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**Education & Current Position**

Post-doctoral Department of Biochemistry and Biophysics, Texas

Research Associate A&M University, College Station, TX, USA, 2014 – Present.

Ph. D. Chemistry, The University of Alabama at Birmingham, Birmingham,

AL, USA, 2013.

M. S. Chemistry, The University of Alabama at Birmingham, Birmingham,

AL, USA, 2012.

B. Pharm. Pharmaceutical sciences, Kakatiya University, Warangal, India,

2005.

**Publications**

1. Shim Eun-Hee, Livi Carolina B, Rakheja Dinesh, Tan Jubilee, Benson Daniel, Parekh Vishwas, Kho Eun-Young, Ghosh Arindam P, Kirkman Richard, Velu Sadanan, Dutta Shilpa, **Chenna Bala Chandra**, Rea Shane L, Mishur Robert J, Li Qiuhua, Johnson-Pais Teresa L, Guo Lining, Bae Sejong, Wei Shi, Block Karen, and Sudarshan Sunil. L-2-Hydroxyglutarate: An Epigenetic Modifier and Putative Oncometabolite in Renal Cancer. ***Cancer Discovery***, **2014**, 4, 1290-1298.
2. Keeling Kim M, Wang Dan, Dai Yanying, Murugesan Srinivasan, **Chenna Bala Chandra**, Clark Jeremy, Belakhov Valery, Kandasamy Jeyakumar, Velu Sadanandan E, Baasov Timor, Bedwell David M. Attenuation of nonsense-mediated mRNA decay enhances *in vivo* nonsense suppression. ***Plos one***, **2013**, 8, e60478.
3. Anderson John T, Zeng Meiqin, Qian Li, Ryan Stapley, Doyle Ray Moore II, **Chenna Bala Chandra**, Fineberg Naomi, Zmijewski Jaroslaw, Eltoum Isam-Eldin, Siegal Gene P, Gaggar Amit, Barnes Stephen, Velu Sadanandan E, Thannickal Victor J, Abraham Edward, Patel Rakesh P, Lancaster Jr. Jack R, Chaplin David D, Dransfield Mark T, Deshane Jessy S. Elevated levels of NO are localized to distal airways in asthma. ***Free Radical Biol. Med.***, **2011**, 50, 1679-1688.

1. **Chenna Bala Chandra**, King Jason R, Shinkre Bidhan A, Glover Amanda L, Lucius Aaron L, Velu Sadanandan E. Synthesis and structure activity relationship studies of novel *Staphylococcus aureus* Sortase A inhibitors. ***Eur. J. Med. Chem.***, **2010**, 45, 3752-3761.
2. Schormann Norbert, Velu Sadanandan E, Murugesan Srinivasan, Senkovich Olga, Walker Kiera, **Chenna Bala Chandra**, Shinkre Bidhan A, Desai Amar, Chattopadhyay Debasish. Synthesis and characterization of potent inhibitors of *Trypanosoma cruzi* dihydrofolate reductase. ***Bioorg. Med. chem.***, **2010**, 18, 4056 – 4066.
3. Lee Yun J, King Jason R, **Chenna Bala Chandra**, Owens Jr. Samuel B, Freeman Jason L, Gray Gary M, Velu Sadanandan E. Synthesis and the crystal structure of (*E*)-2-(7-(3-(Thiophen-2-yl)acrylamido)-2,3-dihydro-5-oxobenzo[e][1,4] oxazepin-1(5H)-yl)ethyl acetate. ***J. Chem. Crystallogr.***, **2009**,39, 902-907.
4. **Chenna Bala Chandra**, Shinkre Bidhan A, Patel Shweta, Owens Jr. Samuel B, Gray Gary M, Velu Sadanandan E. Synthesis, separation and crystal Structures of E and Z Isomers of 3-(2,5-dimethoxy phenyl)-2-(4-methoxyphenyl) acrylic acid. ***J. Chem. Crystallogr.***, **2008,** 38, 189-194.
5. **Chenna Bala Chandra**, Shinkre Bidhan A, King Jason R, Lucius Aaron L, Narayana Sthanam VL, Velu Sadanandan E. Identification of novel inhibitors of bacterial surface enzyme *Staphylococcus aureus* Sortase A. ***Bioorg. Med. Chem. Lett.***, **2008**,18, 380-385.

**Research experience**

*Post doctoral research*: I am actively involved in various research projects related to the identification of inhibitors of cathepsin C (chronic pulmonary obstructive disease, asthma) and numerous cysteine proteases of parasitic proteases such as: cruzain/cruzipain (from *Trypanosoma cruzi*; causative agent for Chagas’s disease), the TbCatB, rhodesain, and brucipain *(from Trypanosoma brucei brucei, Trypanosoma brucei rhodiense*, and *T. brucei gambiense*; causative agents of African trypanosomiasis), falcipain-2 and falcipain-3 (from *Plasmodium falciparum*; causative agent for malaria). Mentored and supervised the undergraduate student in the research project with the title “*Synthesis of 2-Vinyl Heterocycle as Potential Electrophilic Components as Inhibitors of Cruzain and NMR Spectroscopic Analysis of Their Thia Michael Reactions with Thiols*”, 2014 – Present.

*Ph.D. dissertation project*: Identification of novel inhibitors of *Staphylococcus* *aureus* Sortase A enzyme by *in silico* screening and structure based inhibitor design strategy. Structure activity relationship (SAR) studies conducted on the identified lead compound for the optimization of its Sortase A inhibitory activity, 2007 – 2013.

While conducting the graduate research, gained more experience in small molecule and natural product synthesis by taking an active part in various ongoing interdisciplinary research projects in the Velu research group and successfully synthesized several biologically important molecules, 2011 – 2013:

1. Synthesis of (L)-2-hydroxyglutarate derivatives in the project titled “L-2-Hydroxy glutarate: An Epigenetic Modifier and Putative Oncometabolite in Renal Cancer”, 2012 – 2013.

2. Synthesis of NMDI-1, a nonsense mediated mRNA decay (NMD) attenuator, 2011 –

2012.

Actively involved and mentored several undergraduates in various interdisciplinary

research projects during the graduate study at UAB:

1. Development of Novel Mitochondrially Targeted Electrophiles (MTE) as Potential Anti-

 Metastatic Drugs in Breast Cancer Cells, 2012 – 2013.

2. Novel total synthesis of the anticancer antibiotic, Distamycin A, 2012.

3. Synthesis of pyrene derivatives as potential sulfation activated chemotherapeutic agents

 for Glioblastoma, 2011 – 2012.

**Awards and Honors**

Outstanding organic chemistry laboratory teaching award. Award given by The University of Alabama at Birmingham, Department of chemistry, 2007.

Graduate student teaching assistantship from Department of Chemistry, The University of Alabama at Birmingham. 2006 – 2008.

Graduate research assistantship, from Department of Chemistry, The University of Alabama at Birmingham. 2009 – 2011.

Graduate student teaching assistantship from Department of Chemistry, The University of Alabama at Birmingham. 2012 – 2013.

**Presentations**

1. Zhai Xiang, **Chenna Bala Chandra**, Meek Thomas D. Towards a New Class of Mechanism-based Inhibitors of Cruzain: Slow-onset Inhibition and Solvent Isotope Effects. Gordon Research Conference: Enzymes, Coenzymes & Metabolic Pathways, Waterville Valley, New Hampshire, July 12-17, **2015**.
2. Hafez Golzarian, Bala Chandra Chenna, Praveen K. Vayalil, Aimee Landar, and Sadanandan E. Velu, Development of novel mitochondrially targeted electrophiles as potential anti-metastatic drugs in breast bancer cells, 46th Southeast Undergraduate Research Conference, University of Tennessee, Knoxville, TN, January 30-31, **2014**.
3. Aaron Alford, **Chenna Bala Chandra**, Michael K Longmire, David E. Graves and Sadanandan E. Velu, A New Synthetic Approach to Distamycin A, 46th Southeast Undergraduate Research Conference, University of Tennessee, Knoxville, TN, January 30-31, **2014**.
4. Hafez Golzarian, **Chenna Bala Chandra**, Praveen Vayalil, Aimee Landar and Sadanandan E. Velu, Development of Novel Mitochondrially-Targeted Electrophilic Compounds as Potential Anti-Metastatic Drugs in Breast Cancer Cells, 65th Southeastern Regional Meeting of American Chemical Society; Atlanta, GA, November 12-16, **2013**.
5. Golzarian Hafez, **Chenna Bala Chandra**, Vayalil Praveen K, Landar Aimee, Velu

Sadanandan E. Velu, Development of novel mitochondrially targeted electrophiles (MTE) as potential anti-metastatic drugs in breast cancer cells. UAB undergraduate summer research expo at the Edge of Chaos, The University of Alabama at Birmingham, Birmingham, Alabama, July 25, **2013**.

1. Longmire Michael K, **Chenna Bala Chandra**, Velu Sadanandan E, Graves

David E. Novel total synthesis of the anticancer antibiotic, distamycin A. 64th Southeast Regional Meeting of the American Chemical Society, Raleigh, NC, United States, PagesSERM-858, November 14-17, **2012**.

1. Erin A. Hornsby, **Chenna Bala Chandra**, Emily D. Salman, Charles N. Falany and Sadanandan E. Velu, SULTs: A Novel Target for the Discovery of Chemotherapeutic Agents for Glioblastoma, The fifth annual UAB Expo, UAB campus recreation center, April 20, **2012**.
2. Erin A. Hornsby, **Chenna Bala Chandra**, Salman Emily D, Falany Charles N,

Velu Sadanandan E. Synthesis of selective sulfation activated chemotherapeutic agents for Glioblastoma. Southeastern Undergraduate Research Conference, Mississippi State University, Mississippi, United States, April 13, **2012**.

1. Sadanandan E. Velu, **Chenna Bala Chandra**, Jason R. King, Aaron L. Lucius and Sthanam V. L. Narayana, Staphylococcus aureus Sortase A inhibitors: Potential antibacterial agents that target virulence, Drug Discovery Chemistry Conference, Cambridge Health Institute; San Diego, CA; April 27-29, **2010**.
2. Aida Moran, **Chenna Bala Chandra**, Norbert Schormann, Debasish Chattopadhyay and Sadanandan Velu, Synthesis of inhibitors of Trypanosoma cruzi dihydrofolate reductase, Exposition of Undergraduate Scholarship, University of Alabama at Birmingham; April 23, **2010**.
3. **Chenna Bala Chandra**, Aaron L. Lucius, Sthanam V. L. Narayana and Sadanandan E. Velu, A novel therapeutic target for Staphylococcus aureus, First Southeast Enzyme Conference held at Georgia State University, Atlanta, GA; April 10, **2010**.
4. **Chenna Bala Chandra** (Presenter), Shinkre Bidhan A, King Jason R, Lucius Aaron L, Narayana Sthanam VL and Velu Sadanandan E. *Staphylococcus aureus* SrtA - A novel antibacterial target. UAB Graduate Student Research Days, The University of Alabama at Birmingham, Birmingham, Alabama, February 25-27, **2009**.
5. **Chenna Bala Chandra**, Lee Yun J, Velu Sadanandan E. *Staphylococcus aureus*

SrtA inhibitors: Synthesis and characterization of a Bis(2-hydroxyethyl)

amino derivative. 60th Southeast Regional Meeting of the American Chemical

Society, Nashville, TN, United States, November 12-15, **2008**.

1. Velu Sadanandan E, **Chenna Bala Chandra**,King Jason R, Lucius Aaron L. Discovery of *Staphylococcus aureus* Sortase A inhibitors by *in silico* virtual screening. 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC, United States, October 24-27, **2007**.
2. Sadanandan E. Velu, Aaron L. Lucius, Sthanam V. L. Narayana, **Chenna Bala Chandra**, Bidhan A. Shinkre and Jason R. King, Identification of Staphylococcus aureus Sortase A Inhibitors by In-Silico Virtual Screening, International Conference on the Chemistry of Antibiotics (ICCA-X); Vanderbilt University, Nashville, TN; August 12-15, **2007.**

**Teaching experience and positions held**

*Post doctoral research*: Mentored graduate students and undergraduate students in various research projects, 2014 – present.

*Judge* for Research Poster competition for undergraduates, Student Research Week at Texas A&M University, March 25th, 2015.

*Graduate Teaching Assistant* - Department of Chemistry, The University of Alabama at

Birmingham, 2006 – 2013. Courses taught:

CH 234: Organic Chemistry I Honors lab

CH 239: Organic Chemistry II Honors lab

CH 236: Organic Chemistry I lab

CH 238: Organic Chemistry II lab

CH 237R: Organic Chemistry II Recitation

CH 235R: Organic Chemistry II Recitation

*Research Laboratory Mentor* – Mentored and supervised undergraduates and junior graduate students in various research projects in the same research lab where I pursued my doctorate degree. Department of Chemistry, The University of Alabama at Birmingham, 2006 – 2013.

*Chemical Hygiene and Safety Officer* - Supervision of the laboratory safety and chemical waste management, Velu research group, Department of Chemistry, The University of Alabama at Birmingham, 2007 – 2013.

**Research Skills**

*Organic synthesis and medicinal chemistry*:Lead identification and optimization by SAR studies. Parallel synthesis of small molecule enzyme inhibitors and their *in vitro* evaluation. Multi-step synthesis of small molecules and natural products in multi-gram scale.

*Analytical techniques*:NMR, LC-MS, IR, GC, UV-Vis, HPLC, Polarimetry.

*Computational skills*:FlexX Docking, Sybyl, PYMOL, VMD, MS Word, PowerPoint, ChemDraw, Kaleidagraph.

*Biochemistry*:*In vitro* FRET enzyme inhibition assays. Protein expression and purification. Protein purification using AKTA ultra purifier and SDS-PAGE.

**Reviewer for Journal**

Medicinal Chemistry Research

**Affiliations**

1. American Chemical Society, Member. 2007 – present.

2. Delta Epsilon Iota Academic Honor Society, Member. 2013 – present.

**References**

1. Dr. Thomas D. Meek

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1. Dr. David E. Graves

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