

Giridhar R. Akkaraju

Curriculum Vita

Educational background:

1982-1985 B.S., Chemistry/Biochemistry, University of Bombay
1986-1997 Ph.D., Molecular Genetics, University of Pittsburgh
1998-2000 Post-doctoral Fellow, University of North Texas Health Science Center,
Fort Worth, TX
2000-2002 Post-doctoral Fellow, University of Texas Southwestern Medical Center,
Dallas, TX

Present Rank: Professor and Chair, Department of Biology, Texas Christian University,
Fort Worth, TX.

Year of Appointment and Rank: 2002 Assistant Professor
2008 Associate Professor
2016 Professor

Previous teaching/research appointments

a. Full Time

1998-2000 Post-doctoral research associate, University of North Texas Health
Science Center, Fort Worth, TX.
2000-2002 Post-doctoral research fellow, University of Texas Southwestern Medical
Center, Dallas TX.

b. Part-time

1999-2000 Instructor, Virology and Gene Therapy, Graduate Program, University of
North Texas Health Science Center, Fort Worth, TX.
2001, Fall Instructor, Molecular Genetics, University of Texas, Arlington, TX.

Courses Taught:

University of North Texas, Health Science Center	Virology and Gene Therapy
University of Texas, Arlington	Molecular Genetics
Texas Christian University	BIOL 10504 (Principles of life sciences) Lecture coordinator
	BIOL 10504 Lab coordinator
	BIOL 40021 (Intro. to Biol. Res.)
	BIOL 40603 (Virology)

BIOL 30603 (Cell, molecular and developmental biology)
BIOL 40133 (Molecular Basis of Human Disease)
BIOL 40300 (Teaching of Biology)
BIOL 40001 (Honors Seminar: Eating Like the Planet Matters)
BIOL 40001 (Honors Seminar: Biology of Cancer)
BIOL 60910 (Biology Seminar)

External Support Sought

a) Received:

1. American Cancer Society, Institutional Research Grant. (IRG-01-187-01-022 December 2002) \$10,000
2. The role of Hepatitis C virus proteins in the development of Hepatocellular carcinoma. Cook Children's Hospital/ Cancer Research Foundation of North Texas. June 2008) \$10,000
3. Moncrief Cancer Institute-Texas Christian University, March 2015 \$5000
4. American Society for Virology Travel Award 2015 \$1000
5. NIH/NIGMS Targeting oxidative stress in neurodegeneration using pyridol derived small molecules. June 2018-May 2021. Co-PI. PI: Kayla Green, TCU Department of Chemistry, \$378,914.

Internal Grants

1. TCU New Faculty RCAF grant. (Nov. 1, 2002) \$2449
2. TCU RCAF (June 1, 2004) \$3500
3. TCU RCAF (June 1, 2005) \$4000
4. TCU RCAF (June 1, 2006) \$4000
5. TCU RCAF (June 1, 2007) \$4000
6. TCU RCAF (June 1, 2008) \$4000
7. TCU RCAF (June 1, 2010) \$ 1750
8. TCU RCAF (June 1, 2011) \$4000
9. TCU Invests in Research (June 1, 2012) \$12000 (co-PI)
10. TCU RCAF (June 1, 2012) \$3800
11. TCU RCAF (June 1, 2014) \$3750
12. TCU Global Innovator Proposal (June 2014) \$25000
13. TCU RCAF (June 1, 2016) \$4000
14. TCU RCAF (June 1, 2018) \$4000
15. TCU Invests in Scholarship: Quantifying antitumor drug efficacy using mathematical models. Co-PI. PI: Hana Dobrovolny, TCU Department of Physics, August 2018, \$17649

b) Student grants sponsored:

1. Dani McRaney, Junior Biology Major, \$1500
2. Alejandro D'Brot, Senior Biology Major, \$1500
3. Kim Lehecka, Junior Biology Major, \$1300
4. Sarah Stack, Junior Biology Major, \$1479.26
5. Thomas J. Calder, Senior Biology Major, \$ 1479.36
6. Eric Boudreau, Senior Biology Major, \$ 1,392.75
7. Akshaya Maller, Junior Biology Major, \$1350
8. Kim Tran, Senior Biology Major, \$2300
9. Astrid Linares, Senior Biochemistry Major \$1493
10. Coralee Toal, Junior Biology Major, \$ 1362
11. Nancy Wareing, Junior Biology Major, \$2900
12. Manoj Chelvanambi, Junior Biology Major, \$1500
13. Athanasios Vouzas, Junior Biology Major, \$ 1451
14. Kyle Szymanski, Junior Biology Major, \$ 1412
15. Allison Simkins, Junior Biology Major, \$ 1395
16. Josey Richards, Junior Biology Major, \$ 1219
17. Elli Hoge, Junior Biology Major, \$ 1471
18. Michael Chandra, Junior Biology Major, \$ 1374
19. Julianna West, Junior Biology Major, \$914
20. Eric Reid, Junior Biology Major, \$1107
21. Emily Williams, Junior Biology Major, \$1074
22. Malvika Ramesh, Senior Biology Major, 2017, \$1008
23. Kaitlyn Callaghan, Senior Biology Major, 2017, \$866
24. Stanley Onuegbu, Senior Biology Major, 2018
25. Tate Truly, Senior Biology Major, 2019, \$1351
26. Phat Do, Senior Biology Major, 2019, \$1498
27. Olivia Kinsinger, Senior Biology Major, 2019, \$1283
28. Jacey Elliott, Senior Biology Major, 2019,
29. Ryan Ajgaonkar, Senior Biology Major, 2020, \$1473
30. Ruwayd Abdalla, Senior Biology Major, 2021, \$880

Graduate Theses and dissertations directed:

1. Gladys Keitany (M.S) Defended November 2004
2. Berly Gail Pinto (Ph. D.), Defended August 2004, Directed the molecular biology part of her research work. (Primary Advisor: George King, Dept. of Psychology)
3. Melanie Whitehead (M.S.) Defended June 2005, Directed the Biology part of her research work. (Primary advisor: Jeff Coffey, Dept. of Chemistry)
4. Shilpi Subramanian (M.S.) Defended July 2009
5. Molli Jones (M.S) Defended December 2009
6. S. James Gleaton (M.S.) Defended April 2011
7. Kristina McLinden (Ph.D.) Defended July 2011, Directed the cell biology aspect of her thesis project. (Primary Advisor: Gary Boehm, Dept. of Psychology)

8. Yuan Tian (Ph.D.) Defended fall 2013. Directed the cell biology aspect of her thesis project. (Primary Advisor: Jeff Coffey, Dept. of Chemistry)
9. Paulina G. Morales (Ph.D.) Directed the cell biology aspect of her thesis project. (Primary Advisor: Kayla Green, Dept. of Chemistry)
10. Wenjing Lily Wu (M.S.) Defended December 2011
11. Nguyen T. Le (Ph.D) Directed the cell biology aspect of her thesis project. (Primary Advisor: Jeff Coffey, Dept. of Chemistry)

Presentation of Scholarly and creative activities

a. Refereed Publications

1. P.A. Maurides, **G.R. Akkaraju** & R. Jagus. Evaluation of a protein phosphorylation state by a combination of vertical slab isoelectric focusing and immunoblotting. (1989) *Anal. Biochem.*, 183, 144-151.
2. **G.R. Akkaraju**, P. Whitaker-Dowling, J.S. Youngner and R. Jagus. Vaccinia specific kinase inhibitory factor prevents translational inhibition by double-stranded RNA in rabbit reticulocyte lysate. (1989) *J. Biol. Chem.* 264, 10321-10325.
3. **G.R. Akkaraju**, L.J. Hansen and R. Jagus. Increase in eukaryotic initiation factor 2B activity following fertilization reflects changes in Redox potential. (1991) *J. Biol. Chem.* 266, 24451-24459.
4. Huard, J., **Akkaraju, G.**, Watkins, S. C., Pike-Cavalcoli, M. and Glorioso, J.C. LacZ gene transfer to skeletal muscle using a replication-defective Herpes simplex virus Type I mutant vector. (1997) *Human Gene Therapy*, **8**, 439-452.
5. **Akkaraju, G. R.**, Huard, J. Cohen, J, Goins, W. F. and Glorioso, J.C. Herpes simplex virus vector-mediated dystrophin gene transfer and expression in mdx mouse skeletal muscle (1999) *J. of Gene Medicine*, **1**, 280-289.
6. Basu, A. and **Akkaraju, G. R.** Regulation of Caspase activation and cis-Diamminedichloroplatinum (II)-induced cell death by Protein kinase C. (1999) *Biochemistry*, **38**, 4245-4251.
7. **Akkaraju, G. R.** and Basu, A. Overexpression of Protein kinase C-eta attenuates caspase activation and Tumor Necrosis Factor- α -induced cell death. (2000) *Biochem. Biophys. Res. Comm.*, **279**, 103-107.
8. Wang, C., Deng, L., Hong, M., **Akkaraju, G. R.**, Inoue, J.-I. and Chen, Z. J. TAK1 is a ubiquitin-dependent kinase of MKK and IKK. (2001) *Nature*, **412**, 346-351.

9. Frederickson, B., **Akkaraju, G. R.**, Foy, E., Wang, C., Pflugheber, J., Chen, Z. J. and Gale, M. Activation of the Interferon-beta promoter during Hepatitis C virus RNA replication. (2002) *Viral Immunology*, **15**, 29-40.
10. Basu, A., Lu, D., Sun, B., Moor, A. N., **Akkaraju, G. R.** and Huang, J. Proteolytic activation of protein kinase C-epsilon by caspase-mediated processing and transduction of anti-apoptotic signals. (2002) *J. Biol. Chem.*, **277**, 41850-41856.
11. Melanie A. Whitehead**, Dongmei Fan**, **Giridhar R. Akkaraju**, Leigh T. Canham, Jeffery L. Coffey. Accelerated Calcification in Electrically Conductive Polymer Composites Comprised of Poly(epsilon-caprolactone), Polyaniline, and Bioactive Mesoporous Silicon (2007) *J. of Biomedical Materials Research*, **83A**, 225-234.
12. R.A. Kohman**, A.J. Tarr**, N.L. Sparkman**, C.E. Day, A. Paquet, **G.R. Akkaraju** and G.W. Boehm. Alleviation of the effects of endotoxin exposure on behavior and hippocampal IL-1 β by a selective non-peptide antagonist of corticotropin-releasing factor receptors. (2007) *Brain, Behavior, and Immunity*, **21**, 824-835.
13. M.A. Whitehead**, P. Mukherjee**, **G. Akkaraju**, L. T. Canham and J. L. Coffey. High-porosity poly(e-caprolactone)/ mesoporous silicon scaffolds : calcium phosphate deposition and biological response to bone precursor cells. (2008) *Tissue Eng Part A*. **14**, 195-206.
14. Medicinal Surface Modification of Silicon Nanowires: Impact on Calcification and Stromal Cell Proliferation. Ke Jiang**, Dongmei Fan**, Yamina Belabassi**, **Giridhar Akkaraju**, Jean-Luc Montchamp, and Jeffery L. Coffey (2009) *ACS Applied Materials & Interfaces*, **1** (2), 266–269
15. The role of nanostructured mesoporous silicon in discriminating in vitro calcification for electrospun composite tissue engineering scaffolds. Dongmei Fan**, **Giridhar R. Akkaraju**, Ernest F. Couch, Leigh T. Canham and Jeffery L. Coffey (2010) *Nanoscale*, 2011, **3**, 354-361
16. Kishton, R. J., Miller, S. E., Perry, H., Lynch, T., Patel, M.*, Gore, V. K., **Akkaraju, G. R.**, Varadarajan, S, DNA site-specific N3-adenine methylation targeted to estrogen receptor-positive cells. (2011) *Bioorganic & Medicinal Chemistry*, **19**, 5093-5102.
17. Silicon Nanowire/Polycaprolactone Composites and Their Impact on Stromal Cell Function. Jiang, K.**; **Akkaraju, G.**; Coffey, J., (2013) *Journal of Materials Research*, **28**, 185-192.

18. Fe₃O₄-nanoparticles within porous silicon: Magnetic and cytotoxicity characterization. P. Granitzer, K. Rumpf, Y. Tian**, **G. Akkaraju**, J. Coffey, P. Poelt, and M. Reissner, *Applied Physics Letters*, Volume 102, Issue 19 (May 17, 2013)
19. Bimodal-hybrid heterocyclic amine targeting oxidative pathways and copper mis-regulation in Alzheimer's disease. Paulina Gonzalez, Viviana C. P. da Costa**, Kimberly Hyde*, Qiong Wu, Onofrio Annunziata, Josep Rizo, **Giridhar Akkaraju** and Kayla N. Green. *Metallomics*, 2014, Nov; 6(11): 2072-82.
20. *In Vitro* Analysis of Surface-Modified Stain-Etched Porous Silicon Microparticles for Gene Delivery. Wareing, N.*, K. Szymanski*, **G. Akkaraju**, A. Loni, L.T. Canham, R. Gonzalez-Rodriguez**, J.L. Coffey. 2017, *In Vitro* Analysis of Surface-Modified Stain-Etched Porous Silicon Microparticles for Gene Delivery. *Small*, v.13.
21. Synthesis, Characterization, and Activity of a Triazine Bridged Antioxidant Small Molecule. P. Gonzalez**, K. Pota, L.S. Turan, V.C.P. Costa, G. **Akkaraju**, K. N. Green. *ACS Chem Neurosci*. 2017; **8**(11): 2414
22. A New Triazine bearing a pyrazolone group capable of copper, nickel, and zinc chelation .Yepremyan, A., Mehmood, A.***, Brewer, S. M.***, Barnett, M. M.*, Janesko, B.G., **Akkaraju, G.**, Simanek, E.E., and Green, K. N. 2018, *RCS Advances*, **8**:3024-3035.
23. Plant-Derived Tandem Drug/Mesoporous Silicon Microcarrier Structures for Anti-Inflammatory Therapy. Kalluri, J.R.***, West, J.* , **Akkaraju, G. R.**, Canham, L.T., and Coffey, J.L. 2019 *ACS Omega*, **4**: 8359-8364.
24. Dialing in on Pharmacological Features for a Therapeutic Antioxidant Small Molecule. Green, K.N., Pota, K., Tircso, G., Gogolak, R.A., Kinsinger, O.* , Davda, C., Blain, K*., Brewer, S.M.***, Gonzalez, P.***, Johnston, H.M.***, and **Akkaraju, G.** *Dalton Transactions*, 2019, **48**, 12430-12439.
25. Doped Graphene Quantum Dots for Intracellular Multicolor Imaging and Cancer Detections. Campbell, E.***, Hasan, Md. T.***, Rodriguez, R. G., Akkaraju, G. R., and Naumov, A. V. *ACS Biomater. Sci. Eng.*, 2019, **5**, 4671-4682.
26. Enhancement of the Antioxidant Activity and Neurotherapeutic Features through Pyridol Addition to Tetraazamacrocyclic Molecules. Johnston, H.M.***, Pota, K.***, Barnett, M. M.* , Kinsinger, O.* , Braden, P.* , Schwartz, T.M., Hoffer, E., Sadagopan, N.* , Nguyen, N., Yu, Y., Gonzalez, P., Tircso, G., Wu, H., **Akkaraju, G.**, Chumley, M., and Green, K.N. *Inorganic Chem.*, 2019, **58**, 16771-16784.

27. Formation of Platinum Nanocrystals on Silicon Nanotubes and Corresponding Anti-Cancer Activity *In Vitro*. Nguyen, T.L. *, **Akkaraju, G.R.**, and Coffey, J.L. *ACS Appl. Bio Mater.* 2020 **3**, 208-216.
28. Effects of Doxorubicin Delivery by Nitrogen-Doped Graphene Quantum Dots on Cancer Cell Growth: Experimental Study and Mathematical Modeling. Frieler, M.** , Pho, C.** , Lee, B., Dobrovolny, H., **Akkaraju, G. R.**, and Naumov, A. *Nanomaterials*, 2021 **11**, 140
29. Using mathematical modeling to estimate time-independent cancer chemotherapy efficacy parameters. Pho. C. **, Frieler, M.** , Akkaraju, G.R., Naumov, A. V., Dobrovolny, H.M. *In Silico Pharmacol*, 2021 Dec 5;10(1):2. doi: 10.1007/s40203-021-00117-7
30. Mechanistic Investigation of Site-specific DNA Methylating Agents Targeting Breast Cancer Cells. Lowder, L.L., Powell, M., Miller, S.E., Kishton, R.J., Kelly, C.B., Connor B Cribb, C.B., Mastro-Kishton, K., [↓](#), Chelvanambi, M**., Do, P.T.** , Govindapur, R.R., , Suzanne E Wardell, S. E., , McDonnell, D.P., Bartolotti, L.J. , Akkaraju, G.R., Frampton, A.R., Sridhar Varadarajan, S. *J. Med. Chem.* 2021 Sep 9;64(17):12651-12669. doi: 10.1021/acs.jmedchem.1c00615.

b. Non-refereed Publications

1. Basu, A. and **Akkaraju, G. R.** Compartmentalized protein kinase C activation in ovarian carcinoma cells. IN: Methods in Molecular Medicine, Ovarian Cancer, ed. Bartlett, J. Humana Press (2000).
2. Huard, J., Goins, W.F., **Akkaraju, G.R.**, Krisky, D., Oligino, T., Marconi, P, Day, C.S., Glorioso, J.C. Gene transfer to muscle and spinal cord using herpes simplex virus-based vectors. *Stem Cell Biol. Gene Ther.* (1998) P.J. Quesenberry, G.S. Stein, B. Forget and S. Weissman (eds.), John Wiley and Sons, Inc., pp. 179-200.
3. Porous Silicon-Based Scaffolds for Tissue Engineering and Other Biomedical Applications. (2005) Jeffery L. Coffey, Melanie A. Whitehead**, Dattatri K. Nagesha, Priyabrata Mukherjee**, **Giridhar Akkaraju**, Mihaela Totolici, Roghieh S. Saffie, and Leigh T. Canham. *Physica Status Solidi A-Applications and Materials Science* **202** (8): 1451-1455

c. Materials Accepted but not yet presented: None

d. Materials under active review: None

e. Posters presented at scholarly meetings:

1. **Akkaraju, G. R.**, Gale, M., Chen, Z. J. (2003) Inhibition of antiviral gene expression by Hepatitis C virus protein NS5A. Proc. Amer. Assoc. Cancer Res., **44**, 1014.
2. Chen L.*, Nezafati, K.* and **Akkaraju, G. R.** (2004) Hepatitis C virus protein NS5A blocks antiviral gene expression and apoptosis in the infected cell. 57th annual symposium on Fundamental Cancer Research, UT MD Anderson Cancer Center, Signal Transduction: From Pathways to networks. Oct. 12-15, Houston TX.
3. Coffey, J. L. , Whitehead, M. A.**, Nagesha, D. K**, **Akkaraju, G. R.**, Totolici, M., Saffie, R. S. and Canham, L. T. (2004) 'Porous silicon-based scaffolds for tissue engineering and other biomedical applications'. (**Poster** presented at the 4th International Conference on: Porous Semiconductors- Science and Technology, Cullera-Valencia, Spain, 14-19th March, 2004. Presented by Dr. Jeffrey Coffey)
4. Chen, L.*, Nezafati, K. A.*, Kingeter, A. J.*, and **Akkaraju, G. R.** 'Hepatitis C virus protein NS5A inhibits etoposide-induced apoptosis in HeLa cells'. (**Talk** presented at the International Symposium for Translation Research, Apoptosis and Cancer, Trivandrum, India, December 2005)
5. Electrospun porous silicon composites for orthopedic tissue engineering: scaffolding with mesenchymal stem cells. Jeffrey Coffey, Fan, D**., Whitehead, M. A.**, **Akkaraju, G. R.**, Couch, E.F., Loni, A. and Canham, L.T. (**Poster** presented at the 5th International Conference on: Porous Semiconductors- Science and Technology, Barcelona, Spain, 12-17th March, 2006. Presented by Dr. Jeffrey Coffey)
6. 'Technique for retaining the morphology of cells grown on a polycaprolactone scaffold'. Dongmei Fan**, **Giridhar Akkaraju**, Jeffrey Coffey, . **Talk** presented by Dongmei Fan (Graduate student, Chemistry department) at the annual meeting of the Texas Society for Microscopy, Fort Worth TX, April 14-16, 2006
7. 'Visualization of NS5A activity via fluorescence microscopy.' Alejandro D'Brot*, **Giridhar Akkaraju**, Texas Journal of Microscopy, **37**, 1, 2006. (**Talk** presented by Alex D'Brot [Senior, Biology]) at the annual meeting of the Texas Society for Microscopy, Fort Worth TX, April 14-16, 2006.
8. 25th Annual Meeting of the American Society for Virology, Madison, WI, July 14-19, 2006, 'Hepatitis C virus non-structural protein NS5A inhibits caspase activation and stimulates cell growth in 293 HEK cells'. (**Talk** given by **Giri Akkaraju.**)

9. The mechanisms of Hepatitis C virus non-structural protein NS5A inhibition of apoptosis and deregulation of the cell cycle. **Giridhar R. Akkaraju**, Sarah E. Stack*, Kim E. Lehecka* and Lei Chen*. (**Poster** presented at the 26th Annual meeting of the American Society for Virology, Corvallis OR, July 14-18, 2007.)
10. Mutants of Hepatitis C virus non structural protein NS5A differ in their ability to inhibit apoptosis and deregulate the cell cycle. Thomas J. Calder*, S. James Gleaton*, Miraie Wardi* and **Giridhar R. Akkaraju**. (**Talk** given by Giri Akkaraju at the annual meeting of The International Congress of Virology, International Union of Microbiological Societies, Istanbul, Turkey, August 10-15, 2008.)
11. Development and characterization of an assay for the identification of compounds capable of inhibiting Hepatitis C virus proteins. Giridhar R. Akkaraju, Alejandro D'Brot*, Eric R. Boudreau*, Akshaya Maller* and Manfred Reinecke. (**Poster** presented at the 28th Annual meeting of the American Society for Virology, Vancouver, B.C., Canada, July 11-15 2009.)
12. McLinden, K.A.** , Tarr, A.J** , **Boehm, G.W., Akkaraju, G.** The effect of interleukin-1 β and tumor necrosis factor- α on PC12 cells. 2009 *Psychoneuroimmunology Research Society* , Breckenridge ,CO
13. 'Identifying Cellular Proteins Interacting with Mutants of Hepatitis C virus Non-Structural Protein NS5A.' **Poster** presented at the 28th Annual Meeting of the American Society for Virology in Bozeman MT, July 11-15, 2010. **Giridhar R. Akkaraju**, Molli Jones**, Shilpi Subramanian**, James Gleaton**.
14. 'Effect of linker modification on the biochemical properties of DNA-methylating molecules targeted to estrogen receptor-positive cells.' Sean Miller, Rigel Kishton, **Mayur Patel***, **Giridhar R. Akkaraju**, Sridhar Varadarajan. **Poster** Presented at SERMACS (The Southeastern regional meeting of the American Chemical Society) in New Orleans, LA, Nov. 30-Dec. 4, 2010.
15. 'DNA methylation and cytotoxic properties of compound designed to produce N3-methyladenine adducts in estrogen receptor-positive cells.' Rigel Kishton, Sean Miller, **Mayur Patel***, **Giridhar R. Akkaraju**, Sridhar Varadarajan. **Poster** Presented at SERMACS (The Southeastern regional meeting of the American Chemical Society) in New Orleans, LA, Nov. 30-Dec. 4, 2010.
16. 'Development of a targeted breast cancer drug.' **Mayur Patel***, Sean Miller, Rigel Kishton, Sridhar Varadarajan and **Giridhar Akkaraju**. **Poster** presented at the Undergraduate student research symposium, The University of North Texas Health Science Center in Fort Worth. Nov. 5, 2010.
17. 'Using flow cytometry to screen for drugs against Hepatitis C virus.' **Akshaya Maller***, **Giridhar Akkaraju**, and Manfred Reinecke. **Poster** presented at the

- Undergraduate student research symposium, The University of North Texas Health Science Center in Fort Worth. Nov. 5, 2010.
18. 'Size-dependent assessment of Fe₃O₄-nanoparticles loaded into porous silicon.' Granitzer, P., Rumpf, K., Tian, Y., **Akkaraju, G.**, Coffey, J., Poelt, P., Morales, P.***, and Riessner, M. (2011) **Poster** presented at PRIME: The Pacific Rim meeting on Electrochemical and Solid-state Science. Honolulu, HI. October 7-12, 2012.
 19. The impact of HCV NS5A on the host innate immune response. Wu, W.***, Gleaton, J.***, Toal, C.*, Chelvanambi, M.*, and **Akkaraju, G.** (2012) **Poster** presented at the North Texas Life Science Research Symposium. November 3, 2012, University of North Texas Health Science Center, Fort Worth.
 20. The mechanism by which Hepatitis C virus non-structural protein NS5A attenuates virus-induced activation of the interferon beta promoter. **Akkaraju, G.**, Wu, W.***, Chelvanambi, M.*, Toal, C.*, and Gleaton, S. J.** (2013) **Poster** presented at the 32nd Annual Meeting of the American Society for Virology in Pennsylvania State University, State College, PA, July 20-24.
 21. N³-methyladenine formation by estradiol conjugates with a DNA minor groove methylating agent: effect of structure on DNA methylation and cell toxicity. Sean E. Miller, Rigel J. Kishton, Kelly Mastro, Charles Kelly, Matthew Powell, Astrid Linares*, Manoj Chelvanambi*, Vinayak K. Gore, **Giridhar R. Akkaraju** Sridhar Varadarajan (2013) **Poster** presented at SERMACS2013, Atlanta GA, Nov. 12-16.
 22. Size-dependent assessment of Fe₃O₄-nanoparticles loaded into porous silicon. Granitzer, P., Rumpf, K., Tian, Y.***, **Akkaraju, G.**, Coffey, J., Poelt, P. and Reissner, M. (2013) ECS Transactions (*Presented at 224th ECS Meeting, Oct.27 – Nov.1, Electrochemical/Chemical Deposition and Etching*).
 23. Porous Silicon With Deposited Iron Oxide As Vehicle for Magnetically Guided Drug Delivery. Rumpf, K., Granitzer, P., Tian, Y.***, **Akkaraju, G.**, Coffey, J., Poelt, P., Reissner, M. **Poster** presentation at the 224th ECS Meeting in San Francisco, California (October 27-November 1, 2013).
 24. *In Vitro* analysis of surface modified stain etched porous silicon. Wareing, N.*, **Akkaraju, G.**, Tian Y.***, Rodriguez, R.***, Loni, A., Canham L.T., Coffey, J. **Poster** presented at PSST2014, March 9-14, 2014, Alicante, Valencia, Spain.
 25. Inhibition of virus-induced Interferon beta gene expression by mutants of NS5A and their effect on HCV replication. Wu, W.***, Gleaton, J.***, Richards, J.*, Toal, C.*, Chelvanambi, M.*, and **Akkaraju, G.** **Poster** presented at IUMS2014, Montreal QC, July 28-August 1, 2014.

26. *In Vitro* analysis of surface modified stain etched porous silicon. Wareing, N.*, **Akkaraju, G.**, Tian Y.** , Rodriguez, R.** , Loni, A., Canham L.T., Coffey, J. **Poster** presented at PSST2014, March 9-14, 2014, Alicante, Valencia, Spain.
27. Treatment of Alzheimer's disease with bimodal hybrid heterocyclic amine ligands: A closer look into the oxidative pathways and copper misregulation in the disease. P. Gonzalez**, **G. Akkaraju**, K. Green. **Poster** presented at the 247th ACS National Meeting and Exposition, March 16-20, 2014, Dallas, Texas.
28. Hybrid small molecules using lipoic acid as antioxidant chelators designed to target amyloid and the molecular features associated with neurodegenerative disorders. K. N. Green, P. M. Gonzalez**, K. M. Lincoln**, **G. Akkaraju**. **Poster** presented at the 247th ACS National Meeting and Exposition, March 16-20, 2014, Dallas, Texas.
29. Silicon Nanotube-based drug delivery/gene therapy. Y. Tian**, R. Gonzalez-Rodriguez**, J. L. Coffey, **G. R. Akkaraju**. **Poster** presented at the 247th ACS National Meeting and Exposition, March 16-20, 2014, Dallas, Texas.
30. DNA binding, DNA methylation and cell toxicity of estradiol conjugated DNA methylating compounds. M. Powell, S. Miller, R. Kishton, K. Mastro, M. Chelvanambi*, A. Linares*, V. K. Gore, **G. R. Akkaraju**, S. Varadarajan. **Poster** presented at the 247th ACS National Meeting and Exposition, March 16-20, 2014, Dallas, Texas.
31. Inhibition of virus-induced Interferon beta gene expression by mutants of NS5A and their effect on HCV replication. Wu, W.** , Gleaton, J.** , Richards, J., Toal, C.* , Chelvanambi, M*., and **Akkaraju, G.** **Poster** presented at IUMS2014, Montreal QC, July 28-August 1, 2014.
32. The Hepatitis C virus non-structural Protein NS5A attenuates virus-induced activation of the Interferon-beta promoter by inhibiting the activation of transcription factor NF-kB. Akkaraju, G. R., Richards, J.M*., Hoge, E.M*. and Vouzas, A*. **Talk** given at the Annual Meeting of the American Society for Virology, London ON, 2015.
33. The Effect of Hepatitis C virus Non-structural protein NS5A on transcription factor NF-kB. Hoge, E., Richards, J., and Akkaraju, G.R. **Poster** presentation at the Regional meeting of the American Society for Microbiology, Texas Chapter, New Braunfels, TX 2016
34. HCV protein NS5A inhibits downstream expression of Interferon-sensitive genes by preventing NF-kB-mediated activation of the Interferon-beta promoter. Callaghan, K.,** Reynolds, E.** , and Akkaraju, G. **Poster** presented at the Annual Meeting of the American Society for Virology, College Park, MD, 2018.

f. Invited Seminars:

- 2003 University of North Texas Health Science Center, Department of Molecular Biology and Immunology, Fort Worth TX.
- 2014 TCU, College of Education. Invited to give a talk as part of a teacher training program, "Teacher Quality Grant (TQC # 24289) "Biology: A crime scene investigation".
- 2014 University of Texas Southwestern Medical Center, Dallas, Texas. "What's your five-year plan? From graduate student to associate professor in five easy steps!" Talk given as part of the UTSW Medical Center Graduate Student Association Quest for Careers series. September 18, 2014.
- 2014 Interviewed on WBAP Radio 820AM on the Brian Estridge show on the topic of the Ebola Virus Epidemic. August 7, 2014.
- 2015 The International American University College of Medicine, Vieux Fort, St. Lucia, West Indies. "Inhibition of the Innate Immune Response by Hepatitis C Virus: A Key to Persistent Infection?"

Academic Advising Activities:

- 2002- present Member, Health Professions Advisory Committee, Texas Christian University
- 2002-present Academic Advisor, Pre-health professions
- 2013-2019 Coordinator, Pre-health Community Scholar Mentoring Program

Departmental Service:

- 2003-present Member, Safety Committee, Department of Biology
- 2003-present Faculty Sponsor, Biology Club
- 2005-present Member, Departmental Assessment Committee
- 2006-2007 Member, Committee on Graduate Studies
- 2019-2022 Chair, Department of Biology

College Service

- 2002-present Member, Health Professions Advisory Committee, Texas Christian University
- 2006-present Member, Science and Engineering Chemical Safety Committee
- 2006-2014 Member, Student Research Symposium Committee (Chair 2011)

University Service

- 2003 Faculty Facilitator, Frog Camp, Challenge B
- 2003-2009 Faculty Facilitator, Connections Program
- 2005-2018 Faculty Facilitator, Common Readings Program

2006	Selection committee, Pillars of University Leadership
2007-2018	Chair, Institutional Biosafety Committee
2003-2009	Member, Institutional Animal Care and Use Committee
2007-2019	Common Readings Steering Committee
2010	Faculty Facilitator, Frog Camp, Quest
2011-2014	Member, University Graduate Council
2012	Faculty Facilitator, Frog Camp, Alpine
2013-2014	Faculty Senate (Stand-in for faculty on sabbatical, Fall 2013)
2014-2019	Member, University Diversity Committee
2014-2015	Member, Dean Search Committee, Harris College of Nursing and Health Sciences
2014-2019	John V. Roach Honors College Faculty Advisory Committee
2021-2022	Chair, Wassenich Award Selection Committee

Memberships in Professional Organizations

1997-2005	Member, American Association for the Advancement of Science.
2002-2008	Active Member, American Association for Cancer Research
2000-2002	Member, Institute for Cancer Research, University of North Texas Health Science Center
2006-present	Full Member, American Society for Virology

Honors/ Awards

1998-2001	Alcon Research Laboratories Research Achievement Award
2005	TCU Panhellenic, Outstanding Professor of the Year award
2007, 2008	Mortar Board Preferred Professor
2007	Exceptional Honors Professor
2011	Honors Faculty Recognition Award (Honors Professor of the Year)
2013	Department of Housing and Residence Life, Faculty Appreciation Award
2020	TCU Wassenich Award for Mentoring

Other professionally related activities:

1. Book review: Brooker Biology First Edition
2. Grant reviewer: Medical Research Council, UK
3. Manuscript Reviewer: Tissue Engineering
4. TCU/UNT School of Medicine: FaceBook Live Panelist- SARS-CoV-2 Vaccine discussion.
5. TCU Alumni Association: Lunch Webinar: SARS-CoV-2 Vaccine