

# Career Paths in Various Higher Education Settings

Marathon Diversity Awareness in Engineering Education Seminar

Teaching at Southern University and Louisiana State University

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*Baton Rouge, LA*



# Education and Employment History

## Education

- BS 1988. SV University, India. Civil Engineering  
MS 1990. SV University, India, Civil/Environmental Engineering  
PhD 1997. LSU, Civil/Environmental Engineering

## Employment History

Aug 08 – Current: Associate Professor, Department of Biological and Agricultural Engineering, LSU.

Aug 03 – Jul 08: Assistant Professor, Department of Biological and Agricultural Engineering, LSU.

June 00- Aug 03: Assistant Professor-Research (DOE, Massie Chair Program funded position), Department of Civil and Environmental Engineering, Southern University.

Dec 96 – May 00: Research Associate/Post-Doc., Environmental Sciences/Chemistry, Southern University.

Jan 96 - Oct 96: Research Associate, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana.

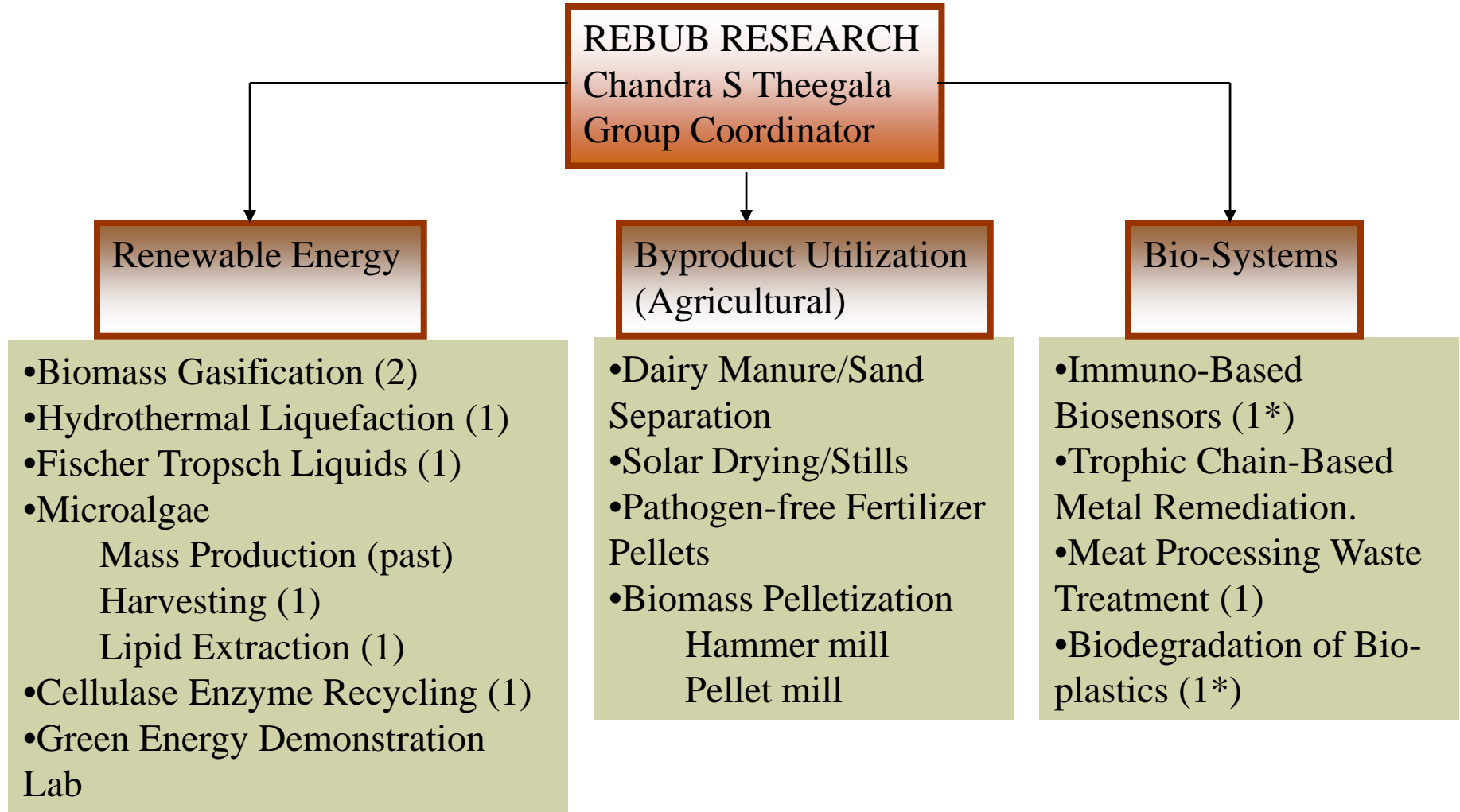


# Why I Chose Teaching Career?

- Life long goal was to teach at a University
  
- Family Profession
  - Dad – English Professor at a University
  - Mom – English Lecturer at a Undergrad College
  - Older Brother – Lt. Colonel, Medical Doctor, Anatomy Professor
  
- Interest in Research
  - First Methane Digester – 9<sup>th</sup> grade (Never worked)
  - Solar Energy/Windmill – High school/BS
  - Solar Desalination – MS
  - Microalgae - PhD

# Ongoing and Past Research

## Renewable Energy, Byproduct Utilization and Bio-systems (REBUB)



# Courses Taught

## Southern University

- CIEN 224: Engineering Statics\*
- CIEN 321: Fluid Mechanics
- CIEN 323: Water Resources (Hydraulics/Hydrology)
- CIEN 421: Water and Wastewater Analysis
- CMPS 574: Research Techniques.
- Labs
  - Fluid Mechanics
  - Water Resources

## Louisiana State University

- 4341: Biological Reactor Systems Design
- BE 4352: Transport Phenomenon in Biological Engineering
- BE 7909: Energy Conservation and Renewable Energy Engineering
- ENVG 4135 - Water Quality Analysis for Natural Systems<sup>#</sup>
- CE 4130 – TA for Water Quality Management Laboratory (3 semesters)<sup>#</sup>

# Differences – My Views

## **Southern University, Civil Engr.**

- Mostly a Baccalaureate College, so higher teaching loads (~18-24 CH)
- All civil engineering students (one focus; branch well recognized)
- All students have plans to use the knowledge gained in the classroom in their engineering careers. Students attentive – so high teaching satisfaction (Joseph – Brightest ever)
- Very little time for research
- Mostly better undergrad labs w/ newer equipment for teaching.
- Equipment under utilized for research; limited resources and support for advanced research

## **Louisiana State University, BAE**

- Research 1 institution, so lower teaching loads (~9 CH).
- Diverse group of students (pre-med, biomedical, biotech, Ag engineering, environmental). High ACT scores.
- Many BAE students may not have plans to use the information taught in certain courses in their alternative careers.
- More time for research
- Limited/older equipment for undergrad labs.
- Excellent resources/support for advanced research/lab analysis.

# Positives and Negatives in the Profession

## Positives

- ❑ Challenging research areas
- ❑ Teaching satisfaction
- ❑ Flexibility with work hours
- ❑ Have to update your knowledge constantly
- ❑ Get to know a lot of students

## Negatives

- ❑ Work does not end at 5 PM. Some weekends may not be yours.
- ❑ Procuring grant funds is becoming increasingly hard
- ❑ No credit for unfunded proposals
- ❑ Inducing work ethic in students – not always easy
- ❑ Stress levels can be high at times



# Teaching Philosophy/Style/Tips

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- Clarity in Course Outline is Important
- Preparation is Critical
- My Approach
  - Not Omniscient – But to Clarify, Condense and Teach the Subject Matter.
  - 10 + Hours Condensed to 1 hr.
  - 15 years of Experience to 40 Hours.
- Encourage Questions (Even basic ones)
- Extra Effort to Convey Message (Analogy)
- Stress on Life-Long Learning
- Fair Grading (Grades to reflect academic performance)
- Periodic Grade Updating
- Flexible to Students' Problems (but not lenient).

***Any Questions?***

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