
JESSE MICHAEL JAYNES

PROFILE

Birthplace and Day: Salt Lake City, Utah on July 15, 1951.

Status: Married with four children.

Current Title: Professor of Biochemistry

Current Address: Program of Integrative Biosciences
College of Agricultural, Environmental & Natural Sciences and
College of Veterinary-Medicine, Nursing & Allied Health, Room 2106 W-B
Tuskegee University
Tuskegee, Alabama 36088

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EMPLOYMENT AND EXPERIENCE

PROFESSOR, TUSKEGEE UNIVERSITY, TUSKEGEE, AL 2005-PRESENT

NEEL DISTINGUISHED PROFESSOR, KENNESAW STATE UNIVERSITY,
KENNESAW, GA 2003-2005

CHAIRMAN AND PRESIDENT NOVATERO FOUNDATION, WASHINGTON,
DC 1999 TO PRESENT

CHIEF SCIENTIST, DEMEGEN, INC., PITTSBURGH, PA 2001-2002

CHIEF SCIENTIFIC OFFICER, DEMEGEN, INC., PITTSBURGH, PA
1992-2002

VICE PRESIDENT FOR RESEARCH, DEMEGEN, INC., PITTSBURGH, PA
1992-2001

ASSOCIATE PROFESSOR, DEPARTMENT OF CHEMISTRY, LOUISIANA
STATE UNIVERSITY, BATON ROUGE, LA 1989-1992

JESSE MICHAEL JAYNES

ASSISTANT PROFESSOR, DEPARTMENT OF CHEMISTRY, LOUISIANA
STATE UNIVERSITY, BATON ROUGE, LA 1983-1989

RESEARCH ASSOCIATE AND ADJUNCT PROFESSOR, DEPARTMENT OF
PLANT PATHOLOGY, MONTANA STATE UNIVERSITY, BOZEMAN, MT
1981-1983

POST-DOCTORAL FELLOW, DEPARTMENT OF PLANT PATHOLOGY,
MONTANA STATE UNIVERSITY, BOZEMAN, MT 1979-1981

POST-DOCTORAL FELLOW, PLANT GROWTH LABORATORY,
UNIVERSITY OF CALIFORNIA, DAVIS, DAVIS, CA 1978-1979

RESEARCH ASSISTANT, DEPARTMENT OF CHEMISTRY, BRIGHAM
YOUNG UNIVERSITY, PROVO, UT 1974-1978

LAB ASSISTANT, DEPARTMENT OF CHEMISTRY, SOUTHERN UTAH
STATE COLLEGE, CEDAR CITY, UT 1972-1973

MATH, CHEMISTRY, STATISTICS TUTOR, SOUTHERN UTAH STATE
COLLEGE, CEDAR CITY, UT 1972-1973

EDUCATION

GEORGETOWN UNIVERSITY, WASHINGTON, DC INTENSIVE
BIOETHICS COURSE AT THE KENNEDY INSTITUTE OF ETHICS 2006

BRIGHAM YOUNG UNIVERSITY, PROVO, UT -- PH.D., CHEMISTRY WITH
BIOCHEMISTRY EMPHASIS, 1978

SOUTHERN UTAH STATE COLLEGE, CEDAR CITY, UT--B.S.,
ZOOLOGY, 1973

COLLEGE OF EASTERN UTAH, PRICE UT--A.S., BIOLOGY, 1971

JESSE MICHAEL JAYNES

ACADEMIC AWARDS AND HONORS

Named as most Influential Faculty Member by Presidential 4.0 Student. 2004 at Kennesaw State University

Awarded the Senju Pharmaceutical Lectureship at the Department of Ophthalmology at University of California, Davis, 1995

Phi Delta Kappa Certificate of Recognition for Distinguished Service to Education, 1989

Selected as a "Distinguished Scholar" of 1989 by the Rochester Museum of Science, Rochester, New York

Awarded NSF Post-doctoral Fellowship for research on nitrogen fixation. 6/78—5/79

Selected as the Top Graduate Student of 1978 by the Department of Chemistry/Section of Biochemistry, 1978

Member of Who's Who in American Colleges and Universities

Qualified as Salutatorian with B.S. Degree (3.96 GPA), 1973

CURRENT SERVICE DUTIES

Serve as board member of a cancer research foundation called National Cancer Coalition since 1999

Member of curriculum committee for Integrative Biosciences Ph.D. program at Tuskegee University

PUBLICATIONS

1. Jaynes JM, LP Vernon, and SM Klein. (1975) Photophosphorylation and Related Properties of Reaggregated Vesicles from Spinach Photosystem 1 Particles. *Biochim. Biophys. Acta.* 408(3): 240-251.

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2. Jaynes JM, LP Vernon, and SM Klein. (1977) Formation and Properties of Small Chlorophyll Containing Vesicles from *Anabaena Flos-Aquae* Membrane Fragments and Isolated Chlorophyll Protein Complex. *Plant and Cell Physiology. Special Issue*: 165.
3. Newman CW, JM Jaynes, and DC Sands. (1980) Poly-L-Lysine: A Nutritional Source of Lysine. *Nutr. Rpts. Intl.* 22(5): 707-716.
4. Jaynes JM, and GA Strobel. (1981) The Position of *Agrobacterium rhizogenes*. *Intl. Review of Cytology. Supplement 13*: 105-125.
5. Jaynes JM, LP Vernon, SM Klein, and GA Strobel. (1981) Genome Size of Cyanelle DNA from *Cyanophora Paradoxa* Cyanelles. *Plant Science Letters.* 21: 345-356.
6. Rodriguez RL, RW West, RC Tait, JM Jaynes, and KT Shanmugam. (1981) Isolation and Characterization of the HISG and HISD Genes of *Klebsiella Pneumoniae*. *Gene.* 16: 317-320.
7. Jaynes JM and LP Vernon. (1982) Cyanelle from *Cyanophora Paradoxa*: A Novel Chloroplast. *Trends in Biochemical Science.* 7(1-22-24).
8. Klein SM, JM Jaynes, SS Kent, and LP Vernon. (1982) Properties of the Photosynthetic System and DNA of *Cyanophora Paradoxa* Cyanelles. *Plant Physiology.* 68: 407-410.
9. Jaynes JM, P Langridge, K Anderson, C Bond, D Sands, CW Newman, and R Newman. (1985) Construction and Expression of Synthetic DNA Fragments Coding for Polypeptides with Elevated Levels of Essential Amino Acids. *Appl. Microbiol. Biotech.* 21: 200-205.
10. Koe K, JM Jaynes, N Straus. (1985) Homology Between the Cyanelle DNA of *Cyanophora Paradoxa* and the Chloroplast DNA of *Vicia Faba*. *Plant Science.* 42: 115-123.
11. Jaynes JM and W. Roca. (1986) Tissue Culture and Plant Genetic Engineering. *Plant Biotechnology* published by the International Center for Tropical Agriculture.
12. Dodds, J.H. and J.M. Jaynes. 1985. Tissue Culture and Genetic Engineering: Complementary Tools for Potato Improvement. In *Proc. 1st Congress of Tissue Culture, Brazilia, Brazil.* 83-87.
13. Jaynes JM, MS Yang, N Espinoza, and JH Dodds. (1986) Plant Protein Improvement by Genetic Engineering: Use of Synthetic Genes. *Trends in Biotechnology.* 4(12): 314-320.
14. Dodds, J.H. and J.M. Jaynes. 1986. The Use of Synthetic Nucleic Acid Sequences in Plant Genetic Engineering. *Science Progress, Oxf.*
15. Cetiner S, JM Jaynes, B Blackmon. (1987) Effect of Novel Lytic Peptides on Plant Pathogenic Fungi. *Hortscience* 22(5):1057.
16. Espinoza, N.O., M.S. Yang, J.M. Jaynes and J.H. Dodds. 1987. Regeneration of Plants of Sweet Potato (*Ipomoea batatas* L.) Transformed by *Agrobacterium rhizogenes* Containing a Synthetic Protein Gene.

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17. Schmiediche, P., J. Jaynes and J.H. Dodds. 1987. Genetic Engineering for Bacterial Disease Resistance in Potatoes. In Proceedings of the Planning Conference of Bacterial Disease Resistance. CIP, Lima, Peru, March 1987.
18. Destefano-beltran L, JM Jaynes, C Clark. (1987) Effect of Novel Lytic Peptides on Plant Pathogenic Bacteria. *Phytopathology* 77(12): 1768.
19. Espinoza N, MS Yang, JM Jaynes, and JH Dodds. (1987) Potential for Improvement of Sweet Potato by Genetic Engineering Techniques. Published in LAES Inter-unit Sweet Potato Research Report.
20. Jaynes JM and JH Dodds. (1987) Crop Plant Genetic Engineering: Science Fiction or Science Fact. *Outlook in Agriculture* 16(3): 111-115.
21. Jaynes JM and JH Dodds. (1987) Synthetic Genes Make Better Potatoes. *New Scientist* 1578: 62-64.
22. Jaynes JM, D Xanthopoulos, L Destefano-Beltran, and JH Dodds. (1987) Increasing Bacterial Disease Resistance in Plants Utilizing Antibacterial Genes from Insects. *BioEssays*. 6(6): 263-270.
23. Shih DS, IW Park, CL Evans, JM Jaynes, AC Palmenbery. (1987) Effects of cDNA Hybridization of Encephalomyocarditis Virus RNA. *Journal of Virology*. 61(6): 2033- 2037.
24. Blakewood EG, JM Jaynes, and RA Godke. (1988) Culture of Pronuclear Mammalian Embryos Using Domestic Chicken Eggs. *Theriogenology*. 29(1): 226.
25. Blakewood EG, JM Jaynes, WA Johnson, and RA Godke. (1988) A Technique Using Domestic Chicken Eggs for the Culture of Early-Stage Mammalian Embryos. *Poultry Science*. Supplement 1 67: 55.
26. Grizzle J, CL Evans, and JM Jaynes. (1988) The Utilization of D,L- Homocysteine and D,L- Cystathionine in Methionine Deficient Feather Meal Diets for Chickens. *Nutrition Reports International*. 37(1): 203-210.
27. Jaynes JM, CA Burton, SB Barr, GW Jeffers, GR Julian, KL White, FM Enright, TR Klei, and RA Laine. (1988) In Vitro Effect of Novel Lytic Peptides on Plasmodium falciparum and Trypanosoma cruzi. *FASEB*. 2(13): 2878-2883.
28. Wier AT, AM Thro, HE Flores, and JM Jaynes. (1988) Transformation of Lotononis bainesii Baker Using the Leaf Disk Transformation-Regeneration Method. *Phyton*. 48(1): 123-131.
29. Blakewood EG, JM Jaynes, and RA Godke. (1989) Using the Amniotic Cavity of the Developing Chick Embryo for the In Vivo Culture of Early Stage Mammalian Embryos. *Poultry Science*. 68: 1695-1702.
30. Croughan TP, LJC Destefano-Beltran, QR Chu, and JM Jaynes. (1989) Transformation of Rice by Direct Gene Transfer. In Review of Advances in Plant Biotechnology. 107-114.

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31. Destefano-Beltran L, PG Nagapala, S Cetiner, JM Jaynes. (1989) The Use of Genes Encoding for Novel Lytic Peptides to Improve Disease Resistance in Plants. *Abstr Pap Am Chem S.* 197:33.
32. Jaynes JM. (1989) Lytic Peptides: Harbingers of a New Age in the Treatment of Disease. *New Scientist.* 1989: 42-44.
33. Jaynes JM, GW Jeffers, GR Julian, KL White, and FM Enright. (1989) In Vitro Cytocidal Effect of Lytic Peptides on Several Transformed Mammalian Cell Lines. *Peptide Research.* 2(2): 157-160.
34. Jaynes JM, KL White, GR Julian. (1989) Molecular Biology and Biochemistry of Cecropins and Other Novel Lytic Peptides. *Abstr Pap Am Chem S.* 197:30.
35. King JW, JR Bloss, JM Jaynes. (1989) The Antimicrobial Activity of A New Cecropin-B Derived Lytic Peptide. *Clinical Research.* 37(2):A433.
36. White KL, FM Enright, JM Jaynes. (1989) Biologic Activity of Lytic Peptides in Animals. *Abstr pap Am Chem S.* 197:31.
37. Yang MS, NO Espinoza, JH Dodds, and JM Jaynes. (1989) Expression of a Synthetic Gene for Improved Protein Quality in Transformed Potato Plants. *Plant Science.* 64:99-111.
38. Dodds, J.H., J. Jaynes and R.N. Beachy. 1989. Genetic Engineering for Virus Resistance. *Virus Planning Conference.* CIP. November 1989.
39. L Destefano-Beltran, PG Nagpala, MS Cetiner, JH.Dodds, JM Jaynes. (1990) The Molecular and Cellular Biology of the Potato.
40. Destefano-Beltran L, MS Cetiner, TP Denny, CA Clark, JH Dodds, JM Jaynes. (1990) The Introduction into Plants of Genes which Encode Some of the Natural Components of the Humoral Immune Response of *Hyalophora cecropia* –Cecropin-B, Attacin-E and Fowl Lysozyme Gene Cloning and Expression in Tobacco and Potato Transgenic Plant; Disease Resistance. *Journal of Cell Biochemistry. Supplement 14E:* 316.
41. Destefano-Beltran L, PG Nagpala, M Selim Cetiner, JH Dodds, and JM Jaynes. (1990) Enhancing Bacterial and Fungal Disease Resistance in Plants: Application to Potato. *Molecular Biology of the Potato.* 205-221.
42. Jaynes JM. (1990) Lytic Peptides Portend an Innovative Age in the Management and Treatment of Human Disease. *Drug News and Perspectives.* 3(2): 69-78.
43. Kelly D, W Wolters, and JM Jaynes. (1990) The Effect of Lytic Peptides on Fish-Pathogenic Bacteria. *Journal of Fish Diseases.* 13: 317-321.
44. Arrowood MJ, JM Jaynes, and MC Healey. (1991) Hemolytic Properties of Lytic Peptides Active Against the Sporozoites of *Cryptosporidium parvum*. *Journal of Protozoology.* 38(6): 161S-163S.

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45. Arrowood MJ, JM Jaynes, and MC Healy. (1991) In Vitro Activities of Lytic Peptides Against the Sporozoites of *Cryptosporidium parvum*. *Antimicrobial Agents and Chemotherapy*. 35(2): 224-227.
46. de Pace C, S Trinca, R Caccia, G Scarascia, JH Dodds, and JM Jaynes. (1991) Transformation of Potato (*Solanum tuberosum* L.) Leaf Disc Using *A. Tumefaciens*-mediated Transfer of DNA Sequences Coding for Lytic Peptides. *Molecular Methods for Potato Improvement*. 85-95.
47. Destefano-Beltran L, PG Nagpala, JH Dodds, and JM Jaynes. (1991) Use of Genes Encoding Novel Peptides and Proteins to Enhance Disease Resistance in Plants. Accepted in *Application of Biotechnology in Plant Pathology*.
48. Destefano-Beltran L, PG Nagpala, JH Dodds, and JM Jaynes. (1991) Use of Synthetic Genes to Enhance Nutritional Quality and Disease Resistance in Plants: Application to Potato. *Molecular Methods for Potato Improvement*. 49-64.
49. Destefano-Beltran L, P Nagpala, K Jaeho, JH Dodds, JM Jaynes. (1991) Genetic Transformation of Potato to Enhance Nutritional Value and Confer Disease Resistance. *Molecular Approaches to Crop Improvement*. 17-32.
50. Dodds JH, C Merzdorf, V Zambrano, C Siguenas, and JM Jaynes. (1991) Potential Use of *Agrobacterium* Mediated Gene Transfer to Confer Insect Resistance in Sweet Potato. *Sweet Potato Pest Management: A Global Perspective*. 203-219.
51. Jaynes JM. (1991) The Promise of Biotechnology. *National Geographic Research and Exploration*. 7(4): 388-390.
52. Miller MA, RF Garry, JM Jaynes, and RC Montelaro. (1991) A Structural Correlation Between Lentivirus Transmembrane Proteins and Natural Cytolytic Peptides. *AIDS Research and Human Retroviruses*. 7(6):511-519.
53. Shimamoto Z, L Destefano-Beltran, P Nagpala, K Jaeho, JH Dodds, JM Jaynes, MA Shotwell; BA Larkins, AMR Gatehouse, D Boulter, VA Hilder, BR Lyon, W Schuch, TW Stevenson, V Haring, BA McClure, AE Clarke, ES Dennis, DJ Llewellyn. (1991) *Molecular Approaches to Crop Improvement*.
54. Todd WJ, WG Henk, KL White, JM Jaynes. (1991) Design and Synthesis of Lytic Peptides. *Journal of Cell Biochemistry. Supplement 0 (15 part G)*: 218.
55. Jaynes JM. (1992) Upgrading Plant Proteins. *The World and I*. 300-307.
56. Kelly DG, WR Wolters, JM Jaynes and JC Newton. (1993) Enhanced Disease Resistance to enteric septicemia in Channel Catfish, *Ictalurus punctatus*, administered Lytic Peptide. *J. Appl. Aquaculture*. 3(1-2): 25-34.
57. Kim JH and JM Jaynes. (1992) Enhancing the Nutritional Qualities of Crop Plants. *Molecular Approaches to Improving Food Quality and Safety*. 1-36.

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58. Mannis MJ, L Gunshefski, J Cullor, J Jaynes. (1992) The Use of Synthetic Cecropia (Shiva-11) For the Eradication of Ocular Pathogens. *Investigative Ophthalmology and Visual Science*. 33(4): 936.
59. Murphy CJ, JM Jaynes, C Iwahashi, J Cullor, TW Reid, MJ Mannis, and IR Schwab. (1992) The Modulation of Ocular Cell Growth by Cecropins. *Investigative Ophthalmology and Visual Science*. 33(4): 828.
60. Nordeen RG, SL Sinden, JM Jaynes, and LD Owens. (1992) Activity of Cecropin SB37 Against Protoplasts from Several Plant Species and Their Bacterial Pathogens. *Plant Science*. 82:101-107.
61. Reed WA, KL White, FM Enright, J Holck, JM Jaynes, and GW Jeffers. (1992) Enhanced In Vitro Growth of Murine Fibroblast Cells and Preimplantation Embryos Cultured in Medium Supplemented with an Amphipathic Peptide. *Molecular Reproduction and Development*. 31(2): 106-113.
62. Zhu BC, JY Lo, YT Li, SC.Li, JM Jaynes, OS Gildemeister, RA Laine, CY Ou. (1992) Thermostable, salt tolerant, wide Ph range novel chitobiase from *Vibrio parahemolyticus*: isolation, characterization, molecular cloning, and expression. *J. Biochem. (Tokyo)*. 112(1): 163-167.
63. Destefano-Beltran L, PG Nagpala, SM Cetiner, T Denny, and JM Jaynes. (1993) Using Genes Encoding Novel Peptides and Proteins to Enhance Disease Resistance in Plants. In *Biotechnology in Plant Disease Control*, 175-189. Ed. I. Chet.
64. Gunshefski L, M Macsai, V Granus, J Jaynes. (1993) Synthetic Cecropins (Shiva-11) Effective Against Gentamicin Resistant Organisms. *Investigative Ophthalmology and Visual Science*. 34 (4): 850.
65. Hines II ME, JM Jaynes, SA Barker, JC Newton, FM Enright, and TG Snider III. (1993) Isolation and Partial Characterization of Glycolipid Fractions from *Mycobacterium Avium* Serovar 2. *Infection and Immunity*. 61:1-7.
66. Jaynes JM, FA Hammerschlag (Ed.), RH Zimmerman, LD Owens. (1993) Use of genes encoding novel lytic peptides and proteins that enhance microbial disease resistance in plants. *Acta Horticulturae*, Second International Symposium on In Vitro Culture and Horticultural Breeding. 336:33-39.
67. Jaynes JM. (1993) Lytic Peptides and Their Potential for Enhancing Disease Resistance. In a Workshop entitled: *Engineering Plants Against Pests and Pathogens*, 37-41. Organized by G. Bruening, F. Garcia-Olmeda, and F. Ponz at Instituto Juan March de Estudios e Investigaciones.
68. Mannis MJ, L Gunshefski, J Cullor, J Jaynes. (1993) The Use of Synthetic Cecropin (Shiva-11) in Preservative-Free Timolol. *Investigative Ophthalmology and Visual Science*. 34(4): 859.
69. Jaynes JM, P Nagpala, L Destefano-Beltran, JH Huang, JH Kim, T Denny and S Cetiner. (1993) Expression of a Cecropin B Lytic Peptide in Transgenic Tobacco Confers Enhanced Resistance to Bacterial Wilt Caused By *Pseudomonas Solanacearum*. *Plant Science*: 89:43-53.

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70. Kuehnle AR, FC Chen, and JM Jaynes. (1993) Status of Genetically Engineered Anthurium. In Proceedings of Sixth Anthurium Industry Conference, Hilo, Hawaii. Ed. K. Sewake.
71. Jaynes JM. (1994) De Novo Designed Synthetic Plant Storage Proteins: Enhancing Protein Quality of Plants for Improved Human and Animal Nutrition. In and the Feed Industry, 129-154. Proceedings of Alltech's Tenth Annual Symposium.
72. Gruzensky W, MJ Mannis, IR Schwab, J Jaynes. (1994) The Use of Biotechnology a Cecropin Analog, Hecate, Against Acanthamoeba In-Vitro. Investigative Ophthalmology and Visual Science. 35(4): 1337.
73. Gunshefski L, MJ Mannis, JS Cullor, IR Schwab, J Jaynes, WL Smith, E Mabry, and C J Murphy. (1994) In Vitro Antimicrobial Activity of Shiva-II Against Ocular Pathogens. Cornea. 13(3): 237-42.
74. Norelli JL, HS Aldwinckle, L Destefano-Beltran, J Jaynes. (1994) Transgenic Apple Plants Containing Lytic Proteins Have Increased Resistance to Erwinia-Amylovora. Journal of Cell Biochemistry. Supplement 18A: 89.
75. Norelli JL, HS Aldwinckle, L Destefano.-Beltran, and JM Jaynes. (1994) Transgenic 'Malling 26' Apple Expressing the Attacin E Gene has Increased Resistance to Erwinia amylovora. Euphytica. 77:123-128.
76. Barr SC, D Rose, JM Jaynes. (1995) Activity of lytic peptides against intracellular Trypanosoma cruzi amastigotes in vitro and parasitemias in mice. J. Parasitology. 81(6): 974-978.
77. Mannis MJ, LB Sousa, IR Schwab, J Cullor, W Smith, H Hosotani, J Jaynes. (1995) The Use of Synthetic Cecropin (D5C) In Disinfecting Contact Lens Solution Against Pseudomonas-Aeruginosa. Investigative Ophthalmology and Visual Science. 36(4): S1018.
78. Schwab IR, LB Sousa, MJ Mannis, J Cullor, W Smith, H Hosotani, J Jaynes. (1995) The Use of Defense Peptides in Corneal Storage Media. Investigative Ophthalmology and Visual Science. 36(4): S 1017.
79. Shahsavari M, GA Peyman, MR Niesman, MV Miceli, J Jaynes. (1995) Shiva-I: In Vitro and In Vivo Tests of the Effects of a Novel, Synthetic, Lytic Peptide on Ocular Cells. International Ophthalmology. 19(1): 29-34.
80. Qui X, Y Wu, JM Jaynes, P Goodwin, and LR Erickson. (1995) Effect of a Synthetic Analogue, on Plant Tissues and a Fungal Pathogen of Brassica napus. Plant Cell Reports. 15:115-118.
81. Jaynes JM. (1995/96) Enhancing the Protein Quality of Plants. The Biotechnology Report. 100-101.
82. Sousa LB, MJ Mannis, IR Schwab, J Cullor, H Hosotani, W Smith, J Jaynes. (1996). The Use of Synthetic Cecropin (D-5C) in Disinfecting Contact Lens Solutions. CLAO Journal. 22(2): 114-117.

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83. Weeks-Perkins BA, WA Tompkins, JM Jaynes, SK Stoskopg, J Ma, JF Levine, FO Perkins. (1996). Effects of Peptidyl Membrane Interactive Molecules TM on *Crassostrea Virginica* Hemocyte Function and *Perkinsus Marinus* Viability. *Modulators of Immune Responses: The Evolutionary Trail*. 209-220.
84. Baghian A, J Jaynes, F Enright. (1997). An Amphipathic Alpha-Helical Synthetic Peptide Analogue of Melittin Inhibits Herpes Simplex Virus-1 (HSV-1) Induced Cell Fusion and Virus Spread. *Peptides*. 18(2): 177-183.
85. Reed WA, PH Elzer, FM Enright, JM Jaynes, JD Morrey, KL White. (1997) Interleukin 2 Promoter/Enhancer Controlled Expression of a Synthetic Cecropin-Class Lytic Peptide in Transgenic Mice and Subsequent Resistance of *Brucella Abortus*. *Transgenic Research*. 6(5): 337-347.
86. De Lucca AJ, JM Bland, C Grimm, TJ Jacks, JW Cary, JM Jaynes, TE Cleveland, TJ Walsh. (1998) Fungicidal Properties, Sterol Binding, and Proteolytic Resistance of the Synthetic Peptide D4E1. *Canadian Journal of Microbiology*. 44:514-520.
87. Jacobi V, JM Jaynes, A Plourde, PJ Charest, RC Hamelin. (1998). In Vitro Toxicity of Natural and Designed Peptides to Tree Pathogens and Pollen. *Phytopathology*.
88. Robertson C, Roberson K, Pinero A, Jaynes J, Paulson D. (1998) Peptidyl Membrane-Interactive Molecules are Cytotoxic to prostate Cancer Cells In Vitro. *World Journal of Urology*. Spring 1998.
89. Schwab U, Gilligan P, Jaynes J, Henke D. (1999) In Vitro Activities of Designed Antimicrobial Peptides against Multidrug-Resistant Cystic Fibrosis Pathogens. *Antimicrobial Agents and Chemotherapy*. June 1999, p. 1435-1440.
90. Martin A., Danforth H.D., Jaynes J.M., Thornton J. (1999) Evaluation of the Effect of Peptidyl Membrane-Interactive Molecules on Avian Coccidia. *Parasitology Research* 85: 331-336.
91. Makhuli M, Roberson K, Poulton S, Dodge R, Yancey D, Caldwell L, Jaynes J, Robertson C. In Vivo, Synthetic Peptides Exhibit Anti-Tumor Activity Against Prostate Cancer. *Journal of Urology*. (1999).
92. Cary JW, Rajasekaran K, Jaynes JM, Cleveland, TE. (2000). Transgenic Expression of a Gene Encoding a Synthetic Antimicrobial Peptide Results in Inhibition of Fungal Growth In Vitro and In Planta. *Plant Science*. 154: 171-181.
93. Lushbaugh WB, Paxton A, Shah PA, Banga A, Jaynes J, Cleary J, Finley RW. (2000). Use of Intravaginal Microbicides to Prevent Acquisition of *Trichomonas vaginalis* Infection in Lactobacillus-pretreated, Estrogenized Young Mice. *American Journal of Tropical Medicine and Hygiene*. 63(5-6): 284-289.
94. Badkar A, Talluri K, Tenjarla S, Jaynes J, Banja A. (2000). In Vitro Release Testing of a Peptide Gel. *Pharmaceutical Technology*. January 2000: 44-51.

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95. Arlotti JA, TS Cimino, TS Nguyen, R Dhir, A Thomas, JM Jaynes, AL Caldwell, RH Getzenberg. (2001). Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer. *Urologic Oncology* 6: 97-102.
96. Ballweber LM, Jaynes JM, Stamm WE, Lampe MF. In Vitro Microbicidal Activity of Cecropin Peptides D2A2I and D4E1 and Gel Formulations containing 0.1-2.0% D2A2I against *Chlamydia trachomatis*. (2002). *Antimicrobial Agents and Chemotherapy* 46: 34-41.
97. Chalekson CP, Neumeister MW, Jaynes JM. (2002). Treatment of Infected Wounds with Antimicrobial Peptide, D2A2I (Demegel). *Plast Reconstr Surg*. 109: 1338-1343.
98. Ma J, Kennedy-Stoskopf S, Jaynes J, and Tompkins W. (2002). Inhibitory Activity of Synthetic Peptide Antibiotics on Feline Immunodeficiency Virus In Vitro. *Journal of Virology*. Vol. 76: 9952-9961.
99. Zhang P, Jaynes JM, Potrykus I, Gruissem, W., Puonti-Kaerlas J. Transfer and Expression of an Artificial Storage Protein (ASPI) Gene in Cassava (*Manihot esculenta* Crantz). (2003). *Transgenic Research* 12: 243-250.
100. Chalekson CP, Neumeister MW, Jaynes JM. Improvement in Burn wound Infection and survival with Antimicrobial Peptide D2A2I. (2003) *Journal of Trauma: Injury, Infection, and Critical Care* 54(4): 770-774.
101. Jaynes, JM. Biotechnology for Nutritional Enhancement. (2003) Published online at Center for International Development at Harvard University (CID).
102. Jaynes, JM. Improving Protein Quality in Transgenic Plants. (2004) in *Encyclopedia of Plant and Crop Science*. Editor Robert M. Goodman. Marcel Dekker.
103. Kuehnle, A.R., Fujii, T., Chen, F.C., Alvarez, A., Sugii, N., Fukui, R., Aragon, S.L., and Jaynes, J.M. Peptide Biocides for Engineering Bacterial blight Tolerance (and susceptibility) in Cut Flower Anthurium. (2004) *Horticultural Science* 39(6) 1327-1331.
104. Rajasekaran, K., Cary, J.W., Jaynes, J.M. and T.E. Cleveland. Disease Resistance Conferred by the Expression of a Gene Encoding a Synthetic Peptide in Transgenic Cotton (*Gossypium hirsutum* L.) Plants. (2005) *Plant Biotechnology Journal* 3(6) 545-554; invited to be coverpage article.
105. Rajasekaran, K., Jaynes, J.M. and Cary, J.W. Transgenic Expression of Lytic Peptides in Food and Feed Crops to Control Phytopathogens and preharvest Mycotoxin Contamination . (2009) in *Mycotoxin Prevention and Control in Agriculture*, Chapter 9, pp 119-142. American Chemical Society Symposium Series Vol. 1031.
106. Abdalla, M. O., Aneju, R., Dean, D., Rangari, V., Russell, A., Jaynes, J. M., Yates, C. and Turner, T. Synthesis and Characterization of Noscapine Loaded Magnetic Polymeric Nanoparticles. (2009) *Journal of Magnetism and Magnetic Materials*, 322 (190-196).

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107. Clayton Yates, Starlette Sharp, Jacqueline Jones, Daphne Topps, Mathew Coleman, Ritu Aneja, Jesse Jaynes, Timothy Turner. LHRH-conjugated lytic peptides directly target prostate cancer cells. (2010) Accepted for Publication in *Biochemical Pharmacology*.
108. Cecelia C Yates, Margaret Rodgers, Jesse Jaynes, Alan Wells, Richard Bodnar, and Timothy Turner. An IP-10 Derived Peptide Inhibits Angiogenesis. (2010) Submitted to *Journal of Pharmacology and Experimental Therapeutics*.
109. Dang, P. M., Bell, R. L., Jaynes, J. M. and Scorza, R. Transformation of 'Bartlett' pear with a synthetic lytic peptide enhances resistance to fire blight. (2010) In Preparation.
110. Stover, E., Stange, R., McCollum, G., Jaynes, J. Screening Antimicrobial Peptides In-Vitro for Use in Developing Huanglongbing and Citrus Canker Resistant Transgenic Citrus. (2010) In Preparation.
111. J.M. Jaynes. Cytokines/Chemokines: A Study in the "Patch-Work" Quilting Design for Multi-functional Regulatory Proteins. (2010) In Preparation.
112. Egnin M, Prakash C, Jaynes JM. Enhanced Essential Amino Acid Level and Increased Nutritive Value of Transgenic Sweet Potato Expressing a Synthetic Storage Protein Gene. (2010). In Preparation.
113. Wei H.H., Featherstone G.L., Henke D.C., Jaynes, J. and Arnold R.R. Characterization and optimization of the antimicrobial properties of membrane interactive peptides on periodontopathogens. (2010). In Preparation.
114. Wei H.H., Featherstone G.L., Henke D.C., Jaynes, J. and Arnold R.R. Characterization and optimization of the antimicrobial properties of membrane interactive peptides on respiratory pathogens.(2010). In Preparation.

SELECTED MEETING ABSTRACTS

1. Klein SM, JM Jaynes, and LP Vernon. (1974) Comparison of the Photosynthetic Membrane of Vegetative Cells and Heterocysts of the Blue-Green Alga *Anabaena Flos-Aquae*. Proceedings of the Third Intl. Congress of Photosynthesis, Rehovet, Israel.
2. Dodds JH and JM Jaynes. (1985) Tissue Culture and Genetic Engineering: Complementary Tools for Potato Improvement. Published by EMBRAPA Biotechnology Symposium, Brasilia, Brazil.
3. Dodds JH, JM Jaynes, NO Espinoza, M Yang, and P Nagpala. (1985) The Use of *Agrobacterium Ri* Plasmid Vectors Which Contain Synthetic DNA Fragments to Modify the Nutritive Value of Potatoes. First International Congress of Plant Molecular Biology.

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4. Jaynes JM, P Nagpala, M Yang, L Szabados, M Bongue, and W Roca. (1985) Towards a Transformation System In Manihot and Phaseolus. First International Congress of Plant Molecular Biology.
5. Park IW, CL Evans, JM Jaynes, and DS Shih. (1985) The Effects of cDNA Hybridization on the Messenger Activity of Encephalomyocarditis Virus American Society for Virology Annual Meeting.
6. Price M, C Evans, JM Jaynes, H Flores, and K Derrick. (1985) Plant Protection Against Viral Infection Via Genetic Engineering. First International Congress of Plant Molecular Biology.
7. Flores HE, JM Jaynes, JH Kim, MS Yang, and J Pickard. (1986) Introduction and Expression of Viroid cDNAs and of a Synthetic Gene Sequence into Crop Plants. American Society of Plant Physiology.
8. Flores HE, JM Jaynes, YC Tian, J Pickard. (1986) Integration and Expression of Viroid cDNAs in Plant Cells. U.C.L.A. Symposium.
9. Cetiner S, JM Jaynes, and B Blackmon. (1987) Effect of Novel Lytic Peptides on Plant Pathogenic Fungi. American Society for Horticultural Science Meeting.
10. Destafano-Beltran L, JM Jaynes, and C Clark. (1987) Effect of Novel Lytic Peptides on Plant Pathogenic Bacteria. American Phytopathological Society Meeting.
11. Jaynes JM. (1987) The Potential of Genetic Engineering in Root Crop Production. International Symposium on Root Crops. (Published by Anambra State University of Technology, Nigeria, Africa.)
12. Rickards L, K White, F Enright, and JM Jaynes. (1987) Effect of Lytic Peptides on Mammalian Cells in Culture. American Society of Animal Sciences Meeting.
13. Blakewood EG, JM Jaynes, and RA Godke. (1988) Culture of Pronuclear Mammalian Embryos Using Domestic Chicken Eggs. American Society of Animal Reproduction Meeting.
14. Croughan TP, L Destefano-Beltran, QR Chu, and JM Jaynes. (1988) Successful Transformation of Rice by Direct DNA Transfer. American Society of Plant Physiology Annual Meeting.
15. Croughan TP, L Destefano-Beltran, QR Chu, and JM Jaynes. (1988) Successful Transformation of Rice by Direct DNA Transfer. Proceedings of the Second International Symposium on the Genetic Manipulation of Crops.
16. Croughan TP, L Destefano-Beltran, QR Chu, and JM Jaynes. (1988) Transformation of Rice by Direct Gene Transfer. Proceedings of the 64th Annual Meeting of American Society of Plant Physiologists.
17. Destefano-Beltran LJC, TP Croughan, QR Chen, and JM Jaynes. (1988) Transformation of Rice by Injection of DNA into Immature Pannicles. American Society for Microbiology Meeting.
18. Destefano-Beltran LJC, DN Moriconi, C Clark, and JM Jaynes. (1988) A Different Approach for Improving Bacterial Disease Resistance in Plants. American Society for Microbiology Meeting.
19. Destefano-Beltran L, P Nagpala, MS Yang, JH Kim, NO Espinoza, JH Dodds, WC Roca, JM Jaynes. (1988) Genetic Engineering of Crop Plants for Improved Nutritional Value and Enhanced Disease Resistance. Proceedings of the II Andean Biotechnology Conference.

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20. Jaynes JM, GW Jeffers, KL White, FM Enright, and GR Julian. (1988) In Vitro Effect of Novel Lytic Peptides on Plasmodium falciparum and Trypanosoma cruzi. Miami Winter Symposium.
21. Lee JS, S Cetiner, WJ Blackmon, and JM Jaynes. (1988) The Introduction of the Winter Flounder Antifreeze Gene into Plants Utilizing Agrobacterium Mediated Transformation. American Society for Microbiology Meeting.
22. Nagpala PG, S Cetiner, WJ Blackmon, and JM Jaynes. (1988) The Use of a Gene Encoding for a Novel Lytic Peptide, Shiva-1, to Improve Bacterial Disease Resistance in Plants. American Society for Microbiology Meeting.
23. Cetiner S, P Nagpala, JS Lee, WJ Blackmon, and JM Jaynes. (1989) Agrobacterium Mediated Transformation of Plants for Improved Frost tolerance and Bacterial Disease Resistance. American Society for Horticultural Science Meeting.
24. Cetiner S, L Destefano-Beltran, WJ Blackmon, and JM Jaynes. (1989) Utilizing Novel Lytic Peptides for Improving Bacterial Disease Resistance in Plants. A. S. for Horticultural Science Meeting.
25. Dodds JH, JM Jaynes, and RN Beachy. (1989) Genetic Engineering for Virus Resistance. CIP Planning Conference.
26. King JW, JR Bloss, and JM Jaynes. (1989) The Antimicrobial Activity of a New Cecropin-B Derived Lytic Peptide. American Federation for Clinical Research Meeting.
27. Arrowood MJ, JM Jaynes, MC Healey. (1990) In Vitro Activities of Lytic Peptides Against the Sporozoites of Cryptosporidium parvum. American Society for Microbiology Meeting.
28. Destéfano-Beltrán LJC, MS Cetiner, TP Denny, CA Clark, JH Dodds, and JM Jaynes. (1990) The Introduction into Plants of Genes which Encode Some of the Natural Components of the Humoral Immune Response of Hyalophora cecropia. UCLA Symposium on Plant Molecular Biology.
29. Kim JH, MS Cetiner, WJ Blackmon, and JM Jaynes. (1990) The Design, Construction, Cloning, and Integration of a Synthetic Gene Encoding a Novel Polypeptide to Enhance the Protein Quality of Plants. UCLA Symposium on Plant Molecular Biology.
30. Lee JS, MS Cetiner, WJ Blackmon, and JM Jaynes. (1990) The Reduction of the Freezing Point of Tobacco Plants Transformed with the Gene Encoding for the Antifreeze Protein from Winter Flounder. UCLA Symposium on Plant Molecular Biology.
31. Nagpala PG, MS Cetiner, TP Denny, CA Clark, WJ Blackmon, and JM Jaynes. (1990) The Introduction of a Synthetic Gene, Encoding a Novel Lytic Peptide, Into Plants Which Then Exhibit Increased Bacterial Disease Resistance. UCLA Symposium on Plant Molecular Biology.
32. Reed WA, KL White, FM Enright, JM Jaynes, and LF Rickords. (1990) Enhanced In Vitro Growth of Murine Embryos Cultured in Whitten's Medium Supplemented with a Novel Amphipathic Peptide. Society for the Study of Reproduction Meeting.
33. Arrowood MJ, JM Jaynes, and MC Healey. (1991) In Vitro Anticryptosporidial Activities of Synthetic Lytic Peptides. International Workshop on Pneumocystis, Cryptosporidium and Microsporidia.

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34. Dodds JH, L Destefano-Beltran, F Buitron, R Salinas, C Siguenas, P Tovar, V Zambrano, and JM Jaynes. (1991) Potato Transformation for Conferring Disease Resistance. Proc. Caribbean Food Crops 26th Annual Meeting.
35. Nordeen RO, SL Sinden, JM Jaynes, and LD Owens. (1991) Lethal Concentration Analysis of Cecropin SB37 for Bacterial Phytopathogens and Their Hosts. American Society of Plant Pathology Annual Meeting.
36. Croughan SS, TP Croughan, QJ Xie, JM Jaynes, and YC Tian. (1992) Utilisation of Lytic Peptides in genetically Engineering Disease Resistant Forage Crops. Proceedings of International Forage Crops.
37. Healey MC, S Yang, MJ Arrowood, and JM Jaynes. (1992) In Vitro and In Vivo Activities of Synthetic Lytic Peptides Against *Cryptosporidium parvum*. Rocky Mountain Confernece of Parasitologists.
38. Kelly DG, WR Wolters, JM Jaynes, and JC Newton. (1992) Enhanced Resistance to Enteric Septicemia in Channel Catfish with Lytic Peptides. Catfish Farmers of America.
39. Kuehnle AR, FC Chen, JM Jaynes, D Norman, and A Alvarez. (1992) Engineering Blight Resistant Anthurium: A Progress Report. Proceedings of Anthurium Growers of Hawaii.
40. Mannis MJ, L Gunshefski, J Cullor, J Jaynes, E Mabry, I Schwab, W Smith, and C Murphy. (1992) The Use of synthetic Cecropin (Shiva-11) for the Eradication of Ocular Pathogens. Association for Research in Vision and Ophthalmology.
41. Murphy CJ, J Jaynes, C Iwahashi, J Cullor, TW Reid, MJ Mannis, and I Schwab (1992) The Modulation of Ocular Cell Growth by Cecropins. Association for Research in Vision and Ophthalmology.
42. Nordeen RO, SL Sinden, JP Kochansky, R Wagner, JM Jaynes, and LD Owens. (1992) .Expression of a Genetically Engineered Bacterial Disease Resistance Gene in Tobacco Plants. 2nd. International Symposium on In Vitro Culture and Horticultural Breeding.
43. Cetiner S, TC Tian, and JM Jaynes. (1993) A Different Approach for the Improved Expression of Lytic Peptide Genes in Transgenic Plants. Karachi, Pakistan.
44. Gruzensky W, MJ Mannis, IR Schwab, E Kim, and J Jaynes. (1993) Cecropin analog is Effective Against *Acanthameoba* In Vitro. Ocular Microbiology and Immunology Group Meeting, Chicago, Illinois.
45. Gunshefski L, V Granus, M Mannis, J Jaynes, R Schwab, J Cullor, W Smith, and C Murphy. (1993) Synthetic Cecropins (Shiva-11) Effective Against Gentamycin-Resistant Organisms. Association for Research in Vision and Ophthalmology.
46. Mannis MJ, L Gunshefski, J Cullor, J Jaynes, IR Schwab, W Smith, S Johl, J Kim, and C Murphy. (1993) Use of Synthetic Cecropin (Shiva-11) in Preservative-Free Timolol and Contact Lense Solutions. Association for Research in Vision and Ophthalmology.
47. Norelli J, H Aldwinkle, L Destefano-Beltran, and J Jaynes. (1993) Increasing the Fire Blight Resistance of Apple by Transformation with Genes Encoding Lytic Proteins. Sixth International Congress of Plant Pathology.

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48. Norelli J, H Aldwinkle, L Destefano-Beltran, and JM Jaynes. (1993) Transgenic Apple Plants Containing Lytic Proteins have Increased Resistance to *Erwinia amylovora*. American Phytopathological Society. (Published in Journal of Cellular Biochemistry Supplement, #18, Part A, 1994, p. 89).
49. Cairns BA, AA Meyer, JM Jaynes, U Schwab, PH Gilligan, and DC Henke. (1994) Defensin-Class Antibiotic Peptides Stimulate Fibroblast and Keratinocyte Growth In Vitro. American Burn Association 26th Annual Meeting.
50. Graham ML, MH Fisher, RC Sprouse, and JM Jaynes. (1994) Cytotoxic Effect of Amphipathic Cationic Lytic Peptides on Human and Murine Cancer Cell Lines. American Association for Cancer Research Meeting. (Published in Proceedings, Vol. 35, 1994, p. 410)
51. Gruzensky W, MJ Mannis, IR Schwab, E Kim, and J Jaynes. (1994) The Use of Cecropin analog, Hecate, Against *Acanthamoeba* In Vitro. Association for Research in Vision and Ophthalmology.
52. Prakash CS, G He, A Porobo Dessai, Q Zheng, M Egnin, RL Jarret. (1994) Progress and Promise of Biotechnology in the Improvement of Sweet Potatoes. 10th Symposium of the International Society for Tropical Root Crops (ISTRC).
53. Jaynes JM. (1995) Enhancing Disease Resistance in Vegetable Crops. Meeting of the Society of In Vitro Biology.
54. Jaynes JM. (1995) Overview of Lytic Peptide Technology. International Society of Ocular Sciences.
55. Ma J, JM Jaynes, WA Tompkins. (1995) Antiviral Activity and Cell Toxicity of Peptidyl Membrane Interactive Molecules in Feline Immunodeficiency Virus Infected Cells. Fall Immunology Symposium.
56. Mannis MJ, LB deSousa, J Cullor, I Schwab, and JM Jaynes. (1995) The Use of Cecropin Analogs as Anti-microbials in Ophthalmology. International Society of Ocular Sciences. Martin A, HD Danforth, JM Jaynes.
57. Martin A, HD Danforth, JM Jaynes. (1995) Use of Peptidyl-MIMS as a Coccidial Control Agent in Chickens. Poultry Science Association Meetings.
58. Roberson KM, A Pinero, JM Jaynes, CN Robertson. (1996) Novel Peptidyl Membrane Interactive Molecules That Form Alpha Helical Secondary Structures Are Effective Against Prostatic Cancer Cells In Vitro. American Urological Annual Meeting.
59. Schwab U, J Stutts, J Jaynes, P Gilligan, D Henke. (1996) In Vitro Evaluation of the Anti-Bacterial Activity of Synthetic Peptides on Multidrug Resistant Bacterial Pathogens. American Thoracic Society International Conference.
60. Lushbaugh W, Cleary J, Finley R, Jaynes J. (1996) Interruption of STD Transmission with Peptidyl Membrane Interactive Molecules. American Society of Tropical Medicine and Hygiene.
61. Jaynes J, U Schwaab, S Riddell, P Gilligan, D Henke. (1997) Comparison of the Antibacterial Activity and Toxicity of Synthetic Membrane Interactive Peptides (Peptidyl MIMs). 97th ASM General Meeting.

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62. An amphipathic alpha-helical synthetic peptide analogue of melittin inhibits herpes simplex virus-1 (HSV-1)-induced cell fusion and virus spread. Baghian A, Jaynes J, Enright F, Kousoulas KG. *Peptides* 1997 18:2 177-83
63. Makhuli MJ, KM Roberson, SHM Poulton, RT Vollmer, GM Padilla, DW Edwards, DR Yancey, AL Caldwell, JM Jaynes, CN Robertson. (1998) In Vivo, Synthetic Lytic Peptides Exhibit Anti-Tumor Activity Against Prostate Cancer. American Urological Annual Meeting.
64. Rioux D, V Jacobi, M Simard, JM Jaynes, RC Hamelin. (1998) Structural Changes of Spores of Tree Pathogens After Exposure to a Synthetic Antimicrobial Peptide. Canadian Phytopathological Society.
65. Schwab U, Gilligan P, Jaynes J, Henke D. (1998) Anti-pseudomonal Activity of Peptidyl Membrane Interactive Molecules is Salt Independent. Meeting of the North American Cystic Fibrosis Conference.
66. Weissinger A, L Urban, Cleveland T, Jaynes J, Mirkov E, Moonan F. (1998) Expression of the Antifungal Peptide D₅C in Peanut.
67. Makhuli MJ, KM Roberson, SHM Poulton, RT Vollmer, GM Padilla, DW Edwards, D Edwards, D Yancey, AL Caldwell, JM Jaynes, CN Robertson. (1998) Peptidyl MIMs are Effective Anti-tumor Agents in Prostate Cancer In Vivo. Joint Meeting of the American Association for Cancer Research and the Japan Cancer Association.
68. Lewis J, M Egnin, M Walker, Jaynes JM, Prakash CS. (1999) Introduction and Expression of an Improved Nutritional Protein Gene In Peanut. In Vitro Cellular and Developmental Biology.
69. Wu S-P, D Krill, J Jaynes, MJ Becich. (1999). Peptide D₂A₂₁ Acts as an Antitumor Agent in Prostate Primary Cultures. American Association for Cancer Research 40. (1999).
70. Arlotti J, Cimino T, Nyguyen T, Dhir R, Jaynes J, Caldwell L, Getzenberg R. (1999) Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer. American Association for Cancer Research.
71. Lushbaugh W, Paxton A, Shah P, Banga A, Jaynes J, Cleary J, Finley R. (1999) Intravaginal Microbicides Prevent Acquisition of *Trichomonas Vaginalis* Infection in a Mouse Model. American Society of Tropical Medicine and Hygiene. November 28-December 7, 1999.
72. Prakash, C.S., Egnin, M., Shireen, K., Pace, R., and Jaynes, J.M. (1999). International Symposium on Plant Genetic Engineering: Towards the Third Millennium in Havana, Cuba, December 6-10, 1999.
73. Chalekson C, Neumeister MW, Jaynes J. Survival improvement in Acute Wound Infections with Antimicrobial peptide D₂A₂₁. (2001). American Society of Plastic Surgeons National Meeting in Orlando, FL, November 3-7, 2001.
74. Chalekson C, Neumeister MW, Jaynes J. Survival improvement in acute wound infections with antimicrobial peptide D₂A₂₁. (2001). Plastic Surgery Research Council in Milwaukee, WI, June 9-12.
75. Zhang, P., Jaynes, J.M., Potrykus, I., Gruissem, W., Puonti-kaerlas, J. (2001). Transfer of an Artificial storage protein (ASP1) Gene in Cassava (*Manihot esculenta* Crantz): Towards Improving Nutritive Value of Storage Roots. 10th IAPTC&B Congress.

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76. M. Egnin, M. Walker, C. S. Prakash, and J. Jaynes. Transgenic 'High Protein' Sweetpotatoes (*Ipomoea batatas* L., PI 318846-3) Engineered with An Artificial Storage Protein Gene (*asp-1*) Alter The Temporal Distribution / Accumulation of Sporamin And β -Amylase. (2002) Society of In Vitro Biology.
77. Zhang, P.J. M. Jaynes, and W. Gruissem. Assessment of Genetic Improved Cassava Plants Expressing a Nutritious Storage Protein (ASP1) Gene. (2004) in Cassava Biotechnology Network Meetings IV held in Cali, Colombia.
78. Rajasekaran, K, J.W. Cary, J.M. Jaynes, and T.E. Cleveland. Improvement of Antifungal Peptide Technology for Control of Phytopathogens Including *Aspergillus flavus*. (2007) at National Aflatoxin Meetings held in Atlanta, GA. Thomas E. Cleveland.
79. Richard, S., C. Yates, J. Jaynes, T. Turner and A. Moeshed. Screening of Synthetic Designed Peptides for Inhibition of Human Prostate Cancer. 4th Annual Symposium on Prostate Cancer at Clark University, Atlanta, GA March 16-18, 2008.
80. Kamilah Grant, Jesse Jaynes, Victor Brown, and Olga Bolden-Tiller. The Effect of Synthetic Anti-Microbial Peptides as a Non-surgical Sterilization Alternative in Female Rats. Minorities in Agriculture, Natural Resources and Related Sciences 23rd Annual Symposium March , 2008.
81. Kamilah Grant, Jesse Jaynes, Victor Brown, and Olga Bolden-Tiller. The Effect of Synthetic Anti-Microbial Peptides as a Non-surgical Sterilization Alternative in Female Rats. Sigma Xi 35th Annual Symposium May 2008.
82. Shields, D; Jones, J; Jones, C; Jaynes, J; Nimmanapalli, R; Donapaty, S.R. Curcumin and JC-15 combination as a Therapeutic Agent for African American Breast Cancer. Tuskegee 9th Annual Research symposium. September, 2008.
83. Odom, L., Rajasakeran, R., Cary, J., Ankumah, R. and Jaynes, J. Effect of Antimicrobial Synthetic Peptide D4E1 on Soil Microbial Diversity and on Infestation of Cotton Seedling Disease. University of California, Davis Annual IGERT Symposium. (2008).
84. Yates, C.C., Rodgers, M., Wells, A., Jaynes, J., Bodnar, R. J. and Turner, T. IP=10 Fragment is Functional Motif that Blocks Endothelial Cell Motility and Vessel Formation. *Experimental Biology*. (2009).
85. Freeman, Darielle and others. Efficacy of Anti-inflammatory Synthetic Peptides in Treating *Aspergillus fumigatus* Infection in IL-10 Deficient Mice. First Joint Annual Research Symposium HBCU-UP and Sigma Xi. March, 2010.
86. Freeman, Darielle and others. The Effect of a Synthetic IL-10 on Inflammation-Associated Tumor Growth in IL-10 Deficient Mice. First Joint Annual Research Symposium HBCU-UP and Sigma Xi. March, 2010.
87. Ferrebee, Kristina and others. The Effect of a Synthetic IL-10 on Inflammation-Associated Tumor Growth in IL-10 Deficient Mice. First Joint Annual Research Symposium HBCU-UP and Sigma Xi. March, 2010.
88. Stover, E., Stange, R., McCollum, G., Jaynes, J. Screening Antimicrobial Peptides In-Vitro for Use in Developing Huanglongbing and Citrus Canker Resistant Transgenic Citrus. American Society of Horticultural Sciences Meeting in Orlando, FL. (2010).

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SELECTED INVITED LECTURES

1. Annual Research Co-ordination Meeting at the International Potato Center. The talk was entitled: "Genetic Engineering and Agriculture". Dec. 1985.
2. Annual Meeting of the Montana Potato Growers. The talk was entitled: "Genetic Engineering of the Potato". Nov. 1986.
3. International Agriculture Meeting at Enugu, Nigeria. The talk was entitled: "Potential for Improvement of Root and Tuber Crops Important to Africa". May 1987.
4. International Institute for Tropical Agriculture at Ibadan, Nigeria. The talk was entitled: "Potential for Improvement of Root and Tuber Crops Important to Africa". July 1987.
5. Annual Meeting of the Montana Potato Growers. The talk was entitled: "Progress in the Genetic Engineering of the Potato". Nov. 1987.
6. Sixth Annual North American Seed Potato Seminar. The talk was entitled: "Genetic Engineering of the Potato". Dec. 1987.
7. PSTC Conference on Biotechnology in Agriculture and Health. Sponsored by the Agency for International Development. The talks were entitled: Genetic Engineering of Crop Plants for Improved Nutritional Value and Disease Resistance and Lytic Peptides: A Novel Class of Chemotherapeutic Agents. July, 1988.
8. Workshop on Advanced Research Network for Cassava Biotechnology. Sponsored by the International Center for Tropical Agriculture (CIAT) in Cali, Colombia. Talks were entitled: "Genetic Engineering of Crop Plants for Improved Nutritional Value" and Genetic Engineering of Crop Plants for Enhanced Disease Resistance". September, 1988.
9. II Andean Biotechnology Conference. Sponsored by the Andean Development Fund in Cali, Colombia. My talk was entitled: "Genetic Engineering of Crop Plants for Improved Nutritional Value and Enhanced Disease Resistance". October, 1988.
10. Annual Meeting of the Montana Potato Growers. The talk was entitled: "Progress in the Genetic Engineering of the Potato". Nov. 1988.
11. Featured Speaker at the Spring Meeting of the National Capital Area Branch in College Park, Maryland. My presentation will be entitled: "Enhancing Resistance to Microbial Disease in Plants". March, 1989.
12. Featured Speaker at the American Chemical Society Annual Conference. The titles of my presentations will be: "The Design and Synthesis of Novel Classes of Lytic Peptides" and "The Incorporation of Lytic Peptide Genes into Plants to Improve Their Disease Resistance". April, 1989.
13. Distinguished Scholars Program, Rochester Museum of Science and Technology, Rochester, New York. The title of my presentation: "Biotechnology: the Emerging Revolution". May, 1989.

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14. Featured Speaker at the American Society of Microbiology Annual Conference. The title of my presentation: "Genetic Engineering to Improve the Nutritional Value of Plants". May, 1989.
15. The 1989 International Chemical Congress of Pacific Basin Societies. The title of my presentation: "Lytic Peptides: Novel Chemotherapeutic Agents". Dec. 1989.
16. The Agency for International Development meeting on "New Directions for Nutrition". The title of my presentation: "Genetic Engineering of Plants for Increased Nutritional Value and Disease Resistance for Enhanced Storage Life". Feb. 1990.
17. The UCLA Symposium on Plant Molecular Biology. The title of my presentation: "The Introduction of a Synthetic Gene, Encoding a Novel Lytic Peptide, Into Plants Which Then Exhibit Increased Bacterial Disease Resistance". April 1990.
18. The UCLA Symposium on Plant Molecular Biology. The title of my presentation: "The Design, Construction, Cloning, and Integration of a Synthetic Gene Encoding a Novel Polypeptide to Enhance the Protein Quality of Plants". April 1990.
19. Plenary speaker at the Noble Foundation Medical and Plant Molecular Biology Symposium. The title of my presentations: "The Use of Genetic Engineering to Enhance the Nutritional Value and Disease Resistance Properties in Plants" and "The Use of Lytic Peptides as New Chemotherapeutic Agents". Sept. 1990.
20. The Agricultural Leadership Development Program at Louisiana State University. The title of my presentation: "Application of Biotechnology to Enhance Plant Disease Resistance". Jan. 1991.
21. The International Conference on Sweet Potato Technology for the 21st Century. The title of my presentation: "Agrobacterium Gene Transfer in Potato and Sweet Potato". June 1991.
22. The Second Workshop on Plant Molecular Biology Applied to Agriculture in Moscow, USSR. August, 1991.
23. Annual Meeting of the Montana Potato Growers. The talk was entitled: "Progress in the Genetic Engineering of the Potato". Nov. 1991.
24. The National Science Teachers Association Convention in New Orleans, Louisiana. The title of my presentation: "Application of Biotechnology in Agriculture and Medicine". December 1991.
25. The Second International Symposium on In Vitro Culture and Horticultural Breeding in Beltsville, Maryland. The title of my presentation: "Lytic Peptides and Their potential for Enhancing Disease Resistance in Plants". July, 1992.
26. The Fundacion Juan March Symposia and Workshop on Engineering Plants Against Pests and Pathogens in Madrid, Spain. The title of my presentation: "The Use of Genes Encoding Novel Peptides and Proteins to Enhance Disease Resistance in Plants". January, 1993. Published in Wiley Series in Ecological and Applied Microbiology: Biotechnology in Plant Disease Control. 1993. pp. 175-189. Ed. I. Chet.
27. The 1995 annual congress on In Vitro Biology in Denver, CO. The title of my presentation: "Enhancing Disease Resistance in Vegetable Crops". May, 1995.

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28. The 1995 annual meeting of the Institute of Food Technologists in Anaheim, CA. The title of my presentation: "Genetic Engineering of Plants for Improved Protein Quality". June, 1995.
29. The 1995 Senju Pharmaceutical Lectureship at the Department of Ophthalmology at University of California, Davis. The title of my presentation: "Use of Antimicrobial Peptides in Ocular Applications". October 1995.
30. The 2nd Gordon Research Conference on antimicrobial Peptides in Barga, Italy. The title of my presentation: "In vivo Activity of Designed Antimicrobial Peptides". April, 1999.
31. Transgenic Plants for the Production of Vaccines, Antibodies, Anti-tumorals and High Nutritional Value Food. Fondazione Luigi Einaudi. Rome, Italy. May, 2002. Invited but unable to attend.
32. High Value-Added Proteins: Biotechnology as a Platform for Value-Added Proteins and Novel Products from Plants. Cambridge, England. July, 2002. Invited but unable to attend.
33. Biotechnology for Food, Environment, and Health. The Centennial Symposium: A Global Approach to Food and Environment, Lima, Peru. September 18, 2002.
34. Agriculture Biotechnology: An Introduction, Local and Global Viewpoints. Southern AgBiotech Consortium for Underserved Communities (SACUC) Workshop. Selma, Alabama. November 6, 2002.
35. Designer Proteins in Human and Animal Health. Biotech Invest-2003. A Global Meet on Strategic Alliances & Business Opportunities. Hyderabad, India. January 31-February 2, 2003.
36. Improved Synthetic Peptide Technology for Expression in Plants. 2003 Aflatoxin/Fumonisin Elimination and Fungal Genomics Workshop. Savannah, GA. October 12-15, 2003.
37. Peptides and Proteins in Biotechnology Research. Tuskegee University. Tuskegee, AL. March 26, 2004.
38. Improvement of Nutritional Value and Disease Resistance in Crop Plants. Distinguished Lecture at Biotechnology for Sustainable Agriculture and Agro-Industry. March 9-11, 2006 at Pragati Resorts in Hyderabad India.

CURRENT AND PAST GRANTS

1. Co-Principal Investigator: "Integration of Sustainable Resource Management, Nutrition, Reproduction and Goat Health for Production Efficiency, Meat Quality and Marketing of Goats". USDA/CREES Evans-Allen. 11/08-10/13.
2. Co-Principal Investigator: "Integrated Sweetpotato Production and Postharvest Technologies for Alabama". USDA/CREES Evans-Allen. Amount \$5,000,000. 11/07-10/12.
3. Co-Principal Investigator: "Field Trial of High Protein Aspr in Sweet Potatoes in Africa". Foreign Agricultural Service—USDA. Amount \$75,000. 1/08-12/08.

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4. Co-Principal Investigator: "Collaborative Research and Education in Agricultural Technologies and Engineering". Amount \$150,000. August 15, 2007—August 14, 2012.
5. Co-Principal Investigator: "Bioactive Peptides With enhanced Antimicrobial Activity: The Design and Testing of Novel Lytic Peptides." Merck-AAAS Scholar Program. Amount \$60,000. June 1, 2004—May 31, 2007.
6. Co-Principal Investigator: "Antibacterial Efficacy of Peptidyl MIMs" SBIR Phase I Grant Awarded to Demegen, Inc. Amount \$100,000. NIH. March 1999 – September 30, 1999.
7. Principal Investigator: "Interruption of STD Transmission with Peptidyl MIMs" SBIR Phase I Grant Awarded to Demegen, Inc. Amount \$100,000. NIH. February 1998 to December 1998.
8. Principal Investigator: "Effectiveness of Peptidyl Membrane Interactive Molecules in Preventing Disease Caused by *Perkinsus marinus* in *Crassostrea virginica*". SBIR Phase I Grant Awarded to Demegen, Inc. Amount: \$75,000. NSF 95-59. March 1, 1996 - August 31, 1996.
9. Principal Investigator: "Mechanism of Action of Lytic Peptides". Amount: \$2,238,236. NSF-EPSCoR. March 1992/Feb 1996.
10. Co-Principal Investigator: "Plant Culture Center". Amount: \$576,000. August 91/ July 92. State of Louisiana Board of Regents.
11. Co-Principal Investigator: "Use of Lytic Peptides in Enhancing Disease Resistance in Animals". Amount: \$91,000. August 91/ July 94. State of Louisiana Board of Regents.
12. Principal Investigator: "Embryonic Implantation of Antisense DNA for Prevention of Viral Diseases". Oct. 86/ Nov. 91. Amount \$-varies- LSU Agricultural Experiment Station.
13. Co-Principal Investigator: "Effects of Lytic Peptides on the Wilm's Tumor in Nude Mice", Louisiana Cancer Foundation 1991. Amount: \$20,000.
14. Principal Investigator: "The Use of Agrobacterium Plasmid Vectors to Insert Antibacterial Genes to Confer Bacterial Disease Resistance in Potatoes". July 87/ August 91. Amount: \$80,000. International Potato Center.
15. Principal Investigator: "Use of Plant Transformation Techniques to Modify the Protein Quality of Cassava". June 87/ July 90-no cost extension till July 91. Amount: \$99, 990. USDA-AID.
16. Co-Principal Investigator: "Conferring Resistance to Potato Viruses and Viroid by Molecular Interference Sequences Incorporated into Potato by Agrobacterium Vectors". October 88/September 91. Amount: \$149,096. Agency for International Development.
17. Principal Investigator: "Design, Synthesis, and Testing of Lytic Peptides". February 1990-June 1991. Amount:\$ 60,000/year. University Research and Marketing.
18. Co-Principal Investigator: "Biotechnology in Rice Breeding". Amount: \$137,250. May 88/June 90. State of Louisiana Board of Regents.
19. Co-Principal Investigator: "Improving Disease Resistance in Plants and Animals". Amount: \$400,000. Louisiana Education Quality Support Fund. May 88/ April 89.

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20. Principal Investigator: "Selective Improvement, Through the Use of Genetic Engineering Techniques, of Plant Varieties Important to Turkey". June 87/ July 90. Amount: \$60,000. Scientific and Research Council of Turkey.
21. Principal Investigator: "The Use of Agrobacterium RI Plasmid Vectors which Contain Synthetic DNA Fragments to Modify the Nutritive Value of Potatoes". Aug. 84/ July 87. Amount: \$147,172 Agency for International Development.
22. Co-Principal Investigator: "Techniques for Gene Transfer in Fish". Sept. 86/ March 87. Amount: \$10,400. Small Business Innovation Research Program. National Institute on Aging.
23. Principal Investigator: "Construction and Expression of Genetically Modified Zein Genes". Jan. 84/ Dec. 88. Amount: \$7,500/year LSU Agricultural Experiment Station.
24. Principal Investigator: "The Characterization and Exploitation of Novel Lytic Peptides for Medicinal Purposes". Aug. 87/ July 90. Amount: \$500,000. Helix International Corporation.
25. Co-Investigator: "Genetic Engineering a Chitinase to Recover Crustacean Shell Waste as N-Acetylglucosamine: a Nitrogen and Carbon Bioresource". Nov. 85/ Oct. 87. Amount: \$87,450. SeaGrant.
26. Co-Principal Investigator: "Mechanisms of Pathogenesis and Resistance to Ring Rot Using Cell Culture and Gene Transfer". Renewable for up to 5 years at \$40,000/year. USDA.
27. Co-Principal Investigator: "Development of a Safe and Effective Vaccine Against Transmissible Gastroenteritis of Swine". Feb. 83/ Jan. 85. Amount: \$259,000. Hess and Clark.
28. Co-Principal Investigator: "Colonization of Designed Micro-organisms in the Crop and Gastrointestinal Tract of Poultry". Apr. 83/ Mar. 84. Amount: \$125,000. Con Agra.
29. Principal Investigator: "Immunizing Agents Against E. coli Caused Diarrhea Using Recombinant DNA Technology". Feb. 82/ Jan. 84. Amount: \$190,860. Fort Dodge Laboratories.

CORPORATE FUNDING

1. Research responsible for obtaining more than \$5 million funding for the corporation while VP for Research at Demegen, Inc.

JESSE MICHAEL JAYNES

US AND FOREIGN PATENTS GRANTED AND PENDING

1. Compositions Containing and Methods of Use of an Infectivity-Cured HR Plasmid-Bearing Microorganism. Gary A. Strobel, Andrea H. Gavlak and Jesse M. Jaynes. Granted January 10, 1984. US4425150.
2. Compositions Containing and Methods of Use of an Infectivity-Cured HR Plasmid-Bearing Microorganism. Gary A. Strobel, Andrea H. Gavlak and Jesse M. Jaynes. Granted March 5, 1985. CA1183361.
3. Compositions Containing and Methods of Use of an Infectivity-Cured HR Plasmid-Bearing Microorganism. Gary A. Strobel, Andrea H. Gavlak and Jesse M. Jaynes. Granted May 14, 1985. US4517008.
4. Method of Preparing Inoculant. Gary A. Strobel, Andrea H. Gavlak and Jesse M. Jaynes. Granted September 28, 1985. IN156639.
5. Fremgangsmaate for Innfoering av Sykdoms-Og Pestresistens I Planter Og Nye Gener Innfoert I Planter Som Koder For Denne. Jesse M. Jaynes and Kenneth Derrick. Granted May 24, 1988. NO881298.
6. Method for Introduction of Disease and Pest Resistance into Plants and Novel Genes Incorporated into Plants Which Code Therefor. Jesse M. Jaynes and Ken S. Derrick. Granted January 25, 1989. FI890362.
7. Plants Genetically Enhanced for Disease Resistance. Jesse M. Jaynes and Kenneth S. Derrick. Granted August 10, 1993. CA1321157.
8. Therapeutic Antimicrobial Polypeptides, Their Use and Methods for Preparation. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted March 1, 1994. CA1327311.
9. Method for Protecting Plants from Disease and Infestation by Gene Insertion, and Vectors and Plant Cells Containing Said Genes. Jesse M. Jaynes and Ken S. Derrick. Granted April 6, 1994. EP0590301.
10. Molecular Clone of a Chitinase Gene from Vibrio Parahemolyticus. Roger A. Laine, Chin-Yih Ou and Jesse M. Jaynes. Granted October 4, 1994. US5352607.
11. Therapeutic Antimicrobial Polypeptides, Their Use and Methods for Preparation. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted April 5, 1995. EP036598B1.
12. Aertzliche Antimikrobielle Polypeptide, Deren Verwendung Und Verfahren Zur Herstellung. Jesse M. Jaynes. Granted April 15, 1995. AT120795T.
13. Aertzliche Antimikrobielle Polypeptide, Deren Verwendung Und Verfahren Zur Herstellung. Jesse M. Jaynes. Granted May 11, 1995. DE03853535Co.
14. Method for introduction of Disease and Pest Resistance Into Plants and Novel Genes Incorporated Into Plants which Code Therefor. Jesse M. Jaynes. Granted June 7, 1995. EP0330655.

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15. Verfahren Zum Verleihen Bei Pflanzen Eines Widerstands Gegen Krankheiten Und Pest Sowie Neue Gene In Pflanzen Die Hierfuer Kodieren. Jesse M. Jaynes. Granted June 15, 1995. AT123528T.
16. Verfahren Zum Verleihen Bei Pflanzen Eines Widerstands Gegen Krankheiten Und Pest Sowie Neue Gene In Pflanzen Die Hierfuer Kodieren. Jesse M. Jaynes. Granted July 13, 1995. DE03751338.
17. Inhibition of Eukaryotic Pathogens and Neoplasms with Lytic Peptides. Jesse M. Jaynes, Fred M. Enright, Ken L. White, and Gale W. Jeffers. Granted September 13, 1995. EP0383770B1.
18. Inhibierung Von Eukaryotischen Pathogenen Und Neoplasm Mit Lytischen Peptiden. Jesse M. Jaynes. Granted September 15, 1995. AT127838T.
19. Inhibierung Von Eukaryotischen Pathogenen Und Neoplasm Mit Lytischen Peptiden. Jesse M. Jaynes. Granted October 19, 1995. DE03751338Co.
20. Verfahren Zum Verleihen Bei Pflanzen Eines Widerstands Gegen Krankheiten Und Pest Sowie Neue Gene In Pflanzen Die Hierfuer Kodieren. Jesse M. Jaynes. Granted November 23, 1995. DE03751338T2.
21. Inhibierung Von Eukaryotischen Pathogenen Und Neoplasmen Mit Lytischen Peptiden. Jesse M. Jaynes. Granted April 4, 1996. DE03854476T2.
22. Method of Enhancing Wound Healing by Stimulating Fibroblast and Keratinocyte Growth In Vivo, Utilizing Amphipathic Peptides. Jesse M. Jaynes. Granted October 1, 1996. US5561107.
23. Plants Genetically Enhanced for Disease Resistance. Jesse M. Jaynes and Kenneth S. Derrick. Granted January 28, 1997. US5597945.
24. Method for Introduction of Disease and Pest Resistance into Plants and Novel Genes Incorporated into Plants Which Code Therefor. Jesse M. Jaynes and Ken S. Derrick. Granted January 28, 1997. US5597946.
25. Inhibition of Eukaryotic Pathogens and Neoplasms and Stimulation of Fibroblasts and Lymphocytes with Lytic Peptides. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted April 24, 1997. KR9706154.
26. Ubiquitin-Lytic Peptide Fusion Gene Constructs, Protein Products Derived Therefrom, and Methods of Making and Using Same. Joan Garbarino, William Belknap, and Jesse M. Jaynes. Granted JULY 2, 1997. EP0781347.
27. Methylated Lysine-rich Lytic Peptides and Methods of Making Same by Reductive Alkylation. Gordon R. Julian and Jesse M. Jaynes. Granted February 10, 1998. US5717064.
28. Method for Treatment of Immunodeficiency Virus Infection. Jesse M. Jaynes. Granted April 9, 1998. CA2267683.
29. Method of Treating Pulmonary Disease States with Non-Naturally Occurring Amphipathic Peptides. Jesse M. Jaynes and Gordon R. Julian. Granted April 28, 1998. US5744445.
30. Method of Combating Mammalian Neoplasias, and Lytic Peptides Therefor. Jesse M. Jaynes and Gordon R. Julian. Granted June 30, 1998. US5773413.

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31. Plants Genetically Enhanced for Nutritional Quality. Jesse M. Jaynes and Kenneth S. Derrick. Granted September 22, 1998. US5811654.
32. Lytic Peptides and Control of Disease. Jesse M. Jaynes. Granted January 19, 1999. US5861478.
33. Inhibition of Eukaryotic Pathogens and Neoplasms and Stimulation of Fibroblasts and Lymphocytes with Lytic Peptides. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted August 24, 1999. CA1340716.
34. Ubiquitin-Lytic Peptide Fusion Gene Constructs, Protein Products Derived Therefrom, and Methods of Making and Using Same. Joan Garbarino, William Belknap, and Jesse M. Jaynes. Granted September 21, 1999. US5955573.
35. Inhibition of Eucaryotic Pathogen with Lytic Peptides. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted October 5, 1999. US5962410.
36. Modified Arginine-Containing Lytic Peptides and Method of Making the Same by Glyoxylation. Gordon R. Julian and Jesse M. Jaynes. Granted October 19, 1999. US5968904.
37. A Method for increasing the Protein Content of Plants. Jesse M. Jaynes. Granted November 4, 1999. CA2325463.
38. Method of Enhancing Wound Healing by Stimulating Fibroblast and Keratinocyte Growth In Vivo, Utilizing Amphipathic Peptides. Jesse M. Jaynes and Gordon Julian. Granted December 14, 1999. US6001805.
39. Ubiquitin-Lytic Peptide Fusion Gene Constructs, Protein Products Derived Therefrom, and Methods of Making and Using Same. Joan Garbarino, William Belknap, and Jesse M. Jaynes. Granted January 25, 2000. US6018102.
40. Lytic Peptides, Use for Growth, Infection and Cancer. Jesse M. Jaynes. Granted January 26, 2000. EP0470974B1.
41. Lytische Peptide, Verwendung Als Wachstumsfordernde Mittel Und Fur Infektionen Und Krebs. Jesse M. Jaynes. Granted February 15, 2000. AT189231T.
42. Plants Producing Lytic Peptides. Joan Garbarino, William Belknap, and Jesse M. Jaynes. Granted July 4, 2000. US6084156.
43. Ubiquitin-Lytic Peptide Fusion Gene Constructs, Protein Products Derived Therefrom, and Methods of Making and Using Same. Joan Garbarino, William Belknap, and Jesse M. Jaynes. Granted October 10, 2000. CA2195625.
44. Method of Enhancing Wound Healing by Stimulating Fibroblast and Keratinocyte Growth In Vivo, Utilizing Amphipathic Peptides. Jesse M. Jaynes and Gordon Julian. Granted February 20, 2001. US6191110.
45. Lytic Peptides. Jesse M. Jaynes. Granted July 3, 2001. US6255282.
46. Therapeutic Antimicrobial Polypeptides, Their Use and Methods for Preparation. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted October 16, 2001. US6303568.

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47. Lytic Peptides: Their Use in the Treatment of Microbial Infections, Cancer and in the Promotion of Growth. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted July 2, 2002. CA2032527.
48. Inhibition of Eukaryotic Pathogens and Neoplasms and Stimulation of Fibroblasts and Lymphocytes with Lytic Peptides. Jesse M. Jaynes, Fred M. Enright, Ken L. White. Granted August 27, 2002. US6440935.
49. Method for Treating Immunodeficiency Virus Infection. Jesse M. Jaynes. Granted February 4, 2003. US6514692.
50. Non-Naturally Occurring Synthetic Lytic Peptides. Jesse M. Jaynes. Granted May 6, 2003. US6559281.
51. Lytic and Proliferative Peptides and Their Use as Pharmaceutic and Phytopharmaceutic Agents. Jesse M. Jaynes. Granted June 18, 2003. EP1004595.
52. Lytsche Und Proliferative Peptide Und DerenVerwendung Als Pharmaka Und Phtopharmaka. Jesse M. Jaynes. Granted July 24, 2004. DE69034085.
53. Ligand/Lytic Peptide Compositions and Methods of Use. Jesse M. Jaynes. Granted October 21, 2003. US6635740.
54. Method of Enhancing Wound Healing by Stimulating Fibroblast and Keratinocyte Growth In Vivo, Utilizing Amphipathic Peptides. Jesse M. Jaynes. Granted November 19, 2003. EP0756449.
55. Verfahren zur Beschleunigung der Wundheilung Durch Stimulierung des Fibroblasten-und Keratinozyten-Wachstums. Jesse M. Jaynes and Gordon Julian. Granted December 15, 2003. AT254396.
56. Compositions and Methods for Contraception in or Sterilization of Mammals. Jesse M. Jaynes and others. Granted January 20, 2004. US6680058.
57. Lytsche Und Proliferative Peptide Und DerenVerwendung Als Pharmaka Und Phtopharmaka. Jesse M. Jaynes. Granted May 27, 2004. DE69034085.
58. Zusammensetzung aus Liganden/Lytischen Petiden und Ihre Verwendung. Jesse M. Jaynes. Granted June 16, 2007. EP0975354.
59. LIGAND/LYTIC PEPTIDE COMPOSITIONS AND METHODS OF USE. Jesse M. Jaynes and others. Granted June 13, 2007. IR 0975354.
60. Composition for treatment for burns and wounds. Jesse M. Jaynes and Ramachandra Isanaka. Granted October 30, 2007. US7288622.
61. Genes Encoding Hormone and Lytic Peptides. Jesse M. Jaynes and others. Granted July 28, 2009. US7566777.
62. Molecules for the Treatment and Prevention of Fungal Diseases. Jesse M. Jaynes. Granted September 28, 2010. US7,803,755.
63. Ligand/Lytic Peptide Compositions and Methods of Use. Jesse M. Jaynes and others. Pending, 2008. CA2283630.

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64. ZUSAMMENSETZUNG AUS LIGANDEN/LYTISCHEN PEPTIDEN UND IHRE VERWENDUNG. Jesse M. Jaynes and others. Pending July 15, 2007. AT364392.
65. ZUSAMMENSETZUNG AUS LIGANDEN/LYTISCHEN PEPTIDEN UND IHRE VERWENDUNG. Jesse M. Jaynes and others. Pending July 26, 2007. DE69837915.
66. Ligand/lytic peptide compositions and methods of use; Compositions de peptide ligand/lytique et procds d'utilisation; Ligand-/lytische Peptidzusammensetzungen und Verwendungsverfahren. Jesse M. Jaynes and others. Pending January 16, 2008. EP1878438.
67. COMPOSICIONES DE LIGANDO/PEPTIDO LITICO Y METODOS DE USO. Jesse M. Jaynes. Pending February 1, 2008. ES2289775.
- 68.

MEMBERSHIP IN SCIENTIFIC SOCIETIES

American Association for the Advancement of Science

Gamma Delta-Honor Society of Agriculture

American Chemical Society

COURSES TAUGHT AT TUSKEGEE UNIVERSITY

Biochemistry IBSC 603, Fall 2006, 2007, 2008, 2009, 2010

Biochemistry IBSC 604, Spring 2008, 2009, 2010, 2011

Bioinformatics IBSC, Fall 2006

Chemistry 561, Fall 2008

Chemistry 562, Spring 2009

JESSE MICHAEL JAYNES

COURSES TAUGHT AT KENNESAW STATE UNIVERSITY

Biology 2107, Fall 2003—a course designed for freshman and comprises introductory chemistry, biochemistry, and molecular biology concepts

Biotechnology 3301, Spring 2004—a course designed for more advanced students which concentrates on all aspects of biotechnology

Biology 2107, Fall 2004

Biotechnology 4490, Fall 2004—a course on proteomics and bioinformatics

Chemistry 4100, Fall 2004—a course in direct applied research

Biology 2107, Spring 2005

Biotechnology 3400, Spring 2005—a course on quality control and assurance

Chemistry 4100, Spring 2005

Biology 4450, Spring 2005—a course on team research

Biology 2107, Fall 2005

Chemistry 4100, Fall 2005

ACADEMIC GRANT REVIEWER

Agency for International Development

USDA

Midwest Plant Molecular Biology Consortium

ACADEMIC COMMITTEE ASSIGNMENTS

High School Relations

University Biohazards (Chairman)

JESSE MICHAEL JAYNES

Departmental Facilities

Gamma Sigma Delta Awards

COURSES TAUGHT AT LOUISIANA STATE UNIVERSITY

Biochemistry Principles 4083 (Senior Level) Fall 1984

Biochemistry Lab Principles (1/2) 4385 (Senior Level) Spring 1985

Biochemistry Seminar 7290 (Graduate Level) Fall 1985

Biochemistry of Gene Regulation 7287 (Graduate Level) Spring 1986

Biochemistry Lab Principles (1/2) 4385 (Senior Level) Spring 1986

Biochemistry Lab Principles 4385 (Senior Level) Fall 1986

Biochemistry Principles (1/8) 4084 (Senior Level) Spring 1987

Biochemistry Principles 4087 (Senior Level) Fall 1987

Biochemistry Lab Principles 4385 (Senior Level) Spring 1988

Biochemistry Principles 4093 (Senior Level) Fall 1989

Biochemistry Principles (1/2) 4094 (Senior Level) Spring 1990

Biochemistry Principles (1/2) 4094 (Senior Level) Spring 1991

Biochemistry Principles 4087 (Senior Level) Fall 1991

Biochemistry Principles (1/2) 4087 (Senior Level) Spring 1992

GRADUATE STUDENTS AT TUSKEGEE UNIVERSITY

LaKisha Odom. Expected Graduation 2011, Ph.D.

JESSE MICHAEL JAYNES

GRADUATE STUDENTS AT LOUISIANA STATE UNIVERSITY

MoonSik Yang Ph.D. Improving the Nutritional Value of Plant Protein-Graduated April, 1988

Selim Cetiner Ph. D. Plant Resistance to Bacterial and Fungal Diseases-Graduated December, 1989

Pablito Nagpala Ph. D. Plant Resistance to Bacterial and Fungal Diseases-Graduated August, 1990

JaeHo Kim Ph. D. Improving the Nutritional Value of Plant Protein-Graduated December, 1990

Luis Destefano Ph. D. Plant Resistance to Bacterial and Fungal Diseases-Graduated July, 1991

JungSook Lee Ph. D. Plant Tolerance to Frost-Graduated July, 1991

SUMMARY OF RESEARCH ENDEAVORS

I am a scientist with more than 25 years research experience. After completing several post-doctoral fellowships, I became an assistant professor and was a faculty member in the biochemistry department at Louisiana State University. I left LSU ten years later as a tenured Associate Professor and spent the next ten years as vice-president for research of a biotechnology company that I founded. Until April 15, 2003, I was fulltime head of a non-profit research foundation called NovaTero (www.novatero.org) that I founded in 1999. I joined Kennesaw State University in April 2003. I was professor of biology and held the Neel Distinguished Professorship of biotechnology within the department of biological and physical sciences. I moved in January 1, 2006 to Tuskegee University as Professor of Biochemistry in the Program for Integrative Biosciences.

My scholarship activities have and will continue to be in the broad field of design and testing of novel bioactive peptides and proteins. Indeed, my collaborators and I were the first to demonstrate their broad-spectrum antibacterial, antifungal, antiprotozoal, antiviral and anticancer activities. Studies have also shown efficacy in animals. Also, we were the first to introduce genes, encoding some of these peptides that are antimicrobial, into plants and animals. Furthermore, these genetically engineered plants and animals have enhanced resistance to pathogenic bacteria and fungi. All of these activities require the direct interaction of the peptides with the target cells. Some of the later designs possess potent activity with limited toxicity.

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Recently, I have discovered a new class of peptides that can affect host/pathogen interaction and other diseased states indirectly by modulation of cell-signaling pathways in vivo. I am very excited about this line of my research, as I believe that these peptides could become new therapeutic agents that interrupt the disease process in plants and animals in novel ways.

I have also designed a de novo artificial plant storage protein (the first of its kind) to accomplish the goal of providing a complete protein that can be adjusted to accommodate any composition of essential amino acids required for any particular animal species, including humans. And, unlike many storage proteins found naturally in plants--that are only "partially" bio-available to those consuming them--the proteins produced as a result of my designs are 100% bio-available. Dr.'s C.S. Prakash and Marceline Egnin, of Tuskegee University have introduced the gene encoding this storage protein into sweet potatoes. Several years of field trials have been completed and small animal feeding studies conducted. The results of this work have been most promising. The roots of this transgenic plant contains a more balanced amino acid composition provided by the new gene, as well as substantially higher levels of overall protein content. Additionally, work using this novel gene is also being conducted in cassava and rice in collaboration with Dr. Ingo Potrykus (originator of "Golden Rice").

During my career, I have had the opportunity and pleasure to work with a number of gifted students and established scientists and have learned a great deal from them. In fact, I think that this interaction with colleagues is one of the most enjoyable aspects of doing science, as together we can pursue new avenues of research.

LIST OF REFERENCES

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