PAUL F. AGRIS
PROFESSOR 321 MED. SCI. RES. BLDG. BUILDING
DEPT. MEDICINE DUKE UNIVERSITY MEDICAL SCHOOL
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EDUCATION:

B.S. (1966), BIOLOGY AND CHEMISTRY, BUCKNELL UNIVERSITY
PH.D. (1971), BIOCHEMISTRY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

RESEARCH AND/OR PROFESSIONAL EXPERIENCE:

1971 CONSULTANT TO NEW ENGLAND NUCLEAR CORPORATION
1971-73 POSTDOCTORAL FELLOW, YALE UNIVERSITY DEPARTMENT OF MOLECULAR BIOPHYSICS AND BIOCHEMISTRY
1973-87 ASSOC. SCIENTIST/CONSULTANT CANCER RESEARCH CENTER, COLUMBIA, MO
1973-77 ASSISTANT PROFESSOR, DIV. OF BIOLOGICAL SCIENCES, U. OF MISSOURI-COLUMBIA
1977-83 ASSOCIATE PROFESSOR, DIV. OF BIOLOGICAL SCIENCES, U. OF MISSOURI-COLUMBIA
1979- PRESIDENT AND BOARD MEMBER, AMERICAN FOUNDATION FOR AGING RESEARCH
1980-90 BOARD MEMBER, AMERICAN FEDERATION FOR AGING RESEARCH
1980-81 VISITING SCIENTIST, BIOCHEMISTRY DEPT., OXFORD UNIVERSITY, ENGLAND
1981-82 VISITING SCIENTIST, OKLAHOMA MEDICAL RESEARCH FOUNDATION
1981-83 ASSOC. PROFESSOR, DEPT. MEDICINE, SCHOOL OF MEDICINE, U. OF MISSOURI-COLUMBIA
1983-87 PROFESSOR, DIV. OF BIOLOGICAL SCIENCES, U. OF MISSOURI-COLUMBIA
1983-87 PROFESSOR, DEPARTMENT OF MEDICINE, U. OF MISSOURI- COLUMBIA
1985-87 DIRECTOR, DIV. OF BIOLOGICAL SCIENCES PROTEIN SEQUENCING LAB, U. OF MISSOURI-COLUMBIA
1988-93 HEAD, DEPT. OF BIOCHEMISTRY, NORTH CAROLINA STATE UNIVERSITY
1988-2010 PROFESSOR, DEPT. OF BIOCHEMISTRY, NORTH CAROLINA STATE UNIVERSITY
1994-2009 CHAIRMAN, NCSU RNA BIOLOGY FACULTY
1996-2009 FOUNDER AND CHAIR RNA SOCIETY OF NORTH CAROLINA
1996-99 CONSULTANT TO SMITH KLINE, AND MERCK
2000 FOUNDER *NEOS DISCOVERY, INC. (NOW TRANA DISCOVERY)*
2000-2002 CSO *NEOS DISCOVERY, INC*
2002- ADVISOR TO THE POLISH ACADEMY OF SCIENCES
2003-2009 CONSULTANT TO *VERQ, INC.*, LICENSED NCSU/PFA IP
2003- RESEARCH AGREEMENT AND CONSULT WITH DHARMACON RNA TECHNOLOGIES
2005- ASSOCIATE EDITOR, RNA BIOLOGY
2006- FOUNDER, CHAIRMAN, AND CSO *SIRGA ADVANCED BIOPHARMA, INC.* (Research Triangle Park, NC.) (Three funded SBIRs in five years.)
2009- DIRECTOR, THE RNA MODIFICATION DATABASE
2010- FOUNDING DIRECTOR, THE RNA INSTITUTE, University At Albany in the State University of New York (SUNY)
2010-2018 PROFESSOR, Biological Sciences and Chemistry. University At Albany in the State University of New York (SUNY)
2018- PROFESSOR, Dept. Medicine, Duke University School of Medicine

HONORS AND AWARDS:

N.S.F. UNDERGRADUATE RESEARCH FELLOW
N.I.H. PREDOCTORAL TRAINING GRANT FELLOW
POSTDOCTORAL FELLOW OF THE DAMON RUNYON MEMORIAL FUND FOR CANCER RESEARCH
POSTDOCTORAL FELLOW OF THE AMERICAN CANCER SOCIETY
NATIONAL JUNIOR CHAMBER OF COMMERCE OUTSTANDING YOUNG MAN OF 1978
FOGARTY SENIOR INTERNATIONAL FELLOW, 1980-81, UNIVERSITY OF OXFORD
VISITING SENIOR FELLOW, EXETER COLLEGE, OXFORD, 1980
NATIONAL RESEARCH SERVICE AWARD SPECIAL FELLOW, 1981-82
U.S. NATL. ACADEMY OF SCIENCE EXCHANGE SCIENTIST- POLISH ACADEMY OF SCIENCES

INSTRUCTIONAL ACTIVITIES:

Developed beginning undergraduate course for Freshmen Seminar with adaptation to freshmen and sophomores in Biological Science and Chemistry and other science and non-science majors who lack college chemistry. Course based on molecular evolution allows students to learn chemistry, biochemistry and associated biology simultaneously.

RESEARCH ACTIVITIES:

Contributions of nucleic acid chemistry, structure and dynamics to function in gene expression with application to biomedical sciences. Revision of the rules governing decoding of genomic information. RNA chemistry, structure-function relationships with particular emphasis on the modified nucleosides as protein recognition elements, and effectors of decoding, as tools and targets of intervention, and as facilitators of RNA folding. Modification in the design of functioning analogs to RNA as biological tools and targets with potential medical applications (patents licensed); modified nucleoside and metal ion contributions to nucleic acid structure and function; Modification dependent, RNA-protein functional interactions modeled with phage display selected peptide recognition of modified RNAs; small molecule inhibitors of tRNA function (patents licensed). Quality control in the synthesis of nucleic acid, oligonucleotide therapeutics (patents licensed).

Dr. Agris' research has led to novel targets of intervention in drug-resistant infective (viral and bacterial) diseases, targets that are refractory to resistance. He has discovered and developed hit compounds lacking cell culture cytotoxicity, and in one case in animals, that are ready for optimization to leads against HIV and against MDR Gram-positive pathogens.

Dr. Agris' research on RNA has been continually funded by NIH, NSF, private foundations and corporations since 1974. At present, he holds one NIH grant and one NSF grant with funding until 2019. He is the PI on two NIH STTR grants to Athghin Biotechnology, Rensselaer. He is a co-principal investigator on two Health Now Network of Excellence awards from the State University of NY Research Foundation.

PATENTS

Dr. Agris is the inventor on twelve patents and patent applications. Of the latter, four are from SUNY-RF.

US Patents #6,461,815 and #6,962,785 Antibacterial and Antiviral Targets and Methods
Licensed to TRANA Discovery

US Patent #6,929,907 (also Australia and New Zealand), other foreign patents pending: Quality

control on nucleic acid therapeutics and other directed polymer syntheses.
Licensed to VeriQ, Inc.

US application submitted - US #11/750,558 - Novel Anti-infective screen for bioactive compounds against gram positive pathogens. License optioned to Sirga Advanced Biopharma, Inc.

US Patent #7,901,892 March 8, 2011Methods and Compositions for Determining the Purity of Chemically Synthesized Nucleic Acids. License optioned to Sirga Advanced Biopharma, Inc.

US Provisional Patent Application: Peptides and methods of use as therapeutics and screening agents for retroviruses. License optioned to Sirga Advanced Biopharma, Inc.

US Patent Application: Peptides and methods of use as therapeutics and screening agents. License optioned to Sirga Advanced Biopharma, Inc

10,266,527	T-box riboswitch-binding anti-bacterial compounds
9,975,922	Peptide inhibitor of HIV reverse transcription
9,775,835	Small molecule inhibitors of viral protein interactions with human t-RNA
9,273,149	Methods and compositions for determining the purity of chemically synthesized nucleic acids
8,697,355	Methods and compositions for determining the purity of chemically synthesized nucleic acids
8,609,609	Peptides and methods of use as therapeutics and screening agents
8,323,910	Methods and compositions for determining the purity of chemically synthesized nucleic acids
8,173,377	Methods and compositions for determining the purity of chemically synthesized nucleic acids
7,901,892	Methods and compositions for determining the purity of chemically synthesized nucleic acids
6,962,785	Antibacterial and antiviral agents and methods of screening for the same
6,929,907	Methods and compositions for determining the purity of chemically synthesized nucleic acids
6,461,815	Antibacterial agents and methods of screening for the same

Sirga Advanced Biopharma, Inc. was a company spun out of NCSU and based on technologies developed at NCSU by Dr. Agris. Sirga focuses on drug resistant human disease and has both screens for novel drugs for HIV and gram positive bacterial pathogens and bioterrorist organisms. In addition, Sirga identified and protected compounds, that are candidate therapeutics in both HIV and gram positives. Sirga has NIH and angel funding. It was one of two companies singled out by the North Carolina Biotechnology Center (NCBC) for special support and attention. In three years, Sirga had become positioned to seek substantial funding from federal, corporate, angel and VC sources. The Company had collaborations with the Center for AIDS Research (UNC-Chapel Hill), Taconic Farms (Rensselaer, NY), Albany Molecular Research, Inc (AMRI, Albany, NY) and had drawn the attention of Merck, ViiV, and other pharmaceutical companies. Sirga closed for lack of funding for primate studies.

PUBLICATIONS

1. Agris, P.F. (1967) Comparative effects of a lampricide and of anoxia on the Sea Lamprey. *J. Fish. Res. Bd. Canada* 24:1819-1822.
2. Agris, P.F., Koh, H., and Söll, D. (1972) The effect of growth temperatures on the *in vivo* ribose methylation of *Bacillus stearothermophilus* transfer RNA. *Arch. Biochem. Biophys.* 154:277-282.
3. Agris, P.F., Söll, D. and Seno, T. (1973) Biological function of 2-thiouridine in *Escherichia coli* glutamic acid transfer RNA. *Biochemistry* 12:4331-4337.
4. Seno, T., Agris, P.F., and Söll, D. (1974) Involvement of the anticodon region of *E. coli* $tRNA^{Gln}$ and $tRNA^{Glu}$ in the specific interaction with cognate aminoacyl-tRNA synthetase. *Biochim. Biophys. ACTA* 349:328-338.
5. Spremulli, L.L., Agris, P.F. and Brown, G.M. (1974) *E. coli* $tRNA^{fMet}$: Methylation of specific guanine and adenine residues by HeLa cell tRNA methylases and effect of methylations on its biological properties. *Arch. Biochem. Biophys.* 162:22-37.
6. Agris, P.F., Spremulli, L.L., and Brown, G.M. (1974) tRNA methylase from HeLa cells: Purification and properties of an adenine-1-methylase and a guanine-N^2-methylase. *Arch. Biochem. Biophys.* 162:38-47.
7. Agris, P.F., Powers, T., Söll, D., and Ruddle, F.H. (1974) Methods for analysis of transfer RNA molecules from normal, neoplastic and induced mammalian cells. *Cancer Biochem. Biophys.* 1:69-77.
8. Agris, P.F., Spremulli, L., and Brown, G.M. (1975) Transfer Ribonucleic Acid Methylases from HeLa Cells: Effects of Salts on Activity. *Cancer Biochem. Biophys*. 1:97-105.
9. Agris, P.F., Armstrong, D., and Söll, D. (1975) Maturation of a hypermodified nucleoside in tRNA. *Nucleic Acids Res.* 2:691-698.
10. Agris, P.F. (1975) Alteration of transfer RNA during erythroid differentiation of murine virus-induced leukemia cells. *Arch. Biochem. Biophys.* 170:114-123.
11. Agris, P.F. (1975) Nucleotide composition analysis of tRNA from leukemia patient cell samples and human cell lines. *Nucleic Acids Res.* 2:1083-1092.
12. Agris, P.F., Fujiwara, F.G., Schmidt, C., and Loeppky, R. (1975) The Utilization of an *Escherichia coli* mutant for carbon-13 enrichment of tRNA for NMR studies. *Nucleic Acids Res.* 2:1503-1512.
13. Burns, D., Rodi, C., and Agris, P.F. (1975) Natural occurrence of an inhibitor of mammalian cell growth in human and mouse cells of normal and tumor origin. *Cancer Biochem. Biophys.* 1:269-280.
14. Sargent, E. and Agris, P.F. (1976) Chromatography and electrophoresis techniques for demonstrating the presence of cellular N^6-(^{2}-isopentenyl)-adenosine-3'-monophosphate. *J. Chromatogr.* 123:490-494.
15. Agris, P.F., Ortwerth, B., and Kardinal, C. (1976) Differential transfer RNA content of bone marrow and peripheral blood leukocytes in lymphoblastic and myelogenous leukemias. *Transaction, Missouri Academy of Science* 9:46-55.
16. Agris, P.F., Woolverton, D., and Setzer, D. (1976) Subcellular localization of S-adenosyl-L-methionine-tRNA-methyltransferases with aminoacyl-tRNA synthetases in human and mouse, normal and leukemic leukocytes. *Proc. Natl. Acad. Sci. USA* 73:3857-3861.
17. Agris, P.F., Setzer, D., and Gehrke, C. (1977) Characterization of a unique enzyme complex composed of S-adenosyl-L-methionine tRNA methyl transferases and aminoacyl-tRNA

synthetases. *Nucleic Acids Res.* 4:3803- 3819.

18. Fujiwara, F., Tompson, J., Loeppky, R., and Agris, P.F. (1978) Utilization of microbial cell mutants for the *in vivo* production of ^{13}C-enriched tRNA for NMR studies. In: Biomolecular Structure and Function (Agris, P.F., ed.), pp. 527-533, Academic Press, New York.
19. Basler, J.W., David, J.D., and Agris, P.F. (1979) Deteriorating collagen synthesis and cell ultrastructure accompanying senescence of human normal and Werner's Syndrome fibroblast cell strains. *Exptl. Cell Res.* 118:73-84.
20. Davis, G.E., Gehrke, C.W., Kuo, K.C., and Agris, P.F. (1979) Major and modified nucleosides in tRNA hydrolysates by high performance liquid chromatography. *J. Chromatogr*. 173:281-298.
21. Kovacs, S., Rodi, C., and Agris, P.F. (1979) Transfer RNA differences between swine normal and melanomic tissues and cell strains. In: *Pigment Cell,* Vol. 4, (Klaus, S. N., ed.), pp. 79-86.
22. Kovacs, S.H. and Agris, P.F. (1979) Long term *in vitro* cell culture of Sinclair Swine melanoma. *In Vitro* 15:329-341.
23. Kovacs, S.H., Rodi, C., Lin, V.K., Ortwerth, B.S., and Agris, P.F. (1979) Transfer RNA^{Tyr} of melanoma tissues and cells: Relevance to melanin synthesis? *Nucleic Acids Res.* 6:2275-2288.
24. Agris, P.F., Kentsch, R., and Cook, W. (1979) The Modified Nucleosides of Transfer RNA: 1970-1978. *Tech. Education*, Columbia.
25. Tompson, J.G., Hayashi, F., Paukstelis, J.V., Loeppky, R.N., and Agris, P.F. (1979) Complete NMR signal assignments and initial structural studies of methyl enriched transfer RNA. *Biochemistry* 18:2079-2085.
26. Rafalski, A., Kohli, J., Agris, P., and Söll, D. (1979) The Nucleotide sequence of a UGA suppressor serine tRNA from *Schizosaccharomyces pombe*. *Nucleic Acids Res.* 6:2683-2695.
27. Tompson, J.G. and Agris, P.F. (1979) Production of specific site probes of tRNA structure by enrichment with carbon 13 at particular locations. *Nucleic Acids Res.* 7:765-779.
28. Schmidt, P.F., Tompson, J.G., and Agris, P.F. (1979) Transfer RNA structure by carbon NMR: C_2 of adenine, uracil and cytosine. *Nucleic Acids Res.* 8:643-656.
29. Takano, M., Agris, P.F., and Sharp, G.C. (1980) Purification and biochemical characterization of nuclear ribonucleoprotein antigen using purified antibody obtained from the serum of a patient with mixed connective tissue disease. *J. Clin. Invest.* 65:1449-1456.
30. Agris, P.F., Tompson, J.G., Gehrke, C.W., Kuo, K.C., and Rice, R.H. (1980) High-performance liquid chromatography and mass spectrometry of transfer RNA bases for isotopic abundance. *J. Chromatogr*. 194:205-212.
31. Agris, P.F. and Schmidt, P.G. (1980) Structure of transfer RNA by carbon NMR: Resolution of single carbon resonances from ^{13}C-enriched, purified Species. *Nucleic Acids Res.* 8:2085-2091.
32. Lin, K.-K., Furr, T.D., Chang, S.H., Horwitz, J., Agris, P.F., and Ortwerth, B.J. (1980) The nucleotide sequence of two bovine lens phenylalanine tRNAs. Possible activation of a new phenylalanine tRNA gene during differentiation of lens cells. *J. Biol. Chem.* 255:6020-6023.
33. Lin, V.K. and Agris, P.F. (1980) Alterations in tRNA isoaccepting species during erythroid differentiation of the friend leukemia cell. *Nucleic Acids Res.* 8:3467-3480.
34. Lin, V.K., Farkas, W.R., and Agris, P.F. (1980) Specific changes in Q-ribonucleoside containing transfer RNA species during Friend leukemia cell differentiation. *Nucleic Acids Res.* 8:3481-3489.

35. Kovacs, S.A.H., Geekie, K.M., Oxenhandler, R.W., and Agris, P.F. (1981) Changes in tyrosinase activity and isozyme distribution over the development and regression of melanoma in Sinclair Miniature Swine. *J. Natl. Cancer Inst.* 67:645-651.
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37. Takano, M., Golden, S.S., Sharp, G.C., and Agris, P.F. (1981) Molecular relationship between two nuclear antigens, ribonucleoprotein and Sm: Purification of active antigens and their biochemical characterization. *Biochemistry* 21:5929-5936.
38. Munz, P., Leopold, U., Agris, P., and Kohli, J. (1981) *In vivo* decoding rules in *Schizosaccharomyces pombe* are at variance with *in vitro* data. *Nature* 294:187-188.
39. Gehrke, C.W., Kuo, K.C., McCune, R.A., Gerhardt, K.O., and Agris, P.F. (1981) Quantitative enzymatic hydrolysis of tRNAs: RP-HPLC of tRNA nucleosides. *J. Chromatogr.* 230:297-308.
40. Agris, P.F. and Campbell, I.D. (1981) Proton NMR of intact Friend leukemia cells: Phosphorylcholine increase during differentiation. *Science* 216:1325-1327.
41. Chan, J.C., Yang, J.A., Dunn, M.J., Agris, P.F., and Wong, T.-W. (1982) The nucleotide sequence of a glutamine tRNA from rat liver. *Nucleic Acids Res.* 10:3755-3758.
42. Zumwalt, R.W., Kuo, K.C.T., Agris, P.F., and Gehrke, C.W. (1982) High performance liquid chromatography of nucleosides in RNA and DNA. *J. Liquid Chromatogr.* 5:2041-2060.
43. Chan, J.C., Yang, J.A., Dunn, M.J., Agris, P.F., and Wong, T.-W. (1982) The nucleotide sequence of a glutamate tRNA from rat liver. *Nucleic Acids Res.* 10:4605-4608.
44. Staeheli, P., Agris, P.F., Niederberger, P., Gehrke, C.W., and Huetter, R. (1982) Accumulation of 2'-O-methylguanosine deficient $tRNA^{Trp}$ in tryptophan limited *Saccharomyces cerevisiae*. *J. Gen. Microbiol.* 128:2591-2600.
45. Gehrke, C.W., Kuo, K.C., McCune, R.A., Gerhardt, K.O., and Agris, P.F. (1982) Quantitative enzymatic hydrolysis of tRNAs reversed-phase high-performance liquid chromatography of tRNA nucleosides. *J. Chromatogr.* 230:297-308.
46. Kopper, R., Schmidt, P.G., and Agris, P.F. (1983) Dynamics of transfer RNA determined by nuclear magnetic resonance of carbon-13 enriched methyl groups. *Biochemistry* 22:1396-1401.
47. Schmidt, P.G., Playl, T., and Agris, P.F. (1983) Internal dynamics of transfer RNA determined by nuclear magnetic resonance of carbon-13 enriched ribose-Cl. *Biochemistry* 22:1408-1415.
48. Agris, P.F., Kovacs, S.A.H., Smith, C., Kopper, R., and Schmidt, P.G. (1983) Complete signal assignments and initial structural studies of ^{13}C-methyl enriched yeast transfer RNA. *Biochemistry* 22:1402-1408.
49. Yang, J.A., Tai, L.W., Agris, P.F., Gehrke, C.W., and Wong, T.-W. (1983) The nucleotide sequence of a major glutamine tRNA from rat liver. *Nucleic Acids Res.* 11:1991-1996.
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52. Agris, P.F., Kikuchi, Y., Gross, H.J., Takano, M., and Sharp, G.C. (1984) Characterization of the autoimmune antigenic determinant for ribonucleoprotein (RNP) Antibody. *Immunolog.*

Commun. 13:137-149.

53. Agris, P.F., Smith, C.E., Gopal, H.D., and Schmidt, P.G. (1985) Motion as a fourth dimension of the yeast tRNA-Phe structure determined by NMR: Biological Importance. *14th Intl. Symposium on the Chemistry of Natural Products* (Wiewiorowski, M., ed), pp. 319-334, Elsevier, The Netherlands.
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55. Kuo, K.E., Smith, C.E., Shi, Z., Agris, P.F., and Gehrke, C.W. (1986) Quantitative measurement of mRNA CAP 0 and 1 structures by high performance liquid chromatography. *J. Chromatogr.* 378:361-374.
56. Boak, A.M., Kovacs, S.A., Agris, P.F., Chakraborty, D., and Sarkar, S. (1986) Small nuclear ribonucleoprotein antigens are absent from 10S translation inhibitory ribonucleoprotein but present in cytoplasmic messenger ribonucleoprotein and polysomes. *Arch. Biochem. Biophys*. 248:89-100.
57. Agris, P.F., Sierzputowska-Gracz, H., and Smith, C. (1986) Transfer RNA contains sites of localized positive charge: Carbon NMR studies of ^{13}C-methyl enriched *E. coli* and yeast tRNA^{PHE}. *Biochemistry* 25:5126-5131.
58. Sierzputowska-Gracz, H., Gopal, H.D., and Agris, P.F. (1986) Comparative structural analysis of 1-methyladenosine, 7-methylguanosine, ethenoadenosine and their protonated salts IV. ^{1}H, ^{13}C, and ^{15}N NMR studies at natural abundance. *Nucleic Acids Res.* 14:7783-7801.
59. Grossenbacher, A.-M., Stadelmann, B., Heyer, W.-D., Thuriaux, P., Kohli, J., Smith, C., Agris, P.F., Kuo, K.C., and Gehrke, C. (1986) Antisuppressor mutations and sulphur carrying nucleosides in transfer RNAs of *Schizosaccharomyces pombe*. *J. Biol. Chem.* 261:16351-16355.
60. Treadwell, E.L., Boak, A.M., Kovacs, S.A.H., Chen, J., Wang, R.J., and Agris, P.F. (1987) The Autoimmune antigen Me is distinct and related to undifferentiated connective tissue disease. *Arthritis and Rheumatism* 30: 1239-1246.
61. Sierzputowska-Gracz, H., Sochacka, E., Malkiewicz, A., Kuo, K., Gehrke, C.W., and Agris, P.F. (1987) Chemistry and structure of modified uridines in the anticodon, wobble position of transfer RNA are determined by thiolation. *J. Amer. Chem. Soc.* 109:7171-7177.
62. Guenther, R.H., Cocuzza, J., Gopal, H.D., and Agris, P.F. (1987) HPLC applications to nucleic acid research. *Biotechnology* Sept/Oct:22-35.
63. Araghi, H.G.S., and Agris, P.F. (1987) Semi-micro bore RP-HPLC PTH Amino Acid determination for protein microsequencing. *J. Anal. Purif.* Sept:34-40.
64. Krzyzosiak, W., Denman, R., Nurse, K., Hellmann, W., Boublik, M., Gehrke, C.W., Agris, P.F., and Ofengand, J. (1987) *In vitro* synthesis of 16S ribosomal RNA containing single base changes and assembly into a functional 30S ribosome. *Biochemistry* 26:2353-2364.
65. Schmidt, P.G., Sierzputowska-Gracz, H., and Agris, P.F. (1987) Internal motions in yeast phenylalanine transfer RNA from ^{13}C NMR relaxation rates of modified base methyl groups: A Model-Free approach. *Biochemistry* 26:8529-8534.
66. Sierzputowska-Gracz, H., Agris, P.F., and Katze, J.R. (1988) Conformation of the hypermodified purine queuine: Substrate for the enzyme transfer RNA-guanine transglycosylase. *Magn. Reson. Chem.* 26:4-7.
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73. Chen, J. and Agris, P.F. (1992) Small nuclear ribonucleoprotein particles contain glycoproteins recognized by rheumatic disease-associated autoantibodies. *Lupus* 1:119-124.
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Presentations of note in 2014-2015.

Dr. Agris gave the opening keynote address at the 50th tRNA conference (Greece).

Dr. Agris was an invited keynoter and a panelist on two panels at the DIA/FDA Oligonucleotide Therapeutics Conference (Washington DC).