



Action in Agroforestry

July 2020 Vol. 12, No.7

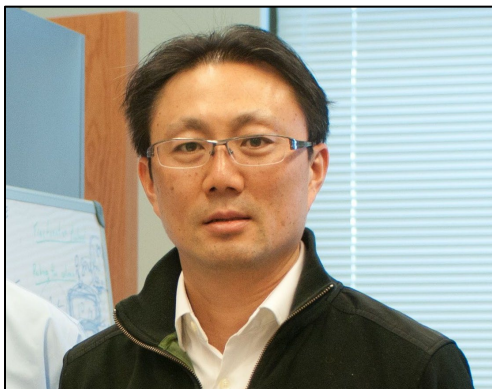
M. Gold, H. Hemmelgarn, K. Stubblefield, editors

Dr. Chung-Ho Lin Receives President's Award for Economic Development

Chung-Ho Lin, associate research professor in the School of Natural Resources and lead scientist in the bioremediation program at the UMCA, received the 2020 President's Award for Economic Development from the UM System. This award recognizes faculty for distinguished activity in meeting the University of Missouri's goal of serving as an economic engine for the state and its citizens. Awardees demonstrate entrepreneurial innovation in using the classroom, outreach programs or the laboratory as vehicles for increasing or developing new economic activity in the state.

Lin's primary research involves the use of plants, microbes and engineered enzymes for bioremediation, ecological restoration and development of the bioeconomy.

Lin has spent the past seven years working to transfer research inventions to industrial applications. His collaborative efforts have successfully launched startups based on research in agricultural production, chemical remediation, biofuels and much more, according to the UM System. One example,



Elemental Enzymes, is now a self-sustaining company active in six countries, holding more than 114 patents and employing 37

workers in offices in Missouri and Florida. In 2019, Elemental Enzyme's products were applied to more than 7 million acres of crops in the U.S. alone, producing more than a billion additional pounds of corn.



Lin is also co-founder and lead scientist of Tiger Enzyme Solutions at the MU Life Science Incubator. Among other projects, the company is developing bioreactor technology to convert blood types to produce the universal donor type O. In addition to 17 patent applications that have generated revenue for MU, Lin collaborates with and strengthens the economic impact of regional biotechnology companies, including SCD Probiotics, Proviera Biotech, Kelly Foods Corporation, and AgriGro. Dr. Lin credits Mizzou's innovative culture for fostering his work and allowing him to make a considerable impact on industries within Missouri, across the United States and around the world.

Two Graduate Research Assistantships (M.S. Level) Available - January 2021

The GRA positions are within the Center of Agroforestry's Tree Nut Breeding program (TNB), which is focused on the genetic improvement of black walnut, chestnut, and northern origin pecan to enable industry growth in our region. These positions are supported by the USDA's Specialty Crop Multi-State Program to evaluate chestnut germplasm in a project entitled "Participatory chestnut breeding – establishing a participant network to characterize genetic diversity and ancestry of superior on-farm germplasm." For details:

http://www.centerforagroforestry.org/education/GraduateResearchAssistantships_announcements.pdf

COVID-19 Resources for Farmers and Entrepreneurs

Coronavirus resources can be found in [previous issues of E-News](#).

UMCA Fall 2020 Graduate Courses Available for Enrollment*

- ❖ FOREST 7385 Agroforestry I: Theory, Practice and Adoption
- ❖ FOREST 7390 Watershed Management and Water Quality
- ❖ NAT_R 8300 Urban Biodiversity, Conservation, Planning
- ❖ NAT_R 8024 Program Development and Evaluation in Informal Settings
- ❖ BIOCHM 8120 Advanced Medicinal Plant Science
- ❖ AG_ED_LD 8250 Leadership Theory and Application
- ❖ AG_ED_LD 8540 Methods of Qualitative Research
- ❖ AG_ED_LD 8510 Research Methods and Design

*Syllabi available upon request from: goldm@missouri.edu

KUDOS

Recent Publications

Peter L. O'Brien, Andrew L. Thomas, Thomas J. Sauer & David K. Brauer (2020) Foliar nutrient concentrations of three economically important tree species in an alley cropping system, *Journal of Plant Nutrition*
<https://www.tandfonline.com/doi/full/10.1080/01904167.2020.1783303>

2020's Best Online Forestry Degree Programs

Top picks for 2020. Programs were chosen based on several important factors, such as affordability, financial aid availability, accreditation, and course delivery format. University of Missouri-Columbia's Online MS and Graduate Certificate Ranked #1. <https://www.publicservicedegrees.org/online-degrees/forestry-programs/>

Congratulations to Dr. Chung Ho Lin, Dr. Marc Johnson and their students for their work on detecting Coronavirus through wastewater samples.

<https://fox2now.com/news/tracing-human-waste-can-detect-covid-19-before-an-infected-person-shows-symptoms/>

<https://www.fourstateshomepage.com/news/university-of-missouri-hard-at-work-tracking-the-virus-through-wastewater/>

UPCOMING EVENTS

Specialty Fruit Tree Production

July 20, 2020 | 6:30-7:30pm | MU Extension | \$25 Webinar Class

The class will focus on production of tree fruit crops of minor commercial importance but with potential as niche crops. Among these crops are pawpaw, American persimmon, and jujube. Discussion topics will include cultivar selection, choosing an adapted site for production, establishing a planting, and more.

<https://web.cvent.com/event/f73864ac-dda1-4e48-99cf-d949848fa22d/regPage:8a362de7-7f50-4880-a9a5-1035b2c14d43>

Envisioning Racial Equity in the Food, Agriculture, & Natural Resources Industry

July 21, 2020 | 6:00-7:00pm | MANRRS | Free Online Webinar

Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) presents the second webinar in this series on Exploring Racial Equity, Advocacy, and Social Justice in American Agriculture.

<https://info.manrrs.org/webinar-dei-series>

Grafting webinar with Kathy Dice and Tom Wahl, Red Fern Farm

July 21, 2020 | 7:00pm CDT | Savanna Institute | Free Online Webinar

Learn about collecting Scion wood, Barn door grafting, and proper care after your graft.

<http://www.savannainstitute.org/events.html>

Specialty Berry Production

July 23, 2020 | 6:30-7:30pm | MU Extension | \$25 Webinar Class

The class will focus on production of berry crops of minor commercial importance but with potential as niche crops. Among these berry crops are gooseberry, hardy kiwi, honeyberry, goji berry, and currant. Discussion topics will include cultivar selection, choosing an adapted site for production, establishing a planting, and more.

<https://web.cvent.com/event/f73864ac-dda1-4e48-99cf-d949848fa22d/regPage:8a362de7-7f50-4880-a9a5-1035b2c14d43>

Elderberry Production

July 27, 2020 | 6:30-7:30pm | MU Extension | \$25 Webinar Class

The class will focus on sustainable and profitable production of elderberry. Discussion topics will include cultivar selection, choosing an adapted site for production, establishing a planting, best cultural practices, integrated pest management, and more.

<https://web.cvent.com/event/f73864ac-dda1-4e48-99cf-d949848fa22d/regPage:8a362de7-7f50-4880-a9a5-1035b2c14d43>

Payments for Ecosystem Services

July 28, 2020 | 2:00-3:00pm | ATTRA | Free Webinar

In this webinar, NCAT Sustainable Agriculture Specialist Colin Mitchell will guide you through the history of payments for ecosystem service programs and discuss different types of payments farmers and ranchers can receive for improving or maintaining ecosystem services, including: Direct Payments, Certification Programs, Tax Incentives, and Ecosystem Service Markets.

<https://register.gotowebinar.com/register/2941747066644654862>

Creating a Buzz

July 29, 2020 | 10:00am | Trees Forever | Free Webinar

Trees Forever and partners are Creating a Buzz through our pollinator trainings that provide a comprehensive look at the importance of pollinators, the decline of pollinators, what pollinators need, and how you can attract pollinators to your farm. <http://www.treesforever.org/PollinatorWebinar>

Silvopasture & Supply Chain Food Safety for Beginning and ESL Farmers Webinar

August 11, 2020 | 6:00pm CDT | Savanna Institute | Free Webinar

This webinar with Reginaldo Haslett-Marroquín from Regenerative Agriculture Alliance will feature the following topics: how to safely incorporate livestock and tree crop production, food safety best practices and common questions for beginning and ESL farmers, and how we can work towards a justice oriented, safer food system. <http://www.savannainstitute.org/events.html>

Exploring Elderberry Benefits Webinar with Terry Durham and Chris Patton, Midwest Elderberry Cooperative

August 19, 2020 | 1:00pm CDT | Savanna Institute | Free Webinar

This webinar will cover elderberry history, medicinal uses, nutrition benefits, and ecological benefits of incorporating elderberries on your farm. <http://www.savannainstitute.org/events.html>



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