

**Padmamalini Thulasiraman, Ph.D**

University of South Alabama

Pat Capps Covey College of Allied Health Professions

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**Education**

Ph.D., University of Illinois, Urbana Champaign, IL., 2003, Biochemistry

M.Sc., University of Oklahoma, Norman, OK., 1998, Biochemistry

B.Sc., McGill University, Montreal, Canada, 1995, Biochemistry

**Postdoctoral Training**

2008-2011 Post-doctoral Fellow, Department of Pharmacology, Case Western University,

2004-2007 Post-doctoral Fellow, Department of Hematology/Oncology, Northwestern University

**Academic Appointments**

2017-Present Associate Professor (tenured), University of South Alabama, Department of Biomedical Sciences

2011-2017 Assistant Professor, University of South Alabama, Department of Biomedical Sciences

2012-Present Graduate Faculty, Associate member, University of South Alabama

**Awards and Honors**

2017 "Top Prof" Award, Azalea Chapter of Mortar Board, Univ. of South Alabama

2016 "Top Prof" Award, Azalea Chapter of Mortar Board, Univ. of South Alabama

2015 "Top Prof" Award, Azalea Chapter of Mortar Board, Univ. of South Alabama

2014 "Top Prof" Award, Azalea Chapter of Mortar Board, Univ. of South Alabama

2013	“Top Prof” Award, Azalea Chapter of Mortar Board, Univ. of South Alabama
1998	Conference Travel Award, University of Oklahoma, Norman, OK
1996	Tuition Merit Waiver, University of Oklahoma, Norman, OK

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## TEACHING ACTIVITIES

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### Courses Taught:

#### University of South Alabama

2011-Present	Biochemistry I: Molecular Biology (BMD 321)
2012-Present	Biochemistry Laboratory (BMD 323)
2012-Present	Directed Research Studies (BMD 494)
2012-Present	Honors Research Thesis (BMD 499)

#### Case Western Reserve University

2011	Biochemistry SAGES Seminar (BIOC 373)
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#### University of Illinois, Urbana-Champaign

1999-2000	Introductory Chemistry-Lab and discussion/recitation sections (CHEM 101)
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#### University of Oklahoma

1998-1999	General Chemistry-Lab and discussion sections (CHEM 1315)
1997	Fundamentals of Microbiology Laboratory (MBIO 3812)

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## RESEARCH ACTIVITIES

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### Grants-funded

*Grant:* Interprofessional Research across the Health/Medical Sciences, University of South Alabama

*Project Title:* “Understanding the crosstalk between Neuraminidase 1 and drug resistance in breast cancer cells”

*Goal:* Assess the effect of Neuraminidase 1 on improving the efficacy of chemotherapeutic agents

*Role:* Principal Investigator

*Total Funds:* \$4,976 (June 2018 - June 2019)

*Grant:* Research and Scholarship Development Grant Program, University of South Alabama

*Project Title:* "Curcumin: A therapeutic initiative for retinoic acid-resistant triple negative breast cancer"

*Goal:* To examine the functional consequence of curcumin-induced CRABP II expression in retinoic acid-mediated apoptosis.

*Role:* Principal Investigator

*Total Funds:* \$25,000 (April 2015 - March 2016)

*Grant:* Science Undergraduate Research Grant, LiCOR Biosciences

*Goal:* Acquisition of Odyssey Fc Imaging System 2016

*Role:* Principal Investigator

*Total Funds:* \$18,500 (July 2015)

*Grant:* NIH T32 Training Grant, Case Western Reserve University, 2008-2009

*Project Title:* "Anticarcinogenic activities of rexinoids"

*Goal:* To provide mechanistic insights on the role of rexinoids in mammary carcinoma growth inhibition.

*Grant:* NIH T32 Training Grant, Northwestern University, 2004-2006

*Project Title:* "Role of arsenic trioxide in p38 signaling in leukemia"

*Goal:* To examine the mechanism by which arsenic trioxide promotes apoptosis of leukemic cells.

## **Publications-Research Articles**

### ***Undergraduate students underlined***

1. **Thulasiraman, P.**, Garriga, G., Danthuluri, V., McAndrews, D.J., and Mohiuddin, I.Q. (2017) Activation of the CRABP II/RAR pathway by curcumin induces retinoic acid mediated apoptosis in retinoic acid resistant breast cancer cells. *Oncol. Rep.* 37: 2007-2015
2. **Thulasiraman, P.**, and Butts Johnson, A. (2016) Regulation of Mucin 1 and multidrug resistance protein 1 by honokiol enhances the efficacy of doxorubicin-mediated growth suppression in mammary carcinoma cells. *Int. J. Oncol.* 49(2):479-486.
3. **Thulasiraman, P.**, McAndrews, D.J., and Mohiuddin, I.Q. (2014) Curcumin restores sensitivity to retinoic acid in triple negative breast cancer cells. *BMC Cancer*; 14:724.
4. Morgan, E., **Kannan-Thulasiraman, P.**, and Noy, N. (2010) Involvement of fatty acid binding protein 5 and PPAR $\beta/\delta$  in prostate cancer cell growth. *PPAR Res.* 2010: 234629.
5. **Kannan-Thulasiraman, P.**, Seachrist, D. D., Mahabeleshwar, GM., Jain, M.K., and Noy, N. (2010) Fatty acid binding protein 5 and PPAR $\beta/\delta$  are critical mediators of EGFR-induced carcinoma cell growth. *J. Biol Chem.* 285(25):19106-19115.

6. Yasmin, R., **Kannan-Thulasiraman, P.**, Kagechika, H., Dawson, M.I. and Noy, N. (2010) Inhibition of mammary carcinoma cell growth by RXR is mediated by the receptor's oligomeric switch. *J. Mol. Biol.* 397 (5):1121-1131.
7. **Kannan-Thulasiraman, P.**, Dolniak, B., Kaur, S., Sassano, A., Kalvakolanu, D.V., Hay, N., and, Plataniias, L.C. (2008) Role of the translational repressor 4E-BP1 in the regulation of p21<sup>Waf1/Cip1</sup> expression by retinoids. *Biochem. Biophys. Res. Commun.* 368 (4): 983-989.
8. **Kannan-Thulasiraman, P.**, Katsoulidis, E., Tallman, M.S., Arthur, J.S.C, and Plataniias, L.C. (2006) Activation of mitogen-activated stress kinase 1(Msk1) by arsenic trioxide. *J. Biol. Chem.* 281(32):22446-22452.
9. Katsoulidis, E., Li, Y., Yoon, P., Sassano, A., Altman, J., **Kannan-Thulasiraman, P.**, Balasubramanian, L., Parmar, S., Varga, J., Tallman, J.S., Verma, A., and Plataniias, L.C. (2005) Role of the p38 Map Kinase pathway in cytokine-mediated hematopoietic suppression in myelodysplastic syndrome. *Cancer Res.* 65: 9029-9037.
10. **Kannan-Thulasiraman, P** and Shapiro D.J. (2002) Modulators of Inflammation use Nuclear Factor- $\kappa$ B and Activator Protein-1 to induce the Caspase-1 and Granzyme B inhibitor, Proteinase Inhibitor 9. *J. Biol. Chem.* 277: 41230-41239.
11. **Thulasiraman, P.**, Newton, SM., Xu, J., Raymond, KN., Mai, C., Hall, A., Montague, MA., Klebba, P.E. (1998) Selectivity of ferric enterobactin binding and cooperativity of transport in gram-negative bacteria. *J. Bacteriol.* 180(24):6689-6696.

### **Presentations-Oral and Poster**

#### ***(Undergraduate students underlined)***

1. **Thulasiraman, P.** and Kerr, K. Understanding the crosstalk between glycosylation and drug resistance. American Association for Cancer Research, Chicago, IL. Poster Presentation (2018).
2. Pandit, R., McAlister, K., and **Thulasiraman, P.** Relationship between GLUT-1 and MRP-1 in metastatic breast cancer cell line, MDA-MB-231. 19<sup>th</sup> Annual Undergraduate Research Symposium, University of South Alabama. Poster Presentation (2017).
3. Brooks, H.\*, McGehee, J., Badri, S., Stenson, A., and **Thulasiraman, P.** Mechanistic Insights on the role of humic acid on bladder cancer cells. Alabama Academy of Sciences, University of South Alabama. Poster Presentation (2017).  
**\*Second Place for Best Poster**
4. Brooks, H., McGehee, J., Badri, S., Stenson, A., and **Thulasiraman, P.** The effects of humic acid on bladder cancer. 18<sup>th</sup> Annual Undergraduate Research Symposium, University of South Alabama. Poster Presentation (2016).
5. **Thulasiraman, P.** Curcumin: A therapeutic initiative for retinoic acid-resistant triple negative breast cancer. ORED Research and Scholarly Activities Forum, University of South Alabama. Oral Presentation (2016).

6. **Thulasiraman, P.** and Garriga, G. Impact of honokiol on sialylation in breast cancer cells. American Association for Cancer Research, New Orleans, LA. Poster Presentation (2016).
7. Stenson, A., **Thulasiraman, P.**, Houserova, D., West, S., and McGehee, J. Toward elucidating composition carcinogenicity relationships in natural organic matter. University of South Alabama Graduate Research Forum. Poster Presentation (2016).
8. **Thulasiraman, P.** Applications of natural products in cancer. Chemistry Forum, University of South Alabama. Oral Presentation (2015).
9. Garriga, G., Butts, A., and **Thulasiraman, P.** Regulation of Mucin 1 by honokiol in mammary carcinoma cells. 17<sup>th</sup> Annual Undergraduate Research Symposium, University of South Alabama. Poster Presentation (2015).
10. **Thulasiraman, P.**, and Alshareedah, S. Honokiol enhances the anticancer effects of doxorubicin by regulating Mucin 1 and Multidrug resistance-associated protein 1 (MRP1) in mammary carcinoma MDA-MB-231 cells. American Association for Cancer Research, Philadelphia, PA. Poster Presentation (2015).
11. Butts, A.E. and **Thulasiraman, P.** Honokiol regulates Mucin 1 and Multi Drug Resistant Protein 1 (MRP-1) in mammary carcinoma MCF-7 cells. National Conference on Undergraduate Research, Cheney, WA. Poster Presentation (2015).
12. Butts, A.E.\* and **Thulasiraman, P.** Effect of honokiol on enhancing the drug sensitivity by regulating Mucin 1 and Multi Drug Resistance Protein 1 (MRP1). 16<sup>th</sup> Annual Undergraduate Research Symposium, University of South Alabama Oral presentation (2014). **\*Best Paper Award.**
13. **Thulasiraman, P.** Natural products and breast cancer: Restoring sensitivity to retinoic acid by curcumin in triple negative breast cancer cell lines. Noncoding RNA Forum, University of South Alabama. Oral Presentation (2014).
14. **Kannan-Thulasiraman, P.** and McAndrews, D. Altering the expression levels of CRABP II and FABP5 by curcumin sensitizes MDA-MB-231 mammary carcinoma cells to retinoic acid mediated growth suppression. American Association for Cancer Research, Washington, D.C. Poster Presentation (2013).
15. McAndrews, D. and **Kannan-Thulasiraman, P.** Curcumin regulates Fatty-Acid Binding Protein 5 (FABP5) and Cellular Retinoic Acid Binding Protein II (CRABP II) in breast cancer cell. University Committee on Undergraduate Research (UCUR), University of South Alabama. Poster Presentation (2012).
16. **Kannan-Thulasiraman, P.**, Seachrist, D. D., Mahabeleshwar, GM., Jain, M.K., and Noy, N. Involvement of FABP5 and PPAR $\beta/\delta$  in EGFR-induced mammary carcinoma cell growth. Mitchell Cancer Institute Seminar. Oral Presentation (2012).

17. **Kannan-Thulasiraman, P., Jain, M.K., and Noy, N.** Kruppel-like factor 2 sensitizes mammary carcinoma cells to retinoic acid-induced apoptosis. First Cancer Research Colloquium, University of South Alabama. Poster Presentation (2011).
18. **Kannan-Thulasiraman, P.,** Seachrist, D. D., Mahabeleshwar, GM., Jain, M.K., and Noy, N. Fatty acid binding protein 5 and PPAR $\beta/\delta$  are critical mediators of EGFR-induced carcinoma cell growth. Cancer Center Retreat, Huron, OH. Poster Presentation (2010).
19. **Kannan-Thulasiraman, P.** and Noy, N. Heregulin regulates the expression of FABP5 in mammary carcinoma cells. Development Biology Retreat, Cleveland, OH. Poster Presentation (2010).
20. **Thulasiraman, P.** and Noy, N. FABP5 mediates heregulin-induced proliferation of mammary carcinomas. Pharmacology Retreat, Geneva State Park, OH. Oral Presentation (2009).
21. **Kannan-Thulasiraman, P.** and Noy, N. Heregulin regulates the expression of FABP5 in mammary carcinoma cells. Jensen Symposium, Cincinnati, OH. Poster Presentation (2009).
22. Yasmin, R. **Kannan-Thulasiraman, P** and Noy, N. Antiproliferative activities of RXR are mediated by the receptor's oligomeric switch. Breast Cancer Retreat, Cleveland, OH. Poster Presentation (2009).
23. **Kannan-Thulasiraman, P.,** and Noy, N. Heregulin regulates the expression of FABP5 in mammary carcinoma cells. Pharmacology Retreat, Geneva State Park, OH. Poster Presentation (2008).
24. **Kannan-Thulasiraman, P** and Shapiro, D.J. Induction of Proteinase Inhibitor 9 gene expression by pro-inflammatory agents. 3rd International Symposium on Serpin Biology, Structure and Function, Chicago, IL. Poster Presentation (2002).
25. Shapiro, D.J., Krieg, S.A., **Kannan-Thulasiraman, P.,** Antonaci, F., Pollard. C., and Krieg, A. Induction of PI-9 by estrogen regulates production of pro-inflammatory cytokines. 3rd International Symposium on Serpin Biology, Structure and Function, Chicago, IL. Poster Presentation (2002).
26. **Kannan-Thulasiraman, P** and Shapiro, D.J. Characterization of Proteinase Inhibitor 9, an estrogen-regulated inhibitor of Caspase-1 and Granzyme B. The 13th Annual Cell and Molecular Biology and Molecular Biophysics Research Symposium, Urbana-Champaign, IL. Poster Presentation (2000).
27. Krieg, S., **Thulasiraman, P.,** Mao, C., Kanamori, H., Wang, S., and Shapiro, D.J. A Unique downstream ERU mediates estrogen induction of Proteinase Inhibitor-9, an inhibitor of Interleukin-1 $\beta$  Converting Enzyme (Caspase-1). The 13th Annual Cell and Molecular Biology and Molecular Biophysics Research Symposium, Urbana-Champaign, IL. Poster Presentation (2000).
28. **Thulasiraman, P.,** Newton, S.M., Xu, J., Raymond, K.N., and Klebba, P.E. Selectivity of ferric enterobactin binding and transport in gram-negative bacteria. American Society of Microbiology, Atlanta. GA. Poster Presentation (1998).

## **Research Mentorship Activities**

### ***University Honors Research Thesis Students***

Renu Pandit, 2017-2018. *Thesis*: "Relationship between GLUT-1 and MRP-1 in metastatic breast cancer cell line, MDA-MB-231"

Hannah Brooks, 2016-2017. *Thesis*: "Effects of humic acid on bladder cancer cell line, RT-4"

Andrea Butts, 2014-2015. *Thesis*: "Regulation of Mucin 1 (MUC1) and MultiDrug Resistance-Protein 1 (MRP1) by honokiol in breast cancer cell line, MCF-7"

Imran Mohiuddin, 2013-2014. *Thesis*: "Effects of curcumin and retinoic acid on triple negative breast cancer cell line, MDA-MB-231"

Daniel McAndrews, 2012-2013. *Thesis*: "Curcumin sensitizes triple negative breast cancer cell line, MDA-MB-231 to retinoic acid mediated growth suppression"

### ***Undergraduate Research Volunteers*** 2012-2013: Raaj Ghosal

2014: Saad Alshareedah  
2015-2016: Galen Garriga  
2015-2017: Veena Danthuluri  
2016: Savannah West  
2016-2017: Cinta Papke  
2017: Jason Poiroux  
2017-2018: Kathleen McAlister  
2017-2018: Kelbie Kerr  
2018-2019: Samantha Hardisty  
2018-2019: Albany Wistner  
2018: Ian McCullough

### ***University and Departmental Honors Research Thesis Committee Member***

2017-2018: Elizabeth Hernandez  
2017-2018: Zohaib Ijaz  
2016-2017: Angela McGaugh  
2016-2017: Holly Taylor  
2015-2016: Jordan Harrison  
2015-2016: Janice Mitchell  
2014-2015: Matthew Robson  
2014-2015: Mazen Omar  
2013-2014: Payel Patel  
2012-2013: Elizabeth Ezell  
2012-2013: Jae Sung  
2012-2013: Amber Simmons  
2011-2012: Landon Sykora

### **Other Mentoring Activities**

Participant as mentor for Beckman Scholar Program, 2015  
Participant as a mentor for NSF-REU, 2015

### **Peer Review**

#### **Manuscripts:**

PLOS One  
OncoTargets and Therapy  
Cellular Oncology  
ACS Combinatorial Sciences  
Cancer Research and Management  
Cell Biology and Toxicology  
Current Drug Delivery  
Journal of the American College of Medicine

#### **Grant Applications:**

NIH study section for the National Institute of Diabetes and Kidney Diseases for the "Loan Repayment Program" 2013

Member, Early Career Reviewer Committee, National Institute of Health, 2016

Reviewer, Research and Scholarship Development Grant, University of South Alabama, 2017, 2018

### **Professional Memberships:**

American Association for the Advancement of Science  
American Association for Cancer Research

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## **ADMINISTRATIVE/SERVICE ACTIVITIES**

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### **Departmental Committees**

2012	Member, Curriculum Revision Committee
2014-2016	Member, BMD Scholarship Committee
2015-2016	Member, Chair Search Committee
2016	Member, Faculty Search Committee
2017-2018	Member, Chair Search Committee
2018	Chair, Faculty Search Committee

### **University Services**

2011-Present	Member, University of South Alabama Bookstore Committee
2016	Faculty Moderator, UCUR Discussion Groups
2016-2018	Workshop Coordinator, Girls Exploring Math and Science
2017, 2018	College of Medicine Early Acceptance Program Interviewer
2017	Committee Member of the Nano Bio Summit Conference



2017, 2018     Committee Member of Goldwater Scholarship  
2018             Member, Tenure and Promotion Evaluation and Review Committee

**Community Services**

2012-2013     Speaker, STEM Career Fair, Dawes Intermediate Elementary School.  
Discuss careers in the biomedical science field.