committee: **Bioremediation and Environmental Quality Advisory Committee**, Association of Research Directors, Inc, Strategic Initiative for Enhancing Multicultural Research Collaboration
3. LSU Ag Center Advisory Committee on Forestry, and Soil and Water
4. Board of Directors, Inner Mongolian-American Friendship Association, also serving as the Chair of the Committee on Science, Technology, Culture and Education
5. YWCA, Elected Board of Directors, Greater Baton Rouge Area

Inter-Institutional Services Activity Highlights

1. Qi serves as an invited Graduate Faculty Member at Louisiana State University, Baton Rouge, LA, **and Serving officially as a Research Affiliate Member** to School of Renewable Natural Resources at LSU.
2. Qi hosted Chinese Visiting Scholar Mr. YongSheng Li, who have been conducting urban forestry research in the SUAREC since October 2008 and will continue for next two years.
3. Qi collaborated with University of Maryland in developing research proposal in urban forestry
4. Qi has been collaborating with Center for Advanced Devices and Microstructure at LSU on biomass-based nano-materials and their utilization.
5. Qi has been collaborating with Louisiana State University to conduct urban forestry research and outreach activities.
6. Qi has been collaborating with USDA Northern Research Station on urban forest influence on urban ultraviolet-B radiation distribution. Collaborator: Dr. Gordon Heisler
7. Qi has been collaborating with USDA-UV-B monitoring network to study the impact of UV-B radiation on vegetations. Collaborator: Dr. Wei Gao
8. Qi has been working with Beijing Forestry University on urban forestry education and research.
9. Qi has been collaborating with Southern Research Station at Pineville, LA, on nanotechnology application in forest health management.
10. Qi has been collaborating with Chinese Academy of Forestry on urban forestry technology transfers including forest health assessment, inventory, and mulch production and utilization.
11. Qi is collaborating with International Bamboo and Rattan Center in research and technology transfer on plant growth regulators.

12. Qi is collaborating with Chinese Academy of Science Institute of Botany on research in plant ecology and species diversity.

Community Service Events Highlights

- 1) Dr. Qi visited China to conduct collaborative project with Chinese Academy of Forestry on Mulch Production and Application during 5/6-18/2009.
- 2) Dr. Qi visited Nanjing China and provided technical assistance on Nanjing Green Garden Project during 5/6-18/2009. The news and site visits were featured in http://www.newtown.gov.cn/www/newtown/zwgk-mb_a390905111264.htm
- 3) Dr. Qi visited Ghana, University of Ghana and University Cape Coast to provide technical assistance on hydroponic production, hibiscus tea production, and urban forestry extension, 7/12-18/2008.
- 4) Dr. Qi sponsored fund raiser donating money to the China earthquake victim in Sichuan province in 2008
- 5) Dr. Qi sponsored the annual YWCA “YOU WIN” Community Affair, donating time and money to support the Mission of YWCA- which is “*Eliminating Racism and Empowering Women*” in Greater Baton Rouge Area.
- 6) Dr. Qi is a sponsor of WRKF, National Public Radio
- 7) Dr. Qi participated in Annual SU Day at the Capitol to promote the SU Ag Center research on hibiscus tea and value added products.
- 8) Dr. Qi participated in annual Earth Day Celebration in downtown Baton Rouge prompting urban forestry research and extension.
- 9) Dr. Qi mentored a middle school student conducting a Science Fair project. The student won the 1st place in the region VII and 1st in the LA State Science Fair completion in 2009 in the category of Medicine and Health.
- 10) Dr. Qi has been assisting the SU campus Ground Department in identification hazardous trees on SU campus using the State of the Art technology.
- 11) Dr. Qi has been voluntarily helping home owners in tree problem consulting and tree decay detections in Baton Rouge Area.
- 12) Dr. Qi has been answering many calls and sending information to the farmers and gardeners who are growing the SUAREC developed hibiscus variety for making tea and other healthy product in southern Louisiana.