

P³ Center -- Plant-Based Bioproduction

Name	Contact Information	Site	Research Interests	Key Technologies
Program/Project Directors Campus Leads & Co-PIs				
Carole L. Cramer Dir, P3 Center Full Prof	870-680-4307 ccramer@astate.edu AR Biosciences Institute	ASU	<ul style="list-style-type: none"> - Plant-based production of vaccines and therapeutics - Protein processing and subcellular trafficking - Drug and protein delivery - Transgene regulation - Plant lectins - Vaccine antigens, adjuvants, carriers 	<ul style="list-style-type: none"> - Transient expression in tobacco leaves - Transgene design and expression - Bioactivity & immune assessments
Julie Carrier Full Prof	479-575-4993 carrier@uark.edu Biological & Agricultural Engineering	UAF	<ul style="list-style-type: none"> - Biological engineering - Biofuel production - Nutraceuticals 	<ul style="list-style-type: none"> - Centrifugal partition Chromatography for mg to G phytochemical isolation - Water-based extraction of phytochemicals - Phytochem, testing for LDL-oxidation inhibition activity
Ben Cash Professor and Biology Chair	501-450-5915 wbcash@uca.edu Biology	UCA		
Stephen C. Grace Associate Prof	501-569-3337 scgrace@ualr.edu Biology	UALR	<ul style="list-style-type: none"> - Metabolic profiling - Phenylpropanoid synthesis - Antioxidant characterization 	<ul style="list-style-type: none"> - HPLC, LCMS - ESR Spectroscopy - Chlorophyll Fluorescence
Elizabeth Hood Distinguished Prof	870-680-8427 ehood@astate.edu Agriculture, ABI	ASU	<ul style="list-style-type: none"> - Plant-based bioproduction, biofuels, industrial enzymes 	<ul style="list-style-type: none"> - Corn transformation and tissue culture - Foreign gene expression in corn seed - High through-put analysis - USDA permitting - Cell wall biology - Transcriptome Sequencing
Ken Korth Full Prof	479-575-5191 kkorth@uark.edu Plant Pathology	UAF	<ul style="list-style-type: none"> - Molecular plant pathology, Defense signaling - Regulation of terpene synthesis 	<ul style="list-style-type: none"> - Plant transformation - Leaf volatile collection and analysis - Insect growth assays - Pathogen performance assays
Arijit Mukherjee Assistant Prof	501-450-5472 amukherjee@uca.edu Biology	UCA	<ul style="list-style-type: none"> - Abiotic Stress - Biofuels & Biobased Products - Gene Regulation & Signal Transduction - Plant Genetics/ Breeding - Plant-Microbe Interactions - Plant Tissue Culture - Transcriptomics 	
Manoharan Muthusamy Associate Prof/ Graduate Program Coord	870-575-8543 manoharanm@uapb.edu Agriculture	UAPB	<ul style="list-style-type: none"> - Plant metabolic engineering - Phytoremediation - Plant biomass and biofuel - Plant micropropagation 	<ul style="list-style-type: none"> - Plant transformation - Functional genomics - Plant tissue culture
Participating faculty/researchers				

P³ Center -- Plant-Based Bioproduction

<p>Nawab Ali Associate Prof</p>	<p>501-569-8003 nali@ualr.edu Graduate Institute of Technology</p>	<p>UALR</p>	<ul style="list-style-type: none"> - Receptor mediated signaling - Inositol phosphate metabolism - Vesicular trafficking - Apoptotic mechanisms 	<ul style="list-style-type: none"> - Subcellular fractionation and localization - Cell culture - DNA sequencing - Gene cloning, expression - Metabolic labeling - Microscopy, immunoassays - protein-protein interactions - Receptor-ligand binding
<p>Daniel Berleant Professor</p>	<p>501-569-3488 jdberleant@ualr.edu Information Science</p>	<p>UALR</p>	<ul style="list-style-type: none"> - Bioinformatics - Biotechnology futures 	<ul style="list-style-type: none"> - Mining of biological texts - Technology foresight
<p>Burt Bluhm Assistant Prof</p>	<p>479-575-2677 bbluhm@uark.edu Plant Pathology</p>	<p>UAF</p>	<ul style="list-style-type: none"> - Mycotoxicology - Molecular plant/microbe interactions - Metabolic engineering 	<ul style="list-style-type: none"> - Functional genomics - Forward and reverse genetics - Metabolomics - Fungal transformation
<p>Edmund R. Buckner Assistant Research Director</p>	<p>870-575-8542 bucknere@uapb.edu Agriculture</p>	<p>UAPB</p>	<ul style="list-style-type: none"> - Agricultural & environmental issues - Water quality issues - Environmental policy issues - Environmental modeling 	<ul style="list-style-type: none"> - Atomic absorption spectrophotometer - Computer modeling- apex - HPLC - Environmental evaluation of USDA policies
<p>John Choinski Professor</p>	<p>501-450-5918 johnc@uca.edu Biology</p>	<p>UCA</p>	<ul style="list-style-type: none"> -ecophysiology of photosynthesis 	<ul style="list-style-type: none"> -gas exchange -chlorophyll fluorescence
<p>Maureen Dolan Associate Prof</p>	<p>870-680-4359 mdolan@astate.edu Biology</p>	<p>ASU</p>	<ul style="list-style-type: none"> - Plant-based bioproduction, molecular detection systems 	<ul style="list-style-type: none"> - Transient/stable plant protein production - High-throughput DNA & protein screening technologies
<p>David Dussourd Professor</p>	<p>501-450-5921 dussourd@uca.edu Biology</p>	<p>UCA</p>	<ul style="list-style-type: none"> -Mechanisms of plant defense against insect herbivores 	<ul style="list-style-type: none"> -Behavioral assays testing anti-herbivore activity -Visualization of plant defenses and insect counterplays
<p>James O. Garner Dean/Director of Research</p>	<p>870-575-8529 garner@uapb.edu Agriculture</p>	<p>UAPB</p>	<ul style="list-style-type: none"> - Post-harvest physiology - Crop physiology 	<ul style="list-style-type: none"> - Plant breeding - HPLC - GC-MS
<p>Fiona Goggin Full Prof</p>	<p>479-575-6751 fgoggin@uark.edu Entomology</p>	<p>UAF</p>	<ul style="list-style-type: none"> - Molecular plant-insect interactions 	<ul style="list-style-type: none"> - Molecular techniques - Virus-induced gene Silencing (VIGS) - Microarray analyses - Aphid and nematode performance assays
<p>Anne Grippo Associate Prof</p>	<p>870-972-3493 agrippo@astate.edu Biology (ABI)</p>	<p>ASU</p>	<ul style="list-style-type: none"> - Reproductive physiology, toxicology - Cardiovascular toxicology, pharmacology - Endocrinology - Herbal, dietary supplements 	<ul style="list-style-type: none"> - Cardiovascular monitoring - Gamete culture, analysis - Analytics – HPLC

P³ Center -- Plant-Based Bioproduction

<p>Qingfang He Associate Prof</p>	<p>501-569-8033 gfhe@ualr.edu Applied Science</p>	<p>UALR</p>	<ul style="list-style-type: none"> - Genomics, algal expression systems 	<ul style="list-style-type: none"> -Algae culture and mass production -Genetic engineering and molecular techniques -Bioseparation -Gene knockout -Systems approaches -Photosynthesis and stress responses
<p>Xiuzhen Huang Associate Prof</p>	<p>870-680-8116 xhuang@astate.edu Computer Science</p>	<p>ASU</p>	<ul style="list-style-type: none"> - Bioninformatics and computational biology - Comparative genomics - RNA and protein Structure prediction - Systems biology study for plant species 	<ul style="list-style-type: none"> - Real-life biological Problem modeling - Efficient bioinformatics approach design and development - Biological data analysis by applying bioinformatics approaches
<p>Steven F. Jennings Professor</p>	<p>501-569-8216 SFJennings@ualr.edu Information Science</p>	<p>UALR</p>	<ul style="list-style-type: none"> - Bioinformatics 	<ul style="list-style-type: none"> - 15 bioinformatics servers with 54 processing cores (shared memory servers and HPC/HTC clusters) - UPS and tape backup - commercial and open-source bioinformatics software
<p>Yulin Jia Research Plant Molecular Pathologist</p>	<p>870-672-9300 yulin.jia@ars.usda.gov USDA, Stuttgart</p>	<p>USDA</p>		
<p>Melissa Kelley Associate Prof</p>	<p>501-450-5960 mkelley@uca.edu Chemistry</p>	<p>UCA</p>	<ul style="list-style-type: none"> -Retinoid metabolism 	<ul style="list-style-type: none"> -Solid phase extraction -Liquid extraction -LC-MS
<p>Mariya Khodakovs-Kaya Associate Prof</p>	<p>501-683-2656 mvkhodakovsk@ualr.edu Applied Science</p>	<p>UALR</p>	<ul style="list-style-type: none"> - Genetic improvement of stress tolerance and nutraceutical value of plants - Genetic improvement of energy crops for biofuels - Biotechnology of ornamental plants - Plant molecular farming - Nanobiotechnology 	<ul style="list-style-type: none"> - Plant tissue culture - Molecular cloning - Plant transformation - Yeast genetic - HPLC, analysis of proteins - Arabidopsis genetics - Production of cell cultures in bioreactors - Microarray
<p>Jaheon Koo Associate Prof</p>	<p>870-575-7139 kooj@uapb.edu Agriculture</p>	<p>UAPB</p>	<ul style="list-style-type: none"> -Food-safety -Food microbiology -Value-added products 	<ul style="list-style-type: none"> - General microbiology techniques
<p>Jack Lay Dir, AR Statewide Mass Spectrometry Facility</p>	<p>479- 575-2080 jlay@uark.edu Mass Spec Facility</p>	<p>UAF</p>	<ul style="list-style-type: none"> - Mass spectrometry of proteins, peptides, natural products & small molecules 	<ul style="list-style-type: none"> - Structure Elucidations - Exact Mass MS - Protein Structure & HDX/MS
<p>Sun Ok Lee Assistant Prof</p>	<p>479-575-6921 sunok@uark.edu Food Science</p>	<p>UAF</p>	<ul style="list-style-type: none"> - Human Nutrition - Bioavailability of phytochemicals - Toxicology 	<ul style="list-style-type: none"> - HPLC, GC, LCMS - Biological samples extraction - Cell culture, animal and clinical study
<p>Argelia Lorence Associate Prof</p>	<p>870-680-4322 alorence@astate.edu Chemistry (ABI)</p>	<p>ASU</p>	<ul style="list-style-type: none"> - Arabidopsis genomics - Plant metabolic engineering - Antioxidants - Vitamin C metabolism 	<ul style="list-style-type: none"> - Arabidopsis genetics and genomics - Metabolite profiling - Transgene design and

P³ Center -- Plant-Based Bioproduction

			<ul style="list-style-type: none"> - Inositol metabolism - Specialized metabolism - Phytoremediation 	<ul style="list-style-type: none"> Expression - Biochemical assays - Plant transformation (<i>Agrobacterium</i>-based, and biolistics) -High throughput phenotyping (Scanalyzer HTS, LemnaTec)
<p>Travis Marsico Assistant Prof Curator, STAR Herbarium</p>	<p>870-680-8191 tmarsico@astate.edu Biology (ABI)</p>	ASU	<ul style="list-style-type: none"> -Evolutionary ecology -Mechanisms of plant defense against insect herbivores -Plant-to-plant signaling 	<ul style="list-style-type: none"> -Next-Gen sequencing -GC-MS
<p>Esten Mason Assistant Prof</p>	<p>479-575-5725 esten@uark.edu Dept of Crop, Soil & Environmental Sciences</p>	UAF	<ul style="list-style-type: none"> - Wheat breeding, genetics and field based physiology - Abiotic stress tolerance genetics and physiology including drought, heat and waterlogging -Disease resistance genetics 	<ul style="list-style-type: none"> - QTL Mapping - Association Mapping - QTL Meta-analysis - SSR marker analysis via capillary electrophoresis - SNP marker analysis and development
<p>Fabricio Medina-Bolivar Associate Prof</p>	<p>870-680-4319 Fmedinabolivar@astate.edu Biology (ABI)</p>	ASU	<ul style="list-style-type: none"> - Plant metabolic engineering - Hairy root-based bioproduction of small molecules and recombinant proteins - Stilbenoids (resveratrol and natural analogues) and Sesquiterpenes - Drug discovery - Phytoremediation 	<ul style="list-style-type: none"> - Hairy roots (establishment, culture, scale-up, bioproduction) - Elicitation - Transgene design and expression (hairy root Promoters) - Analytics: TLC, HPLC - Large collection of hairy roots from several species of the Fabaceae, Solanaceae, etc.
<p>Guiliana Medrano Research Assistant Prof</p>	<p>870-680-8258 gmedrano@astate.edu ASU ABI</p>	ASU	<ul style="list-style-type: none"> - Plant-based production therapeutics - Vaccine development, antigens, adjuvants - Infectious diseases 	<ul style="list-style-type: none"> - Transient expression in <i>Nicotiana benthamiana</i> - Transgene characterization and expression - Protein purification - Bioactivity and immunological techniques
<p>Rick Noyes Assistant Prof, Curator UCAC Herbarium</p>	<p>501-450-5926 rnoyes@uca.edu Biology</p>	UCA	<ul style="list-style-type: none"> -Phylogenetics, -hybridization, -genome structure and evolution 	<ul style="list-style-type: none"> -Next generation sequencing, -microsatellite development, -genetic mapping
<p>Andy Pereira Anheuser Busch & AR Wholesalers Endowed Professor</p>	<p>479-575-8435 apereira@uark.edu Crop, Soil & Environmental Sciences</p>	UAF		
<p>Greg Phillips Dean Dir, Agricultural Research</p>	<p>870-972-2375 gphillips@astate.edu Agriculture (ABI)</p>	ASU	<ul style="list-style-type: none"> - Crop genetics improvement and crop transformation 	<ul style="list-style-type: none"> - Plant tissue culture - Plant transformation - Plant genetics
Brett	870-680-4792	ASU	- Bioanalytical chemistry and	- Protein purification and

P³ Center -- Plant-Based Bioproduction

Savary Research Associate Prof	bsavary@astate.edu Agriculture (ABI)		<ul style="list-style-type: none"> proteomics - Enzymes and biochemical technology of plant cell walls - Plant-derived protein products 	<ul style="list-style-type: none"> characterization - Polysaccharide structure and composition - MALDI-TOF mass spectrometry
Ron Sayler Research Assistant Prof	479-575-8442 rjsayle@uark.edu Plant Pathology	UAF	<ul style="list-style-type: none"> -Plant pathogen identification and detection -Pathogens of cereal and legume crops -Aflatoxin control 	<ul style="list-style-type: none"> - Real-Time PCR - Transgenic plant development - Host resistance
Richard Segall Professor	870-972-3989 rsegall@astate.edu Computer & Information Technology	ASU	<ul style="list-style-type: none"> - Bioinformatics - Database Management 	<ul style="list-style-type: none"> - Data Mining - Text Mining - Web Mining
Ganapathy Sivakumar Assistant Prof	870-680-4809 sivakumar@astate.edu AR Biosciences Institute	ASU	<ul style="list-style-type: none"> - Bioenergy and biobased products production from algae and biofuel crops - Botanical insulin production from plant root culture 	<ul style="list-style-type: none"> - Air-lift bioreactor and pilot-scale photobioreactor - Plant root and algal culture - Alginate for algal oil extraction - HPLC-MS
Vibha Srivastava Associate Prof	479-575-4872 vibhas@uark.edu Crop, Soil & Environ Sci	UAF	<ul style="list-style-type: none"> - Transgenics: Applications of site-specific recombination systems. - Epigenetics: Role of DNA methylation and histone modification on gene expression. 	<ul style="list-style-type: none"> - Rice transformation - Maize transformation - Transgene construct: Cre/lox and FLP/FRT constructs. - Bisulfite sequencing - ChIP assays - Arabidopsis genetics - siRNA analysis
David Starkey Assistant Prof	501-450-5551 dstarkey@uca.edu Biology	UCA	-Co-Evolution & Speciation	<ul style="list-style-type: none"> -Molecular mapping using DNA fingerprinting -Gene cloning & sequencing
Ioannis Tzanetakis Associate Prof	479-575-3180 itzaneta@uark.edu Plant Pathology	UAF	<ul style="list-style-type: none"> -Plant virus identification -Viral pathogenesis -Virus control 	<ul style="list-style-type: none"> -Viral and RNA isolation -PCR -Genomics
Hong Li Wang Associate Prof	501-569-8983 hxiwang@ualr.edu Biology	UALR	<ul style="list-style-type: none"> - Plant molecular biology, genomics, transport proteins - Plant seed development (wheat and <i>Medicago truncatula</i>) - Plant nutrition (minerals and phytochemicals) 	<ul style="list-style-type: none"> -Light and Electron Microscopy (structure and histochemical studies) -Proteomics (2D and Protein Chip) -Immunolocalization
Jianfeng (Jay) Xu Assistant Prof	870-680-4812 jxu@astate.edu AR Biosciences Institute	ASU	<ul style="list-style-type: none"> - Plant cell/tissue-based bioproduction of recombinant proteins - Bioprocess engineering and bioreactor - Renewable energy 	<ul style="list-style-type: none"> - Plant cell/tissue and algae culture - Plant transformation - Fermentation - Anaerobic digestion - Cell-free protein expression
Lirong Zeng Assistant Prof	(501) 569-3502 lxzeng@ualr.edu Biology	UALR	<ul style="list-style-type: none"> - Plant molecular biology - Plant microbe interactions - Plant biochemistry 	

P³ Center -- Plant-Based Bioproduction

P3 Staff				
Emily Devereux Program Manager	870-680-4344 edevereux@astate.edu AR Biosciences Institute	ASU		
Shea Harris Education Outreach	870-680-4340 rharris@astate.edu AR Biosciences Institute	ASU		
Lacy Nelson Program Technician I, UAF Campus P3 Program Mgr	479-575-7081 ldnelson@uark.edu Plant Pathology	UAF		