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## Curriculum Vitae

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### Someswar Rao Sagurthi (Ph.D.)

Assistant Professor

Department of Genetics (Biotechnology)

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### EDUCATIONAL QUALIFICATIONS

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Degree	University	Field of Study	Years
Ph.D.	Indian Institute of Science	Crystallography and Biophysics	2003-09
PGD	Jawaharlal Nehru University	Bioinformatics	2001-02
M.Sc.	Jawaharlal Nehru University	Biotechnology	1999-01
B.Sc.	Kakatiya University	Chemistry, Botany and Zoology	1996-99

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### RESEARCH THESIS

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**Ph. D Thesis:** Structural studies on *Physalis mottle virus* capsid proteins & Stress response proteins of *Oryza sativa* and *Salmonella typhimurium* (Supervisor Professor M. R. N. Murthy, Molecular Biophysics Unit, IISc, Bangalore, India).

**MSc Thesis:** Cloning and characterization of hemolysin and AbcA genes from *Aeromonas hydrophilla* (Strain AH17). (Supervisor Professor. Aparna Dixit, JNU, New Delhi, India).

**PGD Thesis:** 1<sup>st</sup> Exon (CDS) prediction through Markov Models. (Supervisor Professor. Ramaswamy, JNU, New Delhi, India).

### POST DOCTORAL RESEARCH

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- Mentor: **Prof. Xiaoqiang Wang**, *The Samuel Roberts Noble Foundation*, Department of Plant Biology, Ardmore, OK, USA (**Dec 2010 – Sept 2013**).

*Structural studies on root nodulation Lysin kinases and 2 Hydroxyisoflavanone (IFS) proteins from Medicago truncatula. Structure-function studies of Plant viral movement proteins of Tobacco mosaic virus.*

- Mentor: **Prof. Vijay Reddy**, *The Scripps Research Institute*, Molecular Biology, San Diego, California, USA (**Oct 2009 – Dec 2010**).

*Structural studies (animal viruses) empty capsids of Adenovirus expression EM microrgraphs construction and cloning and expression and crystallization trials of P1 proteins.*

## **POSITIONS HELD**

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- **Visiting Faculty**, (Academic session 2002-2003) Department of Biosciences, Jamia Millia Islamia Central Univeristy, New Delhi, India.
- **Faculty**, (Academic session 2002-2003) Amity Institute of Biotechnology, Amity University, Noida, Uttar Pradesh, India.
- **BOS**, of the Institution, “St. Anns College for Women” since June, 2015.
- **BOS**, of the Institution, “University college for Women, Koti ” since June, 2015.
- **BOS**, of the Institution, “Mahatma Gandhi University” since April, 2016.
- Appointed as **Core Comittee member** for Research Development and Consultancy Cell (RDCC), Osmania Universitys since July, 2016.
- **BOS**, of the Institution, “Department of Genetics”, University College of Sciene, Osmania University, June 2017.
- **Associate Fellow**, of the “Telangana Academy of Sciences”, Osmania University campus, Hyderabad, Telangana, from 1<sup>st</sup> July 2017

## **INVITED KEY NOTE SPEAKERS & GUEST LECTURES**

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- Addressed in “International Conference on Biotechnology in Human Welfare” as a keynote speaker conducted by Kakatiya University, Warangal on 7-9<sup>th</sup> February, 2013.
- Addressed in “International Conference on Advances in Plant and Microbe Research” as a keynote speaker conducted by Acharaya Nagarjuna University, Guntur on 6-8<sup>th</sup> January, 2016.
- Addressed in “New Frontiers in Diagnosis and Management of Genetic Diseases" as a keynote speaker conducted by Institute of Genetics and Hospital for Genetic Diseases, Begumpet, Osmania University on 29-30<sup>th</sup> January, 2016.
- Addressed in “*Omic Technologies for Better Food and Nutrition*” (OTBFN-2016)” as a keynote speaker conducted by Telangana University, Nizamabad on 25<sup>th</sup> February, 2016.

- Delivered a guest lecture “Bioinformatics” to 4<sup>th</sup> Semester M.Sc, Biochemistry students, Andhra University on 18-19<sup>th</sup> March, 2016.
- Delivered a guest lecture “Novel drugs against diabetic secondary complications ” in 83<sup>rd</sup> Orientation Programme Organized by UGC-HRDC Osmania University on 19<sup>th</sup> Sep, 2016.
- Delivered a guest lecture “DNA Based Vaccines And Antisense Therapy” to M.Sc, Biotechnology students, Osmania University on 22<sup>nd</sup> Sept, 2016.
- Delivered a guest lecture to UG and PG students of Life Sciences, in Sujatha Degree and PG college on 19<sup>th</sup> Nov, 2016
- Delivered a guest lecture on “Benefit of our Life sciences and chemistry” to UG and PG students, in Kavitha Post-Graduate college on Thursday 1<sup>st</sup> Dec, 2016
- Addressed in “Global Trends in Genetic Diagnostics and Therapeutics" as a Invited speaker conducted by Institute of Genetics and Hospital for Genetic Diseases, Begumpet, Osmania University on 22-23<sup>rd</sup> February, 2017.
- Participated as a invited speaker in the Two-Day National Conference on “Recent Trends in Systems Biology” organized by Department of Zoology, UGC DSA-1 (SAP-II) held at University College of Sciene, Osmania University on 27<sup>th</sup> and 28<sup>th</sup> of March 2017.
- Addressed as a keynote speaker in UGC-SERO, Hyderabad, Sponsored National Workshop on “ Capacity Building in Biology and Allied Sciences on 1<sup>st</sup> to 3<sup>rd</sup> April, 2017 at Government Degree College (Men), Department of Biotechnology, Srikakulum.
- Delivered a guest lecture “Genome Engineering Technologies : CRISPR/Cas9” at Osmania University College for Women, Koti. on 1st November, 2017.
- Delivered a talk on "Showcasing institutional infrastructure facilities at OU"- with the participants of RYIM University of Hyderabad on 18th and 19th August 2018.
- Delivered a guest lecture in “Two day Workshop on Basics of Bioinformatics for Post graduate students on 31<sup>st</sup> August and 1<sup>st</sup> September 2018
- Invited as Subject committee meeting member on 04th May 2019 at 3pm in the Telangana State council of Higher Education (TSCHE).

## **WORKSHOPS ORGANIZED**

- Organized 2 day workshop on “Purification And Biochemical Characterization Of Recombinant Protein”. In CFRD, Osmania University 9&10<sup>th</sup> November 2016.

## **CONFERENCES ORGANIZED**

- Organized 2 day National Conference on “Molecular insights in Genetics & Biotechnology” In Department of Genetics & Biotechnology, Osmania University 27 & 28<sup>th</sup> February 2017.

## **PROJECTS**

- UGC –BSR Project entitled “Structural Studies on Nod Factor Receptors” (6 Lakhs)
- File no: C-DST-PURSE-II/26/2017 Project entitled “Bio-physical and biochemical characterization of chromene amino acid conjugate derivatives with Aldose Reductase” (4 Lakhs)
- File no: ECR/2017/003381 of DST-SERB Project entitled “Insights into inhibition of Peptidoglycan Pentaglycine cross bridge forming Fem proteins of Methicillin Resistance *Staphylococcus aureus*”. (29 Lakhs)
- File no: SERB/F/11311/2018-2019 Project entitled “Transient over-expression of human CD-200 gene in Nicotiana model plant and biochemical characterization of purified protein for immunotherapy”. (41 Lakhs)

## **PUBLICATIONS**

1. Mangalarapu M, Vinukonda S, Komaravalli PL, Nagula P, Koduganti RR, Korripally P, **Sagurthi SR**. Association of CDKN2BAS gene polymorphism with periodontitis and Coronary Artery Disease from South Indian population. **Gene**. 2019 Jun 4. pii: S0378-1119(19)30550-5.
2. Rahila Qureshi; Pranay Jakkula; **SR Sagurthi**; Insaf Ahmed Qureshi PP phosphatase of Leishmania donovani exhibits conserved catalytic residues and pro-inflammatory response. **Biochemical and Biophysical Research Communications (BBRC)** Jun 16 2019
3. Sudhakar, Reddy.madhukar, Naveenvadiyala, Someshkbanerjee, paroyfbs, IC Krishna, Bharathireddy, **Someswar**, Prasad Rao "Synthesis and cytotoxicity of novel 14 $\alpha$ -O-(1,4-disubstituted-1,2,3-triazolyl) ester derivatives of andrographolide" **Natural Product Research.GNPL-2019-0281.R2**.

4. Bangera M, Gowda K G, **Sagurthi SR**, Murthy MRN. Structural and functional insights into phosphomannose isomerase: the role of zinc and catalytic residues. **Acta Crystallogr D Struct Biol**. 2019 May 1;75(Pt 5):475-487. doi: 10.1107/S2059798319004169. Epub **2019** Apr 29.
5. Shiva Raju K , AnkiReddy S , Sabitha G, Siva Krishna V , Sriram D , Bharathi Reddy K , Rao **Sagurthi S** . Synthesis and biological evaluation of 1H-pyrrolo[2,3-d]pyrimidine-1,2,3-triazole derivatives as novel antitubercular agents Bioorg Med Chem Lett. 2018 Nov 17. pii: S0960- 894X(18)30903-X. doi: 10.1016/j.bmcl.**2018**.11.036.
6. Jakkula Pranay, Rahila Qureshi, Atif Iqbal, **SR Sagurthi** and Insaf A. Qureshi\* Leishmania donovani PP2C: kinetics, structural attributes and in vitro immune response. Mol Biochem Parasitol. **2018** Jul;223:37-49
7. Aravind Setti, Sanat Kumar C, Naresh B, **Someswar Rao S**, and Smita C. Pawar\*, Evaluation of Next Generation  $\beta$  lactam Inhibitors against Penicillinase Producing Methicillin-Resistant Staphylococcus aureus, **JSM Biol (2017)**, 2(2): 1014. 2475-9392
8. D. Ashok, E. V. L. Madhuri, M. Sarasija, S. Sree Kanth, M. Vijjulatha, Malini D. Alaparthy and **S. R. Sagurthi**, Synthesis, biological evaluation and molecular docking of spirofurochromanone derivatives, **RSC Adv., (2017)**, 7, 25710-25724.
9. Madhavi Latha Alasandagutti, Mohd Soheb Sadat Ansari, **S. R. Sagurthi**, Vijayalakshmi Valluri and Sumanlatha Gaddam, Role of IL-13 Genetic Variants in Signalling of Asthma, **Inflammation (2017)** published online 12<sup>th</sup> July.
10. Gudipudi Gopinath, Venu Sankeshi, Shaym perugu, Malini D. Alaparthy, Srinivas Bandaru, Vijay K. Pasala, Prasad Rao Ch, G.L. David Krupadanama, **Someswar R. Sagurthi**. Design and synthesis of chiral 2H-chromene-N-imidazolo-amino acid conjugates as aldose reductase inhibitors. **European Journal of Medicinal Chemistry (2016)**. 124, 750-762. (ISSN: 0223-5234).
11. Malini Devi Alaparthy, Gudipudi Gopinath, Srinivas Bandaru, Venu Sankeshi, Madhavi Mangalarapu, Swetha Sudha Nagamalla, Kota Sudhakar, Anupalli Roja Rani, **Someswar Rao Sagurthi**. Virtual screening of RAGE inhibitors using molecular docking. **Bioinformation (2016)**, 12(3), 124-130. (ISSN 0973-2063) (online) 0973-8894 (print).

12. Srinivas Bandaru, Pramod Tarigopula, Jyothy Akka, Vijaya Kumar Marri, Ramesh Kumar Kattamuri, Anuraj Nayarisseri, Madhavi Mangalarapu, Swetha Vinukonda, Hema Prasad Mundluru, **Someswar Rao Sagurthi**. Association of Beta 2 adrenergic receptor (Thr164Ile) polymorphism with Salbutamol refractoriness in severe asthmatics from Indian population. **Gene** (2016), 592, 15–22. (ISSN: 0378-1119).
13. S. Kota, S. R. Meesa, B. Rajesham, B. Bhasker, M. A. Ashfaq, A. A. Khan, **S. S. Rao** and M. Pal. AlCl<sub>3</sub>-mediated heteroarylation-cyclization strategy: one-pot synthesis of fused quinoxalines containing the central core of Lamellarin D **RSC Adv** (2016), DOI: 10.1039/C6RA07507J. (ISSN: 2046-2069).
14. Parveen Jahan, Asra Tabassum Jaffer, Wali Unnisa, Un Mahwish, G Sumanlatha, **S Someswar Rao**, D Sreebushan Raju. NPHS2 Functional Variant (R229Q) in Primary Nephrotic Syndrome: A Study from South India. **Helix** (2016), 6-7, 748-753. (ISSN No 2277-3495).
15. Srinivas Bandaru, Mallika Alvala, Jyothy Akka, **Someshwar Rao Sagurthi**, Anuraj Nayarisseri, Sanjeev Kumar Singh and Hema Prasad Mundluru. Identification of Small Molecule as a High Affinity  $\beta$ 2 Agonist Irrespectively Targeting Wild and Mutated (Thr164Ile)  $\beta$ 2 Adrenergic Receptor in the Treatment of Bronchial Asthma. **Current Pharmaceutical Design** (2016), 22, 1-13. (ISSN (Print): 1381-6128).
16. Bangera, M., Panigrahi, R., **Sagurthi S.R.**, Savithri, H.S., and Murthy M.R.N. Structural and functional analysis of two universal stress proteins YdaA and YnaF from Salmonella typhimurium: possible roles in microbial stress tolerance. **Journal of Structural Biology** (2015), 189, 238–250. (ISSN: 1047-8477).
17. Reddy, K.R., Deepika, M.L.N, **Sagurthi, S.R**, K. latha P, Lakshmana Rao, S.S., Rahman, F., and Jahan, P. Polycystic ovary syndrome: role of aromatase gene variants in south Indian women. **International Journal of Pharma and Bio Sciences** (2015), 6(2): B, 1283-B1296. (ISSN 0975-6299).
18. Madhavi Latha Alasandagutti, Meenakshi Ponnana, Ramya Shivangala, Lavanya Joshi, **Somashekar Sagruthi**, Ansari Soheb Sader, Vijaya Lakshmi Valluri, Suman Latha Gaddam. The role of IL-13, IL-4R $\alpha$  cytokine gene variants in atopic and non-atopic asthma, **European Respiratory Journal**

- (2015), (DOI:10.1183/13993003.congress-2015.PA1085) (Online ISSN: 1399-3003)
19. Nasr A B, Ponnala D, **Sagurthi S R**, Kattamuri R K, Marri V K, Gudala S, Lakkaraju C, Bandaru S, Nayarisseri. A Molecular Docking studies of FKBP12-mTOR inhibitors using binding predictions. **Bioinformation** (2015), 11(6), 307-315. (ISSN 0973-2063) (online) 0973-8894 (print).
  20. Madhavi Latha Alasandaguttir, Meenakshi ponnanal, Ramya Sivangalar, Lavanya Joshil, **Sagruthi S R**, MD.Soheb Sadat Ansari, Vijayalakshrnivalluri, Sumanlatha Gaddarn. The Role of Il-13, Il-13ru1 Cytokine GeneVariants in Atopic and Non-Atopic Asthma. **International Journal of Innovative Research in Science, Engineering and Technology** (2015), Volume 3, Special Issue 8, 2379 – 8753. (ISSN (Online): 2319-8753; /; ISSN (Print): 2347-6710).
  21. Venu Sankeshil. Gudipudi Gopi, Vijaya Kumar Pasala. Roja Rani A, **Sagurthi. S. R.** The Inhibitory Effect of Aegle murmelos Leaf Extract on Aldose Reductase and its Protective Role in Delaying of Diabetic Cataract. **International Journal of Innovative Research in Science, Engineering and Technology** (2015). Volume 3, Special Issue, 82347 – 6710 (ISSN (Online): 2319-8753; /; ISSN (Print): 2347-6710).
  22. Bangera M, Panigrahi R, **Sagurthi S R**, Savithri H S, Murthy M R, Structural and functional analysis of two universal stress proteins YdaA and YnaF from Salmonella typhimurium: possible roles in microbial stress tolerance. **J. Struct Biol** (2015), 189(3), 238-250. (ISSN: 1047-8477).
  23. Matsa L S, **Sagurthi S R**, Ananthapur V, Nalla S, Nallari P, Endothelin 1 gene as a modifier in dilated cardiomyopathy. **Gene** (2014), 548(2), 256-262. (ISSN: 0378-1119).
  24. Gopinath, G., **Sagurthi, S.R.**, Shyam, P., Achaiah, G., and David, K.G.L. Rational design, synthesis of novel 2-(substituted 2H-Chromen-3-yl)-5-aryl-1H-Imidazole derivative as anti-angiogenesis and anti-cancer. **Royal society of chemistry Advances** (2014), 4, 56489-56501. (ISSN: 2046-2069).
  25. **Sagurthi, S.R**, Gowda, G., Savithri, H. S., and Murthy, M. R. N. Crystal structure of mannose 6-phosphate isomerase from *Salmonella typhimurium* bound to metal atoms substrate: Implication for catalytic mechanism. **Acta Crystallogr D Biol Crystallogr** (2009), 65, 724-32. (ISSN: 2059-7983).

26. **Sagurthi, S.R**, Panigrahi, R.R., Gowda, G., Savithri H.S., and Murthy, M.R.N. Cloning, purification, crystallization and preliminary X-ray crystallographic analysis of the mannose 6-phosphate isomerase from *Salmonella typhimurium*, **Acta Crystallogr F Biol Crystallogr (2008)**, F64, 81- 84. (ISSN: 1744- 3091).
27. **Sagurthi, S.R**, Panigrahi R R, Gowda G, Savithri H S, Murthy M R, Cloning, expression, purification, crystallization and preliminary X-ray diffraction analysis of universal stress protein F (YnaF) from *Salmonella typhimurium*. **Acta Crystallogr Sect F Struct Biol Cryst Commun (2007)**, 63, 957-960. (ISSN: 2053-230X).

## **BOOK CHAPTER**

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Title: **Systems Biology: A New Frontier in Science**, which was included in edited book on '*Plant Biology and Biotechnology - Volume 2: Plant Genomics and Biotechnology*'. (Springer Publication International Book 2015). **S. Someswar Rao\***, A. Setti, S. C. Pawar.

## **HONOURS & AWARDS**

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- Junior & Senior Research Fellowship (2003-2008) from Council of Scientific and Industrial Research (CSIR), India.
- Winner of the best poster presentation competition. International symposium on “Management of Vector-Borne Viruses” International crops research institute for the semi-arid tropics 7-10 February 2006, Hyderabad, India.
- Third prize for quiz competition in the “National Science Day” 28<sup>th</sup> February 2002, Jawaharlal Nehru University, New Delhi, India.
- Conducted a conference as a editorial chief “National conference on emerging & re-emerging viral outbreaks in India clinical challenges & management” 2014.
- Acted as a Co-convenor for a conference “New frontiers in Biotechnology Prospects and Challenges”, conducted by University college for Women, Koti.
- Got selected for 9<sup>th</sup> Young Investigators' Meeting (YIM) March, 2017 in Goa.
- Got elected as Associate Member of Telangana Academy of Science 2017.
- Got selected for 10<sup>th</sup> Young Investigators' Meeting (YIM) March, 2018 in Tiruvananthapuram.

## **CONFERENCE ATTENDED**

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- Participated in the 38<sup>th</sup> course of the international school of crystallography, “Structure and Function of Large Macromolecular Assemblies” Erice, Italy on July 9 – 18<sup>th</sup> 2006.
- Presented a poster entitled “Structural studies on *Physalis Mottle Virus*: Structure Component Encapsidating genomic RNA & Top component with out RNA”.
- Participated in “Statistical methods for analyses of complex genetic traits” organized by Osmania University & Indian Statistical Institute on November 18-20<sup>th</sup>, 2015.
- Attended a conference, 1<sup>st</sup> Annual Symposium on Structural Biology conducted by “Center of Biomedical Research Excellence (COBRE) in Structural Biology”, Oklahoma, USA.
- Attended a conference, “Drug Discovery & Development, Global Scenario- Indian Perspective” conducted by “National Institute of Pharmaceutical Education & Research”, Hyderabad, India on 21<sup>st</sup> November, 2015.
- Presented a poster entitled “Rational design and synthesis of novel 2-(substituted 2H-chromen-3-yl)-5-Aryl-1H imidazole derivatives as an anti-angiogenesis and anti-cancer agents” in “Drug Discovery & Development, Global Scenario- Indian Perspective” conducted by “National Institute of Pharmaceutical Education & Research”, Hyderabad, India on 21<sup>st</sup> November, 2015.
- Attended, One day Orientation Programme on “Research & Consultancy”, conducted by University College of Science, Osmania University, Hyderabad, on 23<sup>rd</sup>, September, 2015.
- Attended, 44<sup>th</sup> National Seminar on Crystallography (NSC44) organized by Indian Crystallographic Association (ICA) in Pune July 10-13, 2016.
- Attended, One day workshop on “Intellectual Property Rights, R&D& Innovation in University System”, conducted by CFRD, Osmania University, Hyderabad, on 23<sup>rd</sup>, September, 2016.
- Attended the 9<sup>th</sup> Young Investigator’s Meeting held at Goa, between 6-10<sup>th</sup> March, 2017 as a participant.
- Participated in the Refresher Course in Soft Skills for Professional Excellence (ID & MD) Organised from 19-07-2017 to 08-08-2017 by UGC-HRDC, Osmania University, Hyderabad and obtained A grade.

- Participated in the One Day Training Program for Students of Science “Attitude and Skills for Competitive World” on 16<sup>th</sup> September, 2017 organized by Directorate of Placement Services, OU in collaboration with University College of Science.
- Participated in the Nano3Bio dissemination event entitled “The Future of Chitosans” held on 20<sup>th</sup> September, 2017 organized by Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad, India
- Presented a poster entitled “ Repurposing of clinically approved drugs in combination with pharmacophores to combat antimicrobial multi drug resistance” in International conference on Advantages in chemical biology and biologics, conducted by CSIR- IICT, Hyderabad on 28<sup>th</sup> Feb- 2<sup>nd</sup> March 2019