

## CURRICULUM VITAE

**Grace Theresa Nicholas Ramena**  
Assistant Professor (Fish Pathology)  
University of Arkansas at Pine Bluff  
Dept. of Aquaculture and Fisheries  
1200 N. University Drive  
Pine Bluff, Arkansas-71601  
**Email:** ramenag@uapb.edu  
ramenagrace@gmail.com



**Phone:** Off: (870) 575 8137  
Lab: (870) 575 8034  
(870) 575 7126

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### **Education:**

- 2010 - 2015** - Ph.D. Medical Microbiology Immunology and Cell Biology.  
Major in Cancer Biology, SIU School of Medicine.
- 2007 - 2010** - M.S. Biology (concentration-Molecular and cell biology), University of Illinois at  
Springfield, Illinois.
- 2000 - 2002** - M.S. Aquaculture; Acharya Nagarjuna University, Guntur, India.
- 1997 - 2000** - B.S. Zoology, Aquaculture, Chemistry, and Botany; Acharya Nagarjuna  
University, Guntur, India.

### **Employment Background:**

- January 2017 - Current** - Assistant professor - Department of Aquaculture and Fisheries,  
University of Arkansas at Pine Bluff
- January 2017 - Current** - Fish Pathologist (Diagnostics/Extension) - University of Arkansas at  
Pine Bluff
- January 2017 - Current** - Research Committee Chair - Department of Aquaculture  
and Fisheries, University of Arkansas at Pine Bluff
- February 2017 - Current** - Research Committee Member for University of Arkansas at Pine  
Bluff
- June 2015 – Dec. 2016** - Post-doctoral research associate in the Department of  
Biochemistry and Molecular Biophysics, Washington University

School of Medicine at St. Louis

**June 2010 - May 2015** - Research Graduate Assistant, Southern Illinois University School of Medicine at Springfield

**January 2008 - May 2010** - Graduate Teaching Assistant, University of Illinois at Springfield

**July 2002 - August 2007** - Fish pathology experience: Senior laboratory in-charge and Pathologist in Fish /shrimp health clinic at Charoen Pokphand Aquaculture, India

### **Outreach/Extension:**

#### **Fish Pathologist at University of Arkansas at Pine Bluff**

- Assist Arkansas Aquaculture farmers with fish health diagnosis, water quality management, treatments to fish health problems and farm visits

### **Teaching Experience**

**2017- Current** Advisor and mentor for a M.S student.

**2017** GAQF 5300, Research Methods and Scientific Writing; University of Arkansas at Pine Bluff

**2010-2016** Trained undergraduate and graduate students in lab

**2008 – 2010** Teaching Assistant -BIO 351, Organismal Botany and BIO 311, Cell Biology University of Illinois at Springfield

### **Ongoing Research Projects/Research Interests:**

- Dysregulation of junctional complexes in the *Danio rerio* (zebrafish) skin, gill and gut epithelium in response to pathogenic insult and elicited immune response - Principal Investigator
- Antimicrobial activity of herbs and spices on *Flavobacterium columnare*; *Aeromonas hydrophila*; and *Edwardsiella ictaluri* - Principal Investigator
- Cytotoxicity of pure bioactive compounds - Principal Investigator
- Role of CLCAs and EVA in fish pathogenicity – zebrafish model - Principal Investigator

### **Peer Review Research Article Publications:**

- **Grace Ramena**, Yufang Yin, Yang Yu, Vijay Walia and Randolph C Elble. “CLCA2 Interactor EVA1 Is Required for Mammary Epithelial Cell Differentiation.” Plos One. 2016 Mar 1; PMID: 26930581. (Impact Factor: 3.54)
- Yu Yang, **Ramena Grace**, and Randolph Elble. “The role of cancer stem cell in relapse of solid tumors.” Frontiers in Bioscience. 2012 Jan 1; 4: 1528-41. PMID: 22201973. (Impact Factor: 4.43)
- Aarushi Sharma, **Grace Ramena**, Melissa McGovern, Louis Premkumar and Randolph C Elble. “CLCA2 modulates cytosolic calcium and activity of calcium-activated chloride channel Ano1.” (Manuscript under submission).

### **Research Abstract Publications:**

- **Grace N.T. Ramena**, Yufang Yin, Yang Yu, Vijay Walia and Randolph C. Elble. “CLCA2 interaction with EVA1 promotes mammary epithelial differentiation.” Cancer Research. 2016 July 15; DOI: 10.1158/1538-7445.AM2016-1677. (Impact Factor: 8.556)
- Aarushi Sharma, **Grace Ramena**, Louis Premkumar and Randolph C. Elble. “Human CLCA2 Modulates The Conductance Of ANO1 By Regulating Intracellular Calcium Level.” The FASEB Journal. 2016 April; Vol.30 no.1 Supplement 1224.44. (Impact Factor: 4.17)
- Randolph C. Elble **Grace Ramena**, and Vijay Walia. “CLCA2 interactor EVA1 maintains epithelial differentiation of HMEC.” Cancer Research. 2013 April 15; DOI: 10.1158/1538-7445.AM2013-LB-276. (Impact Factor: 9.284)

### **Honors/Awards/Assistantships:**

- Certificate of Excellence in Reviewing and Outstanding contribution to the Journal of Insights in Chest Diseases (2017)
- Reviewer Certificate for Outstanding Contribution to Journal of Translations Neurosciences(2017)

- **Third Place** for oral presentation at 25<sup>th</sup> Annual Trainee Research Symposium (SIU School of medicine - **2015**)
- **Second Place** for poster presentation (second author) at 24<sup>th</sup> Annual Trainee Research Symposium (SIU School of medicine - **2014**)
- **Second place** for best student journal club presentation in the department of medical microbiology, immunology and cell Biology (SIU School of medicine-**2013**)
- **Second place** for outstanding abstract and poster presentation at the Simmons cancer institute research symposium (SIU School of medicine-**2013**)
- **Travel award** for AACR meeting from Simmons cancer institute and MMICB department (SIU School of medicine-**2013**)
- **First place** in natural sciences for poster presentation at student arts and research Symposium (University of Illinois Springfield -**2012**)
- **Second place** for poster presentation at the 21<sup>st</sup> Annual Trainee Research Symposium (SIU – Carbondale -**2011**)
- Gerlinde Coates International **Student Grant** for M.S. research - \$500 (University of Illinois Springfield -**2009**)
- Adarsh Kumar International Student Scholarship for M.S. research - \$500 (University of Illinois Springfield -**2009**)
- Science division research grant for M.S. research - \$1000 (University of Illinois Springfield -**2009**)
- Graduate teaching assistantship in the department of Biology (University of Illinois Springfield -**2008 -2010**)
- **Second rank** in the M.S. examination in the department of Aquaculture (Acharya Nagarjuna University – **2002**)

#### **Professional Society Membership:**

- American Association of Cancer Research

- American Society for Clinical Oncology
- World Aquaculture Society

#### **Professional Activities at National Association/organizational meetings:**

- **Served as Judge and a facilitator** for Undergraduate Poster session in Research Forum on March 28<sup>th</sup>, 2017 at 30<sup>th</sup> Annual Showcase of Faculty, Staff and Students Research Forum at UAPB
- **Session Chair/Moderator** for Family, Youth, Community and Economic development Session on April 3rd, 2017, at ARD Biennial meeting in Atlanta, Georgia
- **Served as Judge** for Undergraduate Posters in “Animal Health and Production and Animal Products” session, on April 2nd, 2017, at ARD Biennial meeting in Atlanta, Georgia

#### **Editorial Board Services:**

- Journal of Cancer Biology and Therapeutic Oncology
- Research Journal of Apoptosis and Cell Death

#### **Reviewer for Peer Review Journals:**

- Journal of Community Medicine & Health Education
- Journal of Advanced Techniques in Biology and Medicine
- Journal of Cell and Developmental Biology
- Microbiology: An International Journal
- Journal of Obesity & weight loss Therapy
- Journal of Fungal Genomics and Biology
- International Journal of Pure and Applied Zoology
- Journal of BioMed Research International
- Journal of Biomedical Research
- Journal of Zoological Sciences
- Journal of Biological Sciences
- Journal of Molecular Biology: Open Access
- Journal of Drug and Chemical Toxicology
- Journal of Clinical and Medical Case Studies
- Journal of Advances in Crop Science and Technology
- International Journal of Neurorehabilitation
- Journal of Aquaculture Research and Development
- Journal of Pharmaceutical Microbiology

- Journal of Environmental and Analytical Toxicology
- Journal of Traditional Medicine Clinical Naturopathy
- Research Journal of Biology
- Journal of Fertilizers and Pesticides
- Journal of Intensive and Critical Care
- International Journal of Applied Science - Research and Review
- Journal of Translational Neurosciences
- Journal of quality in Primary Care
- Journal of Oceanography and Marine Research
- Journal of Bioterrorism Biodefence
- Journal of Medical Sciences
- Journal of Osteoporosis and Physical Activity
- Journal of Earth Science & Climatic Change
- Journal of Neoplasm
- Journal of Biology and medicine
- Journal of Annals of Clinical and Laboratory Research
- Journal of Clinical and Medical Biochemistry

#### **Invited Talks:**

- “A Molecular Understanding of Fish Diseases” Invited talk at University of Arkansas, Pine Bluff– AR.
- "Human CLCA2 is a p53 dependent self-cleaving zinc metalloprotease and its interactor EVA1 is required for mammary epithelial cell differentiation." Invited talk at National Center for Toxicology Research (NCTR), Jefferson – AR.
- "Human CLCA2 is a p53 dependent self-cleaving zinc metalloprotease and its interactor EVA1 is required for mammary epithelial cell differentiation." Invited talk at Washington University School of Medicine at St. Louis- MO.
- “Human CLCA2 interaction with EVA1 is required for the maintenance of epithelial differentiation of HMEC.” Invited talk at St. Judes Children’s Hospital, Memphis - TN.

#### **Poster/Abstract submissions/Oral presentations:**

- Nitin Challa and **Grace Ramena**. “Investigations into strategies for managing disease caused by CyHV-2 in Goldfish”. **Poster** presentation at Baitfish Farmers of Arkansas Meeting, Lonoke, Arkansas. Feb 9th 2017

- Nitin Challa and **Grace Ramena**. “Molecular mechanisms underlying CyHV-2 infections in Goldfish” **Oral** presentation at 30th Annual Showcase of Faculty, Staff and Students Research Forum at UAPB. March 28th 2017
- **Grace Ramena**, Yin Yufang, Vijay Walia and Randolph Elble. “CLCA2 interaction with EVA1 promotes mammary epithelial differentiation.” **Poster** presentation at AACR, New Orleans, Louisiana. Abstract Control Number: 16-A-3301-AACR. April 2016
- Aarushi Sharma, **Grace Ramena** and Randolph C Elble. “Human CLCA2 modulates the conductance of ANO-1 by regulating intracellular calcium levels.” **Oral** Presentation at Experimental Biology Meeting, San Diego, CA. Abstract No: 1778. April 2016
- Aarushi Sharma, **Grace Ramena** and Randolph C Elble. “Human CLCA2 modulates the conductance of ANO-1 by regulating intracellular calcium levels.” **Poster** Presentation at Experimental Biology Meeting, San Diego, CA. Abstract No: 1778. April 2015
- **Grace Ramena**, Yin Yufang, Vijay Walia and Randolph Elble. “Human CLCA2 interaction with EVA1 is required for maintenance of epithelial differentiation of human mammary epithelial cells.” Oral presentation at 25<sup>th</sup> annual trainee research symposium, SIU Springfield. April 2015
- **Grace Ramena**, Vijay Walia and Randolph Elble. “Role of hCLCA2-EVA1 interaction in differentiation of human mammary epithelial cells.” Poster presentation at STARS symposium, University of Illinois at Springfield. April 2014
- Aarushi Sharma, **Grace Ramena**, Louis Premkumar and Randolph Elble. “Human hCLCA2 modulates the conductance of a Calcium-activated Chloride Channel.” Poster presentation at STARS symposium, University of Illinois at Springfield. April 2014
- **Grace Ramena**, Vijay Walia and Randolph Elble. “Human CLCA2 is a p53 dependent self-cleaving zinc metalloprotease.” Oral presentation at 24<sup>th</sup> annual trainee research symposium, SIU Springfield. April 2014
- Aarushi Sharma, **Grace Ramena** and Randolph Elble. “Human CLCA2 modulates the conductance of a Calcium-activated Chloride Channel.” Poster presentation at 24<sup>th</sup> Annual Trainee Research Symposium, SIU Springfield. April 2014

- **Grace Ramena**, Vijay Walia and Randolph Elble. “CLCA2 interactor EVA1 maintains epithelial differentiation of HMEC.” Poster presentation at AACR Annual Meeting, Washington DC. April 2013
- **Grace Ramena**, Vijay Walia and Randolph Elble. “Human CLCA2 interactor EVA1 maintains epithelial differentiation of mammary epithelial cells.” Poster presentation at Simmons Cancer Institute Research Symposium, SIU, Springfield. October 2013
- **Grace Ramena**, Vijay Walia and Randolph Elble. “CLCA2 is a self-cleaving metalloprotease that suppresses growth of human breast cancer cells.” Poster presentation at STARS Symposium, University of Illinois at Springfield. April 2012
- **Grace Ramena**, Vijay Walia and Randolph Elble. “CLCA2 is a self-cleaving metalloprotease that suppresses growth of human breast cancer cells.” Poster presentation at 22<sup>nd</sup> Annual Trainee Research Symposium, SIU Springfield. April 2012
- **Grace Ramena**, Vijay Walia, Yang Yu and Randolph Elble. “Human CLCA2 – A novel bio therapeutic for triple-negative breast cancer.” Poster Presentation at 21<sup>st</sup> Annual Trainee Research Symposium, SIU Carbondale. April 2011
- Angela McCauley, **Grace Ramena**, and Rebecca Landsberg. “Inhibition of proliferating Hela cells using plant extracts.” Poster presentation at 10<sup>th</sup> Annual Research Science Symposium, University of Illinois at Springfield. April 2010

### **Research Experience:**

- **June 2015 – December 2016:** Post-doctoral research associate in Department of Biochemistry and Molecular Biophysics, WUSM at St. Louis. Project work: Understanding the ErbB2-ErbB3 hetero-dimerization and downstream signaling events
- **June 2010 – May 2015:** Ph.D. Dissertation submitted for the partial completion of Doctor of Philosophy degree in Cancer Biology. Department of Medical Microbiology, Immunology, and Cell Biology, SIU School of Medicine
- Dissertation Title - “Human CLCA2 is a p53-Dependent Zinc Metalloprotease and its Interaction with EVA1 Maintains Differentiation of Human Mammary Epithelial Cells”
- **August 2007 – May 2010:** M.S. Thesis submitted for the partial completion of Master of Science in Biology. Department of Biology, University of Illinois at Springfield



- Thesis Title - “Antimicrobial activity of spice and herb extracts against *Vibrio harveyi* and *Vibrio alginolyticus* that infect fish and shrimp.”
- **August 2000 – May 2002:** M.S. Thesis submitted for partial completion of Master of Science in Aquaculture, Department of Aquaculture and Fisheries, Acharya Nagarjuna University, India
- Thesis Title - “Study of White Spot Syndrome Virus in *Penaeus monodon*.”

### **Technical Experience:**

#### **Pathology experience in fish/shrimp health:**

- **Pre-stock seed analysis:** Fish and shrimp fry health analysis and certification for stocking in culture ponds
- **Fish and shrimp pathology:** Juvenile and brood stock health analysis, viral analysis – viral hemorrhagic septicemia, microsporidians, ulcerative syndromes, nematode infections, *mixobolus sp* infections, zoothamnia infections at larval stages, viral disease- monodon baculovirus (MBV) and hepato-pancreatic virus (HPV) and white spot syndrome virus (WSSV), fish diseases- viral hemorrhagic septicemia virus, infectious hematopoietic necrosis virus and other Herpes viridae infections etc.
- **Extension Experience:** Technical assistance to commercial fish farmers, Interpretation of results for pathology results, and suggest treatments for different pathologic conditions of the culture species, conduct seminars to educate the farmers with best management and farming practices, preventive measures and biosecurity, visit fish and shrimp farms to assist the farmers with health issues of the animal species in the ponds
- **Cell Culture:** Working with mammalian and insect cell lines, developing transgene cell lines from single cell clones, Cell assays like MTS, Brdu assay, cell proliferation, cell migration and invasion assay, colony formation assay, soft agar assay, foci formation assay, gene transduction through transfection and infection, working with Lentivirus, adenovirus and baculovirus, shRNA use, growing cells in 3D on matrigel, growing cells on membrane filters and Poly – L- Lysine coated coverslips
- **RNA/DNA:** RNA and DNA extraction from fish/shrimp/mammalian cells; molecular cloning and recombinant DNA techniques, primer design, transformation, DNA extraction, restriction digestions, inserting point mutations, RT-qPCR; end point PCR; and making competent bacteria; DNA miniprep, midiprep and maxiprep, gel electrophoresis for epidemiology of viral, bacterial and protozoan diseases

- **Protein:** Western blot, immunoprecipitation, Co-immunoprecipitation, protein purification from mammalian cells, bacteria like DH5 alpha and BL21 strains (produced several grams of protein for using as antigen in antibody production from rabbits), protein quantification by BCA assay; coomassive staining, ponceau red staining, spectroscopy, crosslinking membrane and cytosolic proteins, isolating cell membranes to study membrane proteins, antibody purification, Ligand binding assay to study receptor dynamics, Luciferase fragment complementation assay and Iodine-125 labeling of ligands
- **Immunofluorescence:** Confocal microscopy, z-stacks, protein cluster analysis, compound and inverted microscopy
- **Animal handling:** Fish and shrimp health diagnosis, Animal biological safety training; basic technique in mouse dissection to isolate tumor cells, different organs from mice and little experience with producing antibodies from rabbits

#### **Other Oral Presentations:**

- “Understanding ErbB2/ErbB3 heterodimerization.” BMB department, Washington University School of Medicine, St. Louis – MO. May 2016
- “Human CLCA2 is a p53-dependent zinc metalloprotease and its interaction with EVA1 maintains differentiation of human mammary epithelial cells.” Oral defense. MMICB department, SIU Springfield - IL. March 2015
- “Human CLCA2 interaction with EVA1 is required for the maintenance of epithelial differentiation of HMEC.” MMICB department, SIU Springfield - IL. February 2015
- “Twist1 – induced dissemination preserves epithelial identity and requires E- cadherin.” MMICB department, SIU Springfield - IL. September 2014
- “Role of hCLCA2-EVA1 interaction in epithelial differentiation of human mammary epithelial cells.” MMICB department, SIU Springfield - IL. March 2014
- “hCLCA2 interactor EVA1 maintains epithelial differentiation of HMEC.” MMICB department, SIU Springfield - IL. March 2013
- “Bves modulates tight junction associated signaling.” MMICB department, SIU Springfield - IL. September 2013

- “Human CLCA2 is a self-cleaving metalloprotease that suppresses growth of human breast cancer cells.” MMICB department, SIU Springfield - IL. March 2012
- “The ectodomain shedding of E-cadherin by ADAM15 supports ErbB receptor activation.” MMICB department, SIU Springfield – IL. October 2012
- “Human CLCA2 – A novel bio therapeutic for triple-negative breast cancer.” MICB department, SIU Springfield - IL. March 2011
- “HER2 overexpression elicits a proinflammatory IL-6 autocrine signaling loop that is critical for tumorigenesis.” MMICB department, SIU Springfield - IL. September 2011
- “Identification of Selective Inhibitors of Cancer Stem Cells by High-Throughput Screening.” MMICB department, SIU Springfield - IL. October 2010

**Computer Skills:**

- A good knowledge on the SPSS, PRISM, DNA STAR, Lasergene and Megalign