
EDUCATION

2004-2009: Ph.D.

Double major in Biochemistry & Molecular Biology with a **minor in Pharmacology**, Department of Biochemistry & Molecular Biology, **Wayne State Medical School**, Detroit, MI. **USA**.

2000-2003: M.S.

Major in Molecular Biotechnology with a **minor in Genetic Engineering**, Department of Biological Sciences, **Wayne State University**, Detroit, MI. **USA**.

1998-2000: M.Sc.

Major in Biotechnology, Department of Biotechnology, **Andhra University**, Visakhapatnam, AP. **India**.

1995-1998: B.Sc.

Major in Biology and **Chemistry**, **Andhra University**, Visakhapatnam, AP. **India**.

RESEARCH & TEACHING EXPERIENCE

2022-Present: Visiting Professor: Department of Zoology, **Andhra University**, Visakhapatnam, AP. **India**.

Summary:

- Filed for a provisional **patent** titled: Proteolysis Targeting Chimera Based Composition for Gastritis and Gastric Ulcers. (**Patent Appl. no. 202141058294**)
- Live in class teaching: Z116 (**Biotechnology & Applied Biology**) a class of 65 M.Sc. Zoology students.
- Online teaching: Z103 (**Tools & Techniques for Biology**) a class of **65** M.Sc. Zoology students.
- Online teaching: MPB104T (**Advanced Pharmaceutical Biotechnology**) a class of **12** M.Pharm. students.
- Live in class teaching: (**Tools and Techniques**) a class of **50** M.Sc. Zoology students from AU School of distance education.
- Live in class teaching: MPB203T (**Bioinformatics and Computational Biotechnology**) a class of **12** M.Pharm. students.
- Laboratory-based project training: A total of **53** M.Sc. Zoology students were trained in various Molecular Biology, Microbiology, Biotechnology techniques such as PCR, RFLP, RT-PCR, etc.
- Published more than **10 research articles**.

2019-Present: Founder, Principal Scientist & Lead Instructor: The Center for Advanced-Applied Biological Sciences & Entrepreneurship (**TCABS-E**), a start-up research laboratory in Rajamahendravaram and Visakhapatnam, AP. **India**.

Summary:

- Mentored and trained more than **200 students** (both U.G. and P.G. from Rajamahendravaram and Visakhapatnam) in practical laboratory skills in Life Sciences and Scientific Entrepreneurship.
- Designed more than **100 student projects** and guided them through the projects.
- Collaborated with labs in India and USA to carry out cutting edge research projects in India to benefit the U.G. and P.G. students in India.
- Delivered several **Scientific awareness seminars** in local colleges.
- Applied for **funding from BIRAC**, DBT-India and **NCI**, NIH-USA.
- Published several **research articles** based on student projects.
- Established a pipeline of more than **30 start-up ideas** to encourage the U.G. and P.G. students based on their projects designed by TCABS-E.
- Started and established an interdisciplinary scientific journal, **TCABSE-J** (ISSN: **2583-2557**).
- Conducted several **scientific meetings, symposia** on behalf of TCABS-E.
- Presented the DBT-India "**Popular Lecture**" at the Gardencity University, Bengaluru.

- Established multiple domestic and international collaborations.
- Conducted and successfully completed the online Computational Biology Challenge (**TOCC-2020**).

2018-2019: Senior Scientist-F & Team Lead: Centre for Chemical Biology and Therapeutics (CCBT), Institute for Stem Cell Science and Regenerative Biology (**inStem**), Bengaluru, KA. **India**.

Research focus & Summary: Structural analysis of BRCT domain containing proteins in complex with small molecule inhibitors using an integrated approach containing X-ray crystallography, NMR, CD-spectroscopy, Mass spectrometry and Computational Biology.

- Trained and mentored **13 U.G. and P.G. students** on various projects.
- Established a **collaboration** between inStem and **INDUS** (synchrotron).
- Established the **"in-cell" NMR** technique.
- Supervised **2 postdoctoral fellows** on Structural Biology projects.
- Successfully **completed a collaboration** with the **U.S. NIH** on drug discovery projects and published.
- Published **2 research articles**.

2017-Present: Founder & Principal Scientist: The Yedidi Institute of Discovery and Education (TyiDE), a start-up company in Toronto, ON. **Canada**.

Research focus & Summary: High-throughput screening (HTS)-based identification of lead molecules as potential therapeutics for Alzheimer's disease.

- Identified a novel assay for HTS using the Ubiquitin-Proteasome System.
- Identified lead molecules for further optimization as potential therapeutics for Alzheimer's disease.
- Trained and mentored doctoral students.

2016-2017: Research Associate: Department of Biochemistry, School of Medicine, University of Toronto, ON. **Canada.**

Research focus & Summary: (i.) Elucidation of eukaryotic (yeast) proteasomal dynamics during proliferation and quiescence using an integrated Molecular, Cell, Structural and Computational Biology approach. (ii.) Structural analysis of giant squid arrestin.

- Trained and mentored **6 U.G. and P.G. students** in biomedical research projects.
- Established **multiple collaborations**.
- Evaluated the **liquid-liquid phase separation** of the yeast proteasome.
- Expression, purification and **NMR-based evaluation of proteasomal sub units** including the ubiquitin.
- Generated data and applied for the prestigious **NSERC-Canada** grant.
- Designed **chemical biology-based protein modifications** for NMR analysis.
- Published **4 research articles**.

2015-2016: Assistant Professor: Department of Pharmacology, GSL Medical College and Hospital, Rajamahendravaram, AP. **India.**

Research focus & Summary: Design of potent drug candidates and improvement of bioavailability (with enhanced blood brain-barrier penetration capabilities) in Drug Discovery for better pharmacological properties in infectious diseases and Cancer medicine.

- Mentored **a doctoral student** on a biomedical research project.
- Published **one research article**.

2009-2015: Visiting Fellow: Experimental Retrovirology Section, HIV and AIDS Malignancy Branch, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD. **USA.**

Research focus & Summary: Understanding the HIV-1 replication kinetics and viral fitness from clinical patient isolates using human $CD4^+$ T-lymphocytes. Design, synthesis and biological evaluation of novel HIV-1 protease inhibitors against wild type and multidrug-resistant variants of HIV-1 protease using the FDA-approved drugs as controls.

- Trained and mentored **5 U.G., P.G. and doctoral students** in biomedical research.
- Recipient of the prestigious **Cancer Research Training Award** from U.S. Federal Govt**.**
- Established a platform to perform **high-throughput X-ray crystallography** for drug screening.
- Organized, participated in **multiple symposia, conferences, etc**.
- **Elected member** of visiting fellows **to represent the U.S. Federal Govt.** to policy makers & U.S. citizens.
- Organized and participated in **multiple outreach programs** reaching out to sick kids.
- Initiated and successfully completed **multiple international research collaborations**.
- Deposited multiple protein-drug complex **structures in the protein data bank**.
- **Reviewer** for multiple international journals.
- Published more than **10 research articles**.

2005-2009: Research Assistant: Department of Biochemistry & Molecular Biology, Wayne State Medical School, Detroit, MI. **USA.**

Research focus & Summary: Design, synthesis and evaluation of inhibitors against multidrug-resistant clinical patient isolate-769 HIV-1 protease variants as potential anti-HIV/AIDS therapeutics.

- Trained and mentored **3 doctoral students** in biomedical research.
- Attended multiple conferences such as the **American Crystallographic Association-2006**.
- Delivered multiple seminars based on the research work.
- Recipient of the **best oral presentation** at the Mid-Atlantic Graduate Student Symposium.
- Deposited multiple protein and protein-drug complex **structures in the protein data bank.**
- Published **10 research articles**.

2005-2005: Research Assistant: Department of Pathology and Stroke Research, Henry Ford Health System, Detroit, MI. **USA.**

Research focus & Summary: Differential labeling of calpastatin, an endogenous calpain inhibitor, through an intein-based approach to study its interactions with calpain using ^{1}H-^{15}N-NMR-HSQC spectra.

- **Cloning and expression** of calpastatin.
- **Isotope labeling** of calpastatin.
- **Proton NMR spectral analysis** of calpastatin.

2004-2005: Research Assistant: Department of Pharmacology, Barbara Ann Karmanos Cancer Institute, Detroit, MI. **USA.**

Research focus & Summary: Genomics approach to understand the differential gene expression in pediatric leukemia patients with and without Down Syndrome.

- **Electromobility shift assays** of transcription factors using **radio labeled DNA oligos**.
- **Luciferase assays** to evaluate promoter specificity of transcription factors.

2003-2004: Research Technician: Department of Dermatology & Department of Hematology, Henry Ford Health System, Detroit, MI. **USA.**

Research focus & Summary: Mice genotyping, isolation and maintenance of primary mouse melanocytes to study Neurofibromatosis type-1 (NF1) gene expression. Evaluating the anti-aging effects of resveratrol in rats & screening the pharmacological effects of curcumin in prostate cancer cell lines.

- **Animal handling**, genotyping and surgeries.

- Isolation and establishment of **primary cell cultures** from new born pups of mice.

2000-2003: Research Intern & Student Assistant: Department of Biological Sciences, Wayne State University, Detroit, MI. **USA.**

Research focus & Summary:
(i) PCR amplification and cloning of the odorant binding protein gene from the mosquito (*Aedes aegypti*) genomic DNA.
(ii) PCR random mutagenesis of E. coli 16s rRNA-690 loop and screen for functional mutants to understand antibiotic-resistance.

- PCR-based **molecular cloning** methodology.
- **Site-directed and random mutagenesis** using PCR.
- **Instant evolution** of ribosomal RNA to evaluate antibiotic-resistance.
- **Mosquito cultures** and extraction of genomic DNA.

FELLOWSHIPS, AWARDS & HONORS

2015-2022:

- **Visiting Professor** in the department of Zoology, Andhra University, Visakhapatnam, AP, **India**.
- **Felicitation**, guest speaker for the national pharmacy week, College of Pharmaceutical Sciences, Andhra University, Visakhapatnam, AP, **India**.
- **Guest of honor** at the **felicitation** ceremony for delivering the "**Popular lecture**" sponsored by the **Dept. of Biotechnology, Govt. of India**, organized by the Garden City University, Bengaluru, KA, **India**.
- **Guest of honor** at the **felicitation** ceremony for **highly accomplished alumnus** of Govt. College organized by the department of Chemistry, **Govt. College. Rajahmundry**, AP, **India**.
- Received an **honorary plaque** at the **National Workshop on Biomass to Bioenergy** as resource person to explain the role of **Genetic Engineering & Biotechnology** in the production of carbon neutral biofuels. **Govt. College. Rajahmundry**, AP, **India**.
- Received an **honorary plaque** for National seminar on **COVID-19 treatments**. Krishna University, Machilipatnam, AP, **India**.
- Received an **honorarium** for presenting the **Structure-based Drug-design** methodology to P.G. students at **GITAM University** as the alumnus of the same. Visakhapatnam, AP, **India**.
- Received an **honorarium** for presenting the **Genetic Engineering** National seminar at DNR College. Bhimavaram, AP, **India**.
- **Best communication skills** in sales, marketing and customer relations, *Tim Hortons*, Toronto, ON, **Canada**.

2009-2015:

- The prestigious "**INTRAMURAL CANCER RESEARCH TRAINING AWARD**" from the **U.S. Federal Govt.** executed at the HIV & AIDS Malignancy Branch, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD. **U.S.A**.
- Panelist, invited by the NIH-Division of International Services to represent the intramural Visiting Fellows to

the extramural community and the U.S. federal government Science policy makers. Bethesda, MD. **U.S.A.**

- **Crystal structure** of wild type HIV-1 protease in complex with darunavir (PDB ID: 4HLA, Yedidi *et. al.*) was highlighted on the cover page of the Protein Data Bank annual report – 2013. Bethesda, MD. **U.S.A**.

- Received an **honorary plaque** at the 2013-National Cancer Institute-Fellows and Young Investigators' Colloquium for planning and organizing a workshop titled "International Opportunities and Visa Issues". Frederick, MD. **U.S.A**.

- **Best oral presentation award** at the Mid Atlantic Graduate Student Symposium in **Medicinal Chemistry** – 2008, Eugene Applebaum College of Pharmacy and Health Sciences, **Wayne State University**. Detroit, MI. **U.S.A.**

2004-2009:

- The **"INTRAMURAL RESEARCH ASSISTANT AWARD"** from the Department of Biochemistry and Molecular Biology, **Wayne State Medical School,** Detroit, MI. **U.S.A.**

2001-2003:

- The **"TEACHING ASSISTANT AWARD"** from the Department of Biological Sciences**, Wayne State University,** Detroit, MI. **U.S.A.**

SUMMARY OF STUDENT MENTORING EXPERIENCE

2021-Present: Research mentor/guide for **75** students listed alphabetically from **Jan2021 to present**.

- **Aishwarya Gaddipalli:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* RNA extraction and gene expression analysis in HepG2 cells using quantitative PCR.

- **Akhila Kamidi:** M.Sc. Biotechnology, Andhra University.
  - *Project Title:* Isolation and amplification of MT1JP breast cancer lncRNA for cloning purposes. *Published:* **Kamidi, A.** and Yedidi, R.S. (2021). Chemical biology-based strategies to stabilize the secondary structure of dynamic ceRNA molecules for detection and activation of p53 gene in colorectal cancer. ***TCABSE-J***, Vol. 1, Issue 2:35-37. Epub: Oct 15th , **2021**.

- **Amulya Meruga:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Structural insights into the regulation of human thyroglobulin protein. (*Manuscript in preparation for publication*).

- **Anandkumar Pasumarthy:** M. Sc. Biotechnology, Andhra University.
  - *Project Title: Expression analysis of polyethylene terephthalate hydrolase using bacterial expression system.*

- **Anilkumar Arangi:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Molecular modeling of the clinically found C16G mutation in the human breast cancer protein, BRCA1. (*Manuscript in preparation for publication*).

- **Apparao Vanathi:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Active site analysis of human O-Glc-Nac-transferase with a focus to design inhibitors for diabetes type-2. (*Manuscript in preparation for publication*).

- **Beulah Galanki:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.

- *Project Title:* Molecular manipulation of SHBG gene expression as a potential therapeutic approach for polycystic ovarian syndrome. (*Manuscript in preparation for publication*).

- **Bindu Devi Mallula:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Estimation of human error in biological laboratory based experimental data using statistical analysis.

- **Charitha Duddu:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Qualitative/quantitative estimation of glycoproteins using SDS-PAGE to determine human O-Gluc-Nac- Transferase activity. (*Manuscript in preparation for publication*).

- **Charithasri Komatineni:** M. Sc. Biotechnology, Andhra University.
  - *Project Title:* Gene amplification of glyceraldehyde 3-phosphate dehydrogenase gene as a positive control for cancer genomics.

- **Harsha Bonda:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Importance of master-mix preparation in Polymerase Chain Reaction to reduce human error.

- **Harshitha Vangalapudi:** M. Sc. Human Genetics, Andhra University.
  - *Project Title:* Genotoxic effects of insecticides on bacterial gene expression: a model study to understand similar effects in humans.
    Published: Sheik, R., **Vangalapudi, H.** and Yedidi R. S. (2022). Sequence coverage and model completion using template-based protein structure prediction with and without *de novo* structure prediction protocols. ***TCABSE-J*,** Vol. 1, Issue 3:40-43. Epub: Apr 2nd , **2022.**

- **Jahnavi Talla:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram
  - *Project Title:* Qualitative analysis of proteins using SDS-PAGE.

- **Jahnavi Pottapati:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Spin column-based purification of the 18S rRNA PCR product and qualitative analysis using agarose gel electrophoresis.

- **Jessica Kodavalli:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* Cloning the microRNA-25 into an expression vector for synthetic biology applications.

- **Jyothi Veeravalli:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Effect of incubation temperature on the activity of MBRE001-EcoRI endonuclease in T4-lambda DNA restriction digestion.

- **Kajalkumari Thakur:** M.Sc. Microbiology, GITAM University, Visakhapatnam.
  - *Project Title:* Targeting multiple genomic sites of HIV-1 clade-C with specific primers towards CRISPR/Cas9-based HIV diagnosis. (*Manuscript in preparation for publication*).

- **Kishan Maru:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Evaluation of genotoxicity caused by the carcinogenic benzo[a]pyrene, a common ingredient of Indian tobacco chew.
    Published: **Maru, K.**, Mukala, N., Aggunna, M. and Yedidi, R.S. (2022). Evaluation of genotoxicity caused by the carcinogenic benzo[a]pyrene, a common ingredient of Indian tobacco chew, using a bacterial gene expression model. ***TCABSE-J***, Vol. 1, Issue 4:1-8. Epub: Oct5th , **2022**.

- **Kusukumar Lanka:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.

- *Project Title:* PCR-genotyping the white spot syndrome virus in aquaculture ponds.

- **Lalitha Askapalli:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Identification of caspase cleavage sites on human thyroglobulin protein towards controlling hyperthyroidism.

- **Lasita Amara:** M.Sc. Biotechnology, Amity University, Mumbai.
  - *Project Title:* Molecular investigation of tetracycline-resistance in *E. coli* cells to gain mechanistic insights.

- **Layola Esther Giduthuri & Likhitha Samminga:** M. Sc. Biotechnology, Andhra University.
  - *Project Title:* Qualitative estimation of sugar-based and peptide-based metabolites produced by the *Lactobacillus spp.*: Applications in human vaginal microbiome investigation. (*Manuscript in preparation for publication*).

- **Lokeshkumar Thumapudi:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Effect of incubation temperature on the MBRE003-HindIII endonuclease activity in T4-lambda DNA restriction digestion.

- **Madhavarao Rapaka:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Is human O-Gluc-Nac-transferase (hOGT) an ideal target to design inhibitors for diabetes type-2? (*Manuscript in preparation for publication*).

- **Madhu Kandula:** M. Sc. Human Genetics, Andhra University.
  - *Project Title:* PCR-based multiplex-site directed mutagenesis of PTEN gene to generate a double mutant for downstream skin cancer (melanoma) studies.

- **Manasa Dasari:** M.Sc. Human Genetics, Andhra University, Visakhapatnam.
  - *Project Title:* Screening the MiR-25 database revealed Rab23 protein as one of its onco-targets for potential therapeutic design. (*Manuscript in preparation for publication*).

- **Manasa Posimsetti:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Design of an *in vitro* chromogen-based biochemical enzyme assay to evaluate the potency of reversible inhibitors.

    Published: **Posimsetti, M.**, Sanapala, S., Vissapragada, M. and Yedidi, R.S. (2022) Design of a pixel-based quantification method for in vitro colorimetric enzyme assay to evaluate enzyme inhibition in a dose-dependent manner. ***TCABSE-J***, Vol. 1, Issue 4:22-27. Epub: Oct5th , **2022**.

- **Manisha Lanka:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Novel Biophysical and Biological strategies for therapeutic miRNA delivery for Cancer and Infectious diseases.
    Published: **Lanka, M.,** Sodasani, M. and Yedidi, R.S. (2022). Novel biophysical strategy for the delivery of therapeutic microRNA molecules for Cancer and infectious diseases treatment. ***TCABSE-J***, Vol. 1, Issue 4:9-17. Epub: Oct5th , **2022**.

- **Mary Stephen:** M.Sc. Applied Microbiology, Sri Padmavati Mahila Visva Vidyalayam, Tirupathi.
  - *Project Title:* *In silico* evaluation of chymosin active site for targeted enzyme evolution towards bacterial strain development in the cheese industry. (*Manuscript in preparation for publication*).

- **Mounika Pendyala & Mounika Singanapalli:** M.Sc. Microbiology, Dantuluri Narayana Raju College, Bhimavaram.

- *Project Title:* Transformation of MBT111-DH5-alpha competent *E. coli* cells with pUC19 plasmid using heat-shock method.

- **Mustafa Methaq:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Modification of the phosphorylation sites on human HMGA1 enhancer to improve the expression of insulin receptor.

- **Nageswari Tadimalla:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Testing the expression levels of Human Sex Hormone Binding Globulin cloned under the control of an IPTG inducible promoter. (*Manuscript in preparation for publication*).

- **Nani Bale:** M.Sc. Microbiology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Preparation of chemically competent TKC027 E.coli cells for transformation with pUC19 plasmid.

- **Naveen Datta Kurukuri:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Significance of buffer ionic strength in voltage maintenance during agarose gel electrophoresis.

- **Naveen Babu Mentimi:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Estimation of protein purity qualitatively using SDS-PAGE during protein purification as a part of quality control.

- **Naveen Kumar Muthyala:** M. Sc. Human Genetics, Andhra University.
  - *Project Title:* PCR-based site directed mutagenesis of human BRCA1 zinc finger domain.

- **Niharikha Mukala:** M. Sc. Biotechnology, Andhra University.
  - *Project Title:* *In vitro* assay to evaluate the metabolism of drugs and pharmaceuticals using liver extracted cytochrome P450 enzymes.

    Published: **Mukala, N.** and Yedidi, R.S. (2022). *In vitro* assay design using chicken liver extracts to study the CYP450-mediated metabolism of drugs & pharmaceuticals: a cheaper alternative for laboratories. ***TCABSE-J***, Vol. 1, Issue 3:35-41. Epub: Apr2nd , **2022**.

- **Pavankumar Bendi:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Estimation of Human Glutathione-S-transferase enzyme expression in bacterial cells.

- **Pavitra Konala:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Homology modeling of human thyroid peroxidase to understand its structural features towards drug design for hypothyroidism.

- **Pradeepa Duggana:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* PCR-Site directed Mutagenesis of Human K-RAS Gene to generate the Q61H mutant.

- **Prameela Devi Kokkiri:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Inactivation of T4-DNA ligase enzyme activity by increase in the incubation temperature during ligation.

- **Rajkumar Kanupuru:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* Cloning the C-terminal domain of HIV-gp120 into an expression vector.

- **Rajyalakshmi Sivala:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* PCR-amplification of PTEN-cdRNA for cloning into an expression vector.

- **Ramani Thokala:** M. Sc. Biotechnology, Andhra University.
  - *Project Title:* PCR-based site directed mutagenesis of JAK-1 to generate the V658F mutant that is involved in acute lymphoid leukemia.
  - *Published:* **Thokala, R.** and Yedidi, R.S. (2022). Survey of the janus kinase-1 (JAK-1) transcript variants and protein isoforms of JAK-1 to determine its druggability for acute lymphoid leukemia treatment. ***TCABSE-J***, Vol. 1, Issue 4: 36-41. Epub: Oct5th , **2022**.

- **Ramya Bale:** M.Sc. Microbiology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Screening for transformants of DH5-alpha *E. coli* cells using X-gal/IPTG system for blue colonies.

- **Ramya Parsi:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Dependence of complete DNA digestion by HindIII endonuclease on the length of reaction incubation time.

- **Rasheeda Sheik:** M. Sc. Human Genetics, Andhra University.
  - *Project Title:* Guide-RNA design for CRISPR-based detection of cystic fibrosis.

    Published: **Sheik, R.**, Vangalapudi, H. and Yedidi, R.S. (2022). Sequence coverage and model completion using template-based protein structure prediction with and without de novo structure prediction protocols. ***TCABSE-J***, Vol. 1, Issue 3:40-43. Epub: Apr 2nd , **2022**.

- **Ratnam Keerthi:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* Biochemical evaluation of reversible inhibitors against the collagenase type1, matrix metalloproteinase.

    Published: **Keerthi, R.S.**, Chintalapati, J. and Yedidi, R.S. (2022). *In vitro* biological assay design for the inhibition of the matrix metalloproteinase, Collagenase type-1, using ethylenediaminetetraacetic acid, a metal ion chelator. ***TCABSE-J***, Vol. 1, Issue 4:18-21. Epub: Oct5th , **2022**.

- **SaisriTej Sanapala:** M. Sc. Biotechnology, Andhra University.
  - *Project Title:* Evaluating the enzymatic activity of polyethylene terephthalate hydrolase fusion protein.

    Published: **Posimsetti, M.**, Sanapala, S., Vissapragada, M. and Yedidi, R.S. (2022) Design of a pixel-based quantification method for in vitro colorimetric enzyme assay to evaluate enzyme inhibition in a dose-dependent manner. ***TCABSE-J***, Vol. 1, Issue 4:22-27. Epub: Oct5th , **2022**.

- **Saivikas Kanumuri:** M. Sc. Biochemistry, Andhra University.
  - *Project Title:* cDNA synthesis and amplification protocol for cloning mitochondrial proteins.

- **Sandhya Tula:** M.Sc. Microbiology, GITAM University, Visakhapatnam.
  - *Project Title:* Screening the MiR-25 database revealed FBXW7 protein as one of its onco-targets for potential therapeutic design.

    Published: Chintalapati, J., **Tula, S.** and Yedidi. R.S. (2022). Screening the MiR-25 database revealed FBXW7 protein as one of its onco-targets for potential therapeutic design. ***TCABSE-J***, Vol. 1, Issue 3:18-30. Epub: Apr2nd , **2022**.

- **Satish Tanneti:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Effect of the ligation reaction incubation time on the efficiency of TKC193-T4-DNA ligase catalytic activity.

- **Satish Tirumani:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.

- *Project Title:* Dependence of EcoRI endonuclease on the length of reaction incubation time for complete DNA digestion.

- **Sindhusha Chappa:** M.Sc. Biochemistry, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* Inhibition of androgen producing enzymes as a possible therapeutic approach to control polycystic ovarian syndrome.

- **Sirisha Gullapudi:** M.Sc. Microbiology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Plasmid DNA extraction from overnight *E. coli* minicultures using the miniprep methodology.

- **Sravani Akula:** M. Sc. Biotechnology, Andhra University.
  - *Project Title:* PCR-based gene amplification of the 18s rRNA gene as a positive control for cancer genomics.

- **Subhashini Gogada:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Is human thyroid peroxidase enzyme the right target towards drug design in hypothyroidism?

- **Sunanda Gotteti:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Evaluation of TKC120-Taq DNA polymerase catalytic activity in polymerase chain reaction.

- **Suraj Sulthan Shaik:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Structural insights into sphingosine kinase-1 as a drug target in highly metastatic triple-negative breast cancer.

- **Suresh Andala:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Molecular modeling and analysis of mutant p53-DNA-binding domain to design inhibitors for the treatment of glioblastoma.

- **Sushmitha Patnala:** M.Sc. Applied Microbiology, Sri Padmavati Mahila Visva Vidyalayam, Tirupathi.
  - *Project Title: In silico* evaluation of Pepsinogen active site for targeted enzyme evolution towards bacterial strain development in cheese production. (*Manuscript in preparation for publication*).

- **Tanuja Regani:** M.Sc. Biotechnology, Reva University, Bangalore.
  - *Project Title:* HIV antibody engineering.

    Published: **Regani, T.**, Jalaparthi, H., Chalapathi, B. and Yedidi, R.S. (2021). Structural deviations of HIV-1 glycoprotein-120 (gp120) compared to the wild type gp120 explain the failure of passive immunization. ***TCABSE-J***, Vol. 1, Issue 1:6-8. Epub: Apr13th , **2021**.

    Published: **Regani, T.**, Jalaparthi, H., Chalapathi, B., Yegireddi, V., Pilla, V., *et al.* Evaluation of structural deviations in HIV-1 gp-120 clinical mutant models to guide the HIV-vaccine design towards passive immunization. ***TCABSE-J***, Vol. 1, Issue 1:31-34. Epub: Apr 2nd, **2022**.

- **Urmila Dunga:** M.Sc. Human Genetics, Andhra University, Visakhapatnam.
  - *Project Title:* Screening the MiR-25 database revealed KLF4 protein as one of its onco-targets for potential therapeutic design. (*Manuscript in preparation for publication*).

- **Vanajakumari Naidana:** M.Sc. Biotechnology, GITAM, deemed to be University, Visakhapatnam.
  - *Project Title:* Synthesis and amplification of MEG-3 cDNA to evaluate its role in genetic and epigenetic regulation of TP53 gene.

- **Vanitha Yegireddi:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Re-designing the HIV-1 Antibodies to optimize their therapeutic capabilities towards passive immunization.

  - *Published:* Regani, T., Jalaparthi, H., Chalapathi, B., **Yegireddi, V.**, Pilla, V., *et al.* Evaluation of structural deviations in HIV-1 gp-120 clinical mutant models to guide the HIV-vaccine design towards passive immunization.

- **Venkatalakshmi Talada:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Structural insights into cathepsin cleavage sites mapped on the human thyroglobulin protein for therapeutic implications in hyperthyroidism.

- **Venkatesh Taddi:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Structural insights into the human p53 protein as a potential therapeutic target for glioblastoma.

- **Vidyasri Neelam:** M.Sc. Microbiology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Qualitative and quantitative analysis of plasmid DNA miniprep samples.

- **Vijaya Bharti Mishra:** M.Sc. Microbiology, GITAM University, Visakhapatnam.
  - *Project Title:* Designing specific primers targeting multiple genomic sites of HIV-1 clade-B towards CRISPR/Cas9-based HIV diagnosis.

- **Vijaykumar Soveri:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Pros and cons of targeting the human p53 mutants therapeutically for the treatment of glioblastoma.

- **Vinaykumar Amanana:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram.
  - *Project Title:* Structural insights into the HMGA1 transcription factor for therapeutic intervention in type-2 diabetes.

- **Vineela Nerusu:** M.Sc. Applied Microbiology, Sri Padmavathi Mahila Visvavidyalayam, Tirupati.
  - *Project Title:* Evaluation of *E. coli* DH5α strain for testing the clarithromycin-resistance in *H. pylori*.

    Published: **Nerusu, V. R. D.**, Aggunna, M. and Yedidi, R.S. (2022). Testing the feasibility of using the common laboratory strain *E. coli* DH5α as a model system to study clarithromycin-resistance in *Helicobacter pylori*. ***TCABSE-J***, Vol. 1, Issue 4:28-34. Epub: Oct5th , **2022**. (*Corresponding author).

- **Vyshnavi Pilla:** M.Sc. Biotechnology, Maharajah's Postgraduate College, Vijayanagaram (Affl.: Andhra University).
  - *Project Title:* Structural insights into the gp120 protein of HIV-1 mutant strains compared to the wild type strain for antibody design.

    Published: Regani, T., Jalaparthi, H., Chalapathi, B., Yegireddi, V., **Pilla, V.**, *et al.* Evaluation of structural deviations in HIV-1 gp-120 clinical mutant models to guide the HIV-vaccine design towards passive immunization.

- **Yamini Sala:** M.Sc. Biotechnology, Dantuluri Narayana Raju College, Bhimavaram.
  - *Project Title:* Dependence of the final product concentration on the number of cycles in polymerase chain reaction.

- **Yogita Munju:** M.Sc. Biochemistry, Sri Padmavati Mahila Visva Vidyalayam, Tirupathi.

- *Project Title:* Structural analysis of K-Ras G12V/D mutants that are clinically seen in cervical cancer patients for drug discovery opportunities.

2018-2020: Research mentor/guide for **48** students listed alphabetically from **Jan2018 to 2020.**

- **Abhinav Grandhi:** Pharm D., Koringa College of Pharmacy, Korangi.
  - *Project Title:* Vaccine design using machine learning and artificial intelligence protocols.
- **Aparna K.G.:** M.Tech. Karunya Institute of Technology and Sciences, Coimbatore.
  - *Project Title:* Protein purification using FPLC system.
- **Beena Patel:** M.Sc. Maharani Lakshmi Ammani's Women's College, Bengaluru.
  - *Project Title:* Expression and purification of proteins.
- **Chiranjeevi Ganteti:** M.Sc. Virology, Sri Venkateswara University, Tirupati.
  - *Project Title:* Antibody engineering for multivalent vaccines.
- **Devi Lakshmi Korangi:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Stem cell therapy for spinal disc damage and repair.
- **Divya Gandikota:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Small molecule-based restoration of BARD1 interactions with mutant BRCA1 in breast cancer.
- **Ganga Bhavani Pamu:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Inhibition of androgen producing enzymes: possible therapeutic approach for polycystic ovarian disease.
- **Gurudatt Patra:** B.Tech. Amrita Vishwa Vidyapeetham, Kerala.
  - *Project Title:* Protein expression, purification and crystallization for structural studies.
- **Hemsai Palla:** M.Sc. Biotechnology, Andhra University, Visakhapatnam.
  - *Project Title:* Biotechnology applications in designing therapeutics for cardiac diseases.
- **Himashaila Chittipeddi:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Targeting the mutant K-Ras in cervical cancer through small molecules as a possible therapeutic approach.

    Published: **Chittipeddi, H.**, Katragadda, V., Badgu, N. and Yedidi, R.S.* (2020). Leveraging the active site steric hindrance for GTP hydrolysis in mutant K-Ras variants to achieve selectivity in kinase inhibitors for cervical cancer. ***TCABSE-J*** Spl. issue 1:33-35. Epub: Oct 25 th , **2020**. (*Corresponding author).
- **Isaac Teketi:** B.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* Secondary signaling pathways involved in Metformin pharmacology.
- **Jahnavi Chintalapati:** M.Sc. Biochemistry, Andhra University, Visakhapatnam.
  - *Project Title:* Alveolar regeneration post COVID-19 cytokine storm mediated lung damage.

    Published: **Chintalapati, J.** and Yedidi, R.S.* (2021). Promoting the post COVID-19 alveolar regeneration by targeting cellular signaling pathways through small molecule intervention. ***TCABSE-J***, Vol. 1, Issue 1:1-3. Epub: Apr13 th , **2021**. (*Corresponding author).

- **Joycee Thotey:** M.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
    - *Project Title:* Epigenetic modulation of insulin-resistance in type-2 diabetes: targeting the HMGA-1 through small molecules.

- **Keerthana Sathish:** B.Tech. Mepco Schlenk Engineering College, Sivakasi.
    - *Project Title:* Expression and purification of proteins using FPLC and qualitative analysis by SDS-PAGE.

      Published: Mathivanan, S., Chunchagatta Lakshman, P. K., Singh, M., Giridharan, S., **Sathish, K.**, Hurakadli, M. A., Bharatham, K., & Kamariah, N. (2022). Structure of a 14-3-3ε:FOXO3apS253 Phosphopeptide Complex Reveals 14-3-3 Isoform-Specific Binding of Forkhead Box Class O Transcription Factor (FOXO) Phosphoproteins. ***ACS omega***, *7*(28), 24344–24352. **2022.**

- **Keerthi Ginni:** M.Sc. Biochemistry, Adikavi Nannaya University, Rajamahendravaram.
    - *Project Title:* PROTCA-based therapeutic design for neuroblastoma treatment.

- **Krishna Priya Yentrapragada:** M.Sc. Biotechnology, Jain University, Bengaluru.
    - *Project Title:* Targeting the human OGT with small molecules to rectify the insulin-resistance in type-2 diabetic patients.

- **Lakshmi Sahitya Buddana:** B.Sc. Biotechnology, Govt. College, Rajamahendravaram.
    - *Project Title:* TIMP regulation using small molecules to control Liver Cirrhosis.

      Published: **Buddana, L.**, Katragadda, V., Badgu, N. and Yedidi, R.S.* (2021). Targeting the TIMPs with PROTAC-based small molecules as a potential therapeutic approach for Liver cirrhosis treatment. ***TCABSE-J***, Vol. 1, Issue 1:9-11. Epub: Apr 13th , **2021**. (*Corresponding author).

- **Likhitanjali Uddaraju:** M.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
    - *Project Title:* Genetic regulation of the SHBG gene to control the PCOS.

- **Madhumita Aggunna:** B.Tech. GITAM, deemed to be University, Visakhapatnam.
    - *Project Title:* Multi-omics approach to evaluate cancer immunotherapy.

      Published: **Aggunna, M.** and Yedidi, R.S.* (2020). The OMICAS, Can-IT: Onco-Molecular Immunotherapeutic Constellation Analytics Spectrum in Cancer Immunotherapy. ***TCABSE-J*** Spl. issue 1:24-26. Epub: Oct25th, **2020**. (*Corresponding author).

- **Madhuri Vissapragada:** M.Sc. Human Genetics, Andhra University, Visakhapatnam.
    - *Project Title:* Plastic biodegradation using synthetic biology approach.

      Published: **Vissapragada, M.** and Yedidi, R.S.* (2021). Design and development of synthetic bacteria with built in genetic circuits for plastics biodegradation. ***TCABSE-J***, Vol. 1, Issue 2:9-11. Epub: Oct15 th , **2021**. (*Corresponding author).

- **Manikanta Sodasani:** M.Sc. B.Pharm., GIET College of Pharmacy, Rajamahendravaram.
    - *Project Title:* Applications of protein liquid-liquid phase separations in drug delivery.

      Published: **Sodasani, M.** and Yedidi, R.S.* (2021). Leveraging the protein liquid-liquid phase separation droplets as potential drug delivery vehicles. ***TCABSE-J***, Vol. 1, Issue 2:28-30. Epub: Oct15 th , **2021**.(*Corresponding author).

- **Mathuvanthi Narayanan:** B.Sc. Periyar Maniammai Institute of Science and Technology, Thanjavur.

- *Project Title:* Qualitative and quantitative analysis of FPLC-purified proteins.

- **Meghana Korabu:** M.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* Species identification using the bacterial 16S rRNA sequence diversity.

- **Meera Venkatesh:** B.E. Ramaiah Institute of Technology, Bengaluru.
  - *Project Title:* Expression and purification of mutant BRCA1-BRCT domain.

- **Meshita Advani:** Green Wood High School, Bengaluru.
  - *Project Title:* Expression and purification of wild type BRCA1-BRCT domain.

- **Mounica Manjunath:** M.Sc. Biotechnology, Manipal Academy of Higher Education, Manipal.
  - *Project Title:* PCR-based gene amplification and protein expression.

- **Navyasree Susarla:** B.Sc. Biotechnology, Govt. College, Rajamahendravaram.
  - *Project Title:* Thyroglobulin regulation using small molecules as a potential therapy.

- **Pooja Ganesh:** M.Sc. Maharani Lakshmi Ammani's Women's College, Bengaluru.
  - *Project Title:* Quantitative and qualitative analysis of proteins.

- **Prarthana Kowshik:** M.Sc. Biotechnology, Manipal Academy of Higher Education, Manipal.
  - *Project Title:* Protein expression and purification using affinity column chromatography.

- **Priyanka Prasad:** M.Sc. Biotechnology, Manipal Academy of Higher Education, Manipal.
  - *Project Title:* Protein expression for NMR studies.

- **Ramyasri Palli:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Enhancement of the ubiquitin ligase activity of mutant BRCA1: a possible therapeutic approach for breast cancer.

- **Rohitha Talari:** B.Tech. Genetic Engg., Bharath Institute of Higher Education and Research, Chennai.
  - *Project Title:* Peptidomimetics-based therapeutics for Alzheimer's disease.

- **Roopa G.S.:** B.Tech. Biotechnology, R. V. College of Engineering, Bengaluru.
  - *Project Title:* Expression and purification of mutant BRCT domains of BRCA1 protein.

- **Santhinissi Addala:** M.Sc. Biochemistry, Andhra University, Visakhapatnam.
  - *Project Title:* Repurposing the endometrial stem cells from menstrual waste.
    Published: **Addala, S.** and Yedidi, R.S.* (2021). Endometrium-derived menstrual stem cells as a potential source of adult stem cells for organoid development. ***TCABSE-J***, Vol. 1, Issue 2:12-14. Epub: Oct15 th , **2021**. (*Corresponding author).

- **Saraswati Chawla:** M.Sc. Biotechnology, Manipal Academy of Higher Education, Manipal.
  - *Project Title:* Protein expression and purification using chromatographic techniques.

- **Shakeena Konda:** M.Sc. Microbiology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Tyrosine Phosphatase in *Mycobacterium*, a novel drug target for TB.

- **Shalini Ramavarapu:** M.Sc. Biochemistry, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* CRISPR-Cas9 based latency detection of HIV infection.
    Published: **Ramavarapu, S.** and Yedidi, R.S.* (2020). CRISPR/Cas9 mediated intervention to target the host CD4 + T cells that are latently infected with HIV-1 genome. ***TCABSE-J*** Spl. issue 1:22-23. Epub: Oct25 th , **2020**. (*Corresponding author).

- **Sheryl Eritharail:** B.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* Instant evolution of enzymes to improve the quality/quantity of food products.

- **Shyamkumar Gampa:** B.Sc. Biotechnology, Dr. Lankapalli Bullayya College, Visakhapatnam.
  - *Project Title:* RNA stability analysis in COVID-19.

    Published: **Gampa, S.**, Aggunna, M., Grandhi, A., Adduri, V., Ayithamsetti, P., Korabu, M., Addala, S., Vissapragada, M., Palakurty, M. and Yedidi, R.S.* (2022). Increase in the predicted mRNA stability of certain SARS CoV-2 mutant spike proteins compared to wild type may pose potential risk to vaccines. ***TCABSE-J***, Vol. 1, Issue 3:4-9. Epub: Apr2nd , **2022**. (*Corresponding author).

- **Siva Akshaya B.:** B.Tech. Mepco Schlenk Engineering College, Sivakasi.
  - *Project Title:* Protein purification and crystallization.

- **Sneha A.S.:** B.Tech. Mepco Schlenk Engineering College, Sivakasi.
  - *Project Title:* Protein expression, purification and structure-function studies.

- **Sonanjali Uddaraju:** M.Sc. Biochemistry, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Epitope targeting of thyroid peroxidase to protect it from auto antibodies.

- **Sony Harmaljeet:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* Targeting the sphingosine kinase-1 in triple negative breast cancer.

- **Sowjanya Revu:** M.Sc. Microbiology, Sri Padmavathi Mahila Visvavidyalayam, Tirupati.
  - *Project Title:* Triggering apoptosis in HIV infected host cells.

- **Sravyasri Gubbala:** M.Sc. Bioinformatics, Amrita Vishwa Vidyapeetham, Kerala.
  - *Project Title:* Enzyme replacement therapy.

- **Subha Sirisha Korumelli:** B.Sc. Biotechnology, Adikavi Nannaya University, Rajamahendravaram.
  - *Project Title:* PTEN is a versatile drug target in melanoma treatment.

- **Swarnalatha Gandi:** B.Sc. Biotechnology, Govt. College, Rajamahendravaram.
  - *Project Title:* Targeting the lysosomal proteases to regulate thyroxine levels in blood.

    Published: **Gandi, S.** and Yedidi, R.S.* (2020). Mapping and analysis of cathepsin cleavage site distribution on the 3-D model of human thyroglobulin for potential inhibitor design. ***TCABSE-J*** Spl. issue 1:30-32. Epub: Oct 25th , **2020**. (*Corresponding author).

- **Uttpal Anand:** B.Sc. Sam Higginbottom University of Agriculture, Technology and Science. Allahabad.
  - *Project Title:* Heavy isotope labeled protein expression and purification for NMR studies.

2015-2017: Research mentor/guide for **7** students listed alphabetically from **Jan2015 to 2017.**

- **Aidin Balo:** Ph.D. Biochemistry, University of Toronto, **Canada.**
  - *Project Title:* Structural analysis of spin labeled lysozyme mutants.

    Published: **Balo, A. R.**, Feyrer, H., & Ernst, O. P. (2016). Toward Precise Interpretation of DEER-Based Distance Distributions: Insights from Structural Characterization of V1 Spin-Labeled Side Chains. ***Biochemistry***, *55*(37), 5256–5263, **2016**.

- **Amatullah Fatehi:** B.S. Biology, University of Toronto, **Canada**.
  - *Project Title:* NMR-based structural analysis of yeast proteasomal storage granules.

Published: Yedidi, R. S., **Fatehi, A. K.**, & Enenkel, C. (2016). Proteasome dynamics between proliferation and quiescence stages of Saccharomyces cerevisiae. ***Critical reviews in biochemistry and molecular biology***, *51*(6), 497–512, **2016**.

- **Bilyana Ivanova:** M.S. Biochemistry, University of Toronto, **Canada**.
  - *Project Title:* Electron paramagnetic resonance (EPR) spectroscopy of proteasomal subunits.

- **Nancy Shi:** B.S. Biology, University of Toronto, **Canada**.
  - *Project Title:* Site directed mutagenesis, expression and purification of ubiquitin double mutants.

- **Piryanka Sasidharan:** M.S. Chemistry, University of Toronto, **Canada**.
  - *Project Title:* Computational modeling and simulations of EPR-spin labeled proteins.

    Published: **Sasidharan, P.**, Balo, A. R., Enenkel, C., Yedidi, R. S.* Comparative *in silico* inter-spin distance analysis of IDSL spin labels modeled on lysozyme mutants against experimentally determined DEER distance measurements. **Springer LNCS**, Conference Proceedings **2018**. (*Corresponding author).

- **Vasudha Katragadda:** Ph.D. Biotechnology, Sri Padmavati Mahila Visva Vidyalayam, Tirupathi.
  - *Project Title:* Harmful effects of cypermethrin, a synthetic insecticide used in agriculture, causing male sterility.

- **Zhu Gu:** M.S. Biochemistry, University of Toronto, **Canada**.
  - *Project Title:* *In vitro* enrichment of proteasome storage granules from cell lysates using sucrose gradients.
    Published: **Zhu, C. G.**, Wu, E., Sailer, C., Jando, J., Eisenkolb, I., Wang, X., Huang, L., Yedidi, R. S., Friesen, H., Enenkel, C. Scaffold proteins in the orchestration of proteasome granule organization during quiescence in yeast. ***Mol Biol Cell***, 28:2479-2491, **2017**.

2009-2015: Research mentor/guide for **5** students listed alphabetically from **Jan2009 to 2015.**

- **Darshan Desai:** B.S. Biology, George Mason University, Fairfax, VA **U.S.A**.
  - *Project Title:* Evaluation of HIV-1 protease inhibitors using fluorescence-based biochemical assays.

    Published: Yedidi, R. S., Garimella, H., Aoki, M., Aoki-Ogata, H., **Desai, D. V.**, Chang, S. B., Davis, D. A., Fyvie, W. S., Kaufman, J. D., Smith, D. W., Das, D., Wingfield, P. T., Maeda, K., Ghosh, A. K., & Mitsuya, H. (2014). A conserved hydrogen-bonding network of P2 bis-tetrahydrofuran-containing HIV-1 protease inhibitors (PIs) with a protease active-site amino acid backbone aids in their activity against PI-resistant HIV. ***Antimicrobial agents and chemotherapy***, *58*(7), 3679–3688, **2014**.

- **Harisha Garimella:** Mt. Hebron High School, Baltimore MD **U.S.A**.
  - *Project Title:* Co-crystallization of wild type and mutant HIV-1 protease variants in complex with protease inhibitors.

    Published: Yedidi, R. S., **Garimella, H.**, Aoki, M., Aoki-Ogata, H., Desai, D. V., Chang, S. B., Davis, D. A., Fyvie, S. W., Kaufman, J. D., Smith, D. W., Das, D., Wingfield, P. T., Maeda, K., Ghosh, A. K., Mitsuya, H. A conserved hydrogen-bonding network of P2 bis-tetrahydrofuran-containing HIV-1 protease inhibitors (PIs) with protease active-site amino acid backbone aids in their activity against PI-resistant HIV. ***Antimicrob Agents Chemother.***, 58:3679-3688, **2014**. (Related PDB IDs: **4NJS**, **4NJT**, **4NJU** and **4NJV**).

    Published: Yedidi, R. S., Maeda, K., Fyvie, W. S., Steffey, M., Davis, D. A., Palmer, I., Aoki, M., Kaufman, J. D., Stahl, S. J., **Garimella, H.**, Das, D., Wingfield, P. T., Ghosh, A. K., Mitsuya, H. P2'

benzene carboxylic acid moiety is associated with decrease in cellular uptake: evaluation of novel nonpeptidic HIV-1 protease inhibitors containing P2 bis-tetrahydrofuran moiety. ***Antimicrob. Agents Chemother.*** 57: 4920-4927, **2013**. (Related PDB IDs: **4HLA**, **4I8W** and **4I8Z**).

- **Hironori Hayashi:** Ph.D. Kumamoto University, Japan.
  - *Project Title:* Co-crystallization of wild type and mutant HIV-1 protease variants.
  - *Published:* Amano, M., Yedidi, R. S., Salcedo-Gómez, P. M., **Hayashi, H.**, Hasegawa, K., Martyr, C. D., Ghosh, A. K., & Mitsuya, H. (2022). Fluorine Modifications Contribute to Potent Antiviral Activity against Highly Drug-Resistant HIV-1 and Favorable Blood-Brain Barrier Penetration Property of Novel Central Nervous System-Targeting HIV-1 Protease Inhibitors *In Vitro*. ***Antimicrobial agents and chemotherapy***, *66*(2), e0171521, **2022**. (Related PDB IDs: **6UWB** and **6UWC**).
  - *Published:* Amano, M., Salcedo-Gomez, P. M., Yedidi, R. S., Zhao, R., **Hayashi, H.**, Hasegawa, K., Nakamura, T., Martyr, C. D., Ghosh, A. K., Mitsuya, H. Novel central nervous system (CNS)-targeting protease inhibitors for drug-resistant HIV infection and HIV-associated CNS complications. ***Antimicrob Agents Chemother.***, 63:(7), pii:e00466-19, **2019**. (Related PDB IDs: **6D0E** and **6D0D**).
  - *Published:* Aoki, M., **Hayashi, H.**, Kalapala, V. R., Das, D., Higashi-Kuwata, N., Bulut, H., Aoki-Ogata, H., Takamatsu, Y., Yedidi, R. S., Davis, D. A., Hattori, S-I., Nishida, N., Hasegawa, K., Takamune, N., Nyalapatla, P. R., Osswald, H. L., Yarchoan, R., Misumi, S., Ghosh, A. K., Mitsuya, H. A Novel Protease Inhibitor Overcomes HIV-1 Resistance with Unprecedented Potency. ***eLife***, ;6. pii: e28020. doi: 10.7554/eLife.28020, **2017**. (Related PDB IDs: **5TYR** and **5TYS**).
  - *Published:* Aoki, M., **Hayashi, H.**, Yedidi, R. S., Martyr, C. D., Takamatsu, Y., Aoki-Ogata, H., Nakamura, T., Nakata, H., Das, D., Yamagata, Y., Ghosh, A. K., Mitsuya, H. C5-modified tetrahydropyrano-tetrahydrofuran -derived protease inhibitors (PIs) exert potent inhibition of the replication of HIV-1 variants highly resistant to various PIs, including darunavir. ***J Virol.*** 90: 2180-2194, **2015**. (Related PDB IDs: **5COK**, **5CON**, **5COO** and **5COP**).
- **Nicole Delino:** B.S. Biology, University of California San Diego, La Jolla, CA **U.S.A.**
  - *Project Title:* Expression, purification and crystallization of HIV-1 protease.

    Published: Amano, M., Miguel Salcedo-Gómez, P., Yedidi, R. S., **Delino, N. S.**, Nakata, H., Venkateswara Rao, K., Ghosh, A. K., & Mitsuya, H. (2017). GRL-09510, a Unique P2-Crown-Tetrahydrofuranyl urethane-Containing HIV-1 Protease Inhibitor, Maintains Its Favorable Antiviral Activity against Highly-Drug-Resistant HIV-1 Variants in vitro. ***Scientific reports***, *7*(1), 12235, **2017**. (Related PDB ID: **5V4Y**).

    Published: Amano, M., Salcedo-Gómez, P. M., Zhao, R., Yedidi, R. S., Das, D., Bulut, H., Delino, N. S., Sheri, V. R., Ghosh, A. K., & Mitsuya, H. (2016). A Modified P1 Moiety Enhances In Vitro Antiviral Activity against Various Multidrug-Resistant HIV-1 Variants and In Vitro Central Nervous System Penetration Properties of a Novel Nonpeptidic Protease Inhibitor, GRL-10413. ***Antimicrobial agents and chemotherapy***, *60*(12), 7046–7059, **2016**. (Related PDB ID: **3KAO**).
- **Simon Chang:** B.S. Biology, **U.S.A**.
  - *Project Title:* Co-crystallization of mutant HIV-1 protease in complex with darunavir and ritonavir.

    Published: Yedidi, R. S., **Garimella, H.**, Aoki, M., Aoki-Ogata, H., Desai, D. V., Chang, S. B., Davis, D. A., Fyvie, S. W., Kaufman, J. D., Smith, D. W., Das, D., Wingfield, P. T., Maeda, K., Ghosh, A. K., Mitsuya, H. A conserved hydrogen-bonding network of P2 bis-tetrahydrofuran-containing HIV-1

protease inhibitors (PIs) with protease active-site amino acid backbone aids in their activity against PI-resistant HIV. ***Antimicrob Agents Chemother.***, 58:3679-3688, **2014**. (Related PDB IDs: **4NJS**, **4NJT**, **4NJU** and **4NJV**).

2006-2009: Research mentor/guide for **3** students listed alphabetically from **Jan2006 to 2009.**

- **Zhigang Liu:** Ph.D. Biochemistry, Wayne State Medical School, Detroit, MI **U.S.A**.
  - *Project Title:* Co-crystallization of multidrug-resistant clinical isolate-769 HIV-1 protease variants in complex with inhibitors.

    Published: Liu, Z., Yedidi, R. S., Wang, Y., Dewdney, T. G., Reiter, S. J., Brunzelle, J. S., Kovari, I. A., & Kovari, L. C. (2013). Crystallographic study of multi-drug resistant HIV-1 protease lopinavir complex: mechanism of drug recognition and resistance. ***Biochemical and biophysical research communications***, *437*(2), 199–204. **2013**. (Related PDB ID: **4L1A**).

    Published: Liu, Z., Yedidi, R. S., Wang, Y., Dewdney, T. G., Reiter, S. J., Brunzelle, J. S., Kovari, I. A., & Kovari, L. C. (2013). Insights into the mechanism of drug resistance: X-ray structure analysis of multi-drug resistant HIV-1 protease ritonavir complex. ***Biochemical and biophysical research communications***, *431*(2), 232–238. **2013.** (Related PDB ID: **4EYR**).

    Published: Liu, Z., Wang, Y., Yedidi, R. S., Dewdney, T. G., Reiter, S. J., Brunzelle, J. S., Kovari, I. A., & Kovari, L. C. (2013). Conserved hydrogen bonds and water molecules in MDR HIV-1 protease substrate complexes. ***Biochemical and biophysical research communications***, *430*(3), 1022–1027. **2013**.

    Published: Liu, Z., Wang, Y., Yedidi, R. S., Brunzelle, J. S., Kovari, I. A., Sohi, J., Kamholz, J., & Kovari, L. C. (2012). Crystal structure of the extracellular domain of human myelin protein zero. ***Proteins***, *80*(1), 307–313. **2012.** (Related PDB ID: **3OAI**).

- **Carrie O' Connor:** Ph.D. Biochemistry, Wayne State Medical School, Detroit, MI **U.S.A**.
  - *Project Title:* NMR-HSQC peak assignments for ^{15}N-labeled multidrug-resistant clinical isolate-769 HIV-1 protease to understand the protein-ligand dynamics.

    Published: Yedidi, R. S., Muhuhi, J. M., Liu, Z., Bencze, K. Z., Koupparis, K., **O'Connor, C. E.**, Kovari, I. A., Spaller, M. R., Kovari, L. C. Design, synthesis and evaluation of a potent substrate analog inhibitor identified by scanning Ala/Phe mutagenesis, mimicking substrate co-evolution, against multidrug-resistant HIV-1 protease. ***Biochem Biophys Res Commun.*** 438: 703-708, **2013**.

- **Monica Bame:** Ph.D. Biochemistry, Wayne State Medical School, Detroit, MI **U.S.A**.
  - Journal club: Applications of combined Quantum Mechanics and Molecular Mechanics protocols.

SELECTED PUBLICATIONS

1. Addala, S., Vissapragada, M., Aggunna, M., Mukala, N., Lanka, M., Gampa, S., Sodasani, M., Chintalapati, J., Kamidi, A., Veeranna, R. P., **Yedidi, R. S.*** Success of Current COVID-19 Vaccine Strategies vs. the Epitope Topology of SARS-CoV-2 Spike Protein-Receptor Binding Domain (RBD): A Computational Study of RBD Topology to Guide Future Vaccine Design. **Vaccines. 2022**; 10(6):841. (*Corresponding author)

2. Amano, M., **Yedidi, R. S.**, Salcedo-Gomez, P. M., Hayashi, H., Hasegawa, K., Martyr, C. D., Ghosh, A. K., Mitsuya, H. Fluorine Modifications Contribute to Potent Antiviral Activity against Highly Drug-Resistant HIV-1 and Favorable Blood-Brain Barrier Penetration Property of Novel Central Nervous System-Targeting

HIV-1 Protease Inhibitors *In Vitro*. **Antimicrob Agents Chemother.**, 66(2):e0171521, **2022**. (Related PDB IDs: **6UWB** and **6UWC**).

3. Amano, M., Salcedo-Gomez, P. M., **Yedidi, R. S.**, Zhao, R., Hayashi, H., Hasegawa, K., Nakamura, T., Martyr, C. D., Ghosh, A. K., Mitsuya, H. Novel central nervous system (CNS)-targeting protease inhibitors for drug-resistant HIV infection and HIV-associated CNS complications. **Antimicrob Agents Chemother.**, 63:(7), pii:e00466-19, **2019**. (Related PDB IDs: **6D0E** and **6D0D**).

4. Sasidharan, P., Balo, A. R., Enenkel, C., **Yedidi, R. S.*** Comparative *in silico* inter-spin distance analysis of IDSL spin labels modeled on lysozyme mutants against experimentally determined DEER distance measurements. **Springer LNCS**, Conference Proceedings **2018**. (*Corresponding author).

5. Bandyopadhyay, A., VanEps, N., Eger, B. T., Rauscher, S., **Yedidi, R. S.**, Moroni, T., West, G. M., Robinson, K. A., Griffin, P. R., Mitchell, J. A., Ernst, O. P. A novel polar core and weakly fixed C-tail in squid arrestin provide new insight into interaction with rhodopsin. **J Mol Biol.**, 430:4102-4118, **2018**. (Related PDB ID: **6BK9**).

6. Aoki, M., Hayashi, H., Kalapala, V. R., Das, D., Higashi-Kuwata, N., Bulut, H., Aoki-Ogata, H., Takamatsu, Y., **Yedidi, R. S.**, Davis, D. A., Hattori, S-I., Nishida, N., Hasegawa, K., Takamune, N., Nyalapatla, P. R., Osswald, H. L., Yarchoan, R., Misumi, S., Ghosh, A. K., Mitsuya, H. A Novel Protease Inhibitor Overcomes HIV-1 Resistance with Unprecedented Potency. **eLife**, ;6. pii: e28020. doi: 10.7554/eLife.28020, **2017**. (Related PDB IDs: **5TYR** and **5TYS**).

7. Amano, M., Salcedo-Gomez, P. M., **Yedidi, R. S.**, Delino, N. S., Nakata, H., Nakamura, T., Kalapala, V. R., Ghosh, A. K., Mitsuya, H. GRL-09510, a unique bridged-Tp-THF derivative ligand-containing HIV-1 protease inhibitor, maintains its favorable antiviral activity against highly-drug-resistant HIV-1 variants in vitro. **Nature Scientific Reports**, 7(1):12235. doi: 10.1038/s41598-017-12052-9, **2017**. (Related PDB ID: **5V4Y**).

8. Gu, Z. C., Wu, E., Sailer, C., Jando, J., Styles, E., Eisenkolb, I., Kuschel, M., Bitschar, K., Wang, X., Huang, L., Vissa, A., Yip, C. M., **Yedidi, R. S.**, Friesen, H., & Enenkel, C. (2017). Ubiquitin orchestrates proteasome dynamics between proliferation and quiescence in yeast. **Molecular biology of the cell**, 28(19), 2479–2491, **2017**.

9. **Yedidi, R. S.**, Wendler, P., Enenkel, C. AAA-ATPases in protein degradation. **Front. Mol. Biosci.** 4:42, doi: 10.3389/fmolb.2017.00042, **2017**.

10. **Yedidi, R. S.**, Fatehi, A., Enenkel, C. Proteasome dynamics between proliferation and quiescence stages of Saccharomyces cerevisiae. **Crit. Rev. Biochem. Mol. Biol.** 51:497-512, **2016**.

11. Amano, M., Salcedo-Gomez, P. M., Zhao, R., **Yedidi, R. S.**, Das, D., Haydar, B., Nicole, S. D., Reddy, S. V., Ghosh, A. K., Mitsuya, H. A modified P1 moiety enhances in vitro antiviral activity against various multi-drug-resistant HIV-1 variants and in vitro CNS penetration properties of a novel nonpeptidic protease inhibitor, GRL-10413. **Antimicrob Agents Chemother.**, 60 (12):7046-7059, **2016**. (Related PDB ID: **3KAO**).

12. Aoki, M., Hayashi, H., **Yedidi, R. S.**, Martyr, C. D., Takamatsu, Y., Aoki-Ogata, H., Nakamura, T., Nakata, H., Das, D., Yamagata, Y., Ghosh, A. K., Mitsuya, H. C5-modified tetrahydropyrano-tetrahydrofuran -derived protease inhibitors (PIs) exert potent inhibition of the replication of HIV-1 variants highly resistant to various PIs, including darunavir. **J Virol.** 90: 2180-2194, **2015**. (Related PDB IDs: **5COK**, **5CON**, **5COO** and **5COP**).

13. **Yedidi, R. S.**, Proteasa, G., Martin, P. D., Liu, Z., Vickrey, J. F., Kovari, I. A., Kovari, L. C. A multi-drug resistant HIV-1 protease is resistant to the dimerization inhibitory activity of TLF-PafF. **J Mol Graph Model.** 53: 105-111, **2014**. (Related PDB ID: **4NKK**).

14. **Yedidi, R. S.**, Garimella, H., Aoki, M., Aoki-Ogata, H., Desai, D. V., Chang, S. B., Davis, D. A., Fyvie, S. W., Kaufman, J. D., Smith, D. W., Das, D., Wingfield, P. T., Maeda, K., Ghosh, A. K., Mitsuya, H. A conserved hydrogen-bonding network of P2 bis-tetrahydrofuran-containing HIV-1 protease inhibitors (PIs) with protease active-site amino acid backbone aids in their activity against PI-resistant HIV. **Antimicrob Agents Chemother.**, 58:3679-3688, **2014**. (Related PDB IDs: **4NJS**, **4NJT**, **4NJU** and **4NJV**).

15. **Yedidi, R. S.**, Liu, Z., Kovari, I. A., Woster, P. M., Kovari, L. C. P1 and P1' para-fluoro phenyl groups show enhanced binding and favorable predicted pharmacological properties: structure – based virtual screening of extended lopinavir analogs against multidrug resistant HIV-1 protease. **J Mol Graph Model.** 47: 18-24, **2014**.

16. **Yedidi, R. S.**, Maeda, K., Fyvie, W. S., Steffey, M., Davis, D. A., Palmer, I., Aoki, M., Kaufman, J. D., Stahl, S. J., Garimella, H., Das, D., Wingfield, P. T., Ghosh, A. K., Mitsuya, H. P2' benzene carboxylic acid moiety is associated with decrease in cellular uptake: evaluation of novel nonpeptidic HIV-1 protease inhibitors containing P2 bis-tetrahydrofuran moiety. **Antimicrob. Agents Chemother.** 57: 4920-4927, 2013. (Related PDB IDs: **4HLA**, **4I8W** and **4I8Z**).

17. **Yedidi, R. S.**, Muhuhi, J. M., Liu, Z., Bencze, K. Z., Koupparis, K., O'Connor, C. E., Kovari, I. A., Spaller, M. R., Kovari, L. C. Design, synthesis and evaluation of a potent substrate analog inhibitor identified by scanning Ala/Phe mutagenesis, mimicking substrate co-evolution, against multidrug-resistant HIV-1 protease. **Biochem Biophys Res Commun.** 438: 703-708, **2013**.

18. Liu, Z., **Yedidi, R. S.**, Wang, Y., Dewdney, T. G., Reiter, S. J., Brunzelle, J. S., Kovari, I. A., Kovari, L. C. Crystallographic study of multi-drug resistant HIV-1 protease lopinavir complex: mechanism of drug recognition and resistance. **Biochem Biophys Res Commun.** 437: 199-204, **2013**. (Related PDB ID: **4L1A**).

19. Liu, Z., **Yedidi, R. S.**, Wang, Y., Dewdney, T. G., Reiter, S. J., Brunzelle, J. S., Kovari, I. A., Kovari, L. C. Insights into the mechanism of drug resistance: X-ray structure analysis of multi-drug resistant HIV-1 protease ritonavir complex. **Biochem Biophys Res Commun.** 431: 232-238, **2013**. (Related PDB ID: **4EYR**).

20. Liu, Z., Wang, Y., **Yedidi, R. S.**, Dewdney, T. G., Reiter, S. J., Brunzelle, J. S., Kovari, I. A., Kovari, L. C. Conserved hydrogen bonds and water molecules in MDR HIV-1 protease substrate complexes. **Biochem Biophys Res Commun.** 430: 1022-1027, **2013**.

21. **Yedidi, R. S.***, Liu, Z., Wang, Y., Brunzelle, J. S., Kovari, I. A., Woster, P. M., Kovari, L. C., Gupta, D. Crystal structures of multidrug-resistant HIV-1 protease in complex with two potent anti-malarial compounds. **Biochem Biophys Res Commun.** 421: 413-417, 2012. (Related PDB IDs: **3R0W** and **3R0Y**). (*Corresponding author).

22. Liu, Z., Wang, Y., **Yedidi, R. S.**, Brunzelle, J. S., Kovari, I. A., Sohi, J., Kamholz, J., Kovari, L. C. Crystal structure of the extracellular domain of human myelin protein zero. **Proteins.** 80: 307-313, 2012. (Related PDB ID: **3OAI**).

23. **Yedidi, R. S.**, Proteasa, G., Martinez, J. L., Vickrey, J. F., Martin, P. D., Wawrzak, Z., Liu, Z., Kovari, I. A., Kovari, L. C. Contribution of the 80s loop of HIV-1 protease to the multidrug-resistance mechanism:

crystallographic study of MDR769 HIV-1 protease variants. **Acta Crystallogr D Biol Crystallogr.** 67: 524-532, 2011. (Related PDB IDs: **3PJ6**, **3OQD**, **3OQA** and **3OQ7**).

24. Ide, K., Aoki, M., Amano, M., Koh, Y., **Yedidi, R. S.**, Das, D., Leschenko, S., Chapsal, B., Ghosh, A. K., Mitsuya, H. Novel HIV-1 protease inhibitors (PIs) containing a bicyclic P2 functional moiety, tetrahydropyrano-tetrahydrofuran, that are potent against multi-PI-resistant HIV-1 variants. **Antimircrob. Agents Chemother.** 55: 1717-1727, **2011**.

25. Gupta, D., **Yedidi, R. S.**, Varghese, S., Kovari, L. C., Woster, P. M. Mechanism-based inhibitors of the aspartyl protease plasmepsin II as potential antimalarial agents. **J. Med. Chem.** 53: 4234-4247, **2010**.

26. Ge, Y., Dombkowski, A. A., LaFiura, K. M., Tatman, D., **Yedidi, R. S.**, Stout, M. L., Buck, S. A., Massey, G., Becton, D. L., Weinstein, H. J., Ravindranath, Y., Matherly, L. H., Taub, J. W. Differential gene expression, GATA1 target genes, and the chemotherapy sensitivity of syndrome megakaryocytic leukemia. **Blood.** 107: 1570-1581, **2006**.

ADDITIONAL PUBLICATIONS

1. Nerusu, V. R. D., Aggunna, M. and Yedidi, R.S. (2022). Testing the feasibility of using the common laboratory strain *E. coli* DH5α as a model system to study clarithromycin-resistance in *Helicobacter pylori*. ***TCABSE-J***, Vol. 1, Issue 4:28-34. Epub: Oct5th , **2022**. (*Corresponding author).

2. Maru, K., Mukala, N., Aggunna, M. and **Yedidi, R.S.*** Evaluation of genotoxicity caused by the carcinogenic benzo[a]pyrene, a common ingredient of Indian tobacco chew, using a bacterial gene expression model. (2022). ***TCABSE-J***, Vol. 1, Issue 4:1-8. Epub: Oct5th , **2022**. (*Corresponding author).

3. Lanka, M., Sodasani, M. and **Yedidi, R.S.*** (2022).Novel biophysical strategy for the delivery of therapeutic microRNA molecules for Cancer and infectious diseases treatment. ***TCABSE-J***, Vol. 1, Issue 4:9-17. Epub: Oct5th , **2022**. (*Corresponding author).

4. Keerthi, R.S., Chintalapati, J. and **Yedidi, R.S.*** (2022). *In vitro* biological assay design for the inhibition of the matrix metalloproteinase, Collagenase type-1, using ethylenediaminetetraacetic acid, a metal ion chelator. ***TCABSE-J***, Vol. 1, Issue 4:18-21. Epub: Oct5th , **2022**. (*Corresponding author).

5. Posimsetti, M., Sanapala, S., Vissapragada, M. and **Yedidi, R.S.** (2022) Design of a pixel-based quantification method for in vitro colorimetric enzyme assay to evaluate enzyme inhibition in a dose-dependent manner. ***TCABSE-J***, Vol. 1, Issue 4:22-27. Epub: Oct5th , **2022**. (*Corresponding author).

6. Thokala, R. and **Yedidi, R.S.** (2022). Survey of the janus kinase-1 (JAK-1) transcript variants and protein isoforms of JAK-1 to determine its druggability for acute lymphoid leukemia treatment. ***TCABSE-J***, Vol. 1, Issue 4: 36-41. Epub: Oct5th , **2022**. (*Corresponding author).

7. Aggunna, M., Grandhi, A.V.K.S. and **Yedidi, R.S.*** (2022). Artistic representation of Scientific data: prediction of mutant SARS-CoV-2 viral fitness based on the viral spike protein coding mRNA stability. ***TCABSE-J***, Vol. 1, Issue 3:1-3. Epub: Apr 2nd , **2022**. (*Corresponding author).

8. Gampa, S., Aggunna, M., Grandhi, A., Adduri, V., Ayithamsetti, P., Korabu, M., Addala, S., Vissapragada, M., Palakurty, M. and **Yedidi, R.S.*** (2022). Increase in the predicted mRNA stability of certain SARS CoV-2 mutant spike proteins compared to wild type may pose potential risk to vaccines. ***TCABSE-J***, Vol. 1, Issue 3:4-9. Epub: Apr2nd , **2022**. (*Corresponding author).

9. Aggunna, M. and **Yedidi, R.S.*** (2022). *In silico* quantitative structure-activity relationship analysis of a highly potent experimental HIV-1 protease inhibitor, GRL10413. ***TCABSE-J***, Vol. 1, Issue 3:10-17. Epub: Apr2nd, **2022**. (*Corresponding author).

10. Chintalapati, J., Tula, S. and **Yedidi, R.S.*** (2022) Screening the microRNA-25 target database revealed FBXW7 as one of its top onco-target hits towards potential anti-cancer therapeutic design. ***TCABSE-J***, Vol. 1, Issue 3:18-30. Epub: Apr2nd , **2022**. (*Corresponding author).

11. Regani, T., Jalaparthi, H., Chalapathi, B., Yegireddi, V., Pilla, V., Chandaka, A., Gollapalli, D., Vuriti, M., Mandapati, T., Raghu Bapiraju M.S., Sagi, A., Pemmaraju, P.L., Shaik, I. and **Yedidi, R.S.*** (2022). Evaluation of structural deviations in HIV-1 gp-120 clinical mutant models to guide the HIV-vaccine design towards passive immunization. ***TCABSE-J***, Vol. 1, Issue 3:31-34. Epub: Apr 2nd, **2022**. (*Corresponding author).

12. Mukala, N. and **Yedidi, R.S.*** (2022). *In vitro* assay design using chicken liver extracts to study the CYP450-mediated metabolism of drugs & pharmaceuticals: a cheaper alternative for laboratories. ***TCABSE-J***, Vol. 1, Issue 3:35-41. Epub: Apr2nd , **2022**. (*Corresponding author).

13. Sheik, R., Vangalapudi, H. and **Yedidi, R.S.*** (2022). Sequence coverage and model completion using template-based protein structure prediction with and without de novo structure prediction protocols. ***TCABSE-J***, Vol. 1, Issue 3:40-43. Epub: Apr 2nd , **2022**. (*Corresponding author).

14. Vissapragada, M. and **Yedidi, R.S.*** (2021). Design and development of synthetic bacteria with built in genetic circuits for plastics biodegradation. ***TCABSE-J***, Vol. 1, Issue 2:9-11. Epub: Oct15 th , **2021**. (*Corresponding author).

15. Addala, S. and **Yedidi, R.S.*** (2021). Endometrium-derived menstrual stem cells as a potential source of adult stem cells for organoid development. ***TCABSE-J***, Vol. 1, Issue 2:12-14. Epub: Oct15 th , **2021**. (*Corresponding author).

16. **Yedidi, R.S.*** (2021). Binding profile of VX-478 in the active site of a multidrug-resistant HIV-1 protease, an X-ray crystal structure analysis. ***TCABSE-J***, Vol. 1, Issue 2:15-17. Epub: Oct15 th , **2021**. (Related PDB ID: **4RVJ**). (*Corresponding author).

17. Lanka, M. and **Yedidi, R.S.*** (2021). Novel strategies for targeted delivery of therapeutic microRNA molecules. ***TCABSE-J***, Vol. 1, Issue 2:18-20. Epub: Oct15th , **2021**. (*Corresponding author).

18. Chintalapati, J. and **Yedidi, R.S.*** (2021). Advances in artificial intelligence-based microbiome studies have potential implications in economic precision medicine regimens. ***TCABSE-J*** Vol. 1, Issue 2:21-23. Epub: Oct 15th , **2021**. (*Corresponding author).

19. Mukala, N. and **Yedidi, R.S.*** (2021). The immune-booster strategy, IDIOMA: Infectious diseases immunomics meta-analysis. ***TCABSE-J***, Vol. 1, Issue 2:25-27. Epub: Oct15 th , **2021**. (*Corresponding author).

20. Sodasani, M. and **Yedidi, R.S.*** (2021). Leveraging the protein liquid-liquid phase separation droplets as potential drug delivery vehicles. ***TCABSE-J***, Vol. 1, Issue 2:28-30. Epub: Oct15 th , **2021**.(*Corresponding author).

21. Addala, S. and **Yedidi, R.S.*** (2021). Potential role of vaginal microbiome on the viability of endometrium-derived stem cells for organoid development. ***TCABSE-J***, Vol. 1, Issue 2:31-32. Epub: Oct15th , **2021**. (*Corresponding author).

22. Kamidi, A. and **Yedidi, R.S.*** (2021). Chemical biology-based strategies to stabilize the secondary structure of dynamic ceRNA molecules for detection and activation of p53 gene in colorectal cancer. ***TCABSE-J***, Vol. 1, Issue 2:35-37. Epub: Oct15th , **2021**. (*Corresponding author).

23. Vissapragada, M., Addala, S., Grandhi, A., Gampa, S. and **Yedidi, R.S.*** (2021). Analysis of the wild type SARS-CoV-2 spike protein-mRNA secondary structure stability to predict viral fitness. ***TCABSE-J***, Vol. 1, Issue 2:38-40. Epub: Oct15th , **2021**. (*Corresponding author).

24. Chintalapati, J. and **Yedidi, R.S.*** (2021). Promoting the post COVID-19 alveolar regeneration by targeting cellular signaling pathways through small molecule intervention. ***TCABSE-J***, Vol. 1, Issue 1:1-3. Epub: Apr13 th , **2021**. (*Corresponding author).

25. Regani, T., Jalaparthi, H., Chalapathi, B. and **Yedidi, R.S.*** (2021). Structural deviations of mutant HIV-1 glycoprotein-120 (gp120) compared to the wild type gp120 explain the failure of passive immunization. ***TCABSE-J***, Vol. 1, Issue 1:6-8. Epub: Apr13th , **2021**. (*Corresponding author).

26. Buddana, L., Katragadda, V., Badgu, N. and **Yedidi, R.S.*** (2021). Targeting the TIMPs with PROTAC-based small molecules as a potential therapeutic approach for Liver cirrhosis treatment. ***TCABSE-J***, Vol. 1, Issue 1:9-11. Epub: Apr 13th , **2021**. (*Corresponding author).

27. Vissapragada, M., Addala, S., Sodasani, M. and **Yedidi, R.S.*** (2021). Major structural deviations in the receptor binding domain of SARS-CoV-2 spike protein may pose threat to the existing vaccines. ***TCABSE-J***, Vol. 1, Issue 1:12-14. Epub: Apr 13th , **2021**. (*Corresponding author).

28. Aggunna, M. and **Yedidi, R.S.*** (2021). HelicoTAC © , a PROTAC-based small molecule targeting the virulence factor Cag A of H. pylori as a potential therapeutic for gastritis and gastric cancers. ***TCABSE-J***, Vol. 1, Issue 1:15-17. Epub: Apr13th , **2021**. (*Corresponding author).

29. **Yedidi, R.S.*** (2020). Combination of anti-asthmatics with remdesivir may reduce the necessity for the usage of ventilators in severe COVID-19 cases including the elderly. ***TCABSE-J*** Spl. issue 1:1-2. Epub: Oct25 th , **2020**. (*Corresponding author).

30. Koppala, R.S., Vissapragada, M. and **Yedidi, R.S.*** (2020). Triplet codons to amino acids: Applications of machine learning approaches to protein translation made simple for college students. ***TCABSE-J*** Spl. issue 1:3-6. Epub: Oct25 th , **2020**. (*Corresponding author).

31. **Yedidi, R.S.*** (2020). X-ray crystal structure analysis of a multidrug-resistant variant of HIV-1 protease in complex with a chroman-4-amine containing protease inhibitor. ***TCABSE-J*** Spl. issue 1:9-10. Epub: Oct25 th , **2020**. (Related PDB ID: **4RVX**). (*Corresponding author).

32. Dadala, A., Katragadda, V., Badgu, N. and **Yedidi, R.S.*** (2020). Vantage point: New insights into the old enteric fever treatment by rescuing the host cell ubiquitin-proteasome system. ***TCABSE-J*** Spl. issue 1:15-16. Epub: Oct25 th , **2020**. (*Corresponding author).

33. Addala, S.N. and **Yedidi, R.S.*** (2020). Impact of COVID-19 on culture and society. ***TCABSE-J*** Spl. issue 1:17-21. Epub: Oct25 th , **2020**. (*Corresponding author).

34. Ramavarapu, S. and **Yedidi, R.S.*** (2020). CRISPR/Cas9 mediated intervention to target the host CD4 + T cells that are latently infected with HIV-1 genome. ***TCABSE-J*** Spl. issue 1:22-23. Epub: Oct25 th , **2020**. (*Corresponding author).

35. Aggunna, M. and **Yedidi, R.S.*** (2020). The OMICAS, Can-IT: Onco-Molecular Immunotherapeutic Constellation Analytics Spectrum in Cancer Immunotherapy. ***TCABSE-J*** Spl. issue 1:24-26. Epub: Oct25th, **2020**. (*Corresponding author).

36. Gandi, S. and **Yedidi, R.S.*** (2020). Mapping and analysis of cathepsin cleavage site distribution on the 3-D model of human thyroglobulin for potential inhibitor design. ***TCABSE-J*** Spl. issue 1:30-32. Epub: Oct 25th , **2020**. (*Corresponding author).

37. Chittipeddi, H., Katragadda, V., Badgu, N. and **Yedidi, R.S.*** (2020). Leveraging the active site steric hindrance for GTP hydrolysis in mutant K-Ras variants to achieve selectivity in kinase inhibitors for cervical cancer. ***TCABSE-J*** Spl. issue 1:33-35. Epub: Oct 25 th , **2020**. (*Corresponding author).

INVITED TALKS, WEBINARS & WORKSHOPS

2020-2022:

- **IIC Impact Lecture**, **Vikas Institute of Pharmaceutical Sciences**, Rajamahendravaram, AP. India.
  Title: Novel drug synthesis and delivery methods using Synthetic Biology.
- **National Pharmacy Week**, Pharmaceutical Sciences, **Andhra University**, Visakhapatnam, AP. India.
  Title: Solvent mapping in Drug Discovery.
- **National Workshop** conducted by **St. Joseph's College of Women**, Visakhapatnam, AP. India.
  Title: Insights into Bioinformatics tools and databases to analyze Biological data.
- **National Pharmacy Week**, **Sri Vishnu College of Pharmacy**, Bhimavaram, AP. India.
  Title: Future pharmaceutical formulations with a Biological twist.
- **Awareness workshop**, challenges of pandemics, **Gayatri Vidya Parishad**, Visakhapatnam, AP. India.
  Title: The Pandemics.
- **International webinar on COVID-19** challenges, preparedness & Management from a global perspective, **Visakha Govt. Degree College for Women**, Visakhapatnam, AP. India.
  Title: Facts about coronavirus, vaccines and reliability.
- **Workshop** on CRISPR-Cas9 technology, **TCABS-E**, Rajamahendravaram, AP India.
  Title: Basics and applications of CRISPR-Cas9 technology.
- **Webinar on the Vaccines**-Life Saving Drops, **St. Theresa's College for Women**, Eluru, AP. India.
  Title: Vaccines: Design, administration and their success with a focus on COVID-19.
- **Workshop** on ML and AI for Science students, **TCABS-E**, Rajamahendravaram, AP India.
  Title: Basics in Machine Learning for Artificial Intelligence in Biomedical Research.
- **National seminar** Biotechnology, **Dantuluri Dantuluri Narayana Raju College**, Bhimavaram, AP. India.
  Title: Genetic Engineering vs. Genome Editing.
- **National** level one day **webinar**, **Krishna University**, Machilipatnam, AP. India.
  Title: COVID-19 treatment options.
- **Workshop on Bioinformatics, S.K.B.R. College**, Amalapuram, AP. India.
  Title: Navigating through the NCBI database for various Bioinformatics tools.
- **Seminar** for the U.G. Chemistry students, **Aditya Degree College**, Visakhapatnam, AP. India.

Title: Medicinal Chemistry applications in Drug Discovery.

- **Seminar** on Biotechnology for P.G. students, **S.K.R. College for Women**, Rajamahendravaram, AP. India.
  Title: Basics of Biotechnology: Cloning, protein production and cell culture.

2015-2019:

- Biotechnology **seminar, BMS College for Women**. Bangalore, KA. India.
  Title: Genome editing using CRISPR/Cas9.
- **DBT-India Popular Lecture, Garden City University**. Bangalore, KA. India.
  Title: Multi-drug-resistance in HIV/AIDS.
- **Seminar, Institute for Stem cell Science and Regenerative Medicine**, NCBS, Bangalore, KA. India.
  Title: Applications of structural biology in small molecule drug discovery: HIV-1 protease inhibitors.
- **National workshop** on Biomass to Bioenergy. **Govt. College, Rajahmundry**, AP. India.
  Title: Genetic engineering and biotechnology in biomass to bioenergy.
- **Alumnus seminar**, Dept. of Chemistry, **Govt. College, Rajahmundry**, AP. India.
  Title: Drug Discovery in a nutshell.
- **High Performance Computing Symposium.** Queen's University, ON. **Canada**.
  Title: Comparative *in silico* inter-spin distance analysis of IDSL spin labels modeled on lysozyme mutants against experimentally determined DEER distance measurements.
- **Departmental seminar**, University of Toronto. Toronto, ON. **Canada**.
  Title: Structural insights into the proteasome granule formation in quiescent yeast.
- **Drug Discovery seminar**, University of Toronto. Toronto, ON. **Canada**.
  Title: Solvent-mapping based drug discovery for HIV/AIDS.

2000-2015:

- **Seminar**, The NIH-Virology Interest Group, **National Institutes of Health,** Bethesda, MD. **USA**.
  Title: Structure-function evaluation of HIV-1 protease inhibitors.
- **Seminar**, The NCI-CCR-FYI Colloquium. Frederick, MD. **USA**.
  Title: Virologic and crystallographic studies of HIV-1 variants that are highly resistant to darunavir.
- **Seminar**, The 44th Mid Atlantic Macromolecular Crystallography Meeting and the 11th Annual SER-CAT Symposium. Shady Grove, MD. **USA**.
  Title: Structure-based drug design and structural-basis for drug resistance: HIV-1 protease inhibitors.
- **Delegate**, Foreign student/scholar Advisor's meeting hosted by DIS-NIH, Bethesda, MD. **USA**.
  Title: Cross-cultural programming at NIH: Focusing on the NIH-Fellows. (NOTE: Non-scientific talk).
- **Seminar, Center of Excellence**, NCI-HIV/AIDS-Think Tank meeting. Bethesda, MD. **USA**.
  Title: Structure-function evaluation of darunavir (DRV) with DRV-resistance HIV-1 protease variant.
- **Seminar**, The HIV and AIDS Malignancy Branch, CCR, **NCI**. Bethesda, MD. **USA**.
  Title: Structure-function evaluation of novel HIV-1 protease inhibitors.
- **Seminar**, National Cancer Institute, Frederick, MD. **USA**.
  Title: Understanding the structural-basis for drug resistance: HIV-1 protease inhibitors.
- **Seminar**, Department of Microbiology, **University of Michigan**, Ann Arbor, MI. **USA**.

Title: Structure-based drug design: HIV-1 protease inhibitors.

- **Seminar**, Mid Atlantic Graduate Student Symposium, Detroit, MI. **USA**.
  Title: Design, synthesis and evaluation of chemical probes against multidrug-resistant HIV-1 protease.

- **Seminar**, **Wayne State Medical School**, Detroit, MI. **USA**.
  Title: Structure-based drug-resistance mechanism in HIV-1 protease inhibitors.

FULL LIST OF ORAL & POSTER PRESENTATIONS

1998-Present:

- **Seminar** ABFR-2019, Rajamahendravaram, AP. India
  - Trends in medical biotechnology: PROTACs in oncology and beyond.
- **Seminar** Aditya Degree College, Rajamahendravaram, AP. India.
  - Biotechnology awareness for U.G. students and job opportunities.
- **Guest Lecture** S.K.R. College for Women, Rajamahendravaram.
  - Principles of practical biotechnology.
- **Public Lecture** General public in the city of Rajamahendravaram, AP. India.
  - IT vs. BT, Biotechnology awareness seminar.
- **Guest Lecture** Department of Zoology, S.K.R. College for Women, Rajahmundry, AP. India.
  - Title: Practical Molecular Biology techniques used in Biotechnology.
- **Seminar** Institute of Sciences, GITAM University, Visakhapatnam, AP. India.
  - Implications of Structure-based Drug-design.
- **Seminar** Department of Biochemistry, University of Toronto, Toronto, ON. Canada.
  - Structural insights of proteasome storage granules in quiescent yeast.
- **Poster** Summer poster event-2016. University of Toronto, Toronto, ON. Canada.
  - Structural analysis of proteasome storage granules obtained from quiescent *Saccharomyces cerevisiae.*
- **Oral presentation** Department of Biochemistry, University of Toronto, Toronto, ON. Canada.
  - Exploring the conformational flexibility of EPR-Spin labeled T4-lysozyme mutants.
- **Seminar** NCI-CCR-FYI-Seminar Series. Frederick, MD. USA.
  - “Flip that switch to inhibit HIV-1”: structure-function evaluation of chroman-4-amine containing HIV-1 protease inhibitors.
- **Poster** Intramural Research Festival, NIH, Bethesda, MD. USA.
  - GRL-0519, a novel HIV-1 protease inhibitor, has potent activity against a highly darunavir-resistant strain of HIV-1.
- **iPoster** Interscience conference on Antimicrobial Agents and Chemotherapy, Washington DC. USA.
  - Virological and Crystallographic study of a highly darunavir-resistant HIV-1 variant.
- **Poster** Structural Biology related to HIV/AIDS meeting, NIH, Bethesda, MD. USA.
  - Examining the genetic barrier of GRL008, a novel HIV-1 protease inhibitor designed using crystallographic solvent mapping technique.
- **Poster** NCI-CCR-FYI Colloquium. Frederick, MD. USA.
  - P2' carboxybenzene moiety is associated with decrease in cellular uptake: crystal structures and biological evaluation of novel HIV-1 protease inhibitors containing *bis*-tetrahydrofuran moiety.
- **Seminar** NCI-CCR-FYI-Seminar Series. Frederick, MD. USA.
  - “No entry to antiviral agent–007”: crystal structures and biological evaluation of GRL007 and GRL008 against wild type HIV-1 protease.
- **Poster** International AIDS Conference (*AIDS-2012*) Washington DC, USA.
  - Significant increase in the potency by *bis*-tetrahydrofuran (THF) and *tris*-THF moieties as P2 functional groups of HIV-1 protease inhibitors against a clinical isolate (A02) HIV-1 protease.

- **Poster** Experimental Biology-2008 meeting (*ASBMB*). San Diego, CA. USA.
  - Designing chemical probes against multidrug-resistant HIV-1 protease.
- **Oral presentation** Department of Biochemistry, Wayne State Medical School, Detroit, MI, USA.
  - *In-silico* lead compound optimization using mixed quantum mechanics and molecular mechanics protocols.
- **Oral presentation** Graduate Student Research Day, School of Medicine, Wayne State University, Detroit, MI, USA.
  - Structure-based design and synthesis of chemical probes against multidrug-resistant HIV-1 protease variants.
- **Poster** American Crystallographic Association Meeting, *ACA-2006*, Honolulu, HI, USA.
  - Crystal structures of multidrug-resistant HIV-1 protease in complex with substrate-mimic peptides.
- **Poster** Graduate Student Research Day, School of Medicine, Wayne State University, Detroit, MI, USA.
  - X-ray crystal structures of MDR769 clinical isolate HIV-1 protease variants.
- **Oral presentation** Department of Pharmacology, Wayne State Medical School, Detroit, MI, USA.
  - Structure-function studies of calpastatin, an endogenous calpain inhibitor, using NMR spectroscopy.
- **Oral presentation** Department of Pharmacology, Wayne State Medical School, Detroit, MI, USA.
  - X-ray crystallographic analysis of clinical patient isolates of HIV-1 protease variants.
- **Oral presentation** Department of Pharmacology, Wayne State Medical School, Detroit, MI, USA.
  - Structural and functional characterization of BST2 gene promoter.
- **Oral presentation** Department of Biological Sciences, Wayne State University, Detroit, MI, USA.
  - Blocking the replication of HIV-1 using a dominant negative approach.
- **Oral presentation** Department of Biological Sciences, Wayne State University, Detroit, MI, USA.
  - Nuclear – mitochondrial interactions in normal and diseased states.
- **Oral presentation** Department of Biological Sciences, Wayne State University, Detroit, MI, USA.
  - Random mutagenesis in the 690 loop of *E. coli* 16s rRNA.
- **Oral presentation** Department of Biological Sciences, Wayne State University, Detroit, MI, USA.
  - Co-localization of antibodies with antigens into the secretory vesicles.
- **Oral presentation** Department of Biological Sciences, Wayne State University, Detroit, MI, USA.
  - DNA purification methodologies: conventional vs. commercial.
- **Oral presentation** National Conference of Pharmacy, *Pharmacon-2000*, Andhra University, Visakhapatnam, India.
  - DNA Vaccines: applications and limitations.
- **Oral presentation** Department of Biotechnology, GITAM College of Science, Visakhapatnam, India.
  - Antigen processing and presentation: innate vs. acquired immunity.
- **Oral presentation** Department of Biotechnology, GITAM College of Science, Visakhapatnam, India.
  - Amino acid metabolism and intermediate metabolites.

RESEARCH COLLABORATIONS

2015-Present:

- **Central Food Technological Research Institute, Mysore, KA. India.**
  - COVID-19 vaccine design and efficiency of current vaccines.

    Published: Addala, S., Vissapragada, M., Aggunna, M., Mukala, N., Lanka, M., Gampa, S., Sodasani, M., Chintalapati, J., Kamidi, A., Veeranna, R. P., **Yedidi, R. S.*** Success of Current COVID-19 Vaccine Strategies vs. the Epitope Topology of SARS-CoV-2 Spike Protein-Receptor Binding Domain (RBD): A Computational Study of RBD Topology to Guide Future Vaccine Design. ***Vaccines.*** **2022**; 10(6):841. (*Corresponding author)

- **Kumamoto University, Kumamoto, Japan.**
  - Computational modeling of insertion mutants of HIV-1 capsid protein.

    Published: Amano, M., Bulut, H., Tamiya, S., Nakamura, T., Koh, Y., & Mitsuya, H. (2019). Amino-acid inserts of HIV-1 capsid (CA) induce CA degradation and abrogate viral infectivity: Insights for the dynamics and mechanisms of HIV-1 CA decomposition. ***Scientific reports***, *9*(1), 9806, **2019**.

  - Structure-function evaluation of highly potent HIV-1 protease inhibitors with improved bioavailability.

    Published: Amano, M., **Yedidi, R. S.**, Salcedo-Gomez, P. M., Hayashi, H., Hasegawa, K., Martyr, C. D., Ghosh, A. K., Mitsuya, H. Fluorine Modifications Contribute to Potent Antiviral Activity against Highly Drug-Resistant HIV-1 and Favorable Blood-Brain Barrier Penetration Property of Novel Central Nervous System-Targeting HIV-1 Protease Inhibitors *In Vitro*. ***Antimicrob Agents Chemother.***, 66(2):e0171521, **2022**. (Related PDB IDs: **6UWB** and **6UWC**).

    Published: Amano, M., Salcedo-Gomez, P. M., **Yedidi, R. S.**, Zhao, R., Hayashi, H., Hasegawa, K., Nakamura, T., Martyr, C. D., Ghosh, A. K., Mitsuya, H. Novel central nervous system (CNS)-targeting protease inhibitors for drug-resistant HIV infection and HIV-associated CNS complications. ***Antimicrob Agents Chemother.***, 63:(7), pii:e00466-19, **2019**. (Related PDB IDs: **6D0E** and **6D0D**).

    Published: Amano, M., Salcedo-Gomez, P. M., **Yedidi, R. S.**, Delino, N. S., Nakata, H., Nakamura, T., Kalapala, V. R., Ghosh, A. K., Mitsuya, H. GRL-09510, a unique bridged-Tp-THF derivative ligand-containing HIV-1 protease inhibitor, maintains its favorable antiviral activity against highly-drug-resistant HIV-1 variants in vitro. ***Nature Scientific Reports,*** 7(1):12235. doi: 10.1038/s41598-017-12052-9, **2017**. (Related PDB ID: **5V4Y**).

    Published: Amano, M., Salcedo-Gomez, P. M., Zhao, R., **Yedidi, R. S.**, Das, D., Haydar, B., Nicole, S. D., Reddy, S. V., Ghosh, A. K., Mitsuya, H. A modified P1 moiety enhances in vitro antiviral activity against various multi-drug-resistant HIV-1 variants and in vitro CNS penetration properties of a novel nonpeptidic protease inhibitor, GRL-10413. ***Antimicrob Agents Chemother.***, 60 (12):7046-7059, **2016**. (Related PDB ID: **3KAO**).

- **St. Joseph's College for Women, Visakhapatnam, AP. India.**
  - Antibacterial activity evaluation of natural compounds from plant extracts. Evaluated four compounds out of which only one compound showed potent activity. Data from this collaboration will be a part of doctoral thesis.

- **Chintalapati Satyavathi Devi St. Theresa's College for Women, Eluru, AP. India.**
  - DNA sequence analysis of bacterial 16S ribosomal RNA samples and identification of species. Analyzed the raw chromatograms of 12 samples and identified 6 different species. Data from this collaboration will be a part of doctoral thesis.

- **PhoreMost company, Cambridge University, U.K.**
  - Structural analysis of PROTEIN-i molecules in complex with their targets using X-ray crystallography & NMR.

    Published: Emery, A., Hardwick, B. S., Crooks, A. T., Milech, N., Watt, P. M., Mithra, C., Kumar, V., Giridharan, S., Sadasivam, G., Mathivanan, S., Sudhakar, S., Bairy, S., Bharatham, K., Hurakadli, M. A., Prasad, T. K., Kamariah, N., Muellner, M., Coelho, M., Torrance, C. J., McKenzie, G. J., … Venkitaraman, A. R. (2021). Target identification for small-molecule discovery in the FOXO3a tumor-suppressor pathway using a biodiverse peptide library. ***Cell chemical biology***, *28*(11), 1602–1615.e9. **2021.** (Related PDB ID: **7C8E**).

- **National Centre for Biological Sciences, Bengaluru, KA. India.**
  - Structural analysis of Malarial protein (Pathogen) in complex with human autophagy-related protein (Host) using X-ray crystallography.

    Published: Setua, S., Enguita, F. J., Chora, Â. F., Ranga-Prasad, H., Lahree, A., Marques, S., Sundaramurthy, V., & Mota, M. M. (2020). Disrupting Plasmodium UIS3-host LC3 interaction with a small molecule causes parasite elimination from host cells. ***Communications biology***, *3*(1), 688, **2020**.

- **Faculty of Medicine, University of Toronto, Toronto, ON. Canada.**
  - Electron paramagnetic resonance spectroscopy-based structural analysis of yeast proteasomal subunits. This data was used to apply for funding from the NSERC, Canada.
  - X-ray crystal structure analysis of squid arrestin.

    Published: Bandyopadhyay, A., VanEps, N., Eger, B. T., Rauscher, S., **Yedidi, R. S.**, Moroni, T., West, G. M., Robinson, K. A., Griffin, P. R., Mitchell, J. A., Ernst, O. P. A novel polar core and weakly fixed C-tail in squid arrestin provide new insight into interaction with rhodopsin. ***J Mol Biol.***, 430:4102-4118, **2018**. (Related PDB ID: **6BK9**)

  - Computational modeling and simulation analysis of EPR-spin labeled proteins.

    Published: Sasidharan, P., Balo, A. R., Enenkel, C., **Yedidi, R. S.*** Comparative *in silico* inter-spin distance analysis of IDSL spin labels modeled on lysozyme mutants against experimentally determined DEER distance measurements. ***Springer LNCS***, Conference Proceedings **2018**. (*Corresponding author).

- **Terrence Donnelly Centre for Cellular & Biomolecular Research, Toronto, ON. Canada.**
  - Super resolution (dSTORM) microscopy analysis of the eukaryotic proteasomal storage granules.

    Published: Gu, Z. C., Wu, E., Sailer, C., Jando, J., Styles, E., Eisenkolb, I., Kuschel, M., Bitschar, K., Wang, X., Huang, L., Vissa, A., Yip, C. M., **Yedidi, R. S.**, Friesen, H., & Enenkel, C. (2017). Ubiquitin orchestrates proteasome dynamics between proliferation and quiescence in yeast. **Molecular biology of the cell**, 28(19), 2479–2491, **2017**.

- **Department of Biochemistry, University of Toronto, ON. Canada.**
  - Structural analysis of a yeast proteasomal subunits interacting with ubiquitin using solution NMR spectroscopy. The data obtained was used to apply for funding from the NSERC, Canada.

- **Hospital for Sick Children, Toronto, ON. Canada.**
  - Solid-state NMR analysis of the eukaryotic proteasomal storage granules using ubiquitin as a probe to understand their structural organization. The data from this analysis was used to apply for funding from Health Canada.

- **Department of Chemistry, University of Toronto, ON. Canada.**
  - Photo-activatable peptide-based evaluation of internally disorder proteins that lead to the formation of biological liquid-liquid phase separations in the cell. The data from this work was used to apply for funding from the NSERC, Canada.

- **University of Potsdam, Potsdam. Germany.**
  - AAA-ATPases controlling the eukaryotic proteasomal dynamics in protein degradation.

    Published: Yedidi, R. S., Wendler, P., Enenkel, C. AAA-ATPases in protein degradation. ***Front. Mol. Biosci.*** 4:42, doi: 10.3389/fmolb.2017.00042, **2017**.

- **National Cancer Institute, Bethesda, MD. USA.**
  - Repurposing the HIV-1 protease inhibitors as anti-cancer therapeutics for Kaposi's Sarcoma. The preliminary data from this work was used for funding application from the NCI/NIH.

2000-2015:

- **Purdue University, Lafayette, IN. USA.**
  - Synthetic medicinal chemistry of HIV-1 protease inhibitors for further biological evaluation.

Published: Amano, M., Yedidi, R. S., Salcedo-Gómez, P. M., Hayashi, H., Hasegawa, K., Martyr, C. D., Ghosh, A. K., & Mitsuya, H. (2022). Fluorine Modifications Contribute to Potent Antiviral Activity against Highly Drug-Resistant HIV-1 and Favorable Blood-Brain Barrier Penetration Property of Novel Central Nervous System-Targeting HIV-1 Protease Inhibitors *In Vitro*. ***Antimicrobial agents and chemotherapy***, *66*(2), e0171521. **2022.** (Related PDB IDs: **6UWB** and **6UWC**).

Published: Amano, M., Salcedo-Gómez, P. M., Yedidi, R. S., Zhao, R., Hayashi, H., Hasegawa, K., Nakamura, T., Martyr, C. D., Ghosh, A. K., & Mitsuya, H. (2019). Novel Central Nervous System (CNS)-Targeting Protease Inhibitors for Drug-Resistant HIV Infection and HIV-Associated CNS Complications. ***Antimicrobial agents and chemotherapy***, *63*(7), e00466-19. **2019.** (Related PDB IDs: **6D0E** and **6D0D**).

Published: Aoki, M., Hayashi, H., Rao, K. V., Das, D., Higashi-Kuwata, N., Bulut, H., Aoki-Ogata, H., Takamatsu, Y., Yedidi, R. S., Davis, D. A., Hattori, S. I., Nishida, N., Hasegawa, K., Takamune, N., Nyalapatla, P. R., Osswald, H. L., Jono, H., Saito, H., Yarchoan, R., Misumi, S., … Mitsuya, H. (2017). A novel central nervous system-penetrating protease inhibitor overcomes human immunodeficiency virus 1 resistance with unprecedented aM to pM potency. ***eLife***, *6*, e28020. **2017.** (Related PDB IDs: **5TYR** and **5TYS**).

Published: Amano, M., Miguel Salcedo-Gómez, P., Yedidi, R. S., Delino, N. S., Nakata, H., Venkateswara Rao, K., Ghosh, A. K., & Mitsuya, H. (2017). GRL-09510, a Unique P2-Crown-Tetrahydrofuranylurethane -Containing HIV-1 Protease Inhibitor, Maintains Its Favorable Antiviral Activity against Highly-Drug-Resistant HIV-1 Variants in vitro. ***Scientific reports***, *7*(1), 12235. **2017.** (Related PDB ID: **5V4Y**).

Published: Amano, M., Salcedo-Gómez, P. M., Zhao, R., Yedidi, R. S., Das, D., Bulut, H., Delino, N. S., Sheri, V. R., Ghosh, A. K., & Mitsuya, H. (2016). A Modified P1 Moiety Enhances In Vitro Antiviral Activity against Various Multidrug-Resistant HIV-1 Variants and In Vitro Central Nervous System Penetration Properties of a Novel Nonpeptidic Protease Inhibitor, GRL-10413. ***Antimicrobial agents and chemotherapy***, *60*(12), 7046–7059. **2016.** (Related PDB ID: **3KAO**).

Published: Aoki, M., Hayashi, H., Yedidi, R. S., Martyr, C. D., Takamatsu, Y., Aoki-Ogata, H., Nakamura, T., Nakata, H., Das, D., Yamagata, Y., Ghosh, A. K., & Mitsuya, H. (2015). C-5-Modified Tetrahydropyrano-Tetrahydofuran-Derived Protease Inhibitors (PIs) Exert Potent Inhibition of the Replication of HIV-1 Variants Highly Resistant to Various PIs, including Darunavir. ***Journal of virology***, *90*(5), 2180–2194. **2015.** (Related PDB IDs: **5COK**, **5CON**, **5COO** and **5COP**).

Published: Yedidi, R. S., Garimella, H., Aoki, M., Aoki-Ogata, H., Desai, D. V., Chang, S. B., Davis, D. A., Fyvie, W. S., Kaufman, J. D., Smith, D. W., Das, D., Wingfield, P. T., Maeda, K., Ghosh, A. K., & Mitsuya, H. (2014). A conserved hydrogen-bonding network of P2 bis-tetrahydrofuran-containing HIV-1 protease inhibitors (PIs) with a protease active-site amino acid backbone aids in their activity against PI-resistant HIV. ***Antimicrobial agents and chemotherapy***, *58*(7), 3679–3688. **2014.** (Related PDB IDs: **4NJS**, **4NJT**, **4NJU** and **4NJV**).

Published: Yedidi, R. S., Maeda, K., Fyvie, W. S., Steffey, M., Davis, D. A., Palmer, I., Aoki, M., Kaufman, J. D., Stahl, S. J., Garimella, H., Das, D., Wingfield, P. T., Ghosh, A. K., & Mitsuya, H. (2013). P2' benzene carboxylic acid moiety is associated with decrease in cellular uptake: evaluation of novel nonpeptidic HIV-1 protease inhibitors containing P2 bis-tetrahydrofuran moiety. ***Antimicrobial agents and chemotherapy***, *57*(10), 4920–4927. **2013.** (Related PDB IDs: **4HLA**, **4I8W** and **4I8Z**).

Published: Ide, K., Aoki, M., Amano, M., Koh, Y., Yedidi, R. S., Das, D., Leschenko, S., Chapsal, B., Ghosh, A. K., & Mitsuya, H. (2011). Novel HIV-1 protease inhibitors (PIs) containing a bicyclic P2 functional moiety, tetrahydropyrano-tetrahydrofuran, that are potent against multi-PI-resistant HIV-1 variants. ***Antimicrobial agents and chemotherapy***, *55*(4), 1717–1727. **2011.**

- **Kumamoto Health Science University, Kumamoto, Japan.**
  - X-ray crystallographic analysis of novel HIV-1 protease inhibitors. Successfully completed and published the X-ray crystal structures. (PDB IDs: **5TYR**, **5TYS**, **5COK**, **5CON**, **5COO** and **5COP**).

- **Kumamoto University, Kumamoto, Japan.**
  - X-ray crystallographic analysis of novel HIV-1 protease inhibitors. Successfully completed and published the X-ray crystal structures. (PDB IDs: **6UWB**, **6UWC**, **5D0D**, **5D0E**, **5V4Y** and **5KAO**).

- **Life Sciences-Collaborative Access Team, Advanced Photon Source, Lemont, IL. USA.**
  - X-ray crystallographic analysis of a clinical patient isolate-A02 HIV-1 protease in complex with experimental inhibitors. Successfully completed and published the X-ray crystal structures. (PDB IDs: **4RVX**, **4RVJ** and **4RVI**).

- **SouthEast Regional Collaborative Access Team, Advanced Photon Source, Lemont, IL. USA.**
  - X-ray crystallographic analysis of novel HIV-1 protease inhibitors. Successfully completed and published the X-ray crystal structures. (PDB IDs: **5V4Y** and **5KAO**).

- **National Institute for Arthritis, Musculoskeletal and Skin diseases, Bethesda, MD. USA.**
  - Expression and purification of wild type and clinical isolates of HIV-1 protease variants for structure and function studies.

    Published: Yedidi, R. S., Garimella, H., Aoki, M., Aoki-Ogata, H., Desai, D. V., Chang, S. B., Davis, D. A., Fyvie, W. S., Kaufman, J. D., Smith, D. W., Das, D., Wingfield, P. T., Maeda, K., Ghosh, A. K., & Mitsuya, H. (2014). A conserved hydrogen-bonding network of P2 bis-tetrahydrofuran-containing HIV-1 protease inhibitors (PIs) with a protease active-site amino acid backbone aids in their activity against PI-resistant HIV. ***Antimicrobial agents and chemotherapy***, *58*(7), 3679–3688. **2014.** (Related PDB IDs: **4NJS**, **4NJT**, **4NJU** and **4NJV**).

    Published: Yedidi, R. S., Maeda, K., Fyvie, W. S., Steffey, M., Davis, D. A., Palmer, I., Aoki, M., Kaufman, J. D., Stahl, S. J., Garimella, H., Das, D., Wingfield, P. T., Ghosh, A. K., & Mitsuya, H. (2013). P2' benzene carboxylic acid moiety is associated with decrease in cellular uptake: evaluation of novel nonpeptidic HIV-1 protease inhibitors containing P2 bis-tetrahydrofuran moiety. ***Antimicrobial agents and chemotherapy***, *57*(10), 4920–4927. **2013.** (Related PDB IDs: **4HLA**, **4I8W** and **4I8Z**).

- **HIV and AIDS Malignancy Branch, National Cancer Institute, Bethesda, MD. USA.**
  - HPLC/MS-based cell penetration assays to understand the bioavailability of HIV-1 protease inhibitors.

    Published: Yedidi, R. S., Maeda, K., Fyvie, W. S., Steffey, M., Davis, D. A., Palmer, I., Aoki, M., Kaufman, J. D., Stahl, S. J., Garimella, H., Das, D., Wingfield, P. T., Ghosh, A. K., & Mitsuya, H. (2013). P2' benzene carboxylic acid moiety is associated with decrease in cellular uptake: evaluation of novel

nonpeptidic HIV-1 protease inhibitors containing P2 bis-tetrahydrofuran moiety. ***Antimicrobial agents and chemotherapy***, *57*(10), 4920–4927. **2013.** (Related PDB IDs: **4HLA**, **4I8W** and **4I8Z**).

- **Eugene Applebaum College of Pharmacy and Health Sciences, Wayne State University, Detroit, MI. USA.**
  - Computational modeling & repurposing of antimalarial compounds as antiHIV/AIDS compounds.

    Published: Gupta, D., **Yedidi, R. S.**, Varghese, S., Kovari, L. C., Woster, P. M. Mechanism-based inhibitors of the aspartyl protease plasmepsin II as potential antimalarial agents. ***J. Med. Chem.*** 53: 4234-4247, **2010**.

    Published: **Yedidi, R. S.***, Liu, Z., Wang, Y., Brunzelle, J. S., Kovari, I. A., Woster, P. M., Kovari, L. C., Gupta, D. Crystal structures of multidrug-resistant HIV-1 protease in complex with two potent anti-malarial compounds. ***Biochem Biophys Res Commun.*** 421: 413-417, **2012**. (Related PDB IDs: **3R0W** and **3R0Y**). (*Corresponding author).

- **Department of Biochemistry, Wayne State Medical School, Detroit, MI. USA.**
  - NMR-Spectroscopic evaluation of multidrug-resistant HIV-1 protease in complex with potent lead peptide inhibitor.

    Yedidi, R. S., Muhuhi, J. M., Liu, Z., Bencze, K. Z., Koupparis, K., O'Connor, C. E., Kovari, I. A., Spaller, M. R., Kovari, L. C. Design, synthesis and evaluation of a potent substrate analog inhibitor identified by scanning Ala/Phe mutagenesis, mimicking substrate co-evolution, against multidrug-resistant HIV-1 protease. ***Biochem Biophys Res Commun.*** 438: 703-708, **2013**.

- **Department of Chemistry, Dartmouth College, Hanover, NH. USA.**
  - Design and synthesis of potent peptide-inhibitors against multidrug-resistant HIV-1 protease.

    Yedidi, R. S., Muhuhi, J. M., Liu, Z., Bencze, K. Z., Koupparis, K., O'Connor, C. E., Kovari, I. A., Spaller, M. R., Kovari, L. C. Design, synthesis and evaluation of a potent substrate analog inhibitor identified by scanning Ala/Phe mutagenesis, mimicking substrate co-evolution, against multidrug-resistant HIV-1 protease. ***Biochem Biophys Res Commun.*** 438: 703-708, **2013**.

REVIEWER FOR SCIENTIFIC JOURNALS

2010-Present:

- Applied and Environmental Microbiology. (**American Society for Microbiology**).
- Antimicrobial Agents and Chemotherapy. (**American Society for Microbiology**).
- HIV/AIDS – Research and Palliative Care. (***Dove Medical Press***).
- Drug Design, Development and Therapy. (**Dove Medical Press**).
- British Journal of Pharmacology. (**John Wiley & Sons, Inc.**).

MEMBERSHIP IN SCIENTIFIC SOCIETIES & PROFESSIONAL ASSOCIATIONS

2010-Present:

- The International AIDS society.
- The American Crystallographic Association.

- The American Society for Microbiology.
- The Fellows & Young Investigators Steering Committee, CCR, NCI.
- The NIH-Visiting Fellows Committee & NIH-INDIA association.
- The NIH-Structural Biology Interest Group.
- The NIH-Virology Interest Group.

WORKSHOPS, SHORT COURSES & TECHNICAL TRAINING ATTENDED

2010-Present:

- **Workshop**, Center for Cancer Research, National Cancer Institute, Bethesda, MD. **USA**.
  Title: **X-ray Free Electron Laser**: The Biomedical Research Tool for Coming Decades.
- **Workshop**, office of Intramural Training and Education, NIH, Bethesda, MD. **USA**.
  Title: Successful **Mentoring**, **Grant Writing** & **Teaching** in a Medical School.
- **Workshop**, Center for Cancer Training, National Cancer Institute, Bethesda, MD. **USA**.
  Title: **Grants** and **Grantsmanship** (including **mock study section** and review of mini research proposals).
- **Workshop**, American Chemical Society at the NIH, Bethesda, MD. **USA**.
  Title: Advancing your career: **resume writing**, **communication skills** and **networking**.
- **Workshop**, Foundation for Advanced Education in the Sciences (FAES), NIH, Bethesda, MD. **USA**.
  Title: **Biophysical Methods** for Protein Interactions.
- **Short course**, Foundation for Advanced Education in the Sciences (FAES), NIH, Bethesda, MD. **USA**.
  Title: Synthesis and applications of **liposomes** for **drug delivery**.
- **Training**, American Crystallographic Association (ACA), Illinois Institute of Technology, Chicago, IL. **USA**.
  Details: Two weeks training in **macromolecular crystallography** at the Illinois Institute of Technology, with special **synchrotron data collection** training at the Advanced Photon Source, Argonne National Laboratory, IL.
- **Short course**, Department of Pharmacology, Wayne State Medical School, Detroit, MI. **USA**.
  Details: Four weeks training in **protein mass spectrometry MALDI-TOF** using tryptic digests of whole cell extracts.
- **Short course**, Department of Pharmacology, Wayne State Medical School, Detroit, MI. **USA**.
  Details: *In-silico* **modeling** of Clinical **Pharmacokinetics** and **Pharmacodynamics** of various drugs using **WinNonlin** software.
- **Training**, National Institute of General Medical Sciences, Michigan State University, Lansing, MI. **USA**.
  Details: Two weeks training in animal handling, animal surgery, pharmacology and systems biology at Michigan State University, MI.

ADMINISTRATIVE AND ENTREPRENEURIAL SKILLS

2006-Present:

- Founder, Principal Scientist and Lead Instructor at The Center for Advanced-Applied Biological Sciences

& Entrepreneurship (TCABS-E): planned and organized the Annual Biotechnology Festival of Rajahmundry for the years 2019, 2020 and 2021.

- Team Leader for Structural Biology at Centre for Chemical Biology and Therapeutics.
    - Manage a team of three postdocs, two research associates and technicians working on multiple in-house, academic and industrial collaborative projects.

- Founder of The Yedidi Institute of Discovery and Education (TyiDE). Secured funding for a startup company, TyiDE.

- *Member of the NIH Visiting Fellows Committee (VFC).*
    - Planned and organized the first and second annual "Immigration-101 symposium" at NIH (2013 & 2014).
    - Planned and organized the "Science Voices from Home" seminar to discuss career opportunities abroad for postdocs at NIH.
    - Planned and organized multiple VFC-brown bag sessions to discuss topics such as Immigration/visa issues and international funding opportunities for visiting fellows with the experts in the field at NIH.
    - Active member of planning and organization committee for the 2012-VFC-International opportunities expo at NIH.
    - Served as an advisor/mentor for the incoming new postdoctoral fellows at NIH to help them plan a better work-life balance by sharing my experiences.
    - Published multiple articles on various workshops/events in the VFC-Newsletter.

- *Member of the Fellows and Young Investigators (FYI) Steering Committee at the Center for Cancer Research (CCR), NCI.*
    - Planning committee member of the CCR-FYI-colloquium, 2013.
    - Designed and organized a workshop – "International opportunities and visa issues" at the CCR-FYI-colloquium, 2013.
    - Helped in planning and organizing the CCR-FYI career design/development seminar series in Bethesda, MD.
    - Co-chaired a workshop – "Making yourself marketable" focused on networking, self-evaluation & career planning for postdocs at the CCR-FYI-colloquium, 2012.
    - Published multiple articles in the CCR-FYI-Newsletter.

- *Member of the NIH-INDIA community at NIH.*
    - Organized the 2012-NIH-INDIA seminar series focused on the transition to faculty after postdoctoral training at NIH.

- *Graduate Student Representative, Department of Biochemistry and Molecular Biology, School of Medicine, Wayne State University.*
    - Helped a group of MBA students as the scientific advisor in the design and development of a business model to commercialize the intramural commodities (drugs, biologics and biomedical instrumentation).
    - Helped in planning and organization of the annual departmental "Orten lecture" followed by hosting a dinner for the honorable guests, Nobel Laureate, Dr. Kurt Wuthrich in 2007 and Dr. Michael Rossmann in 2008.
    - Member of the planning committee for the graduate student research day at the School of Medicine, Wayne State University in 2007.
    - Designed and organized a group discussion titled: "Darwin's theory of employment" which was popular among the undergraduate student interns.

SOCIAL & OUTREACH

2006-Present:

- Helped decorate a haunted house for a Halloween party for the kids at the NIH Childrens' Inn.
- The "International day at the Childrens' Inn at NIH".
- The "NIH-INDIA-Junior talents" event focused on kids of the employees at NIH, FDA and USUHS as an informal social gathering.
- Multiple social events such as dining out, social networking, etc. for the Visiting Fellows community at NIH.
- Planned and organized the departmental annual picnic and holiday party for the years 2006 to 2008 in the Department of Biochemistry and Molecular Biology, School of Medicine, Wayne State University.