

CURRICULUM VITAE- Kent D. Chapman

Contact Information:

Name: Kent D. Chapman

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Formal Education and Training:

- 1991-1993 Louisiana State University, Baton Rouge, LA, Postdoctoral Training- National Science Foundation Postdoctoral Fellowship in Plant Biology, Project Title: "Biosynthesis of *N*-Acylphosphatidylethanolamine", Advising Professor: Dr. Thomas S. Moore, Jr.
- 1986-1991 Arizona State University, Tempe, AZ, Ph.D. (Botany), Dissertation Title: "The Cellular Origin of Membrane Lipids for Enlarging Cottonseed Glyoxysomes", Supervisory Professor: Dr. Richard N. Trelease
- 1983-1986 Lycoming College, Williamsport, PA, A.B. (Biology)

Professional Positions:

- 2014- present **Associate Director**, BioDiscovery Institute, University of North Texas, Denton, TX
- 2010- present **Regents Professor of Biochemistry**, Department of Biological Sciences, University of North Texas, Denton, TX
- 2014-2015 **Program Director**, National Science Foundation, Division of Integrative and Organismal Systems- Temporary Assignment, Arlington, VA
- 2008-2014 **Coordinator**, Research Cluster in Plant Signaling Mechanisms, University of North Texas, Denton TX
- 2003-present **Professor of Biochemistry**, Department of Biological Sciences, Division of Biochemistry and Molecular Biology, University of North Texas, Denton, TX
- 2003-present **Director**, Center for Plant Lipid Research, College of Arts and Sciences, University of North Texas, Denton, TX
- 1999-2008 **Director**, Biochemistry and Molecular Biology Division, Department of Biological Sciences, University of North Texas, Denton, TX (except 2004)
- 2001-2002 **Visiting Scientist**, Plant Biology Division, SR Noble Foundation, Ardmore, OK, Sabbatical/ Developmental Leave- Laboratory of Dr. Richard A. Dixon
- 1998-2003 **Associate Professor of Biochemistry**, Department of Biological Sciences, Division of Biochemistry and Molecular Biology, University of North Texas, Denton, TX
- 1993-1998 **Assistant Professor of Biochemistry**, Department of Biological Sciences, Division of Biochemistry and Molecular Biology, University of North Texas, Denton, TX

Significant Professional Activities and Honors:

- 2016 Appointed Reviewing Editor, *The Plant Cell*, American Society of Plant Biologists, (Guest Editor Appointment 2015). 5-year IF, 10.5 (highest of primary research journals in plant biology)
- 2015 Appointed Executive Editor, *Progress in Lipid Research*, Elsevier Ltd. 5-year IF, 11.3 (11th out of 289 journals in Biochemistry & Molecular Biology, and 1st out of 78 in nutrition sciences)
- 2015 Guest Editor Appointment (with Ivo Feussner), *BBA- Molecular Cell Biology of Lipids*—special issue in Plant Lipid Biology (2015-2016, 5-year IF, 4.5).
- 2014 Award/Agreement via Intergovernmental Personnel Act (IPA) to serve as rotating program officer at the National Science Foundation, Arlington VA

- 2013 Chair, Scientific Advisory Committee to the United States Department of Energy-- EFRC Center for Advanced Biofuels Systems (2011-13)
- 2011 Executive Committee Member, American Society of Plant Biologists (ASPB). Southern Section Representative (2011-2014)
- 2011 Leadership, Southern Section of the ASPB, Executive committee (2008-11), Financial Oversight (2012- present); Chair (2007-08), Vice Chair (2006-07), Secretary Treasurer (2005-06), Organized the Annual Meeting in Feb 2006, in Daytona Beach, FL; Local Coordinator, Annual Meeting in March 2003, Denton TX.
- 2011 Guest Editor Appointment (with Xuemin Wang), Special Issue in Plant Lipid Signaling, *Frontiers in Plant Physiology* (2011-2013, ranked 24th out of 349 journals in plant science, SCImago).
- 2010 Research Award for Outstanding Achievement in Intellectual Property, University of North Texas
- 2010 Appointed Regents Professor, University of North Texas, Denton, TX
- 2009 Research Leadership Award for National and International Scientific Achievement, University of North Texas
- 2009 Chair, Inaugural Gordon Research Conference on Plant Lipids: Structure, Metabolism and Function- held February 1-6, 2009, Hotel Galvez, Galveston TX. Wrote proposal for new GRC that was approved in 2007 (with Co-chair, John Ohlrogge, Michigan State University). (Standing biannual GRC and GRS; 2017 will be the 5th meeting of this leading plant lipid conference)
- 2007 Executive Advisory Board, NSF-EPSCoR- State of Arkansas. (2007-13), Chair, Plant Biotechnology Program Advisory Board (2011-13).
- 2006 Member, Advisory Committee, Plant Oils Flagship, European Commission Project- EPOBIO- Realizing the Economic Potential of Sustainable Resources- Bioproducts from Non-Food Crops. Wageningen, Netherlands 2006, Athens, Greece 2007
- 2001 Sabbatical/ Developmental Leave Award- Samuel Roberts Noble Foundation with Richard A. Dixon (2001-2002, Ardmore, OK)
- 1999 Invited Lecturer, Plant Biochemistry Summer Course (NSF, DOE, USDA-sponsored), Washington State University. Signaling Role of Plant Lipids. 1999 and 2001.
- 1997 Member, Texas Food and Fiber Commission, Industry Advisory Committee (thru 2005)
- 1993 Fellowship, NSF Postdoctoral Fellowship in Plant Biology- Louisiana State University with Thomas S. Moore, Jr. (1991-1993, Baton Rouge, LA)
- 1991 Michael A. Cichan Award for Creative Excellence in Botany Research, Arizona State University (Tempe, AZ)
- 1987 Fellowship, Cell and Developmental Biology, Arizona State University (Tempe, AZ)
- 1986 Byron C Brunstetter Award for Excellence in the Chemical and Biological Sciences, Lycoming College (Williamsport, PA)

Refereed Journal Articles (116-- H- index 40 [28 since 2011]):

1. **Sturtevant D, Lee YJ, Chapman KD** (2016) Matrix assisted laser desorption/ionization-mass spectrometry imaging (MALDI-MSI) for direct visualization of plant metabolites in situ. *Curr Opin in Biotech* 37:53-60. doi: 10.1016/j.copbio.2015.10.004. Review.
2. **Gidda SK, Park S, Pyc M, Yurchenko O, Cai Y, Wu P, Andrews DW, Chapman KD, Dyer JM, Mullen RT** (2016) Lipid Droplet-Associated Proteins (LDAPs) Are Required for the Dynamic Regulation of Neutral Lipid Compartmentation in Plant Cells. *Plant Physiol*, 170(4):2052-71. doi: 10.1104/pp.15.01977.
3. **Hamilton JS, EL Gorishek, PM Mach, D Sturtevant, ML Ladage, N Suzuki, PA Padilla, R Mittler, KD Chapman, GF Verbeck** (2016) Evaluation of a custom single Peltier-cooled ablation cell for elemental imaging of biological samples in laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS). *JAAS (J Anal Atomic Spect)* 31 (4), 1030-1033.
4. **Montgomery CL, Keereetaweeep J, Johnson HM, Grillo SL, Chapman KD, Koulen P** (2016) Changes in retinal *N*-acylethanolamines and their oxylipin derivatives during the development of

- visual impairment in a mouse model for glaucoma. *Lipids* Jul;51(7):857-66. doi: 10.1007/s11745-016-4161-x.
5. **Liu F, Zhao Q, Mano N, Ahmed Z, Nitschke F, Cai Y, Chapman KD, Steup M, Tetlow JJ, Emes MJ** (2016) Modification of starch metabolism in transgenic *Arabidopsis thaliana* increases plant biomass and triples oilseed production. *Plant Biotech J* 14(3):976-85 doi: 10.1111/pbi.12453. [Epub ahead of print] PMID: 26285603.
 6. **Snider JL, GD Collins, J Whitaker, KD Chapman, P Horn** (2016) The impact of seed size and chemical composition on seedling vigor, yield, and fiber quality of cotton in five production environments. *Field Crops Res* 193, 186-195.
 7. **Pathak S, Kumar KR, Kanta H, Carr-Johnson F, Han J, Bashmakov A, Faure L, Ding H, Vanarsa K, Khan S, Li QZ, Chapman K(D), Wakeland EK, Mohan C.** (2016) Fatty Acid Amide Hydrolase Regulates Peripheral B Cell Receptor Revision, Polyreactivity, and B1 Cells in Lupus. *J Immunol* Feb 15;196(4):1507-16. doi: 10.4049/jimmunol.1500291.
 8. **Keereetaweeep, J. and Chapman, K.D.** (2016) Lipidomic Analysis of Endocannabinoid Signaling: Targeted Metabolite Identification and Quantification. *Neural Plasticity*, vol. 2016, Article ID 2426398, 13 pages, 2016. doi:10.1155/2016/2426398. In Special Issue on Endocannabinoids. <http://www.hindawi.com/journals/np/2016/2426398/>
 9. **Faure L, Cavazos R, Khan BR, Petros RA, Koulen P, Blancaflor EB, Chapman KD** (2015) Effects of synthetic alkamides on *Arabidopsis* fatty acid amide hydrolase activity and plant development. *Phytochem*, 110:58-71. doi:10.1016/j.phytochem.2014.11.011. PMID: 25491532.
 10. **Hinze LL, Horn PJ, Kothari N, Dever JK, Frelichowski J, Chapman KD, Percy RG** (2015) Nondestructive Measurements of Cottonseed Nutritional Trait Diversity in the U.S. National Cotton Germplasm Collection. *Crop Sci* 55(2) 770-782.
 11. **Keereetaweeep J, Blancaflor EB, Hornung E, Feussner I, Chapman KD** (2015) Lipoxygenase derived 9-hydro(pero)xides of linoleylethanolamide interact with ABA signaling to arrest root development during *Arabidopsis* seedling establishment. *Plant J* 82(2):315-27. doi: 10.1111/tpj.12821.
 12. **Phelps MS, Sturtevant D, Chapman KD, Verbeck GF** (2015) Nanomanipulation-Coupled Matrix-Assisted Laser Desorption/ Ionization-Direct Organelle Mass Spectrometry: A Technique for the Detailed Analysis of Single Organelles. *J Am Soc Mass Spect (JASMS)* 27(2):187-93. [Epub ahead of print] PMID: 26238327. **Cover**
 13. **Cai Y, Goodman JM, Pyc M, Mullen RT, Dyer JM, Chapman KD** (2015) *Arabidopsis* SEIPIN Proteins Modulate Triacylglycerol Accumulation and Influence Lipid Droplet Proliferation. *Plant Cell*, 27(9):2616-36. pii: tpc.15.00588. [Epub ahead of print] PMID: 26362606
 14. **Park S, Keereetaweeep J, James CN, Gidda SK, Chapman KD, Mullen RT, Dyer JM** (2014) CGI-58, a key regulator of lipid homeostasis and signaling in plants, also regulates polyamine metabolism. *Plant Sign Behav*, 9:e27723. Epub 2014 Feb 3. PMID: 24492485.
 15. **Blancaflor EB, Kilaru A, Keereetaweeep J, Khan BR, Faure L, Chapman KD.** (2014) *N*-Acylethanolamines: lipid metabolites with functions in plant growth and development. *Plant J* 79(4):568-83. doi: 10.1111/tpj.12427, early view on line. **Review**, peer reviewed- ***Special issue on Small Molecules in Signaling-- Selected as part of Cover**
 16. **Hall TD, Chastain DR, Horn PJ, Chapman KD, Choinski JS** (2014) Changes during leaf expansion of photosynthetic thermotolerance in *Gossypium hirsutum* are associated with the degree of fatty acid lipid saturation. *J Plant Physiol* 171(6):411-20. doi: 10.1016/j.jplph.2013.12.005. Epub 2014 Feb 14. PMID: 24594393
 17. **Horn PJ, Chapman KD** (2014) Lipidomics *in situ*: Insights into Plant Lipid Metabolism from High Resolution Spatial Maps of Metabolites. *Prog Lipid Res*, 54:32-52. doi: 10.1016/j.plipres.2014.01.003. review.

18. **Faure L, Nagarajan S, Hwang H, Montgomery CL, Khan BR, John G, Koulen P, Blancaflor EB, Chapman KD** (2014) Synthesis of phenoxyacyl-ethanolamides and their effects on fatty acid amide hydrolase activity. *J Biol Chem* 289(13):9340-51. doi: 10.1074/jbc.M113.533315.
19. **Yurchenko OP, Park S, Ilut DC, Inmon JJ, Millhollon JC, Liechty Z, Page JT, Jenks MA, Chapman KD, Udall JA, Gore MA, Dyer JM** (2014) Genome-wide analysis of the omega-3 fatty acid desaturase gene family in *Gossypium*. *BMC Plant Biol.* 2014 Nov 18;14(1):312.
20. **Vanhercke T, El Tahchy A, Liu Q, Zhou XR, Shrestha P, Divi U, Mansour M, Ral JP, Nichols P, James CN, Horn PJ, Chapman KD, Beaudoin F, Ruiz-López N, LarkinP, deFeyter R, Singh S, Petrie J** (2014) Metabolic engineering of biomass for high energy density: oilseed-like triacylglycerol yields from plant leaves. *Plant Biotech J* 12(2):231-9. doi: 10.1111/pbi.12131. ***Selected for Cover of Issue**
21. **Chapman KD, Dyer JM, Mullen RT.** (2013) Commentary: why don't plant leaves get fat? *Plant Sci* 207:128-34. doi: 10.1016/j.plantsci.2013.03.003. Review.
22. **Park S, Gidda SK, James CN, Horn PJ, Khuu N, Seay DC, Keereetaweep J, Chapman KD, Mullen RT, Dyer JM.** (2013) The α/β Hydrolase CGI-58 and Peroxisomal Transport Protein PXA1 Coregulate Lipid Homeostasis and Signaling in Arabidopsis. *Plant Cell* 25(5):1726-39. **Faculty of 1000 recommended. Featured In-Brief article in same issue.**
23. **Horn PJ, Silva JE, Anderson D, Fuchs J, Borisjuk L, Nazareus TJ, Shulaev V, Cahoon EB, Chapman KD** (2013) Imaging Heterogeneity of Membrane and Storage Lipids in Transgenic *Camelina sativa* Seeds with Altered Fatty Acid Profiles. *Plant J*, 76(1):138-50. doi: 10.1111/tpj.12278.
24. **Horn PJ, James CN, Gidda SK, Kilaru A, Dyer JM, Mullen RT, Ohlrogge JB, Chapman KD.** (2013) Identification of a New Class of Lipid Droplet-Associated Proteins in Plants. *Plant Physiol*, 162(4):1926-36. doi: 10.1104/pp.113.222455.
25. **Grillo SL, Keereetaweep J, Grillo MA, Chapman KD, Koulen P** (2013). *N*-Palmitoylethanolamine depot injection increased its tissue levels and those of other acylethanolamide lipids. *Drug Design Devel Ther* 7:747-52. doi: 10.2147/DDDT.S48324. PMID:23976843.
26. **Wang S, Horn PJ, Liou LC, Muggeridge MI, Zhang Z, Chapman KD, Witt SN** (2013) A peroxisome biogenesis deficiency prevents the binding of alpha-synuclein to lipid droplets in lipid-loaded yeast. *Biochem Biophys Res Comm*, 438(2):452-6. doi: 10.1016/j.bbrc.2013.07.100.
27. **Horn PJ, Chapman KD** (2014) Metabolite Imager: Customized Spatial Analysis of Metabolite Distributions in Mass Spectrometry Imaging. *Metabolomics*, 10:337-348, doi: 10.1007/s11306-013-0575-0.
28. **Horn PJ, Sturtevant D, Chapman KD** (2013) Modified Oleic Cottonseeds Show Altered Content, Composition and Tissue-Specific Distribution of Triacylglycerol Molecular Species. *Biochimie*. 96:28-36.
29. **Main CL, Barber LT, Boman RK, Chapman KD, Dodds DM, Duncan S, Edmisten KL, Horn PJ, Jones MA, Morgan GD, Norton ER, Osborne S, Whitaker JR, Nichols RL** (2013) Effects of Nitrogen and Planting Seed Size on Cotton Growth, Development and Yield. *Agronomy J* 105(6): 1853-1859.
30. **Keereetaweep K, Blancaflor EB, Hornung E, Feussner I, Chapman KD** (2013) Ethanolamide oxylipins of linolenic acid can negatively regulate Arabidopsis seedling development. *Plant Cell*, 25(10):3824-40. ***Featured In-Brief article in same issue.**
31. **Gidda SK, Watt S, Collins-Silva J, Kilaru A, Arondel V, Yurchenko O, Horn PJ, James CN, Shintani D, Ohlrogge JB, Chapman KD, Mullen RT, Dyer JM** (2013) Lipid droplet-associated proteins (LDAPs) are involved in the compartmentalization of lipophilic compounds in plant cells. *Plant Signal Behav*, 8(11). pii: e27141.
32. **Chapman KD, Dyer JM, Mullen RT** (2012) Biogenesis and functions of lipid droplets in plants. *J Lipid Res* 53(2):215-26 **Thematic Review Series- Selected for Cover of Issue**
33. **Chapman KD, Ohlrogge JB** (2012) Compartmentation of triacylglycerol accumulation in plants.

- J Biol Chem*, 287(4): 2288–2294. Minireview- **featured special issue.**
34. **Horn PJ, Korte AR, Neogi PB, Love E, Fuchs J, Strupat K, Borisjuk L, Shulaev V, Lee Y-J, Chapman KD** (2012) Spatial mapping of lipids at cellular resolution in embryos of *Gossypium hirsutum*, L. *Plant Cell*, 24:622-636. **Faculty of 1000 recommended.** *Featured In-Brief article by J.Mach in same issue.
 35. **Horn PJ, Chapman KD** (2012) Lipidomics in Tissues, Cells, and Subcellular Compartments. *Plant J.* 70: 69-80. *Special Issue in High- Resolution Measurements in Plants.
 36. **Teaster ND, Keereetaweep J, Kilaru A, Wang YS, Tang Y, Tran CN, Ayre BG, Chapman KD, Blancaflor EB** (2012) Overexpression of Fatty Acid Amide Hydrolase Induces Early Flowering in *Arabidopsis thaliana*. *Front Plant Sci*, 3:32. Epub 2012 Feb 20., PMID:22645580. *Special Issue in Lipid Signaling
 37. **Horn PJ, Joshi U, Behrendt AK, Chapman KD, Verbeck GF.** (2012) On-stage liquid-phase lipid microextraction coupled to nanospray mass spectrometry for detailed, nano-scale lipid analysis. *Rapid Comm Mass Spec*, 2012 Apr 30; 26(8):957-62.
 38. **Kilaru A, Tamura P, Isaac G, Welti R, Venables BJ, Seier E, Chapman KD.** (2012) Lipidomic analysis of *N*-acylphosphatidylethanolamine molecular species in *Arabidopsis* suggests feedback regulation by *N*-acylethanolamines. *Planta* 236(3): 809-824. PMID:22673881.
 39. **Kilaru A, Chapman, KD** (2012) *N*-Acylated phospholipid metabolism and seedling growth: insights from lipidomics studies in *Arabidopsis*. *Plant Signal Behav*, Addendum, Sept 1, 7(9).
 40. **Garg P, Duncan RS, Kaja S, Zabaneh A, Chapman KD, Koulen P** (2011) Lauroylethanolamide and linoleoylethanolamide improve functional outcome in a rodent model for stroke, *Neurosci Lett* 492(3):134-138
 41. **Kilaru A, Göebel C, Keereetaweep J, Hornung E, Venables BJ, Feussner I, Chapman KD** (2011) Lipoxygenase-mediated oxidation of polyunsaturated *N*-Acylethanolamines in *Arabidopsis*. *J Biol Chem*, 286(17):15205-15214.
 42. **Horn PJ, Ledbetter NR, James CN, Hoffman WD, Case CR, Verbeck GF, Chapman KD** (2011) Visualization of lipid droplet composition by direct organelle mass spectrometry. *J Biol Chem* 286(5):3298-306. **Faculty of 1000 recommended.**
 43. **Horn PJ, Neogi P, Tombokan X, Ghosh S, Todd Campbell BT, Chapman KD** (2011) Simultaneous Quantification of Oil and Protein in Cottonseed by Low-field Time-Domain Nuclear Magnetic Resonance. *J Am Oil Chem Soc (JAOCS)* 88(10): 1521-1529.
 44. **Horn PJ, Chapman KD** (2011) Organellar lipidomics. *Plant Signal Behav* 6(10):1594-6. Addendum. Epub 2011 Oct 1. PMID: 21918374.
 45. **Cotter MQ, Teaster ND, Blancaflor EB, Chapman KD** (2011) *N*-Acylethanolamine (NAE) inhibits growth in *Arabidopsis thaliana* seedlings via ABI3-dependent and -independent pathways. *Plant Signal Behav* 6(5):671-679.
 46. **Adeyo O, Horn PJ, Lee S, Binns DD, Chandrasah A, Chapman KD, Goodman JM** (2011) The yeast lipin orthologue Pah1p is important for biogenesis of lipid droplets *J Cell Biol* 192(6):1043-55.
 47. **Duncan RS, Xin H, Goad DL, Chapman KD, Koulen P** (2011) Protection of neurons in the retinal ganglion cell layer against excitotoxicity by the *N*-acylethanolamine, *N*-linoleoylethanolamine. *Clin Ophthal* 5:543-548. **Highly Accessed** (24,735 views and downloads between April 2011-July 2016)
 48. **Ohlrogge JB and Chapman KD** (2011) The seeds of green energy: expanding the contribution of plant oils as biofuels. *The Biochemist* 33(2): 34-38. A publication of The Royal Biochemical Society. www.biochemist.org- thematic issue on biofuels.
 49. **James CN, Horn PJ, Case CR, Gidda SK, Zhang D, Mullen RT, Dyer JM, Anderson RG, Chapman KD** (2010) Disruption of the *Arabidopsis* CGI-58 homologue produces Chananin-Dorfman-like lipid droplet accumulation in plants. *Proc Natl Acad Sci U S A.* 107(41):17833-8. **Faculty of 1000 recommended ***

50. **Kim SC, Chapman KD, Blancaflor EB** (2010) Fatty acid lipid mediators in plants. *Plant Sci* 178(5): 411-419.*
51. **O'Quin JB, Bourassa L, Zhang D, Shockey JM, Gidda SK, Fosnot S, Chapman KD, Mullen RT, Dyer JM** (2010) Temperature-sensitive post-translational regulation of plant omega-3 fatty-acid desaturases is mediated by the endoplasmic reticulum-associated degradation pathway. *J Biol Chem* 285(28):21781-96.
52. **Keereetawee J, Kilaru A, Feussner I, Venables BJ, Chapman KD** (2010) Lauroylethanolamide is a potent competitive inhibitor of lipoxygenase activity. *FEBS Lett* 584(14):3215-22.
53. **Kilaru A, Tamura P, Garg P, Isaac G, Baxter D, Duncan RS, Welti R, Koulen P, Chapman KD, Venables BJ** (2010). Changes in N-acylethanolamine Pathway Related Metabolites in a Rat Model of Cerebral Ischemia/Reperfusion. *J Glycomics and Lipidomics* 1:101. doi: 10.4172/2153-0637.1000101. <http://www.omicsonline.org/2153-0637/2153-0637-1-101.digital/2153-0637-1-101.html>
54. **Kilaru A, Isaac G, Tamura P, Baxter D, Duncan SR Venables BJ, Welti R, Koulen P, Chapman KD** (2010) Lipid profiling reveals tissue-specific differences for ethanolamide lipids in mice lacking fatty acid amide hydrolase. *Lipids* 45:863-75.
55. **Ayre BG, K Stevens, KD Chapman, CL Webber, III, KL Dagnon, NA D'Souza** (2009) Viscoelastic Properties of Kenaf Bast Fiber in Relation to Stem Age. *Textile Res J* 79: 973-980.
56. **Zhang D, IL Pirtle, SJ Park, M Nampaisansuk, P Neogi, SW Wanjie, RM Pirtle, and KD Chapman** (2009) Identification and expression of a new delta-12 fatty acid desaturase (FAD2-4) gene in upland cotton and its functional expression in yeast and Arabidopsis thaliana plants. *Plant Physiol Biochem*, 47 (6): 462-471.
57. **Lessire R, E Cahoon, K Chapman, J Dyer, P Eastmond and E Heinz** (2009) Highlights of recent progress in plant lipid research. *Plant Physiol Biochem* 47 (6): 443-447. [doi:10.1016/j.plaphy.2009.02.010](https://doi.org/10.1016/j.plaphy.2009.02.010)
58. **Ogbomo SM, KD Chapman, C Webber, R Bledsoe, NA D'Souza** (2009) Benefits of Low Kenaf Loading in Biobased Composites of Poly(L-lactide) and Kenaf Fiber. *J Applied Polymer Sci*, 112(3): 1294 – 1301.
59. **Kim SC, L Kang, S Nagaraj, EB Blancaflor, KS Mysore, KD Chapman** (2009) Mutations in Arabidopsis fatty acid amide hydrolase reveal that catalytic activity influences growth but not sensitivity to abscisic acid or pathogens. *J Biol Chem*. 284(49):34065-74. doi:10.1074/jbc.M109.059022
60. **Duncan RS, KD Chapman, P Koulen** (2009) The neuroprotective properties of palmitoylethanolamine against oxidative stress in a neuronal cell line. *Molecular Neurodegeneration*: 4:50, doi:10.1186/1750-1326-4-50.
61. **Chapman KD, PB Neogi, KD Hake, AA Stawska, TR Speed, MQ Cotter, DC Garrett, T Kerby, CD Richardson, BG Ayre, S Ghosh and AJ Kinney** (2008) Reduced Oil Accumulation in Cottonseeds Transformed with a *Brassica* Nonfunctional Allele of a Delta-12 Fatty Acid Desaturase (*FAD2*). *Crop Sci* 48:1470-1481.
62. **Kang L, Wang YS, Uppalapati SR, Wang K, Tang Y, Vadapalli V, Venables BJ, Chapman KD, Blancaflor EB, Mysore KS.** (2008) Overexpression of a fatty acid amide hydrolase compromises innate immunity in Arabidopsis. *Plant J* 56(2):336-49.
63. **Welti R, Shah J, Li W, Li M, Chen J, Burke JJ, Fauconnier ML, Chapman KD, Chye ML, Wang X** (2007) Plant lipidomics: Discerning biological function by profiling plant complex lipids using mass spectrometry. *Front Biosci*, 12:2494-2506.
64. **Bartz R, Li WH, Venables B, Zehmer JK, Roth MR, Welti R, Anderson RG, Liu P, Chapman KD** (2007) Lipidomics reveals adiposomes store ether lipids and mediate phospholipid traffic. *J Lipid Res* 48(4):837-47.

65. **Bartz R, Seemann J, Zehmer JK, Serrero G, Chapman KD, Anderson RG, Liu P** (2007) Evidence that mono-ADP-ribosylation of CtBP1/BARS regulates lipid storage. *Mol Biol Cell* 18(8):3015-25.
66. **Kilaru A, Blancaflor EB, Venables BJ, Tripathy S, Mysore KS, Chapman KD** (2007) The N-acylethanolamine-mediated regulatory pathway in plants. *Chem Biodivers* 4(8):1933-55. Review. Included in special volume on "Endocannabinoids in Nature and Medicine" DM Lambert, Ed.
67. **Teaster ND, Motes CM, Tang Y, Wiant WC, Cotter MQ, Wang YS, Kilaru A, Venables BJ, Hasenstein KH, Gonzalez G, Blancaflor EB, Chapman KD** (2007) N-Acylethanolamine metabolism interacts with abscisic acid signaling in *Arabidopsis thaliana* seedlings. *Plant Cell* 19(8):2454-69.
68. **Shrestha, R., Kim, S.-C., Dyer, J., Dixon, R.A., Chapman, K.D.** (2006) Plant Fatty Acid (Ethanol) Amide Hydrolases. *Biochim Biophys Acta (BBA)- Molecular and Cell Biology of Lipids*, 1761(3):324-334
69. **Wang Y-S, Shrestha, R., Wiant, W., Venables, B.J., Chapman, KD, Blancaflor, E.B.** (2006) Manipulation of *Arabidopsis* Fatty Acid (Ethanol) Amide Hydrolase Expression Leads to Plants with Modified Growth Characteristics and Altered Sensitivity to N-Acylethanolamines. *Proc Natl Acad Sci USA*, 103(32): 12197-12202.
70. **Binns, D., Januszewski, T., Chen, Y., Hill, J., Markin, V., Zhao, Y., Gilpin, C, Chapman, K.D., Anderson, R.G.W., Goodman, J.M.** (2006) Pexopodia and Gnarls, Novel Structures that Indicate an Intimate Collaboration Between Peroxisomes and Lipid Bodies. *J Cell Biol*, 173: 719-731.
71. **Venables, B.J., Waggoner, C.A., Chapman, K.D.** (2005) N-Acylethanolamines in Selected Legumes. *Phytochem* 66:1913-1918.
72. **Motes, C.M., Pechter, P., Yoo, C.M., Wang, Y.S., Chapman, K.D., Blancaflor, E.B** (2005) Differential effects of two phospholipase D inhibitors, 1-butanol and N-acylethanolamine (NAE), on *in vivo* cytoskeletal organization and *Arabidopsis* seedling growth. *Protoplasma*, 226:109-123.
73. **Wanjie, S.W., Welti, R., Moreau, R.A., Chapman, K.D.** (2005) Identification and Quantification of Glycerolipids in Cotton Fibers: Reconciliation with Metabolic Pathway Predictions from DNA Databases. *Lipids*, 40(8):773-785.
74. **Chapman, K.D.** (2004) Occurrence, metabolism and prospective functions of N-acylethanolamines in plants. *Prog Lipid Res* 43: 302-327.
75. **Chapman, K.D., Venables, B.J., Dian, E.E. and Gross, G.W.** (2003) Identification and quantification of neuroactive N-acylethanolamines in cottonseed processing fractions. *J Am Oil Chem Soc (JAOCS)*, 80(3): 223-229.
76. **Tripathy, S., Kleppinger-Sparace, K., Dixon, R.A., and Chapman, K.D.** (2003) N-Acylethanolamine signaling in tobacco is mediated by a membrane-associated, high affinity binding protein. *Plant Physiol*, 131: 1781-1791.
77. **Blancaflor, E.B., Hou, G., and Chapman, K.D.** (2003) Elevated levels of N-lauroylethanolamine, an endogenous constituent of desiccated seeds, disrupt normal root development in *Arabidopsis thaliana* seedlings. *Planta*, 217: 206-217.
78. **Shrestha, R., Dixon, R.A., Chapman, K.D.** (2003) Molecular Identification of a Functional Homologue of the Mammalian Fatty Acid Amide Hydrolase in *Arabidopsis thaliana*. *J Biol Chem* 278(37): 34990-34997.
79. **Huynh, T., Pirtle, R.M., Chapman, K.D.** (2002) Expression of a *Gossypium hirsutum* cDNA encoding a FatB palmitoyl-acyl carrier protein thioesterase in *Escherichia coli*. *Plant Physiol Biochem*, 40: 1-9.
80. **Hoang C.V. and Chapman, K.D.** (2002) Biochemical and molecular inhibition of plastidial carbonic anhydrase reduces the incorporation of acetate into lipids in cotton embryos and tobacco cell suspensions and leaves. *Plant Physiol* 128:1417-1427.

81. **Hoang, C.V. and Chapman, K.D.** (2002) Regulation of plastidial carbonic anhydrase gene expression in cotton (*Gossypium hirsutum*, L) seedlings during post-germinative growth. *Plant Mol Biol* 49: 449-458.
82. **Austin-Brown, S. and Chapman, K.D.** (2002) Inhibition of phospholipase Dalpha by *N*-acylethanolamines. *Plant Physio* 129: 1892-1898.
83. **Shrestha, R., Noordemeer, M., Van der Stelt, M., Veldink, G.A., and Chapman, K.D.** (2002) *N*-Acylethanolamines are metabolized by lipoxygenase and amidohydrolase in competing pathways during cotton (*Gossypium hirsutum*, L.) seed imbibition. *Plant Physiol* 130: 391-401.
84. **Chapman, K.D., Austin-Brown, S. Sparace, S.A., Kinney, A.J., Ripp, K.G., Pirtle, I.L, Pirtle, R.M.** (2001) Transgenic cotton plants with increased seed oleic acid content. *J Am Oil Chem Soc (JAOCS)* 78(9): 941-947.
85. **Pirtle, I., Kongcharoensuntorn, W., Nampaisansuk, M., Knesek, J., Chapman K.D., Pirtle R.M.** (2001) Molecular cloning and functional expression of the gene for a cotton delta-12 desaturase (FAD2) *Biochim Biophys Acta* 1522(2): 122-129.
86. **Morefield, S.I., Keefer, E.W., Chapman, K.D., Gross, G.W.** (2000) Drug evaluations using neuronal networks on microelectrode arrays: characteristic effects of cannabinoid agonists anandamide and methandamide on cortical and spinal cultures. *Biosensors and Bioelectronics* 15:383-396.
87. **Petersen, G., Chapman, K.D., Hansen, H.S.** (2000) A rapid phospholipase D assay using zirconium precipitation of anionic substrate phospholipids: application to *N*-acylethanolamine formation in vitro. *J Lipid Res* 41(9): 1532-40.
88. **Chapman, K.D.** (2000) Emerging physiological roles for *N*-acylphosphatidylethanolamine metabolism in plants: membrane protection and signal transduction. *ChemPhys Lipids* 108: 221-230. Review.
89. **Pirtle, R.M., Huynh, T.T., Yoder, D., Nampaisansuk, M., Pirtle, I., Chapman, K.D.** (1999) Characterization of a palmitoyl-acyl carrier protein thioesterase (FatB1) in Cotton (*Gossypium hirsutum* L.). *Plant Cell Physiol* 40: 155-163.
90. **Chapman, K.D., Venables, B., Markovic, R.M., Blair, R., Bettinger, C.** (1999) *N*-Acylethanolamines in seeds: quantification of molecular species and their degradation upon imbibition. *Plant Physiol* 120: 1157-1164.
91. **Hoang, C.V., Wessler, H.G., Local, A., Turley, R.B., Benjamin, R.C., Chapman, K.D.** (1999) Identification and expression of cotton (*Gossypium hirsutum* L.) plastidial carbonic anhydrase. *Plant Cell Physiol* 40(12):1262-70
92. **Yoder, D.W., Nampaisansuk, M., Pirtle, I. Chapman, K.D., Pirtle R.M.** (1999) Molecular cloning and nucleotide sequence of a gene encoding a cotton palmitoyl-acyl carrier protein thioesterase. *Biochim Biophys Acta*, 1446:403-413.
93. **Tripathy, S., Venables, B., Chapman, K.D.** (1999) *N*-Acylethanolamines in elicitor signal transduction: Attenuation of alkalization and activation of defense gene expression. *Plant Physiol* 121: 1299-1308.
94. **Hemphill, J.K., Maier, C.G.A., Chapman, K.D.** 1998. Rapid *in-vitro* plant regeneration of cotton (*Gossypium hirsutum* L.). *Plant Cell Rep*,17(4): 273-279.
95. **McAndrew, R.S., and Chapman, K.D.** 1998. Enzymology of cottonseed *N*-acylphosphatidylethanolamine synthase: kinetic properties and mechanism-based inactivation *Biochim Biophys Acta* 1390: 21-36.
96. **Chapman, K.D., Tripathy, S., Venables, B.J., Desouza, A.D.** 1998. *N*-Acylethanolamines: formation and molecular composition of a new class of plant lipids. *Plant Physiol*, 116: 1163-1168.
97. **Pappan, K., Austin-Brown, S., Chapman, K.D., Wang, X.** 1998. Substrate selectivities and lipid modulation of plant phospholipase Dalpha, beta, and gamma. *Arch Biochem Biophys* 353: 131-140.

98. **Chapman, K.D.** 1998. Phospholipase activity during plant growth and development and in response to environmental stress. *Trends Plant Sci*, 3(11): 419-426. Review.
99. **Chapman, K.D., McAndrew, R.S., and Huynh, T.T.** 1997. Cottonseed calnexin: identification and isolation of a membrane-bound molecular chaperone. *Plant Physiol Biochem* 35(6): 483-490.
100. **Maier, C.G.-A., Chapman, K.D., and Smith, D.W.** 1997. Phytoestrogens and floral development in dioecious *Maclura pomifera* (Raf.). *Plant Science* 130(1):27-40.
101. **Chapman, K.D., and Sriparameswaran, A.** 1997. Intracellular localization of *N*-acylphosphatidylethanolamine synthesis in cotyledons of cotton seedlings. *Plant and Cell Physiol* 38(12): 1359-1367.
102. **Chapman, K.D. and Sprinkle, W.B.** 1996. Developmental, tissue-specific, and environmental factors regulate the biosynthesis of *N*-acylphosphatidylethanolamine in cotton (*Gossypium hirsutum* L.). *J Plant Physiol* 149: 277-284.
103. **Cai, S.J., McAndrew, R.S., Leonard, B.P., Chapman, K.D., and Pidgeon, C.** 1995. Rapid purification of cotton seed membrane-bound *N*-acylphosphatidylethanolamine synthase by Immobilized Artificial Membrane (IAM) chromatography. *J Chromatog A*, 696: 49-62.
104. **McAndrew, R.S., Leonard, B.P., and Chapman, K.D.** 1995. Photoaffinity labeling of cottonseed microsomal *N*-acylphosphatidylethanolamine synthase protein with a substrate analogue, 12-[(4-azidosalicyl)amino]dodecanoic acid. *Biochim Biophys Acta*, 1256: 310-318.
105. **Chapman, K.D., Lin, I., and Desouza, A.D.** 1995. Metabolism of cottonseed microsomal *N*-acylphosphatidylethanolamine. *Arch Biochem Biophys*, 318: 401-407.
106. **Maier, C.G.-A., Chapman, K.D., and Smith, D.W.** 1995. Estrogenic activity of female plant extracts from two dioecious species. *Plant Sci*, 109: 31-43.
107. **Chapman, K.D., Jackson, A.C., Moreau, R.A., and Tripathy, S.** 1995. Increased *N*-acylphosphatidylethanolamine biosynthesis in elicitor-treated tobacco cells. *Physiol Plant*, 95:120-126.
108. **Sandoval, J.A., Huang, Z-H., Garrett, D.C., Gage, D.A., and Chapman, K.D.** 1995. *N*-Acylphosphatidylethanolamine in dry and imbibing cotton (*Gossypium hirsutum* L.) seeds: amounts, molecular species and enzymatic synthesis. *Plant Physiol*, 109: 269-275.
109. **Chapman, K.D. and Moore, T.S., Jr.** 1994. Isozymes of cottonseed microsomal *N*-acylphosphatidylethanolamine synthase: Detergent solubilization and electrophoretic separation of active enzymes with different properties. *Biochim Biophys Acta*, 1211: 29-36.
110. **Chapman, K.D. and Moore, T.S., Jr.** 1993. *N*-acylphosphatidylethanolamine synthesis in plants: occurrence, molecular composition, and phospholipid origin. *Arch Biochem Biophys* 301: 21-33.
111. **Chapman, K.D. and Moore, T.S., Jr.** 1993. Catalytic properties of a newly-discovered acyltransferase that synthesizes *N*-acylphosphatidylethanolamine in cottonseed (*Gossypium hirsutum* L.) microsomes. *Plant Physiol* 102(3): 761-769.
112. **Chapman, K.D. and Trelease, R.N.** 1992. Characterization of the membrane proteins of enlarging cottonseed glyoxysomes. *Plant Physiol Biochem* 30 (1): 1-10.
113. **Chapman, K.D. and Trelease, R.N.** 1991. Intracellular localization of phosphatidylcholine and phosphatidylethanolamine synthesis in cotyledons of cotton seedlings. *Plant Physiol* 95(1): 69-76.
114. **Chapman, K.D. and Trelease, R.N.** 1991. Acquisition of membrane lipids by differentiating glyoxysomes-- role of lipid bodies. *J. Cell Biol.* 115(4): 995-1007.
115. **Chapman, K.D. and Trelease, R.N.** 1990. Inhibition of cottonseed choline- and ethanolaminephosphotransferases by calcium during postgerminative growth. *Plant Physiol.* 93(4): 1525-1529.
116. **Chapman, K.D., Turley, R.B., Trelease, R.N.** 1989. Relationship between cottonseed malate synthase aggregation behavior and suborganellar location in glyoxysomes and endoplasmic reticulum. *Plant Physiol.* 89(1): 352-359.

Opinions, Viewpoints:

1. **Wang X, Chapman KD** (2013) Lipid signaling in plants. *Front Plant Sci* 27;4:216. doi: 10.3389/fpls.2013.00216. Introduction to Topic **E-Book** on Plant Lipid Signaling. <http://flashbook.frontiersin.org//clients/Frontiers/Lipid%20signaling%20in%20plants/EBook.html>
2. **Chapman KD, Dyer JD, Mullen RT** (2013) Deciphering the role of CGI-58 in lipid regulation: more than one way to trim the fat? *ASBMB Today* 12(11): 26-27, American Society of Biochemistry and Molecular Biology Newsletter. **Featured Lipid News Article.**
3. **Faure L, Chapman KD** (2012) *N*-Acylphosphatidylethanolamines (NAPEs), *N*-Acylethanolamides and other Acylamides: Metabolism, Occurrence and Function in Plants. American Oil Chemists Society Lipid Library- On-line review articles in Plant Biochemistry. <http://lipidlibrary.aocs.org/plantbio/nape/index.htm>.
4. **Dyer J, Mullen R, Chapman K** (2012) Oil in biomass: a step-change for bioenergy production? *Inform*, (AOCS Press), April issue. Fats and Oils/ Oilseed industry technical trade publication. **Cover**
5. **Chapman KD** (2011) Plant biology: Blocking galactolipid biosynthesis. *Nature Chem Biol* 7(11):761-762. doi: 10.1038/nchembio.691. PMID: 22008995. **Nature News and Views Article- comments on Marechal et al, same issue.**
6. **Chapman KD and Blancaflor EB** (2011) *N*-Acylethanolamine metabolism in plants—a regulatory pathway diverged from endocannabinoid signaling in mammals? *ASBMB Today* January, 2011, pp 34-35. American Society of Biochemistry and Molecular Biology Newsletter--Featured Lipid News Article.

Book Chapters:

1. **Burggren W, Chapman KD, Keller B, Monticino M, Torday J** (2015) Biological Sciences *In* Frodean, Klein, Mitcham ed, The Oxford Handbook of Interdisciplinarity. Oxford University Press, Inc. New York. Ch. 8, pp 119-132. Update 2010 edition.
2. **Kim SC, Faure L, Chapman KD** (2013) Analysis of Fatty Acid Amide Hydrolase (FAAH) Activity in Plants. In T. Munnik and I. Heilmann, eds, Plant Signaling Protocols, Methods Mol Biol. 1009:115-27. doi: 10.1007/978-1-62703-401-2_12.
3. **Turley, RB and KD Chapman** (2009) Ontogeny of Cottonseeds: Gametogenesis, Embryogenesis and Germination and Seedling Growth. *In* Stewart, Oosterhuis, Heitholt, and Mauney, eds. Physiology of Cotton, 10.1007/978-90-481-3195-2, Springer Netherlands, pp 332-41.
4. **Liu Q, S Singh, KD Chapman, and A Green** (2009) Bridging traditional and molecular genetics in modifying cottonseed oil. *In* A.H. Paterson (ed.), Genetics and Genomics of Cotton, Plant Genetics and Genomics: Crops and Models 3, DOI 10.1007/978-0-387-70810-2, Springer Science Business Media, LLC, pp 353-382.
5. **Chapman KD, Blancaflor EB** (2009) Fatty Acid Amide Hydrolase and the Metabolism of *N*-Acylethanolamine Lipid Mediators in Plants. T. Munnik ed, Plant Lipid Signaling; Plant Cell Monograph Series vol 16, Springer, pp 293-306 DOI 10.1007/978-3-642-03873-0_19.
6. **Kilaru A, Blancaflor EB, Venables BJ, Tripathy S, Mysore KS, Chapman KD** (2009) The *N*-Acylethanolamine- mediated regulatory pathway in plants. In D. Lambert, ed., Cannabinoids in Nature and Medicine. VHCA, Verlag Helvetica Chemica, Zurich, pp. 365-87.
7. **Blancaflor, E.B. and Chapman, K.D.** (2006) Similarities between endocannabinoid signaling in animal systems and *N*-acylethanolamine metabolism in higher plants. *In* Communication in Plants, F. Baluska, S. Mancuso, and D Volkman eds., Ch. 14, Springer-Verlag, pp 205-219.
8. **Blancaflor, EB, Motes, CM, Wang, Y-S, Kang, L., Mysore, KS, Chapman, K.D.** (2006) *N*-Acylethanolamines: Lipid Mediators of Plant Cytoskeletal Organization and Response to Environmental Stress. *In* Biology of Plant-Microbe Interactions, Volume 5, F Sanchez, C Quinto, IM Lopez-Lara, O Geiger, eds. pp163-170.

Research Grants (1993-present): The Chapman Lab has received research grant funding from NSF, USDA-NRICGP, DOE, Texas Higher Education Coordinating Board, Herman Frasch Foundation (American Chemical Society), Samuel R. Noble Foundation, Cotton Incorporated, the National Cottonseed Products Association, the National Cotton Council, US-Israeli BARD, USDA-ARS.

Current Research Projects:

Project title: Genetic Manipulation of Cottonseed Protein Reserves

Source of support: Cotton Incorporated; Agreement No 08-395- Annually renewed

Investigators: Kent Chapman (PI)

Total award amount: \$650,000.00 (total for 8 years; \$55,000.00 awarded in 2016)

Total award period: 1/1/08-12/31/16

Effort: 10%

Project title: Elucidating the Cellular Machinery for Lipid Storage in Plants

Source of support: U.S. Department of Energy- Basic Energy Sciences (DE-SC0016536)

Investigators: Kent Chapman (PI), Robert Mullen, John Dyer (Co-PIs)

Total award amount: \$650,001.00

Total award period: 9/2016 – 8/2019

Effort: 20%

Project title: *N*-Acylethanolamine (NAE) metabolism and the acquisition of photoautotrophy during seedling establishment.

Source of support: U.S. Department of Energy (DE-FG02-14ER15647)

Investigators: Kent Chapman (PI), Elison Blancaflor (Co-PI)

Total award amount: \$360,000.00

Total award period: 9/2014 – 09/2017

Effort: 20%

Project Title: Regulation of Neutral Lipid Metabolism in Plants

Source of support: USDA Agricultural Research Service- Cooperative Research Agreement

Investigators: Kent Chapman (UNT PI); John Dyer (USDA-ARS Cooperator)

Total award amount: \$88,862.00

Total award period: 09/01/14 – 05/31/17

Patents (4 Issued and 4 Pending plus 2 Provisional filings):

1.) **WO 01/30143** Methods For Extending The Freshness Of Cut Flowers, Ornamental Trees, And Plant Cuttings, PCT/US00/29959. Kent D. Chapman and Shea Austin-Brown Inventors; University of North Texas is patent holder. Published May 5, 2001, priority date October 28, 1999. US patent issued April 3, 2007, **US Patent # 7,199,082**.

2.) **WO 2005/001100** Plant Fatty Acid Amide Hydrolases, PCT/US2004/017690. Kent D. Chapman, Rhidaya Shrestha, Elison Blancaflor, Richard A. Dixon, Published on January 6,

2005, Priority date June 4, 2003. **US patent #7,316,928**, issued Jan 8, 2008. UNT and Noble Foundation are patent holders

3.) **US Patent Application # 20060142395** Modulation of intracellular calcium signaling by *N*-acylethanolamines. **Koulen; Peter;** (*Benbrook, TX*) ; **Chapman; Kent D.;** (*Denton, TX*) Priority Date, May 6, 2004; published June 29, 2006. (UNT & UNTHSC).

4.) **US Patent Application # 11/176,594** Plant *N*-acylethanolamine binding proteins; **Chapman; Kent D.;** (*Denton, TX*) ; **Tripathy; Swati;** (*Denton, TX*) ; **Dixon; Richard A.;** (*Ardmore, OK*). Priority Date, July 7, 2005; published Dec 21, 2006. (UNT and Noble Foundation).

5.) **U.S. Patent Application #11/449,873** Method of enhancing quality factors in cotton; **Hake; Kater Davis;** (*Germantown, TN*) ; **Chapman; Kent Dean;** (*Denton, TX*) ; **Kerby; Thomas Arthur;** (*Scott, MS*) ; **Speed; Thomas Rainey;** (*Wolfforth, TX*); Published on February 1, 2007, Priority date June 9, 2006. UNT and Delta and Pine Land Co. **US Patent #8,097,768, issued January 17, 2012.** UNT is patent holder

6.) **US Patent Application #12696037-** Engineering Lipids in Vegetative tissues of Plants. Chapman; Kent Dean (Denton Texas); Anderson, Richard G.W. (Dallas, TX). Filed January 31, 2010. Priority Date January 31, 2009. **US Patent # 8,507,754, issued August 13, 2013.** UNT and UT system are joint patent holders

7.) **US Patent Application #13830012-** Methods for Elevating Fat/Oil Content in Plants. Puri, Vishwajeet (Boston MA); Chapman, Kent Dean (Denton, TX); James, Christopher N (Denton, TX); **Filed March 14, 2013---** Priority Date 12/19/2012. - Reference U.S. Provisional Application Serial No. 61/739,499.

8.) **US Patent Application #20150359218-** Method For Enhancing Amidohydrolase Activity of Fatty Acid Amide Hydrolase. John, George (New York, NY); Nagarajan, Subbiah (New York, NY); Chapman, Kent (Denton, TX); Faure, Lionel (Flower Mound, TX); Koulen, Peter (Leawood, KS). Research Foundation of the City University of New York, New York, NY, USA. Filed **January 14, 2014**—Priority Date January 18, 2013, Reference US Provisional application serial no. 61754252. UNT, CUNY, and UMKC are joint holders.

9.) **US Provisional Patent Application 62/355,064.** High oleic seed oil trait in cotton varieties to elevate the oleic acid content of cottonseed oil. Chapman, Kent Dean (Denton, TX); Horn, Patrick (Holt, MI); Sturtevant, Drew (Southlake, TX); Kennedy, Christopher (Ft. Worth, TX). **June 27, 2016.**

10.) **US Provisional Patent Application 62/350,843.** Methods for increasing oil content in plant tissues by suppressing hydrophobic lipid droplet protein. Chapman, Kent (Denton, TX); Mullen Robert (Guelph, Ontario, Canada); Pyc Michel (Guelph, Ontario, Canada); Dyer, John (Maricopa, AZ). **June 16, 2016.**

Invited Seminars and Meeting Presentations (2000-present)

1. ***N*-Acylethanolamines in Elicitor Perception.** Keystone Symposium, Signals and Signal Perception in Plant-Biotic Interactions, Feb 2000, Taos, NM.
2. ***N*-Acylethanolamines in Plants.** Consumer Products Sector, Monsanto Co. St.Louis MO, July 1999.
3. **Modification of Cottonseed Fatty Acid Composition.** Biology Department, Midwestern State University. Wichita Falls, TX. Dec 6, 2000.
4. **Topics in Plant Lipid Metabolism: seed oils, lipid mediators, and human health** Genetics Seminar Series, Texas A&M University, College Station, TX. Jan 24, 2002
5. **Metabolism of *N*-Acylethanolamines in Plants: A New Group of Membrane-Derived Lipid Mediators.** Samuel R. Noble Foundation, Plant Biology Division, Ardmore, OK, Feb 4, 2002
6. **Concepts in Plant Development:** Comparative Developmental Physiology Roundtable Forum, Glen Rose, TX, June 3, 2002
7. **Natural Sources of Neuroactive *N*-Acylethanolamines.** American Osteopathic Association, National Convention, Las Vegas, NV, Oct 8, 2002.
8. **Identification and Characterization of a Binding Protein for *N*-Acylethanolamines.** 15th International Symposium on Plant Lipids, Okazaki, Japan, May 16, 2002
9. ***N*-Acylethanolamines: a new group of lipid mediators in plants.** Biochemistry and Molecular Biology Department Seminar Series, Oklahoma State University, Stillwater OK, Nov 22, 2002.
10. **Metabolism of *N*-Acylethanolamines in Plants: A New Group of Membrane-Derived Lipid Mediators.** Midwestern State University, Biology Department, Wichita Falls, TX, April 2003
11. **Functional Identification of an *Arabidopsis thaliana* *N*-Acylethanolamine Amidohydrolase.** National Plant Lipid Cooperative- Symposium on the Biochemistry and Molecular Biology of Plant Fatty acids and Glycerolipids, June 7, 2003, Fallen Leaf Lake, CA
12. **Identification and Accumulation of Neuroactive *N*-Acylethanolamines in Oilseeds.** 226th American Chemical Society National Meeting, Division of Agriculture and Food Chemistry—Session: Biochemistry for Designing Industrial Crops. Sept 10, 2003, New York, NY
13. **Metabolic Engineering of Cottonseed Oil.** Midwestern State University, Spring 2004 (Departmental Seminar Series), Wichita Falls, TX.
14. **Metabolic Engineering of Cottonseed Oil.** Brookhaven College, Spring 2004 (Evening Series), Dallas County Community College, Dallas TX
15. **Regulation of *N*-Acylethanolamine Metabolism in Seedlings.** 16th International Symposium on Plant Lipids, Budapest, Hungary, June 4, 2004.
16. **Occurrence, metabolism and emerging functions of *N*-acylethanolamines in plants.** University of Texas, Molecular Cell and Developmental Biology Series, Austin, TX, Oct. 2004
17. **Occurrence, metabolism and emerging functions of *N*-acylethanolamines in plants.** Midwestern State University, Wichita Falls, TX, February 2005
18. **Occurrence, metabolism and emerging functions of *N*-acylethanolamines in plants.** University of Louisiana Lafayette, February 2005

19. **Lipid Composition of Adiposomes, a Lipid-Rich Organelle in Chinese Hamster Ovary Cells.** Symposium on Mass Spectrometry. 96th Annual American Oil Chemists Society Meeting, Salt Lake City, UT, May 1-4, 2005.
20. ***N*-Acylethanolamine Metabolism and Seedling Development in Arabidopsis.** International Symposium on Plant Lipid Signaling. Raleigh, NC, Oct 26-30, 2005.
21. **Production of Low-Oil Cottonseed.** Beltwide Cotton Conferences. Conference on Cotton Physiology. San Antonio, TX Jan 5, 2006.
22. **Cottonseed Reserve Modification for Added Value.** 2006. USDA-ARS. Western Cotton Lab, Maricopa, AZ. October 6, 2006.
23. **The *N*-Acylethanolamine (NAE) Regulatory Pathway in Plants.** 2006. University of Texas Southwestern Medical Center, Dallas TX, Department of Cell Biology, December 15, 2006
24. **The *N*-Acylethanolamine (NAE) Regulatory Pathway in Plants.** 2007. North Carolina State University, Dept of Plant Biology, February 20, 2007.
25. **The *N*-Acylethanolamine (NAE) Regulatory Pathway in Plants.** 2007. University of Missouri, Department of Biochemistry, November 9, 2007.
26. ***N*-Acylethanolamine Metabolism Regulates Growth and Responses of Plants to Stress.** 2008. The 18th International Plant Lipid Symposium. July 20-26, 2008, Bordeaux, France. Plenary Speaker, Lipid Signaling Session.
27. **Fatty Acid Amide Hydrolase Expression Influences Plant Growth and Susceptibility to Environmental Stresses.** 2009. 4th European Lipid Symposium March 15-18, 2009. Goettingen Germany, Keynote Speaker, Lipid Signaling Session
28. **Engineering Seed Value in Cotton.** 2009. Texas Woman's University, Department of Biology. March 27, 2009
29. **Lipoxygenase-mediated formation of novel acylethanolamides in plants.** 2009. International Regulatory Oxylipins Conference. June 4-6, 2009. Lausanne, Switzerland, Invited talk.
30. **Manipulation of Reserve Accumulation in Cotton: a novel strategy for yield enhancement.** 2009 Society for In vitro Biology Annual Meeting, June 6-10, 2009, Charleston, SC. Invited talk in Metabolic Engineering of Plant Products Session.
31. ***N*-Acylethanolamine Metabolism Regulates Growth and Responses of Plants to Stress.** 2009 Donald Danforth Plant Science Center—Seminar Series, Oct 15, 2009.
32. **Disruption of the Human CGI-58 Homologue in Arabidopsis Results in Lipid Droplet Accumulation in the Cytosol of Plant Cells.** 2010. 19th International Symposium on Plant Lipids, Tues July 11-16, 2010, Cairns, Australia. Invited Talk in Session on Enhancing Oil Productivity.
33. **The CGI58 Homolog in Arabidopsis and Lipid Accumulation.** 2010. FASEB Summer Research Conferences-- *Lipid Droplets: Metabolic Consequences of the Storage of Neutral Lipids.* July 25-July 30, 2010, Steamboat, Colorado.
34. ***N*-Acylethanolamine Metabolism, Fatty Acid Amide Hydrolase and the Regulation of Plant Growth.** 2011. Gordon Research Conference- Plant Lipids: Structure, Metabolism and Function. Jan 30- Feb 4, 2011. Invited Talk in Lipid Signaling Session.
35. **Lipid Accumulation in Vegetative Tissues of Plants.** 2011. Kansas State University Functional Genomics Symposium, Manhattan, KS, March, 2011. Invited Keynote Speaker.

36. **Cotton Transgenics Derived from Embryogenic Cell Lines.** Society for In Vitro Biology Meeting June 4-8, 2011. Special Workshop on Advances in Cotton Biotechnology sponsored by Cotton Incorporated. Invited Keynote Speaker.
37. **Quantification of Seed Oil and Protein Content by Low-Frequency, Time-Domain ¹H NMR.** 2011. Annual Beltwide Cotton Conference, Cotton Incorporated Breeder Network Workshop. Jan 2011, Atlanta, GA. Invited Workshop Speaker.
38. **Visualizing Lipid Composition in Plant Tissues, Cells and Subcellular Compartments: Could Location be a Factor in Oilseed Engineering?** 2011. Midwest/ Great Lakes Meeting of the American Chemical Society, Symposium on Plant Biotechnology, St. Louis, MO, Oct 2011. Invited Symposium Speaker.
39. **Visualizing Lipidomics in situ Reveals Chemical and Spatial Heterogeneity in Plant Tissues.** 2011. Arkansas NSF EPSCOR Annual Plant Productivity Symposium. Heber Springs, Arkansas, July 27, 28, 2011. Invited Symposium Speaker.
40. **Visualizing Heterogeneity of Seed Storage Lipid Accumulation.** 2011. Storage Lipid Metabolism Session. 4th Annual Asian Plant Lipid Symposium, Hong Kong, December 2-4, 2011. Invited Speaker.
41. **Spatial mapping of lipids at cellular resolution in embryos of *Gossypium hirsutum*, L. (cotton).** 2011. Seminar, Monsanto Company, North Carolina Research Campus, Kannapolis, NC- Dec 9, 2011.
42. **Spatial mapping of lipids at cellular resolution in embryos of *Gossypium hirsutum*, L.** 2012. Invited Seminar, Danforth Plant Science Center, Saint Louis, MO. April 25, 2012
43. **An Arabidopsis Alpha/Beta-Hydrolase-Fold Protein Influences Lipid Homeostasis in Leaves.** 2012. Seminar Series, Washington State University, Institute of Biological Chemistry, Pullman, WA, May 24, 2012. Invited Speaker.
44. **An Alpha/Beta Hydrolase Fold Domain Protein Regulates Lipid Homeostasis in Arabidopsis.** 2012. Invited Seminar. Arkansas Biosciences Institute, Arkansas State University, Jonesboro, AR, June 26, 2012.
45. **An Arabidopsis Homologue of the Human Comparative Gene Identification 58 (CGI-58) Protein Modulates Linolenic Acid Homeostasis and Lipophilic Signaling Metabolism.** 2012 Invited Minisymposium Speaker. American Society of Plant Biologists Annual Meeting, Austin, TX, July 20-24, 2012.
46. **Oxylipin metabolites of the polyunsaturated acylethanolamide, N-linolenylethanolamine, specifically mediate chloroplast disassembly in cotyledons of Arabidopsis seedlings.** 2012. Invited Oral Presentation. International Symposium on Plant Lipids, Seville, Spain, July 8-13, 2012.
47. **Visualizing Chemical Maps of the Oilseed Lipidome** 2012. Groupe d'Etude et de Recherche en Lipidomique (GERLI) 9th Congress in Lipidomics. Paris, France, October 17-19, 2012. Invited Symposium Keynote Speaker.
48. **High-Resolution Visual Maps of the Oilseed Lipidome** 2012. Department of Biological Sciences Seminar Series, University of North Texas, Denton, November 2, 2012.
49. **Imaging Cottonseed Lipid Metabolism- New insights into metabolite distribution by MALDI Mass Spectrometry.** 2013. Invited Oral Presentation. Annual Beltwide Cotton Conferences, Special Session on Seed Quality. San Antonio, TX, January 9, 2013
50. **Lipid Visualization.** Invited Discussion Leader/ Session Chair- Gordon Research Conference-- Plant Lipids. Galveston, TX, Jan 31, 2013.

51. **High-Resolution Visual Maps of the Plant Lipidome.** University of Guelph, Molecular Cell Biology Distinguished Speaker Seminar Series, Guelph, Ontario, Canada, February 12, 2013.
52. **Detailed Two-Dimensional Maps of the Oilseed Lipidome** Michigan State University, Biochemistry and Molecular Biology, Spring 2013 Colloquium Series, East Lansing, MI , February 28, 2013.
53. **Visualizing the Cellular Distribution of Plant (Embryo) Lipids.** East Tennessee State University, Biology Spring Seminar Series, Johnson City, TN, March 27, 2013.
54. **Visualizing the Lipidome of Plant Tissues.** Texas A&M University, Department of Biology Seminar Series. April 23, 2013.
55. **Targeted Lipidomics Approaches to Probe Endocannabinoid Pathway Metabolites.** Invited, Special Interest Group Symposium-- Endocannabinoid Signaling in the Retina – From Biochemistry to Disease to Therapy. Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), ARVO 2013. Seattle WA, May 8, 2013.
56. **Visualizing the Lipidome of Plant (Embryo) Tissues.** The Weizmann Institute, Invited Seminar, Plant Sciences Dept, Rehovot, Israel, May 23, 2013.
57. **Visualizing the Lipidome of Plant (Embryo) Tissues.** Tel Aviv University, Invited Seminar, Plant Sciences Dept, Tel Aviv, Israel, May 22, 2013.
58. **A LOX Metabolite of N-Linoleoylethanolamine (NAE 18:2) Negatively Regulates Seedling Development Through an ABA Signaling Pathway.** Invited oral presentation, Lipid Signaling Section, 6th Biannual European Symposium on Plant Lipids, Bordeaux, France, July 9, 2013.
59. **Spatial Lipidomics in *Camelina sativa*.** Plant Biology 2013, Annual Meeting of the American Society of Plant Biologists, Invited Minisymposium Speaker, Lipids—Providence, RI, July 21, 2013.
60. **Arabidopsis homologues of the human lipodystrophy protein, SEIPIN, influence the size and number of lipid droplets.** International Symposium on Plant Lipids, Invited Main Speaker, Storage Lipids Session, Guelph, Ontario, Canada, July 7, 2014.
61. **Mapping the Phospholipid Distribution in Three Dimensions in Arabidopsis Seeds.** European Symposium on Plant Lipids. Harpendon, UK, July 5-8, 2015. Invited speaker.
62. **Visualizing Lipid Metabolites in Plant Tissues by Mass Spectrometry.** Gordon Research Conference in Plant Metabolic Engineering, Waterville Valley, NH, July 19-24, 2015. Invited speaker.
63. **Metabolism and Function of N-Acylethanolamines in Seedling Development.** The Phytochemical Society of North America, Invited Symposium Speaker, Urbana- Champaign, IL August 8-12, 2015
64. **Imaging Lipids in Plant Seed Tissues by Mass Spectrometry.** Research Seminar Series, Department of Chemistry and Biochemistry, University of Southern Mississippi, Hattiesburg, MS, October 2, 2015.
65. **Assembling Lipid Droplets in Plant Cells: Some New Insights from Human Lipodystrophies.** Biology Department Seminar Series, Trinity University, San Antonio, TX Nov 2, 2015.
66. **Visualizing Tissue Lipids by Mass Spectrometry.** Research Seminar Series: Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center, Shreveport, LA, Nov 5, 2015.
67. **Ethanolamide Oxylipins and Abscisic Acid Signaling during Arabidopsis Seedling**

Development. The 6th Asian Symposium on Plant Lipids/ Joint with the Singapore International Lipidomics Symposium, Invited Symposium Speaker, Singapore, November 30- December 5, 2015. Presented by Kent Chapman; Co-authors, Jantana Keereetaweep, Elison Blancaflor and Ivo Feussner.

68. **Lipid Droplet Biogenesis in Plant Cells: Insights from Human Lipodystrophies.** Institute for Biological Chemistry, Washington State University, Pullman, WA, Dec 15, 2015.