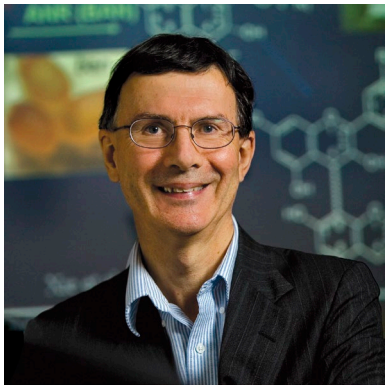
CURRICULUM VITAE
Richard Arthur Dixon, MA, D. Phil, D. Sc (Oxford), NAS, FRS

July, 2023



SUMMARY
Richard A. Dixon is Distinguished Research Professor Emeritus in the Department of Biological Sciences, University of North Texas, and Distinguished Visiting Lecturer of the Hagler Institute for Advanced Study, Texas A and M University, College Station. He also holds adjunct professorships at the University of Missouri at Columbia and Oklahoma State University at Stillwater. He was Distinguished Professor and Samuel Roberts Noble Research Chair, Senior Vice President and Founding Director of the Plant Biology Division at the Samuel Roberts Noble Foundation, Ardmore, Oklahoma, where he worked from 1988-2013. He received his Bachelors' and Doctoral degrees in Biochemistry and Botany from the University of Oxford, UK, and postdoctoral training in Plant Biochemistry at the University of Cambridge, UK. He was awarded the Doctor of Science degree for his research achievements by the University of Oxford in 2004. His research interests center on the biochemistry, molecular biology and metabolic engineering of plant natural product pathways and their implications for agriculture and human health, and the engineering of lignocellulosic biomass for the improvement of forages and feedstocks for the bioeconomy. He has published over 530 papers and chapters on these and related topics in international journals, which have been cited over 97,000 times. Professor Dixon is a Fellow of the Royal Society (elected in 2018), Member of the US National Academy of Sciences (Plant and Soil Sciences Section, elected in 2007), Fellow of the American Association for the Advancement of Science (elected in 2003), Fellow of the National Academy of Inventors (elected in 2014), and Fellow of the American Society of Plant Biologists (elected in 2018) and has been named by the Institute for Scientific Information as one of the 10 most cited authors in the plant and animal sciences. He was President of the American Society of Plant Biologists (2015-16) and currently serves as Editor-in-Chief of Philosophical Transactions of the Royal Society B.

PERSONAL

Nationality:	United Kingdom/United States
Date of Birth:	December 29, 1951
Place of Birth:	Cape Town, South Africa
Spouse:	Rachel (nee Corfield)
Children:	Lois Mary (born 1983)
	Arthur Malcom (born 1993)

CURRENT POSITIONS

Distinguished Research Professor Emeritus, Department of Biological Sciences, University of North Texas; Distinguished Lecturer for the Hagler Institute for Advanced Study, Texas A and M University. Adjunct Professor, Biochemistry and Molecular Biology, Oklahoma State University; Adjunct Professor, Division of Plant Science and Technology, University of Missouri.

CURRENT RESEARCH INTERESTS

- Metabolic engineering of plant natural products and cell walls for improvement of biomass utilization, forage quality, and human health.
- Genomics approaches to understanding plant natural product biosynthesis.

EDUCATION

- Ashby de la Zouch Boy's Grammar School, UK, 1963-1969
- Ison Exhibition to Brasenose College, University of Oxford, UK, 1969-1973
- B.A., Biochemistry, University of Oxford, UK, 1973
- SERC Studentship, Botany School, University of Oxford, UK, 1973-1976
- M.A., Biochemistry, University of Oxford, 1976
- D.Phil., Botany, University of Oxford, UK, 1976

PROFESSIONAL EXPERIENCE

Academic Positions

Present:

- University of North Texas, Denton, TX. Distinguished Research Professor Emeritus, Department of Biological Sciences. 2021-
- Distinguished Lecturer for the Hagler Institute for Advanced Study, Texas A and M University. 2021-2024.
- University of Missouri, Columbia, MO. Adjunct Professor, Division of Plant Science and Technology, 2003-
- Oklahoma State University, Stillwater, Oklahoma, Adjunct Professor, Biochemistry and Molecular Biology, 1989-

Past:

- University of Cambridge, U.K. Department of Biochemistry, Postdoctoral Research Assistant, 1976-1978

- University of London, U.K. Royal Holloway and Bedford New College, Department of Biochemistry:
    - Lecturer. 1978-1985
    - Reader in Plant Biochemistry. 1985-1988
    - Honorary Research Fellow. 1988-1990
- The Samuel Roberts Noble Foundation, Ardmore, Oklahoma.
    - Plant Biology Division Director. 1988-2013.
    - Plant Biology Division, Professor. 1988-2010
    - Distinguished Professor and Samuel Roberts Noble Research Chair. 2011-2013
    - Senior Vice President. 2006-2013.
- Norman Borlaug Institute for Plant Science Research, De Montfort University, Leicester, U.K. Honorary Visiting Research Professor. 1995-2003
- University of Texas at Austin.
    - Adjunct Professor, Botany. 1993-1998.
    - Adjunct Professor, Molecular, Cell and Developmental Biology, 1998-1999
- University of Oklahoma, Norman, Oklahoma, Adjunct Professor, Botany and Microbiology. 1994-2000.
- Washington State University, Pullman, WA. Adjunct Professor, Institute of Biological Chemistry. 1997-2005
- University of York, UK. Center for Novel Agricultural Products. Visiting Chair in Phytochemical Genomics. 2003-2006
- Rice University, Houston, TX. Adjunct Professor, Biochemistry and Cellular Biology. 2003-2015.
- University of North Texas, Denton, TX. Distinguished Research Professor, Department of Biological Sciences. 2013-2021.
- Faculty Fellow of the Hagler Institute of Advanced Study, Eminent Scholar in Residence, Visiting Professor in the College of Science, and Timothy C. Hall-Heep Distinguished Faculty Chair, Texas A and M University. 2017-2021
- Chief Scientist, Beijing Advanced Innovation Center for Tree Breeding by Molecular Design, Beijing, China. 2017-2021.
- University of North Texas, Denton, TX. BioDiscovery Institute. Associate Director, 2018-2021, Founding Director, 2015-2017

Recognition and Honors:

- Ranked 148 in the world in the fields of Biology and Biochemistry by Research.com.
- Named Clarivate Analytics 2022 Highly Cited Researcher
- Named ASPB Pioneer by the American Society of Plant Physiologists
- Elected Distinguished Lecturer for the Hagler Institute for Advanced Study, Texas A and M University.
- Named Clarivate Analytics 2021 Highly Cited Researcher
- Named Clarivate Analytics 2020 Highly Cited Researcher
- Named Clarivate Analytics 2019 Highly Cited Researcher

- Governor's Commendation, State of Texas (2018)
- President's Citation, University of North Texas (2018)
- Elected Fellow of the Royal Society of London (2018)
- Elected Fellow of the American Society of Plant Biologists (2018)
- Named Clarivate Analytics 2018 Highly Cited Researcher
- Named Clarivate Analytics 2017 Highly Cited Researcher
- Elected Faculty Fellow of the Hagler Institute for Advanced Study, Texas A and M University (2017-2022).
- Named Thompson Reuter 2016 Highly Cited Researcher
- Recipient of the University of North Texas Presidential Excellence Award (April 2016)
- Named Thompson Reuter 2015 Highly Cited Researcher
- Recipient of the Phytochemical Pioneer Award from the Phytochemical Society of North America, August 2015.
- Chair, Plant Metabolic Engineering Gordon Conference (July 2015)
- Elected Fellow of the National Academy of Inventors, December 2014
- Named Thompson Reuter 2014 Highly Cited Researcher
- Elected Member, Texas Academy of Mathematics, Engineering, Science and Technology (2014)
- Named among the most highly cited authors in the journals Plant Physiology and Plant Cell, 2009-2013.
- Governor's Commendation, State of Oklahoma (2013)
- Recipient of Groupe Polyphenols Scientific Prize (2012)
- Eni Award nominee (2012, 2014)
- Appointed Distinguished Professor and Samuel Roberts Noble Research Chair, Noble Foundation, Ardmore, OK, January 15, 2011
- Named "Oklahoma Scientist of the Year" by the Oklahoma Academy of Sciences, October 31, 2008
- Awarded the Richard R. Hill Achievement Award for Outstanding Contribution to Alfalfa Research, National Alfalfa Improvement Congress, June 2008
- Elected to Membership in the US National Academy of Sciences, May 1, 2007
- Named as a "Top Principal Investigator" in Science Magazine, September 2004
- Awarded Doctor of Science degree, University of Oxford, March 2004
- Elected Fellow of the American Association for the Advancement of Science, Feb 2003
- Named "Ardmore Star" by the Ardmore (Oklahoma) Chamber of Commerce, June 2002
- Named among the 10 most cited authors in Plant and Animal Science for 1991-2001 by the Institute for Scientific Information (ISI). Awarded in New Orleans, April 2002

Special Lectures

- 2012 Shang-Fa Yang Memorial Lecturer, Taipei and Tainan, Taiwan
- 2012 Stone Wall Lecturer, ComBio Meeting, Adelaide, Australia (lecture in memory of Professor Bruce Stone)
- Pioneers in Genomics Lecturer, University of Illinois, October 2006
- Loomis Lecturer, Iowa State University, March 2005
- Dermot Coyne Distinguished Lectureship, University of Nebraska, Lincoln, NE, 2004

- Victor M. Bendelow Memorial Lectureship, University of Manitoba, Winnipeg, Canada, February 2002
- Gabe Lester Memorial Lecturer, Reed College, Portland, Oregon, 1992
- Hannaford Lecturer, Waite Agricultural Research Institute, Adelaide, Australia, 1992

Committees and Editorial Boards

a. Grant and program review panels:

- Academia Sinica, Taipei, Taiwan. Member of the Central Academic Advisory Committee of Academia Sinica. 2023-
- Academia Sinica, Taipei, Taiwan, Chair (Convenor) and Member of the Academic Advisory Committee for the Agricultural Biotechnology Research Center, February 2022-.
- Flanders Institute of Biotechnology (VIB) Department of Systems Biology, Gent, Belgium. Member of the search committee for the new Institute Director. February 2022-March 2023.
- Academia Sinica, Taipei, Taiwan, Life Sciences Division Grant Review Panel, August/September 2021.
- Flanders Institute of Biotechnology (VIB) Department of Systems Biology, Gent, Belgium. Member of the Departmental Evaluation Board. November 2020.
- USDA AFRI Foundational Knowledge of Plant Products Panel, October 2020.
- Academia Sinica, Taipei, Taiwan, Life Sciences Division Grant Review Panel, October 2020.
- University of Illinois, Department of Crop Science, Member of the Review Committee, November 2019.
- University of Hong Kong, Molecular and Cellular Biology Division, Hong Kong, China. Member of the Review Board. March 2019.
- Flanders Institute of Biotechnology (VIB) Department of Systems Biology, Gent, Belgium. Member of the Departmental Evaluation Board. September 2015
- Howard Hughes Medical Institute Plant Sciences Investigator Competition-Reviewer. January 2011
- CARB (Plant Carbohydrate Signaling Center), Aarhus University, Denmark. External Program Reviewer. January 2011
- Flanders Institute of Biotechnology (VIB) Department of Systems Biology, Gent, Belgium. Member of the Departmental Evaluation Board. November 2010
- Foundation for Research, Science & Technology, New Zealand. External Reviewer for "Exploiting Opportunities from Horticultural Genomics" program at HortResearch, Auckland, and "New Opportunities from Forage Plant Genomics" program at AgResearch, Palmerston North. March 2008
- Oklahoma Center for the Advancement of Science and Technolgy, Technical Advisory Committee, Plant Sciences Research Program. 2006-2010
- State of Florida Comprehensive Citrus Research Review Panel, USDA, ARS, Orlando and IFAS, Lake Alfred, FL, January 1999
- USDA Plant Pathology Competitive Grants Panel, Washington DC, 1999

- Texas Cotton and Grain Biotechnology Competitive Grants Panel, College Station, TX. 1997
- USDA Plant Pathology Competitive Grants Panel, Washington DC, 1997
- Texas Cotton Biotechnology Competitive Grants (TxCot), College Station, TX. 1995
- AIBS, NASA Biological Sciences Grant Review Panel. 1994
- Program reviewer for Monsanto Chemical Company, St Louis, MO, December 1992.
- National Science Foundation Advisory Panel on Cellular Biochemistry (Integrative Plant Biology from 1993). 1990-1993
- Oklahoma Center for the Advancement of Science and Technology, Applied Research Committee, Oklahoma City, 1992-1996
- United States Department of Agriculture, Competitive Grants Panel (Plant Pathology and Weed Science), Washington DC, 1988-1990
- UK SERC Biotechnology Directorate/AFRC/DTI Steering Committee on Plant Biotechnology, London. 1984-1986

b. Committees and elected offices:

- Member of the Hooke Committee, Royal Society of London (2023-)
- Member at Large of the US National Academy of Sciences Class VI Membership Committee in Applied Biological, Agricultural, and Environmental Sciences (2021)
- Member of the Board, Texas Academy of Mathematics, Engineering, Science and Technology (2019-2023)
- Member, Academic Steering Committee of Beijing Advanced Innovation Center for Tree Breeding by Molecular Design (BAICTBMD), Beijing Forestry University and Beijing Agriculture University, Beijing, China. 2019-
- Chair, American Society of Plant Biologists Martin Gibbs Medal Committee. 2018-2023.
- Member, Search Committee for the Director position of the Agricultural Biotechnology Research Center (ABRC), Academia Sinica, Taipei, Taiwan, 2018.
- Member, US National Academy of Sciences Selection Committee for the 2018 and 2019 NAS Prizes in Food and Agricultural Sciences.
- Immediate Past-President, American Society of Plant Biologists, Chair-ASPB Council and Member of the ASPB Science Policy Committee, 2017
- President, American Society of Plant Biologists, 2015-16
- President-Elect, American Society of Plant Biologists, 2014-15.
- Member, US National Research Council Panel on Genetically Engineered Crops: Past Experience and Future Prospects. 2014-16.
- Chair, US National Academy of Sciences Selection Committee for the 2014 NAS Award for the Industrial Application of Science.
- US National Academies National Research Council Board on Agriculture and Natural Resources (BANR). Member, 2009-
- Electorate Nominating Committee, American Association for the Advancement of Science, Section on Agriculture, Food and Renewable Resources, 2007-2010
- Member of the Advisory Board, EPOBIO - Realising the economic potential of sustainable resources - bioproducts from non-food crops, 2006-2009
- Member of the Advisory Board, Phytochemical Society of North America, 2001-2007
- President, Phytochemical Society of North America, 2000-1

- Member of the Board, International Society for Plant Molecular Biology, 2000-2004
- President-Elect, Phytochemical Society of North America, 1999
- International Consultative Committee, Institute of Genetic Engineering, Kostinbrod, Bulgaria, 1995-2000
- American Society of Plant Physiologists, Publications Committee, 1991-1995
- University of Texas at Austin, Botany Department Visiting Committee, 1990-1997
- Phytochemical Society of Europe Management Committee, 1983-1986

c. Editorial boards:

- Editor-in-Chief, Philosophical Transactions of the Royal Society B, 2023-2028
- Editorial Board, Proceedings of the National Academy of Sciences USA, 2021-2024.
- Editorial Board, Philosophical Transactions of the Royal Society, B. 2019-
- Co-Editor in-Chief, BioEnergy Research, 2007-2017
- Editorial Board, Annual Review of Plant Biology, 2001-2005
- Editorial Advisory Board, Trends in Plant Science, 2000-2017
- Editorial Board, Phytochemistry, 2000-2010
- Editorial Board, Planta, 2000-2010
- Editorial Board, Archives of Biochemistry and Biophysics, 1991- 2008
- Editorial Board, Biotechnology/Biotechnological Equipment, 1995-2000
- Associate Editor, Plant Molecular Biology, 1994-1999
- Founding Editor, Transgenic Research, 1991-1996
- Editorial Advisory Board, The Plant Journal, 1990-2003
- Editorial Board, Journal of General Microbiology, 1985-1988

d. University of North Texas:

- Search Committee for the Welch Chair in Chemistry (2018)
- Promotion and Tenure Committee (Department of Biological Sciences) (2013-)
- Personal Affairs Committee (Department of Biological Sciences) (2013-)
- Research and Scholarly Data Management Committee (University) (201-)
- Distinguished Research Professor Selection Committee (University) (2013-)
- BioDiscovery Institute Planning Committee (Chair) (2014-)
- Search Committee for Associate Vice President for Research (2013)
- RIT-Path to RUVH committee (2014)
- Search Committee for Associate VP for Economic Development (2015)
- Committee for revision of grant proposal submission process (2015)
- New College of Science planning committee (2015-)

Consulting and Science Advisory Boards:

- Salk Institute Harnessing Plants Initiative, Member of the Scientific Advisory Board.
- US Department of Energy Center for Bioenergy Innovation. Member of the Sceinetific Advisory Board
- US Department of Energy Biological and Environmental Science Directorate. Member of the Science Advisory Committee. 2021-2023.

- Texas A and M AgriLife Research and Extension Center at Dallas. Member of the Science Advisory Board. 2019-2020
- AgResearch, New Zealand. Member of the Scientific Advisory Panel to the Board of Trustees. 2012-2016.
- Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan. Member of the Scientific Advisory Board, 2007-2016. Chair of the Scientific Advisory Board, 2017-2022.
- RIKEN Plant Science Center, Yokohama, Japan. Member of the Scientific Advisory Committee, 2007-2010
- Joint Genomic Center, Sofia, Bulgaria. Member of the Honorary External Advisory Board, 2010-2015.
- The State of Oklahoma EDGE (Economic Development Generates Excellence) Program. Member of the Science Advisory Board, 2008-2012.
- Oklahoma Department of Energy, Oklahoma Bioenergy Center. Member of the Science Advisory Group, 2008, 2009
- University of North Texas, Denton, TX. Member of the Advisory Board for the "Signaling Mechanisms in Plants" Research Cluster, 2008, 2011
- HortResearch and AgResearch, Auckland and Palmerston North, New Zealand. Member of the Quality Assurance Review Board, 2008.
- Purdue-University of Alabama at Birmingham Botanicals Research Center. Member of the External Advisory Committee, 2007-2010
- Mendel Biotechnology Inc, Hayward, CA. Consultant, 2007
- NuTein Companies, Inc., Minneapolis, MN. Member of the Scientific Advisory Board, 2006-2009.
- Chromatin Inc, Chicago, IL. Member of the Scientific Advisory Board, 2003-2006.
- Renessen, Davis, CA and St Louis, MO. Consultant, 2002, 2003.
- Akkadix Inc, San Diego, CA, Member of the Scientific Advisory Board, 1999-2001
- Monsanto Co., St Louis, MO, Consultant, 1992, 1998, 2003, 2010
- Applied Phytologics Inc, Sacramento, CA. Consultant, 1998-1999
- David Michael and Co., Philadelphia, PA. Consultant, 1997-2002

Scientific Management.

- Accelerative Science Domain Lead, US Department of Energy Center for Bioenergy Innovation, 2017-2021
- Founding Director, BioDiscovery Institute, University of North Texas, 2015-2020
- Switchgrass Activity Lead, US Departent of Energy Bioenergy Sciences Center (BESC). 2007-2017
- Founding Director, Plant Biology Division, Samuel Roberts Noble Foundation. 1988-2013.

Membership of Societies

Amerian Asociation for the Advancement of Science
American Society of Plant Biologists (ASPB, Life Member)
Founding Member, ASPB Legacy Society
Phytochemical Society of North America

US National Academies of Science, Engineering and Medicine (Life Member)
Texas Academy of Mathematics, Engineering, Science and Technology
National Academy of Inventors (Life member)
The Royal Society of London (Life member)

Undergraduate Researchers
University of North Texas- Texas Academy of Mathematics and Science:
Sai Sarnala (2019-2020). 2020 Goldwater Scholar.

Graduate Students Advised
University of London:

- Ian Whitehead (Ph.D. 1985)
- Maha Hamdan (Ph.D. 1986)
- Julio Reinecke (1986-87)
- Timothy Barnes (1987)
- Mehrdad Mavandad (Ph.D. 1990)

Department of Botany, University of Texas:

- Qin Liu. (PhD 1995) (Graduate committee)
- John Clements. (PhD 1995) (Graduate committee)
- Meide Pan. (PhD 1997) (Graduate committee)
- Espanta Seradge. 1994-6 (Co-advisor)

University of Oklahoma**:**

- Isabelle Salles (co-advisor with Dr Karel Schubert)

Oklahoma State University**:**

- Edward Davis. (PhD 1998) (Graduate committee)

University of York:

- Lorenzo Caputi (PhD committee- 2005-2008)

University of North Texas:

- Laci Adolfo (2013-2021). PhD awarded 2021.
- Aaron Harkelroad (2013-2019). Master's awarded 2020.
- Dasya Petranova (2015-2017). Professional Masters awarded 2017.
- Adiji Olubu (2015-2019). PhD awarded 2019
- Gareema Saxena (2015-2021). PhD awarded 2021.
- Claudia Gonzalez Villareal (2014-2017).

Beijing Forestry University:

- Xue Han (2018-2021). MS awarded 2021.
- Yu-Shuang Song (2019-2022)

Postdoctoral Associates Supervised (with current or recent positions)**:**

- Mark Robbins (1983-86). Project leader, IGER, Aberwystwyth, Wales
- G. Paul Bolwell (1983-86). Professor of Plant Biochemistry, Royal Holloway, University of London (deceased)
- Damian L. Murphy (1984-87)?
- E. Richard Blyden (1985-89). Biotech business

- David J. Millar (1986-87)?
- Joanna S. Ellis (1986-87)?
- Maria J. Harrison (1988-90). Professor, Boyce Thompson Institute, Cornell University
- Karen Dalkin (1988-91). UK Biotech Company
- Brent Edington (1988-91). Technology Transfer Department, University of Utah
- Helmut Kessmann (1989-90). Group Leader, CIBA-GEIGY (Syngenta), Basle, Switzerland
- Ganesan Gowri (1989-92). Project Leader, Maxygen, Redwood City, CA
- Eileen Maher (1989-90) (joint with Chris Lamb). Research Associate, University of Wisconsin, Madison
- Gary Loake (1989-90) (joint with Chris Lamb). Professor, Institute of Cell and Molecular Biology, University of Edinburgh, Scotland
- Basil Shorrosh (1989-92). Group Leader, Cargill Seed Co., Boulder, CO
- Lloyd Yu (1990-92) (joint with Chris Lamb). Research Scientist, Palo Alto Institute of Molecular Medicine, Mountain View, CA
- Keith Wycoff (1990-91) (joint with Chris Lamb). Co-Founder, Planet Biotechnology, Mountain View, CA
- Nancy Paiva (1990). Associate Professor, South Eastern Oklahoma State University
- John Orr (1990-92). Group Leader, Eisai Merrimack Valley Laboratories Inc, Andover, MA
- Carl Maxwell (1990-92). Research Scientist, DuPont, Wilmington, DE
- Theodor Fahrendorf (1990-94). Founder, Novoplant, Gatersleben, Germany
- Weiting Ni (1991-94). Research Scientist, DowElanco, Indianapolis, IN
- Abraham Oommen (1991-92) (joint with Nancy Paiva). Co-founder GeneSeek Inc. Lincoln, NE
- Gerard Lazo (1991-93). Research Geneticist, USDA/ARS, Albany, CA
- Holger Junghans (1991-92). Potato research company, Germany
- Diane Ruezinsky (1992-93) (joint with Chris Lamb). Research Scientist, Monsanto Calgene, Davis, CA
- Bernard Kraft (1992-94) (joint with Chris Lamb) ?
- Hsou-min Li (1993-95) (joint with Joanne Chory). Professor, Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan
- Robin Cameron (1993-95) (joint with Chris Lamb). Assistant Professor, Botany, University of Toronto
- Jacky Pallas (1992-95) (joint with Chris Lamb). Research Scientist, Syngenta, Bracknell, UK
- William Lindsay (1992-95) (joint with Chris Lamb). Intellectual Property, UK
- Sameer Masoud (1992-95). Associate Professor, Mu'tah University, Mu'tah-Karak, Jordan
- Vincent Sewalt (1994-97). Project Leader, Pioneer Hi-Bred International, Johnson City, IA
- Ze-Jian Guo (1995-98) (joint with Chris Lamb). Associate Professor, Zhejiang University, Hangshou, PRC
- Paul Howles (1995-97) (joint with Chris Lamb). Postdoc, CSIRO, Canberra, Australia
- Xian-Zhi He (1995-1999). Senior Research Associate, Noble Foundation

- Pedro Canovas (1995-98) (joint with Chris Lamb) ?
- J.T. Reddy (1995-1998). Postdoc, Dept of Human Genetics, UCLA Medical Center, Los Angeles
- Ken Shirasu (1995-97) (joint with Chris Lamb). Group Leader, RIKEN Plant Sciences, Yokohama, Japan
- Ken Korth (1995-2000) Professor, Plant Pathology, University of Arkansas
- Susanne Rasmussen (1996-98). Group Leader, AgResearch, Palmerston North, New Zealand
- Kentaro Inoue (1996-1999). Associate Professor, Department of Vegetable Crops, UC Davis (deceased)
- Christopher Steele (1997-99). Research Scientist, Bristol-Myers-Squibb, Syracuse, NY.
- Fiona McAlister (1997-2000) (joint with Chris Lamb). Instructor, Southern Oklahoma Technology Center, Ardmore, OK
- S. Varsha Wesley (1997-98). Postdoc, CSIRO, Canberra, Australia
- Delia Brownsen (1997-1998) (joint with Tom Mabry, UT Austin) ?
- Yiji Xia (1997-99) (joint with Chris Lamb). Professor, Hong Kong Baptist University, Hong Kong, China
- Dianjing Guo (1998-2001). Professor, Chinese University, Hong Kong
- Galina Kourteva (1999-2002). Research Scientist, Hoffman LaRoche, New Brunswick, NJ
- Fang Chen (1999-2002). Research Scientist, Noble Foundation
- Parvathi Kota (1999-2003). Research Scientist, Massacheussetts Institute of Technology, Boston, MA. Patent law company, Washington DC
- Chang-Jun Liu (1999-2003). Associate Professor, Brookhaven National Laboratory, NY
- Lahoucine Achnine (2000-2005). Project leader, GenApps, Lexington, Kentucky.
- Hideyuki Suzuki (2000-2003). Project leader, Kasuza DNA Center, Chiba, Japan
- M.S. Srinivasa Reddy (2001-2005). Research Scientist, Forage Genetics International, West Salem, WI
- Shashi Sharma (2001-2005). High school teacher, New Brunswick, NJ
- Deyu Xie (2002-2005). Assistant Professor, Department of Plant Sciences, North Carolina State University
- Bettina Deavours (2002-2005). Postdoctoral Fellow, Colorado State University.
- Marina Naoumkina **(**2003-2010). Group leader, USDA Cotton Research Center, New Orleans
- Kumboo Choi (2003-2005). Biotechnology company, Korea
- Li Tian (2004-2007). Associate Professor, University of California, Davis
- Sanchita Vaagchippawala (2005-2010)?
- Luzia Modolo (2005-2009). Professor, Department of Botany, Federal University of Minas Gerais, Brazil
- Yongzhen Pang (2005-2010). Professor, Institute of Botany, Chinese Academy of Sciences, Beijing.
- Gregory Peel (2005-2008). Research Scientist, Monsanto, Davis, CA
- Angelika Reichardt (2005-2008). Postdoctoral Fellow, Oklahoma State University
- Jin Nakashima (2005-2008). Cellular Imaging Facility Manager, Noble Foundation

- Wengshen Li (joint with Lloyd Sumner) (2006-2008). Research Scientist, Monsanto, St Louis, MO
- Guodong Wang (2006-2009). Professor, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing
- Rui Zhou (2006-2009). Research Group Leader, Conagen Inc., St Louis, MO
- Hui Shen (2008-2014). Research Scientist, Chromatin Inc, Urbana-Champaign, IL
- Luis Escamilla-Trevino (2008-). As postdoc and Lab Manager.
- Chunfen Zhao (2008)?
- Jian Zhao (2008-2012) Professor, Anhui Agricultural University, China
- Vaishali Sharma (2008-2010) Postdoc, Joint Bioenergy Institute, University of California, Berkeley.
- Qiao Zhao (2008-2012) Assistant Professor, Tsinghua University, Beijing, China
- Lina Gallego-Giraldo (2008-2018).
- Huanzhong Wang (2008-2011) Assistant Professor, University of Connecticut
- Guoan Shen (2008-2011). Institute of Botany, Chinese Academy of Sciences, Beijing.
- Chenggang Liu (2011-2013). Research Assistant Professor, University of North Texas
- Xiaolan Rao (2012-2016). Assistant Professor, College of Life Sciences, Hubei University, Wuhan, China
- Chan Man Ha (2012-2021)
- Ji Hyung Jun (2012-2021)
- Nan Lu (2014-)
- Ratnesh Chaturvedi (2014-2016)
- Ronaldo Cavasos (2015-17)
- Chunliu Zhu (2016-)
- Jaime Barros-Rios (12017-2022). Assistant Professor, University of Missouri.
- Maite Docampo (2017-2020)
- Chang Liu (2018-2021). Assistant Professor, NorthEastern Forestry University, Harbin, China
- Hasi Yu (2018-2021). Assistant Professor, NorthEastern Forestry University, Harbin, China
- Shufang Wang (Beijing Forestry University, 2018-2021)
- Keji Yu (Beijing Forestry University, 2019-)

Visiting Scientists hosted:

- Dr Louis J. van Lelyveld**,** Citrus and Sub-Tropical Fruit Research Institute, Nelspruit, South Africa. Sabbatical 1983
- Dr Allen Jennings, Waite Agricultural Institute, Adelaide, Australia. Sabbatical 1987
- Dr Jesus Jorrin**,** University of Cordoba, Spain; NATO Fellowship 1987-1989
- Dr Arvind D. Choudhary**,** University of Nagpur, India; Government of India
- Fellowship 1988-90
- Professor Kailash Upadhyaya, J. Nehru University, New Delhi, India; U.S. India Exchange Program Sabbatical 1992-93
- Professor G. Murray Balance, University of Manitoba, Winnipeg, Canada. Sabbatical 1993-1994; 2003-2004

- Dr V.K. Rajasekhar, Humboldt University, Berlin. Visiting Scientist 1996-98
- Dr Andrzej Podstolski, University of Warsaw, Poland. Sabbatical 1998-99
- Darius Michalzyck, University of Olsten, Poland Visiting Scientist 1998-99
- Professor Salvatore A. Sparace, McGill University, Montreal, Canada. Sabbatical 1999-2000
- Professor Qing-Hu Ma, Institute of Botany, Academia Sinica, Beijing, PRC. Visiting Scientist 2000, 2003, 2004
- Professor Kent Chapman, University of North Texas, Denton, TX .Sabbatical 2001-2002
- Dr Matthew Templeton, HortResearch, Auckland, New Zealand. Sabbatical, 2004, 2005
- Dr Neelam Sangwan**,** CIMAP, Lucknow, India**.** Sabbatical, BOYSCAST Fellow, 2005-06
- Professor M. David Marks**,** University of Minnesota. Sabbatical 2005-06
- Dr Sarath Abeysinghe, Tea Research Institute of Sri Lanka (Collaborator on NSF Plant Genome grant). 2006
- Mr Mewan Kooragodage, Tea Research Institute, Sri Lanka. 2007
- Dr Shujun Ge, Agricultural University of Hebei, China. 2009-2010
- Dr Jaime Barros-Rios, UPSC, Umea University, Sweden. 2013-2017
- Dr Hailian Yang, China Agricultural University, Beijing 2014-2015
- Dr Juanzi Wu, Jiangsu Academy of Agriculture Sciences, Nanjing, China. 2015-2016
- Mr Manuel Carrasco, National University of San Marcos, Peru. 2016.
- Mr Ke-Ji Yu, China Agricultural University, Beijing. 2017-2018.
- Ms Xin Cui, China Agricultural University, Beijing. 2017-2018.
- Dr Xin Wang, Wuhan Botanic Garden, Wuhan, China. 2017-2018.
- Professor Luzia Modolo, University of Minas Gerais, Belo Horizonte, Brazil, 2018-
- Professor Angelo de Fatima, University of Minas Gerais, Belo Horizonte, Brazil, 2018-

Meetings/Symposia Organized:

- President's Symposium: Specialized Metabolism. American Society of Plant Biologists Annual Meeting, Austin, TX (July 2016).
- Plant Metabolic Engineering Gordon Conference, Waterville Valley, NH. Chair (2015).
- 4th Pan-American Congress on Plants and Bioenergy. Member of the international steering committee. Guelph, Canada, 2014.
- Plant Metabolic Engineering Gordon Conference, Co-Chair (2013).
- Convenor and Session Chair, New Biofuels Feedstocks, 12th International Association for Plant Biotechnology Congress, St Louis, MO, June 2010
- Conference Co-Chair, 2nd Banff Conference on Plant Metabolism, Banff, Alberta, Canada, June 2010
- Session Co-Chair, 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, Florida, April 2010
- Scientific Advisory Committee, 2007 Model Legumes Congress, Tunis, Tunisia
- Organizing Committee, International Model Legume Congress, Asilomar, CA, June 2005

- Co-organizer for National Congress of Biochemistry and Molecular Biology of Plants, La Paz, Mexico, October, 2001
- Organizer for Phytochemical Society of North America Annual Meeting, “Phytochemistry in the Genomics and Post-Genomics Eras”, Oklahoma City, August 2001
- Co-organizer for Keystone Symposium on Signals and Signal Perception in Biotic Interactions in Plants. Taos, New Mexico, Feb 2000
- Organizing Committee: Gatlinberg Symposium, Knoxville, TN, 1999
- Organizing Committee: Plant Protein Club Symposium on Pathway Engineering in Plants, York, UK, 1999
- Co-organizer for Keystone Symposium on Metabolic Engineering in Transgenic Plants, Copper Mountain, CO. 1997
- Co-organizer for Noble Foundation Plant Biochemistry Symposium on Polyketide Synthases, Palmas del Mar Resort, Puerto Rico. 1996
- Co-organizer for International Symposium on "Applications and Prospects of Biotechnology for Arid and Semi-Arid Lands, Texas Tech University, Lubbock, Texas. 1992
- Co-organizer for Fifth Mid-America Molecular and Cellular Biology Colloquium, Afton, Oklahoma, 1989
- Organizer for Annual British Society for Plant Pathology meeting, Royal Holloway College, London. 1985
- Organizer for Phytochemical Society of Europe Symposium on Plant Nucleic Acids and Nucleotides, Royal Holloway College, London. 1985
- Organizer (Local Secretary) for British Society for Plant Pathology / British Mycological Society joint meeting at Royal Holloway College, London. 1982

INVITED RESEARCH PRESENTATIONS

Pre 1988:

- Society for Experimental Biology, University of Sterling, Scotland, 1981.
- British Society for Plant Pathology, Royal Holloway College, Egham, U.K. 1982.
- Society for General Microbiology, Dundee, Scotland, 1982.
- ICI Workshop on Biosynthesis and Control of Amino Acids, Bath, U.K., 1984.
- International Association for Plant Tissue Culture, Sheffield, U.K., 1985.
- NATO Advanced Research Workshop, "Biology and Molecular Biology of
- Plant-Pathogen Interactions", Ilminster, U.K., 1985.
- British Society for Plant Pathology, "Genetics and Plant Pathogenesis", Egham, U.K., 1985.
- Society for Experimental Biology, Nottingham, U.K., 1986.
- Royal Society Discussion Meeting, "Differential Gene Expression in the Regulation of Plant Growth and Development", London, U.K., 1986.
- 17th FEBS Meeting, Berlin, Germany, 1986.
- Society for Chemical Industry, "Novel Approaches in Agrochemical Research, London, 1986.

- Society for General Microbiology, "Genetics of Plant-Pathogen Interactions",
- Swansea, U.K., 1986.
- "Nature" International Meeting on Plant and Animal Biotechnology, London, U.K., 1987.
- EMBO Workshop, "*Petunia hybrida* as a model system for molecular research", Amsterdam, Netherlands, 1987.
- Biochemcial Society 29th Harden Conference, Wye, U.K., 1987.
- Society of Chemical Industry/British Society for Plant Pathology, "Mechanisms of Natural Disease Resistance", London, U.K., 1987.
- Noble Foundation Plant Biology Retreat, Lake Texhoma, Oklahoma, 1987.

1988

- Phytochemical Society of Europe, Secondary Products from Plant Tissue Culture, London, U.K.
- Fifth International Congress of Plant Pathology, Kyoto, Japan.
- Third Mid-America Molecular and Cellular Biology Colloquium, Afton, Oklahoma.
- Second International Symposium on Primary and Secondary Metabolism of Plant Cell Cultures, Saskatoon, Canada.
- Department of Botany and Microbiology, University of Oklahoma, Norman, OK.
- University of Oklahoma Health Sciences Center, Oklahoma City, OK.
- Department of Plant Pathology, Oklahoma State University, Stillwater, OK.
- Department of Biochemistry, Royal Holloway and Bedford New College, Egham, U.K.
- Department of Botany, University of Nottingham, Nottingham, U.K.

1989

- UCLA Sympsoium, Plant Gene Transfer, Park City, UT.
- Phytochemical Society of Europe, Biochemistry and Molecular Biology of Plant Pathogen Interactions, Norwich, U.K.
- NATO International Symposium, Signal Perception and Transduction in Higher Plants, Toulouse, France.
- Department of Biology, University of Tulsa, Tulsa, OK.
- Department of Plant Pathology, University of Nebraska, Lincoln, NE.
- Department of Plant Pathology, Kansas State University, Manhattan, KS.
- Department of Botany, University of Texas at Austin.
- Department of Biochemistry and Biophysics, Iowa State University, Ames, IA.

1990

- Plant Molecular Biology Gordon Conference, Andover, NH.
- UCLA Symposium, Molecular Strategies for Crop Improvement, Keystone, CO.
- Guelph Waterloo Plant Biotechnology Center Advanced Course in Plant-Microbe Interactions, Guelph, Canada.
- Institute of Biological Chemistry, Washington State University, Pullman, WA.
- National Institutes of Health, Bethesda, Maryland.
- DOE Plant Research Laboratory, Michigan State University, East Lansing, MI.
- Center for Agricultural Biotechnology, Rugters University, New Brunswick, NJ.

1991

- First Queenstown Molecular Meeting, Queenstown, New Zealand
- Third International Congress of Plant Molecular Biology, Tucson, AZ.

- Phytochemical Society of North America, Fort Collins, CO.
- Department of Botany, University of Texas at Austin.
- Plant Genetic Engineering Laboratory, New Mexico State University, Las Cruces.
- Department of Plant Science and Plant Pathology, University of Arizona, Tucson, AZ.
- Biotechnology Institute and Department of Plant Pathology, Penn State University, College Park, PA.
- Department of Biology, Texas A and M University, College Station, TX.
- Department of Biology, University of Tulsa, Tulsa, OK.
- Division of Scientific and Industrial Research, Plant Protection, Auckland, New Zealand.
- Department of Cellular and Molecular Biology, University of Auckland, New Zealand.
- 641st Meeting of the Biochemical Society, Royal Holloway College, London, UK

1992

- Department of Biology, Reed College, Portland, OR (Gabe Lester Memorial Lecture).
- Lorne Genome Conference, Lorne, Melbourne, Australia.
- Waite Agricultural Research Institute, Adelaide, Australia (Hannaford Lecture).
- Department of Plant Pathology, North Carolina State University, Raleigh, NC.
- Agricultural Biotechnology Research Unit, CIBA-GEIGY Corporation, Research Triangle Park, NC.
- Biotechnology Program, Texas Tech University, Lubbock, TX.
- University of Oklahoma, Department of Botany and Microbiology.
- Texas College of Osteopathic Medicine, Department of Microbiology, Fort Worth, Texas.
- University of Kentucky, Departments of Plant Pathology and Agronomy, Lexington, Kentucky.
- Department of Energy Workshop on Research Needs in Plant Biochemistry, Kona, Hawaii.
- 6th International Symposium on Molecular Plant-Microbe Interactions, Seattle, WA.
- 9th Annual Meeting of the Mid-Atlantic Plant Molecular Biology Society, Beltsville, MD (keynote address).
- American Society of Plant Physiologists Annual Meeting, Pittsburg, PA.

1993

- Agricultural Biotechnology Program, Purdue University, West Lafayette, IN.
- Phytochemical Society of North America, Asilomar, CA.
- Department of Biochemistry and Molecular Biology, Oklahoma State University.
- American Phytopathological Society, Nashville, TN.
- Department of Chemistry and Biochemistry, University of Texas at Arlington.
- National Science Foundation, Washington, DC.
- Department of Botany, University of Texas at Austin.
- 6th International Congress of Plant Pathology, Montreal, Ontario, Canada
- XV International Botanical Congress, Yokohama, Japan
- Society for Chemical Industry “Approaches for Molecular Biology in Crop Protection”, Cambridge, UK

1994

- Department of Human Nutrition, University of Texas Southwestern Medical Center, Dallas, TX.
- Southern Region American Society of Plant Physiologists Symposium on Phytoalexins, Austin, TX
- Department of Biology, Midwestern State University, Wichita Falls, TX.
- Merck, Sharpe and Dhome Co., Rahaway, NJ.
- Department of Energy Lignin Workshop, Asilomar, CA.
- American Society of Plant Physiologists Plant Biochemistry Course, Michigan State University.
- USDA National Center for Agricultural Utilization Research, Peoria, IL.
- Department of Biology, University of North Texas, Denton, TX.
- Phytera Inc., Worcester, MA.
- NASA NSCORT Program, Purdue University, West Layafette, IN.
- Albert B. Alkek Institute of Biosciences and Technology, Texas A & M University, Houston, TX.
- 34th North American Alfalfa Improvement Conference, Guelph, Ontario, Canada
- First European Nitrogen Fixation Conference, Szeged, Hungary

1995

- Keystone Symposium on Plant Cell Biology: Mechanisms, Molecular Machinery, Signals and Pathways, Taos, New Mexico.
- Molecular Biology Training Grant Program, University of California at Davis.
- Ninth International Conference on Cytochrome P450, Zurich, Switzerland.
- International Symposium on Biotechnology Research and Applications for Sustainable Development, Bangkok, Thailand.
- Institute of Genetic Engineering, Kostinbrodt, Bulgaria.
- International Symposium on Engineering Plants for Commercial Products and Applications, Lexington, Kentucky.
- Boyce Thompson Institute, Cornell University, Ithaca, New York.
- Plant Biology Program, University of Missouri, Columbia.

1996

- John Innes Center, Norwich, UK.
- Institute of Molecular and Cellular Biology, University of Edinburgh, Scotland.
- Department of Plant Science, De Montfort University, Leicester, UK.
- American Chemical Society, New Orleans (Biotechnology Division, Keynote address).
- Departments of Botany and Plant Science, University of British Columbia, Vancouver, BC.
- North American Alfalfa Improvement Conference, Oklahoma City, OK.
- Balkan Biotechnology Congress, Sandanski , Bulgaria.
- American Chemical Society, Orlando, Florida.
- Biotechnology Laboratory, University of British Columbia, Vancouver, BC.
- **1997**
- Department of Molecular Biology and Genetics, University of California at Los Angeles, California.
- Second International Wood Biotechnology Symposium, Canberra, Australia.

- Keystone Symposium, Metabolic Enginering in Transgenic Plants, Copper Mountain, Colorado.
- American Chemical Society, Plant Cell and Tissue Culture for Food Ingredient Production, San Francisco, California.
- Department of Plant Sciences, University of Oxford, UK.
- Institute of Biological Chemistry, Washington State University (Plant Biochemistry Course).
- David Michael and Company, Philadelphia, Pennsylvania.
- 5th International Congress of Plant Molecular Biology, Republic of Singapore.
- Department of Botany, University of Texas at Austin.
- Center for Agricultural Biotechnology and Department of Plant Science, Rutgers State University, New Brunswick, New Jersey.
- Salk Institute for Biological Studies, La Jolla, California.

1998

- Phytochemical Society of Europe International Symposium on Anticancer Compounds from Plants, Paris, France.
- Plant Science Seminar, Cornell University, Ithaca, New York.
- Monsanto Co. St Louis, Missouri.
- Temple Inland Co, Evadale, Texas.
- 2nd US-Mexico Joint Symposium on Plant Biochemistry and Molecular Biology, Guanajuato, Mexico.
- Novartis Co., Research Triangle Park, North Carolina
- IX International Congress on Plant Tissue and Cell Culture, Jerusalem, Israel
- Plant Molecular Biology Gordon Conference, Henniker, New Hampshire
- Phytochemical Society of North America, Pullman, Washington
- 7th International Congress of Plant Pathology, Edinburgh, Scotland.
- Cambridge Healthtech Symposium on Crop Genetics, Minneapolis, Minnesota.
- University of Oklahoma at Norman
- American Institute of Chemical Engineering, Miami Beach, Florida

1999

- Department of Entomology, University of Maryland
- Department of Microbiology and Molecular Genetics, Oklahoma State University
- Institute of Cell and Molecular Biology, University of Edinburgh, Scotland
- Institute for International Research Agricultural Genomics Conference, San Diego, California
- Plant Biochemistry Course, Washington State University
- Rendez-vous BioAtlantech; Farm, Forests and Fish Genomic Technology Conference, Fredericton, New Brunswick, Canada
- International Molecular Farming Conference, London, Ontario
- European Research Conference on Plant Cell Biology and Biotechnological Applications:
- Signal Recognition, Transduction Mechanisms and Gene Regulation, Rolduc, The
- Netherlands
- Novartis Inc, Research Triangle Park, North Carolina
- Akkadix Inc, San Diego, California

2000

- Zia Symposium on Plant Metabolic Engineering, New Mexico State University, Las Cruces, New Mexico
- Keystone Symposium on Signals and Signal Perception in Biotic Interactions in Plants, Taos, New Mexico.
- Department of Biochemistry, Oklahoma State University, Stillwater
- Oklahoma Medical Research Foundation, Oklahoma City
- American Chemical Society. Symposium on Flavonoids in Cell Function, San Francisco, California
- American Chemical Society. Symposium on Biosynthesis of Woody Plant Polymers and Related Substances, San Francisco, California
- John Innes Center, Norwich, UK
- Institute for International Research, Agricultural Genomics Conference, San Diego, California
- In Vitro Biology 2000, San Diego, California
- Society for Industrial Microbiology Annual Meeting, San Diego, California
- Phytochemical Society of North America and Mid-Atlantic Plant Molecular Biology Society Joint Annual Meeting, Beltsville, MD
- European Conference on the Nutritional Enhancement of Plant-Based Foods, Norwich, UK
- Oklahoma Molecular Plant Biology Conference, Oklahoma City, Oklahoma
- Department of Plant Pathology, University of Arkansas, Fayetteville, Arkansas

2001

- Plant and Animal Genome Meeting, *Medicago truncatula* community pre-meeting, San Diego, California
- Rice University, Houston, Texas
- Virginia Polytechnic University, Molecular Cell Biology and Biotechnology Series
- University of Texas at Austin
- David Michael and Company, Philadelphia, PA
- Purdue University, Department of Horticulture Faculty Retreat
- Texas Women's University, Denton, TX
- Keystone Meeting on Plant Foods for Human Health, Breckenridge, Colorado
- BBSRC Workshop on Natural Products, Warwick, UK
- North Central Division of the American Phytopathological Society, Manhattan, Kansas
- Brazilian Society of Plant Physiology, Ilheus, Bahia, Brazil
- Ohio State University, Plant Molecular Biology/Biotechnology Program Distinguished Speaker series.
- Crop Science Society of America, Charlotte, North Carolina
- National Congress of Biochemistry and Molecular Biology of Plants, La Paz, Mexico
- Metabolic Profiling Workshop, Kasuza Research Park, Chiba, Japan

2002

- University of Manitoba, Winnipeg, Canada (Victor M. Bendelow Memorial Lectureship)
- Department of Biochemistry, Royal Holloway, University of London, UK
- Plant Research Laboratory, Michigan State University, East Lansing, MI

- Biotechnology Institute, University of Delaware, Newark, DE
- Agricultural Biotechnology Center, Rutgers University, New Brunswick, New Jersey
- Center for Novel Agricultural Products, Department of Biology, University of York, York, UK
- International Conference on Genetics and Genomics of Legumes, Minneapolis, Minnesota (Keynote Lecture)
- Group Polyphenols International Meeting on Plant Polyphenols, Marrakesh, Morocco
- Metabolome Analysis and Systems Biology Workshop, Third International Congress of Systems Biology, Stockholm, Sweden

2003

- Gordon Conference on Agricultural Science, Ventura, California
- National Center for Natural Products Research, University of Mississippi, Oxford, MS
- Arizona State University, Tempe, AZ
- University of Arizona, Tucson
- Oklahoma Molecular Plant Biology Minisymposium, Stillwater, OK
- Society for Experimental Biology, Southampton, UK
- Phytochemical Society of Europe, Phytochemistry and Biology of Lignans, Bornheim-Walbeberg, Germany
- International Conference on Molecular Breeding of Forage and Turf, Dallas, Texas (Keynote Speaker)
- International Society of Plant Molecular Biology, Barcelona, Spain (speaker and session organizer/chair)
- University of Lancaster, Department of Plant Sciences, Lancaster, UK
- University of York, Department of Biology, York, UK
- Phytochemical Society of North America annual meeting, Peoria, Illinois
- CSSA Symposium on Lignin and Forage Digestibility, Denver, Colorado
- National Conference on Grazing Lands, Nashville, TN
- Chromatin Inc, Chicago, Il

2004

- Imperial College of London at Wye, UK
- University of North Carolina, Chapel Hill- North Carolina Plant Molecular Biology Consortium.
- Arizona State University, Tempe, AZ
- US Agricultural Research Service National Program 302 Assesment and Customer Workshop, St Louis, MO.
- Third International Congress on Plant Metabolomics, Ames, IA
- Galileo Pharmaceuticals, Sheffield, UK
- Metanomics Gmbh, Berlin. Germany
- Fourth Tannin Conference, American Chemical Society, Philadelphia, PA
- Department of Biology, University of York, UK
- Third Plant Genomics European Meeting, Lyon, France.
- University of Nebraska, Lincoln, NE. Dermot Coyne Distinguished Lectureship
- Western Regional American Society of Plant Biologists, Reno, Nevada. Keynote lecture

2005

- American Chemical Society, “Applications of Metabolomics in Agriculture", San Diego, CA (March 13-17)
- Iowa State University, Loomis Lecturer and Minisymposium speaker (March 23)
- Natural Preservatives in Food Systems, Princeton, NJ (March 30-31)
- Molecular Cell & Developmental Biology, University of Texas at Austin (May 2)
- University of California, Davis (May 13)
- International Model Legume Congress, Asilomar, CA (June 2-9)
- 17th International Botanical Congress, Vienna, Austria (July 18-23)
- BASF Plant Sciences, Ludwigshafen, Germay (July 22)
- 12th European Congress on Biotechnology, Copenhagen, Denmark (August 21-25)
- Oklahoma BioLife Symposium, Oklahoma City (September 13)
- Medicago Genomic Function and Response to Biotic Stress, Ardmore, OK (October 25-27)
- Plant Cell Wall Seminar Series, USDA-ARS, Albany, CA (November 15/17)
- Society of Chemical Industry Symposium on Plants as Biofactories, London, UK (November 29-30)
- Pacifichem 2005, "Natural Products in Agriculture and Forestry: Structure, Function, and Utilization"**,** Honolulu, Hawaii (December 15-20)

2006

- International Workshop on Anthocyanins, Rotorua, New Zealand, February 2006
- AgResearch, Palmerston North, New Zealand, February 2006
- Society for In Vitro Biology, Minneapolis, MN, June 2006
- 15th Federation of European Societies of Plant Biology, Lyon, France, Plenary speaker, July 2006
- American Society of Plant Biologists, Plenary speaker in symposium on “Plants mitigating global climate change”, Boston, MA, August 2006
- 23rd International Conference on Polyphenols, Winnipeg, Manitoba, Canada, August 2006
- Suntory Ltd, Osaka, Japan, September 2006.
- BioJapan Conference- International Workshop on Plant Biotechnology for Production of Industrial Materials, Osaka, Japan, September 2006.
- Nara Institute of Science and Technology, Nara, Japan, September 2006.
- University of Illinois Institute for Genomic Biology, Pioneers in Genomics lecture series, Urbana, Il, October 2006
- Symposium on “Research into plant secondary metabolites and medicinal phytocompounds”, The Institutes of BioAgricultural Sciences (IBS), Academia Sinica, Taipei, Taiwan, December 2006.

2007

- John Innes Centre, Norwich, UK, January 2007
- International Symposium on Secondary Metabolism in Plant Seeds: Current Status and Future Applications, German Society for Lipid Research, Potsdam, Germany, February 2007
- Carnegie Institute of Washington, Department of Plant Science, Stanford University, Palo Alto, CA, March 2007
- Mendel Biotechnology Inc, Hawyard, CA, March 2007

- Department of Biochemistry and Cell Biology, Rice University, Houston, Texas, March 2007
- US Department of Energy, 29th Symposium on Biotechnology for Fuels and Chemicals, Denver, CO, April 2007
- Bio2007, Contributions of Plant Biotechnology to Human Health, Boston, MA, May 2007.
- University of Tennessee, Knoxville, TN, Department of Plant Sciences, July 2007
- Oak Ridge National Laboratory, Oak Ridge, TN, July 2007
- Phytochemical Society of Europe Symposium on Plants for Human Health in the Postgenome Era, Helsinki, Finland, August 2007.
- University of Kentucky Fall Symposium "Through the Looking Glass of Molecular and Cellular Genetics of Plants, Lexington, KY, September 2007
- VIth International Symposium on Natural Products, Chillan, Chile, October 2007
- American Society of Agronomy International Annual meeting, New Orleans, November 2007
- RIKEN Plant Science Center, Yokohama, Japan, November 2007
- Annual Symposium of the Phytochemical Society of Japan, Phytochemical Genomics, Tokyo, Japan, November 2007

2008

- Plant and Animal Genome Meeting, San Diego, CA, January 2008 (two presentations)
- DOE Bioenergy Sciences Center Annual Retreat, Townsend, Tennessee, February 2008
- Department of Molecular and Cellular Biology, University of Texas at Austin, February 2008
- Purdue-UAB Botanicals Center Symposium, March 2008.
- Michael Smith Laboratory, University of British Columbia, Vancouver, BC, March 2008.
- Center for Chemical Ecology, Penn State University, April 2008.
- National Alfalfa Improvement Congress, Dallas TX and Ardmore, OK. June 2008
- Plenary speaker, 50th annual meeting of the Canadian Society of Plant Physiologists, Ottawa, June 2008.
- Plant Molecular Biology Gordon Conference, Plymouth, NH, July 2008
- NAS Lectureship seminar at the University of Minnesota, September 2008.
- Oklahoma State University Biochemistry and Molecular Biology Graduate Student Association, September 08.
- Donald Danforth Plant Science Center Fall Symposium, St Louis, MO, October 2008
- DOE Bioenergy Science Center Retreat, Chattanooga, TN, December 2008
- IV International Conference on Legume Genomics and Genetics, Puerta Vallarta, Mexico, December 2008.

2009

- University of Tennessee and Oak Ridge National Laboratory course on Current Topics in Bioenergy Science, Knoxville, TN, February 2009
- US Department of Energy Feedstock Genomics and Genomes to Life Meeting, Bethesda, MD, February 2009
- International Association of Plant Biotechnology, Napier, New Zealand. February 2009
- AgResearch, Palmerston North, New Zealand. February 2009

- Texas A&M Molecular and Environmental Plant Sciences (MEPS) symposium. March 2009
- Second International Glucosinolate Conference, Helsingor, Denmark, May 2009
- Metabolic Engineering Gordon Conference, July 2009
- American Society of Plant Biologists Annual Meeting, Honolulu, HI, July 2009
- Plant Cell Wall Gordon Conference, August 2009
- International Congress of Plant Molecular Biology, St Louis, MO. October 2009
- Oklahoma Acadedmy of Sciences Technical Meeting, East Central University, Ada, OK. Oklahoma Scientist of the Year address. November 2009
- 30th Annual Crown Gall Conference, Keynote address; Noble Foundation, Ardmore, OK. November 2009.
- 4th National Conference on Grazing Lands, Sparks/Reno, NV. December 2009.

2010

- John Innes Center, Norwich, UK. Chris Lamb Memorial Symposium (March)
- Plant Research Laboratory, Michigan State University (March)
- 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, Florida (April)
- Colorado State University (April)
- BASF Plant Sciences, RTP, NC (May)
- University of California, Davis (May)
- 12th International Association for Plant Biotechnology Congress, St Louis, MO (June)
- Brock University, Ontario, CA (September)
- Bionergy Sciences Center DOE Review, Bethesda, MD (September)
- Monsanto, St Louis, MO (October)
- Sun Grant Conference on Frontiers in Biorefining-Biobaased products. St Simons Island, GA (October)

2011

- Appalachian Research Forum, East Tennessee State University, Johnson City, TN (Keynote Speaker) (March)
- Keystone Symposium on Biofuels, Singapore (March)
- United States Department of Energy Genomic Sciences Workshop, Washington DC (April)
- Department of Plant Biology and Pathology, Rutgers University, New Brunswick, NJ (June)
- 2nd International Conference on Plant Secondary Metabolism, Qingdao, China (July)
- Plant Metabolic Engineering Gordon Conference (July) (Speaker and Session Chair)
- Brookhaven National Laboratory, NY (August)
- Donald Danforth Plant Science Center, Association of Independent Plant Research Institutes Retreat (September)
- Phytochemical Society of North America, 50th Anniversary Meeting, University of Hawaii, Hilo, HI (December)

2012

- Plant and Animal Genome Meeting, San Diego, CA (January)
- Plant Biotechnology Denmark Conference, Copenhagen, Denmark (January/February)

- Purdue University Food Sciences Department Corporate Affiliates meeting, West Lafayette, Indiana (February)
- Mars/Nurtro Company, Franklin, Tennessee (April)
- 26th International Conference on Polyphenols, Florence, Italy (July). Science Prize winner presentation.
- EPSO and FESPB Plant Biology Congress, Freiburg, Germany (July). Keynote Speaker.
- Australian Society for Biochemistry and Molecular Biology and the Australian Society of Plant Scientists ComBio 2012 Meeting, Adelaide, Australia (September). Plenary Speaker, and Stone Wall Lecturer.
- 6th International Congress on Legume Genomics and Genetics, Hyderabad, India. Inaugural Speaker. (October)
- Shang-Fa Yang Memorial Lectures, Taipei and Tainan, Taiwan (November)

2013

- Federation of North Texas Area Universities Research Symposium. Lunchtime speaker (April).
- Monsanto, St Louis, MO. Agriculture for renewable energy – the importance of overcoming recalcitrance of lignocellulosic feedstocks (May)
- Plant Metabolic Engineering Gordon Research Seminar, Waterville Valley, NH. Keynote speaker (July)
- USDA, ARS, SPA, CROPPING SYSTEMS RESEARCH LAB, Lubbock, TX. Genetic modification for improvement of forage quality traits (September)
- Washington State University, Molecular Plant Science Program, Pullman, WA. Lignin and lignin bioengineering: new twists to an old tale (December)

2014

- American Chemical Society, Dallas, Texas. Novel lignins demonstrate the flexibility of lignin biosynthesis in plants (March).
- Noble Foundation Plant Biology Division 25th Anniversary Symposium, Ardmore, OK. Lignin and lignin bioengineering: new twists to an old tale (March)
- Experimental Biology Conference, American Society of Nutrition Symposium on "The Science of Cocoa Flavanols: Bioavailability, Emerging Evidence and Proposed Mechanisms". San Diego, CA. Biosynthesis of flavanols within plants and bioavailability to humans (April)
- 4th Pan-American Congress on Plants and BioEnergy, 2014, Guelph, Ontario, Canada. Novel lignins and the case for valorization of lignin in the biorefinery (June)
- DOE BioEnergy Sciences Center 7th Annual Retreat, Chattanooga, TN. From gene to field: understanding and overcoming recalcitrance for the development of economically viable, sustainable bioenergy feedstocks.
- Phytochemical Society of North America, Raleigh, NC. Plenary lecturer. From defense to cell walls and back again (August).
- Lignin 2014-Biosynthesis and Utilization-University of Umeå, Sweden. Genetics and serendipity –insights into lignin polymerization and natural variability (August).

2015

- US Department of Energy Genomic Science Contractors-Grantees meeting. Tyson's Corner, VA. Overcoming recalcitrance in lignocellulosic sources for biofuel.(February).
- DOE BioEnergy Sciences Center 8th Annual Retreat, Chattanooga, TN (July)
- University of Houston Departmernt of Pharmacy. Bioactive Flavonoids- Biosynthesis, Engineering and Application in Neurodegenerative Disorders. (October)

2016

- American Society of Plant Biologists Mid-Atlantic Sectional Meeting, University of Maryland. New pathways to old compounds; do we really understand lignin and flavonoid biosynthesis? (March)
- 2016 International Symposium on Agricultural Biotechnology: From Systems Biology to Translational Agriculture. Academia Sinica, Taipei, Taiwan. New pathways to old compounds: re-assessing the biosynthesis of lignin and condensed tannins (May)
- US Department of Energy Bioenergy Sciences Center Annual Retreat, Chattanooga, TN Switchgrass TOP line and systems analysis (June).
- The Academies report on genetically engineered crops: experience and prospects. Workshop at 2016 American Society of Plant Biologists Meeting, Austin, TX. (co-presented with Prof Neal Stewart).
- New pathways to lignin and condensed tannins? Beijing Forestry University, Beijing, China (August).
- New pathways to old compounds; reassessing the biosynthesis of lignin and condensed tannins. Yangzhou University, Yangzhou, China (august)
- New perspectives on phenylpropanoid biosynthesis. 2016 Haixia Institute of Science and Technology Symposium on Small Molecules in Plants. Fujian Agriculture and Forestry University (FAFU), Fuzhou, China. (August).
- New players in the biosynthesis of plant phenolic polymers. Biochemistry Seminar Program, University of Missouri, Columbia, MO (October).
- Future Traits and Techniques (with C. Neal Stewart). Forum of Society Leaders on Genetically-Engineered (GE) Crops: Experience and Prospects. National Academy of Sciences, Washington DC, Dec 7 2016.
- The National Academy of Sciences report on "Genetically Engineered Crops: Experiences and Prospects": A green light for plant biotechnology? What is Natural 2016 Symposium on the Biology and Chemistry of Natural Food and Natural Food Additives, Jamesburg, New Jersey (December).

2017

- New players in the biosynthesis of plant phenolic polymers. Department of Microbiology and Plant Biology seminar, Univesity of Oklahoma, Norman, OK. March 2, 2017
- New twists in the biosynthesis of condensed tannins. Tsinghua University, Beijing, China. July 14, 2017
- New twists in the biosynthesis of condensed tannins. Beijing Forestry University, Beijing, China. July 15, 2017

- Discovery of unexpected new pathways facilitates the engineering of proanthocyanidins. Plenary Lecture, 4th International Conference on Plant Metabolism, Dalian, China, July 18, 2017.
- Old enzymes catalyze new reactions in the biosynthesis of proanthocyanidins. Keynote Lecture. American Chemical Society South West Region Annual Meeting, Lubbock, TX. November 2017
- From the lab to the field- a biochemist's approach to engineering forage quality in alfalfa. Texas Tech University, Department of Chemistry and Biochemistry, Departmental Seminar, November 2017.
- Do we understand vanillin biosynthesis? Vanilla 2017, Jamesburg New Jersey, November 2017.
- Vanillin from lignin. Vanilla 2017, Jamesburg New Jersey, November 2017.

2018

- Biosynthesis and metabolic engineering of phenylpropanoid natural products for plant quality improvement. Department of Biological Sciences, Texas A and M University, College Station, February 2018
- Understanding and engineering plant metabolism for forage improvement. Michigan State University Plant Research Laboratory, March 2018.
- Understanding and manipulating plant specialized metabolism. New Fellows Seminar, The Royal Society, London, UK. July 2018.
- Do we know all the players in monolignol biosynthesis? Lignin Gordon Research Conference, Stonehill College MA, August 2018.
- Differential lignin modification reveals diversity of cell wall-derived signals for activation of defense responses. Joint International Symposium of the Beijing Advanced Innovation Center for Tree Breeding by Molecular Design and the Umea Plant Science Center, Beijing Forestry University, Beijing, China, August 2018.
- New functions for old enzymes in lignin and proanthocyanidin biosynthesis. "Frontiers in BioAgricultural Research: 20th Anniversary of the Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan October 2018..
- Engineering old and new pathways for plant bioass improvement. Physiological and Molecular Plant Biology seminar series, University of Illinois at Urbana Champaign, October 2018
- Engineering old and new pathways for plant biomass improvement. Institute of Animal Science of Chinese Academy of Agriculture Sciences, December, 2018..
- A career in plant science- key decisions, funding, and a few life lessons! Beijing Forestry University, December, 2018.

2019

- Engineering specialized metabolism for plant biomass improvement. Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China, March 2019.
- Writing papers for top tier journals in plant biology. Beijing Forestry University, Beijing, China, March 2019.
- Engineering specialized metabolism for plant biomass improvement. Division of Molecular and Cell Biology, Hong Kong University, Hong Kong, China, March 2019.

- Genetic targets for lignin engineering and valorization in lignocellulosic feedstocks**.** 41st Symposium on Biotechnology for Fuels and Chemicals, Seattle, WA, April 209.
- Lignin modification activates signaling pathways for defense gene expression. International Symposium on Plant Receptor Kinases and Cell Signaling, Beijing, China, June 23, 2019.
- Lignin modification activates signaling pathways for defense gene expression. International Symposium on Frontiers in Plant Cell Biology and Modern Forestry Researches, Hangzhou, China, October 16 2019.

2020

- Metabolic engineering of lignin for advancing agricultural sustainability and the new bioeconomy. Department of Agronomy and Horticulture, University of Nebraska at Lincoln, NE, March 13, 2020.
- TBA. Tsung-lo Lo Symposium, Chinese Academy of Scuecnes, Institute of Plant Biology, Shanghai, China, November (Postponed to 2021).
- TBA. 5th International Conference on Plant Metabolism (ICPM2020), Kunming, China, March 27-30 (postponed).
- TBA. 6th Symposium on Plant Signaling and Behavior, Haikou, Hainan, China, March 27-30 (postponed)

2021

- Engineering plant cell wall polymers for a sustainable bioeconomy. McCarter Lecture Series, Institute of Biological Chemistry, Washington State University, April 29, 2021.

2022

- Lignin research- past, present and future. US Department of Energy Center for Bioenergy Innovation Annual Science Meeting, Asheville, NC, June 21, 2022.

2023

- Plant cell wall engineering- prospects and problems. Hagler Institute for Advanced Studies and Department of Biological Sciences, Texas A and M University, College Station, TX. March 21, 2023
- Lignification and reactive oxygen- a blast from the past. Interdisciplinary Plant Group (IPG) symposium on "Redox regulation of plant stress and development". University of Misouri, Columbia MO, May 25, 2023.

INVITED PRESENTATIONS TO NON-SCIENTIFIC, EDUCATIONAL, BUSINESS OR POLITICAL AUDIENCES

- Many presentations to charitable organizations such as local chapters of the Round Table, Kiwanees, etc, during the past 20 years
- Oklahoma Historical Society (Food and Society), Lake Murray, Ardmore, Oklahoma (2002)
- Oklahoma Farm Bureau Annual Legislative Meeting, Oklahoma City (2003)
- Oklahoma School for Science and Mathematics, Oklahoma City (2003)

- Oklahoma City Economic Club, Oklahoma City, OK (2004)
- United States Congress, Capitol Hill, Washington DC (congressional breakfast meeting) (2004)
- Presbyterian Health Foundation, Oklahoma City, "Meet the Scientist" (2004)
- Career workshop, ASPB Annual Meeting, Honolulu, HI (2008)
- World Creativity Forum, Oklahoma City, OK (2010)
- Texas Native Plants Society (2013)
- Phytochemical Society of North America Young Member Lunch speaker (2014)
- NSF Science Teacher Summer Institute, University of North Texas. Several talks on bioenergy, plant biochemistry and genetically engineered crops (2016).
- University of North Texas Toulouse Graduate School Grant Writing Boot Camp. How external funding shaped my career trajectory- plus a few life lessons! (August 2018).

GRANT AWARDS

[**Note**: Research activities from 1988 to 1998 were funded internally by the Samuel Roberts Noble Foundation. The Foundation did not allow receipt of external funds until 1998].

Current:

- Grasslanz Technology Ltd, New Zealand. (PI). Transforming row crops to express condensed tannins. $310,000. 12/1/22-30/11/24
- Grasslanz Technology Ltd, New Zealand. (PI). Transforming row crops to express condensed tannins. $465,000. 12/1/19-30/11/22
- Forage Genetics International. (PI). Molecular approaches to improved protein utilization in alfalfa. $150,000. 6/1/20-5/31/22.
- United States Department of Energy. The Center for Bioenergy Innovation- Lignin Design and Valorization. (Richard A. Dixon, PI; Fang Chen, Co-PI). $2,290,000. 10/1/17-9/30/22.

Completed:

- National Institutes of Health (Office of Natural Supplements, NCCAM) Botanicals Center on Dietary Polyphenols in the Preservation and Promotion of Cognitive Wellness and Psychological Resiliency. (Co-PI and Director of Biosynthetic/Bioanalytical Core). $700,918. 9/1/15-31/8/20.
- National Science Foundation-Integrated Organismal Systems (PI). Biosynthesis, regulation and engineering of C-lignin. $833,772. 4/1/15-3/31/19
- National Science Foundation (Co-PI). Metabolomics: Advancing the scientific promise of metabolomics to better understand plant specialized metabolism. $505,653. 12/01/11-11/30/14. Renewed 2015-17 ($249,215)
- United States Department of Energy Bioenergy Research Centers. ($125 million proposal with Oak Ridge National Laboratory as lead organization). (Noble Foundation PIs R.A. Dixon, F. Chen, R.S. Nelson, Z.Y. Wang, M. Udvardi, Y. Tang, E. Blancaflor, K. Craven, M. Saha and J. Bouton). 2007-2012 ($8,265,872). Renewed at same level 2012-2017. Years 9-10 Grant (2015-17) to PI Dixon at UNT was $866,000.

- Grasslanz Technology Ltd, New Zealand. (PI). Transforming row crops to express condensed tannins. $570,000. 12/1/14-30/11/19
- Forage Genetics International. (PI). Molecular approaches to improved protein utilization in alfalfa. $150,000. 6/1/19-5/31/20.
- Forage Genetics International. (PI). Molecular approaches to improved protein utilization in alfalfa. $878,980. 6/1/13-5/31/19.
- Chromatin Inc, DOE-ARPAe. (PI). Plant based sesquiterpenes. $728,000. 10/20/14-12/31/15.
- United States Department of Energy ARPA-e (Co-PI). Energy plant design. $250,000. 2012 –2015
- US Department of Agriculture (NIFA) Plant Biochemistry. (PI). Deciphering Proanthocyanidin Biosynthesis in Alfalfa. $336,063. 2009-2014.
- National Institutes of Health. CERC Alzheimers (Co-PI with scientists from Mt Sinai Medical Center and Purdue and Rutgers Universities). $322,672, 2007-2013.
- Oklahoma Center for the Advancement of Science and Technology (PI). Development of low lignin alfalfa varieties with enhanced forage quality for Oklahoma. $200,000, 2011-2013.
- Forage Genetics International. Genetic manipulation of lignin in alfalfa (PI), $195,000, 2002-2004. Renewed 2004-2006, $150,000. Renewed 2006-2008, $170,000. Renewed 2009-2013 $170,000.
- Forage Genetics International. Engineering condensed tannins in alfalfa (PI) ($200,000). 2000-2003. Renewed 2004-2007 ($225,000). Renewed 2007-2009 ($170,000). Renewed 2009-2012. Renewed 2012-2013 at same level.
- The State of Oklahoma- Oklahoma Bioenergy Center. (PI). Improving the performance of transgenic plants with improved efficiency for bioethanol processing. $767,050, 2008-2011.
- The State of Oklahoma- Oklahoma Bioenergy Center. (Co-PI). Increasing lignin content for production of biomass better suited to gasification. $253,290, 2008-2011.
- US Department of Energy. Systematic modification of monolignol pathway gene expression for improved lignocellulose utilization. (PI) $700,000. 2006-2009.
- National Science Foundation Plant Genome Program. A genomics approach to the synthesis and secretion of bioactive plant natural products. (PI) $1,400,000. 2006-2009
- The State of Oklahoma. The consortium for legume research: an integrated approach to cotton root rot disease of alfalfa. (Co-PI). $1,500,000. 2005-2007.
- Corporate sponsor. Characterization of Expressed Sequence Tags from Guar Seed cDNA Libraries. (PI) $620,360. 2004-2007. $232,000 extension for 2008. Renewed 2009.
- National Science Foundation, Metabolic Biochemistry Program. Structural and Functional Studies of Plant Natural Product Uridine Diphosphate Glycosyltransferases. (Co-PI). $495,000. 2004-2007
- US Department of Energy. Development of low lignin switchgrass for improved ethanol production. (Co-PI). $670,166. 2005-2008.
- Forage Genetics International. Development of low-lignin silage maize (Co-PI). $159,750. 2006-2008

- Oklahoma Center for the Advancement of Science and Technology Basic Plant Sciences Program. Characterization of isoflavone *C*-glycosyltransferase genes. (PI) $90,000. 2007-2009
- National Science Foundation, Developing Countries Collaboration (Plant Genome Grant extension). A genomics approach to improvement of disease resistance in tea (*Camellia sinensis*). (PI) $99,000. 2005-2007.
- Oklahoma Center for the Advancement of Science and Technology/ Health Research Program. Genetic modification of health-promoting isoflavones. (PI) $135,000. 2002-005
- US Department of Energy. Deciphering the complex networks in monolignol formation, phenylpropanoid coupling and lignin assembly: an integrative approach (Co-PI). $330,000. 2002-2005
- National Science Foundation. Plant Genome Program An integrated approach to functional genomics in a model legume (Co-PI). $3,500,000. 2001-2005.
- National Science Foundation Multi-User Equipment and Instrumentation Resources. A single photon confocal laser scanning microscope for multispectral imaging of plant cellular processes (Co-PI). $339,647. 2004-2007.
- David Michael and Co. Philadelphia, PA. Cloning and transgenic expression of the chain shortening enzyme of vanillin biosynthesis. (PI) $104,000, 1999-2001.
- David Michael and Co. Philadelphia, PA. Isolation of the chain shortening enzyme of vanillin biosynthesis.(PI), $50,000. 1998-99.
- Agribiotech Inc. and Forage Genetics International. Improved digestibility of alfalfa by genetic engineering. (PI), $165,000. 1998-2001.
- National Science Foundation EPSCoR program - Multidisciplinary Approaches to Molecular Analysis of Plant Biotic Stress (Co-PI) ($975,000). 1992-1995
- UK Agricultural and Food Research Council - Enzymic and molecular genetic control of isoflavonoid phytoalexin biosynthesis. (PI), $103,504. 1986-1989
- UK Science and Engineering Research Council - The role of cinnamic acid as a modulator of the phenylpropanoid pathway in bean cells. (PI), $87,211. 1986-1989
- Gatsby Charitable Foundation - Enzymology and molecular cloning of isoflavone O-methyltransferase from alfalfa. PI, $13,125. 1986-1989
- UK Agricultural and Food Research Council - Gene expression in the bean: *Colletotrichum* interaction. (PI), $167,435. 1985-1988
- ICI Corporate Biosciences - Molecular mechanisms underlying cinnamic acid control of phenylalanine ammonia-lyase production and removal. PI, $12,696. 1985
- UK Agricultural and Food Research Council - Isolation, characterization and mode of action of endogenous elicitor molecules from *Phaseolus vulgaris.* PI, $112,429. 1984-1987
- University of London Central Research Fund - Materials for production of monoclonal antibodies against plant proteins (PI, $1,225. 1983
- UK Science and Engineering Research Council and ICI Corporate Biosciences - Molecular mechanisms underlying cinnamic acid control of phenylalanine ammonia-lyase production and removal PI, $86,595. 1982-1985
- UK Agricultural Research Council - Enzymic changes in relation to phytoalexin induction in *Phaseolus vulgaris*. PI, $65,975. 1982-1985

- University of London Central Research Fund - Materials for density-labelling of plant proteins. PI, $1,050. 1981
- South African Department of Agriculture and Fisheries - Resistance of avocado to *Phytophthora cinnamomi*. PI, $2,625. 1981
- University of London Central Research Fund - Equipment for plant cell culture work. PI, $4,200. 1980
- UK Agricultural Research Council - Enzymology and regulation of phytoalexin induction in the French bean. PI, $31,500. 1979-1982

Fellowships, Travel Awards:

- EMBO Short Term Fellowship to support nine weeks' sabbatical research at the Department of Genetics, Free University, Amsterdam. 1986
- Royal Society (London) Travel Grant to support three months' sabbatical research at the Salk Institute, San Diego. 1986

PATENTS

1. Transgenic plants containing multiple disease resistance genes. C.J. Lamb, Q. Zhu, E.A. Maher, and **R.A. Dixon**. US patent number 5,530,187
2. Isoflavone reductase promoter. **R.A. Dixon**, N.L. Paiva, and A. Oommen. US patent number 5,750,399. (International patents issued in Australia, New Zealand)
3. Constitutive disease resistance (CDR1) gene and methods of use thereof. Y. Xia, **R.A. Dixon** and C. Lamb. US patent number 6,316,697
4. Regulation of anthocyanin pigment production. J. Borevitz, X. Xia, **R.A. Dixon** and C. Lamb. Issued. US patent number 6,573,432
5. Genetic manipulation of isoflavonoids**. R.A. Dixon** and C.L. Steele. US patent number 7,038,113
6. Isoflavonoid methylation enzyme. **R.A. Dixon** and X.-Z. He. US patent number 7,432,425
7. Method for modifying lignin composition and increasing *in vivo* digestibility of forages. **R.A. Dixon** and D. Guo. US patent number 7,888,533; Canadian Patent # 2,404,104
8. Methods and compositions for production of flavonoid and isoflavonoid nutraceuticals. **R.A. Dixon**, C.-J. Liu and B. Deavours. Australian Patent No. 2003,270537, New Zealand Patent No. 538259.
9. Methods and compositions for determining enzymatic activity and specificity of methyltransferases, J.Noel, C. Zubieta and **R.A. Dixon**. US patent No. 7,384,759
10. Genetic manipulation of condensed tannins. **R.A. Dixon**, N.L. Paiva, D. Xie, S. Sharma. European patent No. 1546335. Australian patent No. 60/392,562. New Zealand Patent No. 552453. US patents No. 7,622,638; 7,709,701
11. Genetic manipulation of condensed tannins. S.B. Sharma and R.A. Dixon. Australian patent number 2005265356;
12. Plant fatty acid amide hydrolases. K.D. Chapman, R. Shrestha and **R.A. Dixon**. US patent number 7,316,928
13. Plant isoflavonoid hydroxylases and methods of used thereof. **R.A. Dixon** and C.-J. Liu, US patent numbers 7,442,851; 8,129,592.

14. Modification of lignin biosynthesis. **R.A. Dixon**, M.S.S. Reddy and F. Chen. US patent number 7,663, 023; New Zealand patent number 552941
15. Methods and compositions for modifying plant metabolic pathways. L. Tian and **R.A. Dixon**. US patent number 7,816,507; New Zealand patent number 570395; Australian patent number 2007213711.
16. Production of proanthocyanidins to improve forage quality. **R.A. Dixon**, L. Modolo and G. Peel. US patent number 7,880,059; Australian patent number 2008245794
17. Disease resistant plants. S.R. Uppalapati, K.S. Mysore, W. Li, L.W. Sumner and **R.A. Dixon**. US patent number 8,138,392 B2. March 20, 2012.
18. Epicatechin glucosyltransferase. **R.A. Dixon**, Y. Pang, and G.J. Peel. US patent number 8,420,889 B2; New Zealand patent number 591217 .
19. Plants with modified lignin content and methods for production thereof. Q. Zhao, F. Chen and **R. A. Dixon**. US patent number 8,796,509 B2. Aug 5, 2014. Australian Patent number 61/225,126.
20. Caffeoyl CoA reductase. R. Zhou, **R.A. Dixon** and F. Chen. US provisional patent application # 13/181,284
21. Transcription factors for modification of lignin content in plants. H.Wang, F. Chen and **R.A. Dixon**. United States Patent, US 9,045,549 B2.
22. Methods and compositions for regulating production of proanthocyanidins. J. Verdier, J. Zhao, I. Torres-Jerez, S. Ge, K. S. Mysore, R. A. Dixon and M. K. Udvardi. US Patent Number 9,121,031 B2.
23. Compositions and methods for improved plant feedstock. H. Shen, F. Chen and R. A. Dixon. US patent number 8,901,371 B2. Issued December 2, 2014
24. A novel monolignol that reduces recalcitrance of plant cell walls. B. Davison, **R.A. Dixon**, N. Engle, J. Mielenz, Y. Pu, A. Ragauskas, R.F. Standaert, T.J. Tschaplinski. US provisional patent 201102581
25. Carbon fibers derived from poly-(caffeyl alcohol) (PCFA). **R.A. Dixon**, N. D'Souza, F. Chen, M. Nar. U.S. Patent No. 9,890,480, February 13, 2018.
26. Plant isoflavone and isoflavanone O-methyltransferase genes. B.E. Broeckling, C-J. Liu and **R.A. Dixon**. US patent number 8,809,627 B2, August 19, 2014.
27. Metabolic engineering for plant disease resistance. Li, W., Upalapati, S.R., Mysore, K.S., **Dixon, R.A**. and Sumner, L.W. January 19, 2016, US Patent Number 9,238,821B2
28. Methods for regulating extractable proanthocyanidins in plants by affecting leucoanthocyanidin reductase. R.A. Dixon and C. Liu. US patent number 16/325,432, 2019
29. Methods for engineering proanthocyanidins (PAs) in plants by affecting MYB transcription factors. R.A. Dixon and N. Lu. US provisional application.
30. Manipulation of proanthocyanidin (PA) composition by affecting anthocyanidin synthase (ANS) and leucoanthocyanidin dioxygenase (LDOX). R.A. Dixon and J.H. Jun. January 17, 2019. US patent Number US2019/0017060 A1.
31. Recombinant LAC polynucleotides and uses thereof to increase production of C-lignin in plants. R.A. Dixon, J.-H. Jun and F. Chen. US provisional application.

COMMERCIAL PRODUCTS

- The Dixon lab has worked with Forage Genetics International from 2002 towards the development and commercialization of reduced lignin alfalfa through genetic engineering. HarvExtra™ alfalfa, which possesses increased forage digestibility and allows more flexibility in harvest time, became available to farmers in 2015.

PUBLICATIONS

1. **Dixon, R.A**. and Fuller, K.W. (1976). Effects of synthetic auxin levels on phaseollin production and phenylalanine ammonia-lyase (PAL) activity in tissue cultures of *Phaseolus vulgaris* L. Physiological Plant Pathology 9: 299-312.

2. **Dixon, R.A.** and Fuller, K.W. (1977). Characterization of components from culture filtrates of *Botrytis cinerea* which stimulate phaseollin biosynthesis in *Phaseolus vulgaris* cell suspension cultures. Physiological Plant Pathology 11: 287-296.

3. **Dixon, R.A.** and Fuller, K.W. (1978). Effects of growth substances on non-induced and *Botrytis cinerea* culture filtrate-induced phaseollin production in *Phaseolus vulgaris* cell suspension cultures. Physiological Plant Pathology 12: 279-288.

4. **Dixon, R.A.** and Bendall, D.S. (1978). Changes in phenolic compounds associated with phaseollin production in cell suspension cultures of *Phaseolus vulgaris*. Physiological Plant Pathology 13: 283-294.

5. **Dixon, R.A.** and Bendall, D.S. (1978). Changes in the levels of enzymes of phenylpropanoid and flavonoid synthesis during phaseollin production in cell suspension cultures of *Phaseolus vulgaris*. Physiological Plant Pathology 13: 295-306.

6. Lamb, C.J. and **Dixon, R.A.** (1978). Stimulation of de novo synthesis of L-phenylalanine ammonia-lyase during induction of phytoalexin biosynthesis in cell suspension cultures of *Phaseolus vulgaris*. FEBS Letters 94: 277-280.

7. **Dixon, R.A.** and Lamb, C.J. (1979). Stimulation of *de novo* synthesis of L-phenylalanine ammonia-lyase in relation to phytoalexin accumulation in *Colletotrichum lindemuthianum* elicitor-treated cell suspension cultures of French bean (*Phaseolus vulgaris*). Biochimica et Biophysica Acta 586: 453-463.

8. Lawton, M.A., **Dixon, R.A.** and Lamb, C.J. (1980). Elicitor modulation of L-phenylalanine ammonia-lyase in French bean cell suspension cultures. Biochimica et Biophysica Acta 633: 162-175.

9. **Dixon, R.A**., Browne, T. and Ward, M. (1980). Modulation of L-phenylalanine ammonia-lyase by pathway intermediates in cell suspension cultures of dwarf French bean (*Phaseolus vulgaris* L.). Planta 150: 279-28

10. **Dixon, R.A.** and Lamb, C.J. (1980). The specificity of plant defenses. Nature 283: 135-136.

11. **Dixon, R.A.** (1980). Plant tissue culture methods in the study of phytoalexin induction. In "Tissue Culture Methods for Plant Pathologists", eds. D.S. Ingram and J.P. Helgeson, Blackwell Scientific Publications, Oxford, pp. 185-196.

12. Lamb, C.J., Lawton, M.A., Taylor, S.J. and **Dixon, R.A.** (1980). Elicitor modulation of phenylalanine ammonia-lyase in *Phaseolus vulgaris*. Annals of Phytopathology 12: 423-433.

13. **Dixon, R.A**., Dey, P.M., Murphy, D.L. and Whitehead, I.M. (1981). Dose responses for *Colletotrichum lindemuthianum* elicitor-mediated enzyme induction in French bean cell suspension cultures. Planta 151: 272-280.

14. **Dixon, R.A.** and van Lelyveld, L. (1981). Biochemical studies on resistance of avocado to *Phytophthora cinnamomi*. South African Department of Agriculture and Fisheries Report.

15. **Dixon, R.A**., Dey, P.M. and Whitehead, I.M. (1982). Purification and properties of chalcone isomerase from cell suspension cultures of *Phaseolus vulgaris.* Biochimica et Biophysica Acta 715: 25-33.

16. Whitehead, I.M., Dey, P.M. and **Dixon, R.A.** (1982). Differential patterns of phytoalexin accumulation and enzyme induction in wounded and elicitor-treated tissues of *Phaseolus vulgaris*. Planta 154: 156-164.

17. Dewick, P.M., Steele, M.J., **Dixon, R.A.** and Whitehead, I.M. (1982). Biosynthesis of isoflavonoid phytoalexins: incorporation of sodium (1,2-$^{13}C_2$) acetate into phaseollin and kievitone. Zeitschrift für Naturforschung 37c: 363-368.

18. Lawton, M.A., **Dixon, R.A.**, Hahlbrock, K. and Lamb, C.J. (1983). Rapid induction of phenylalanine ammonia-lyase and of chalcone synthase synthesis in elicitor-treated plant cells. European Journal of Biochemistry 129: 593-601.

19. Lawton, M.A., **Dixon, R.A**., Hahlbrock, K. and Lamb, C.J. (1983). Elicitor induction of mRNA activity: rapid effects of elicitor on phenylalanine ammonia-lyase and chalcone synthase mRNA activities in bean cells. European Journal of Biochemistry 130: 131-139.

20. **Dixon, R.A**., Dey, P.M., Lawton, M.A. and Lamb, C.J. (1983). Phytoalexin induction in French bean: intercellular transmission of elicitation in cell suspension cultures and hypocotyl sections of *Phaseolus vulgaris*. Plant Physiology 71: 251-256.

21. Whitehead, I.M. and **Dixon, R.A.** (1983). Chalcone synthase from cell suspension cultures of *Phaseolus vulgaris*. Biochimica et Biophysica Acta 747: 298-303.

22. **Dixon, R.A**., Gerrish, C., Lamb, C.J. and Robbins, M.P. (1983). Elicitor modulated induction of chalcone isomerase in *Phaseolus vulgaris*. Planta 159: 561-569.

23. **Dixon, R.A**., Dey, P.M. and Lamb, C.J. (1983). Phytoalexins: enzymology and molecular biology. Advances in Enzymology and Related Areas of Molecular Biology 55: 1-136.

24. Lamb, C.J., Bell, J., Norman, P., Lawton, M.A., **Dixon, R.A**., Rowell, P. and Bailey, J.A. (1983). Early molecular events in the phytoalexin defense response. In "Structure and Function of Plant Genomes", eds. O. Ciferri and L. Dure III, vol. 63, NATO ASI Series, Plenum, New York, pp. 313-328.

25. Van Lelyveld, L.J., **Dixon, R.A**. and Gerrish, C. (1983). Biochemical investigation into post-storage physiological disorders in avocados. South African Department of Agriculture and Fisheries Report, 40 pp.

26. Bell, J.N., **Dixon, R.A**., Bailey, J.A., Rowell, P.M. and Lamb, C.J. (1984). Differential induction of chalcone synthase mRNA activity at the onset of phytoalexin accumulation in compatible and incompatible plant-pathogen interactions. Proceedings of the National Academy of Sciences USA 81: 3384-3388.

27. Van Lelyveld, L. J., Gerrish, C. and **Dixon, R.A.** (1984). Enzyme activities and polyphenols related to mesocarp discolouration of avocado fruit. Phytochemistry 23: 1531-1534.

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29. Robbins, M.P. and **Dixon, R.A**. (1984). Induction of chalcone isomerase in elicitor-treated bean cells. Comparison of rates of synthesis and appearance of immunodetectable enzyme. European Journal of Biochemistry 145: 195-202.

30. Gerrish, C., Robbins, M.P. and **Dixon, R.A**. (1985). Cinnamic acid as a modulator of chalcone isomerase in bean (*Phaseolus vulgaris*) cell suspension cultures. Plant Science Letters 38: 23-27.

31. Robbins, M.P., Bolwell, G.P. and **Dixon, R.A**. (1985). Metabolic changes in elicitor-treated bean cells: selectivity of enzyme induction in relation to phytoalexin accumulation. European Journal of Biochemistry 148: 563-569.

32. Bolwell, G.P., Robbins, M.P. and **Dixon, R.A**. (1985). Metabolic changes in elicitor-treated bean cells. Enzymic responses in relation to rapid changes in cell wall composition. European Journal of Biochemistry 148: 571-578.

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35. Bolwell, G.P., Robbins, M.P. and **Dixon, R.A**. (1985). Elicitor-induced prolyl hydroxylase from *Phaseolus vulgaris*: Localization, purification and properties. Biochemical Journal 229: 693-699.

36. Mol, J.N.M., Robbins, M.P., **Dixon, R.A**. and Veltkamp, E. (1985). Spontaneous and enzymic rearrangement of naringenin chalcone to flavanone. Phytochemistry 24: 2267-2269.

37. Edwards, K., Cramer, C.L., Bolwell, G.P., **Dixon, R.A**., Schuch, W. and Lamb, C.J. (1985). Rapid transient induction of phenylalanine ammonia-lyase mRNA in elicitor-treated bean cells. Proceedings of the National Academy of Sciences USA 82: 6731-6735.

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39. **Dixon, R.A**. (1985). β-1,3-Linked glucans from higher plants. In "Biochemistry of Storage Carbohydrates in Green Plants", P.M. Dey and R.A. Dixon, eds., Academic Press, pp. 229-264.

40. Dey, P.M. and **Dixon, R.A**. (1985). Glycosides. In "Biochemistry of Storage Carbohydrates in Green Plants", P.M. Dey and R.A. Dixon, eds., Academic Press, pp. 131-148

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44. Bolwell, G.P. and **Dixon, R.A**. (1986). Membrane bound hydroxylases in elicitor-treated bean cells. Rapid induction of the synthesis of prolyl hydroxylase and a putative cytochrome P450. European Journal of Biochemistry 159: 162-169.

45. **Dixon, R.A**., Bolwell, G.P., Sunley, R.L., Lawrence, D.K. and Bridges, I.G. (1986). An affinity matrix for the isolation of L-phenylalanine ammonia-lyase. Phytochemistry 26: 659-661.

46. **Dixon, R.A**. Bolwell, G.P., Robbins, M.P. and Hamdan, M.A.M.S. (1986). Molecular targets for elicitor modulation in bean (*Phaseolus vulgaris*), in Biology and Molecular Biology of Plant-Pathogen Interactions, Bailey, J.A., ed. Springer, Heidelberg, pp. 221-234.

47. **Dixon, R.A.** (1986). The phytoalexin response: elicitation, signalling and control of host gene expression. Biological Reviews of the Cambridge Philosophical Society 61: 239-291.

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