ISUKAPATLA HARITHA | Master of Science [M.S. Pharm] | Department of Medicinal Chemistry
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ACADEMIC BACKGROUND:

Aug 2017- June 2019: **M.S. (Pharm) in Medicinal Chemistry**
National Institute of Pharmaceutical Education and Research, Kolkata
CGPA 8.64 in the scale of 10.00
Thesis Title: "synthetic Anion receptors & transporters".
Supervisor: Dr. Ramalingam Natranjan, CSIR-Indian Institute of Chemical Biology.

June 2013- May 2017: **Bachelor of Pharmacy (B. Pharm)**
Vignan Institute of Pharmaceutical Technology, JNT University, Kakinada.
Percentage: 83.20% (First class with distinction)
Thesis Title: "Method development and Validation of Visible Spectrophotometric Method for estimation of Ebastine in Pharmaceutical Formulation".
Supervisor(s): Dr. Varaprasad Rao, Bhavani. B

June 2010- May 2012: **Higher Secondary School Certificate (HSSC) equivalent to 'A' level**
Sir Chaitanya Junior College, Andhra Pradesh
Percentage: 92.9

RESEARCH INTEREST:

- To design the synthetic molecules that uses principles of organic chemistry, biochemistry, and chemical biology.
- Synthetic method development, Catalytic chemistry, Peptide Chemistry, Carbohydrate chemistry and Supra molecular chemistry.
- Computational drug design and Drug discovery.
- Natural product chemistry.

RESEARCH EXPERIENCE:

Project Assistant: (2020- March 2021)

- **Synthesis and evaluation of diverse N-functionalized heterocyclic hybrids as multi-target directed Ligands for neuro protective and neuro restorative therapies:**
  The Neurodegenerative diseases of Alzheimer's, Parkinson's are most emerging types. The idea of slow down or Stop the progression of the disease achieved by the neuro protective and neuro restorative therapies and as drug targets for Synthesis of the Chemical moieties using multi-targeted approach.

Project Assistant: (2019- 2020)

- **Synthesis and Biological Efficacy Studies of Some New Hybrid Molecules as EGFR Inhibitors:**
  The epidermal growth factor receptor (EGFR) plays an important role in cell survival, growth, differentiation, and tumorigenesis. Overexpression of EGFR has been observed in different types of cancers such as breast, ovarian, colon likewise, so we developed the EGFR inhibitors by the pharmacophore 4-anilino-quinazoline and developed two potent inhibitors with molecular scaffold Pyrazole and 4-anilino-quinazoline. Interestingly we found the anti-proliferative activity of these compounds in two different types of cancer cell lines i.e. [HCT 116, PC 3].

M.S (Pharm) Projects: (2017-2019)

- **Synthetic Anion Receptors and Transporters:**

  Anion transporters plays an anion role as transporter that permeates across cell lipid membrane and the concept is to functionalize the role of anions in the cell. The π-acidic anion interactions are used to form interaction between the anion and the receptor and helps to deliver the anion in its deficiency. We designed the molecule with the tripodal moiety and with urea/thiourea as binding motif and to know the selectively binding on the anion with the molecule. Further, transport studies to be carried out.

- **Design of the co-crystal for 5-Fluro Uracil with dicarboxylic acids:**

  The concept of co-crystal formation of 5-Fluro Uracil is to identify the crystal of the compound as it is an anti- cancer drug and the resolve the data structure using various X-ray software's mercury, olex etc., as the data is small and its refinement is not appropriate, the crystal formation is in process.

B. Pharmacy Projects :(2013-2017)

- **Method Development and Validation of Visible Spectrophotometric Method for estimation of Ebastine in Pharmaceutical Formulation.**

  To develop new simple and rapid analytical method to estimate ebastine in pharmaceutical dosage form using visible spectrophotometric method and validated statistically according to ICH guidelines. The analytical method development for the detection, identification, quantitative determination of impurities using various analytical techniques for improving drug product quality and manufacturing efficiency of the drug product. Estimation of impurity level and validation study of drug product in the cost effective and quality drug product and with statically optimized parameters.

- **Design and Statistical Optimization of Acyclovir Loaded Hollow Microspheres using Cellulose Acetate.**

  Acyclovir is an antiviral drug, having absorption window in the upper intestinal tract and an absolute Bioavailability of 30%. Its short biological half-life and recommended adult oral dosage necessitates the development of a controlled release formulation. Parameters are optimized for the effect of formulation factors of drug loaded hollow microspheres. The prepared hollow microspheres of acyclovir could be used as twice a day capsule for enhancing the therapeutic activity.

PUBLICATIONS:

- Shailaja Pashikanti, Lokesh Srinivas Vanapalli, Haritha Isukapatla, Prasanna Jonnada, Arun Santhosh K.S., Ramkishan Ajmeer, Swathi Putta and Bhavani Boddeda*, Design And Statistical Optimization Of Acyclovir Loaded Hollow Microspheres Using Cellulose Acetate, *EJBPS* , **2017**, 4 , 443-453.
- Synthesis and Biological Efficacy Studies of New Hybrid Molecules as EGFR Inhibitors. (Manuscript under preparation)

ACADEMIC ACHIEVEMENTS & SCHOLARSHIPS:

- **GPAT-AICTE Fellowship** — **2017-2019**
  (Dept., of Ministry of Chemicals& Fertilizers, India.) — **NIPER-KOLKATA**

- **Qualified GPAT and NIPER** — **2017-2019**
  National Level examinations for the funded Postgraduate studies.

- **JNTUK- Prathibha Award** — **2017**
  1% among the 1 lakh students. — **JNTU KAKINADA**
  A prestigious award for the meritorious students in state government of India.

- **Academic Excellence Award.** **2016, Vignan**
- **(SSC, HSC) by Central Board ofSecondary Education.** **2010-2012**
  Top of 5% of combined list in the public examinations
- **District Award - 7th grade public examinations by state board of Andhra Pradesh.** **2007**
  Top 2nd among the 3 lakhs students.

PRESENTATIONS:

- Poster presentation of **Synthetic Anion Receptors and transporters,** **Viswa Bharati University**
  Joint symposium on 'Trends in Modern Biology: Techniques and Application'. **2019, Kolkata**
- Poster Presentation on **Congenital Hypothyroidism** **2019**
  The rare disease awareness program. **NIPER, Kolkata**
- Poster Presentation on **Formulation and Evaluation** **68th IPC (Indian Pharmaceutical Congress)**
  of Pioglitazone Hydrochloride Gastro Retentive Floating Micro beads. **2016, Visakhapatnam**
- Poster Presentation on **Stereochemistry In Drug Design** **Vignan Group of Institutions**
  Two-Day Inter College Tech Fest. **2015, Visakhapatnam**
- Oral presentation in **Natural Compounds as Promising Agents.** **Vignan Group of Institutions**

INTERNSHIPS & TRAINING:

- A training program by the **BRUKER.** **CSIR-IICB**
  Handling and solving the X-Ray crystal structure for small moleculesand peptides. **2019, Kolkata**
- Training program on **CSIR-IICB**
  Laboratory Safety, Biosafety, Chemical Safety, Radiation Safety and Fire Safety. **2018, Kolkata**
- Seminar and training on One Day at **T.C. HealthcarePvt. Ltd.** **2018, Modinagar, Delhi.**
- Two weeks **National skill development Training Program Quality control of biologicals**
  National Institute of Biologicals (NIB), Ministry of Health & FamilyWelfare, **2018, Noida, Delhi**
  Government of India.
- Worked as an intern in **Veras Pharmaceuticals Pvt Ltd,** **May - June 2016**
  Quality Control and Assurance departments. **Vizianagaram, Andhra Pradesh**

CONFERENCES & SEMINARS:

- Seminar on **Future GMP Compliance**. **CSIR - Central Glass and Ceramic Research Institute**
  West Bengal Pharmaceutical Association. **2018, kolkata**
- One Day **CME on Patient Safety& Pharmacovigilance.** **Calcutta School of Tropical Medicine**
  Department of clinical & Experimental Pharmacology and Indian Pharmacological Society. **2018, kolkata**
- DST Sponsored, IPA - Two Day National Conference on **Sivani College of**
  pharmacyBiosensors and its application in Pharmacy. **2017, Visakhapatnam**
- International conference at the **Indian Pharmaceutical Congress (IPC)** **68th IPC**
  IPCA-Pharmacists Association in INDIA. **2016, Visakhapatnam**
- International conference on **Emergence Strategy on Impurity Profiling** **Raghu College ofPharmacy**
  Indian Society of analytical scientists (ISAS). **2016, Visakhapatnam**

SCIENTIFIC SKILLS:

Synthetic Organic/Medicinal Chemistry

- Synthetic reactions: Organic, Metallic
- Bio-conjugation reactions:

  Peptide-Drug, Peptide-Nanoparticle.
- Purification methods:

  Column Chromatography, Flash, HPLC.
- Characterization methods:

  NMR, LC-MS, MALDI-MS, FT-IR.

Cell Biology Methods and *In vivo* Models

- *In vitro* Cell Culture Studies.
- Cancer cell lines and Primary cells.
- Cytotoxicity Studies of molecules.
- Fluorescence and Confocal microscopy Studies.
- Flow cytometric Assays.
- *In Vivo* Tumor xenograft Models.

Computational Chemistry

- Docking studies using Autodock4, AutodockVina, PyRx, Discovery studio.
- Exposure of software: ChemDraw, Marvinsketch, PyMol, Chimera, PyRx, Autodock4, Discovery studio.
- Schrodinger suite for different purposes such as docking using glide Tools, Pharmacophore modeling using Phase etc.

Pharmaceutics and Formulations:

- Synthesis and Characterization of Polymeric Nanoparticles.
- Dissolution and Disintegration Apparatus.
- UV-Visible Spectrophotometer.
- Characterization of nanomaterials (DLS, TEM, AFM, FE-SEM)

REFERENCES (To Contact):

1. Dr. Syamal Roy, Ph.D., FAScT, FASc, FNASc, FNA
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Dept. of Science and Technology, Govt. of India
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2. Dr. Ramalingam Natarajan, Ph.D.
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Organic and Medicinal Chemistry Division,
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3. Dr. Y.Srinivasa Rao M.Pharm, Ph.D., F.I.C.
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4. Varaprasada Rao M.Pharm, Ph.D.
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