

# Closing Plenary Session

Thursday, April 26<sup>th</sup>  
10:30am - 12noon



**Introducing...**  
**The Golden  
Cattail Award!**

*for exceptional contributions to the  
science of wetland biogeochemistry*

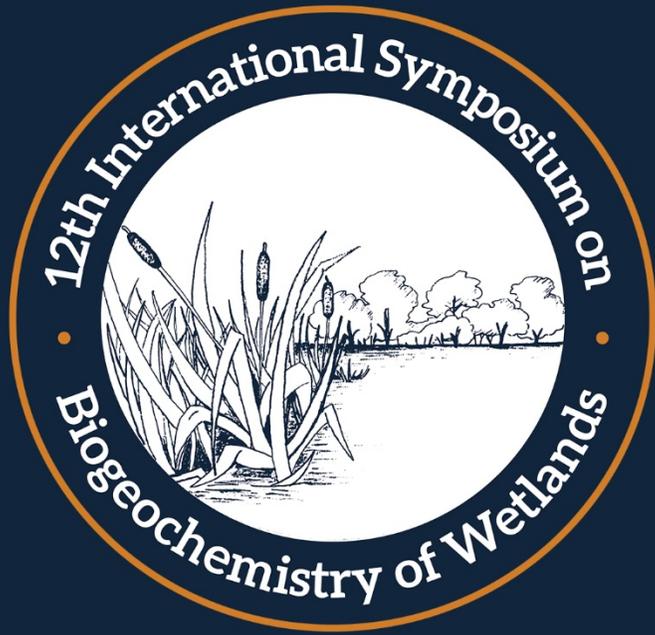




**Congratulations to  
Dr. K. Ramesh Reddy**

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*Recipient of the 2018  
Golden Cattail Award*



**Sue Newman**





Dr. K. Ramesh Reddy

Professor, Mentor & Friend

# The University Years



**Newell Hall,  
University of Florida**



**Our Adventures in Panama**



~~**Our Adventures in Panama**~~  
**We Almost Killed Ramesh!!**



# The Motley Crew

Stable Isotope Dosing  
Experiment in WCA2A



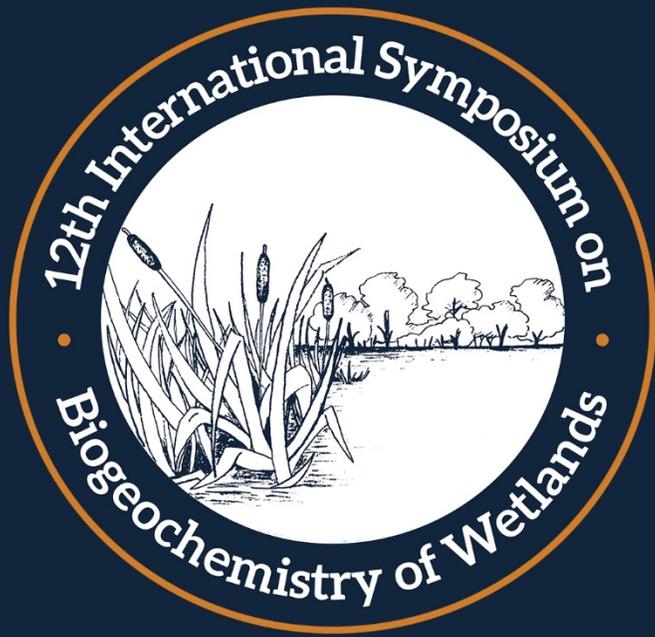
Walk  
carefully!

Thank you Ramesh!

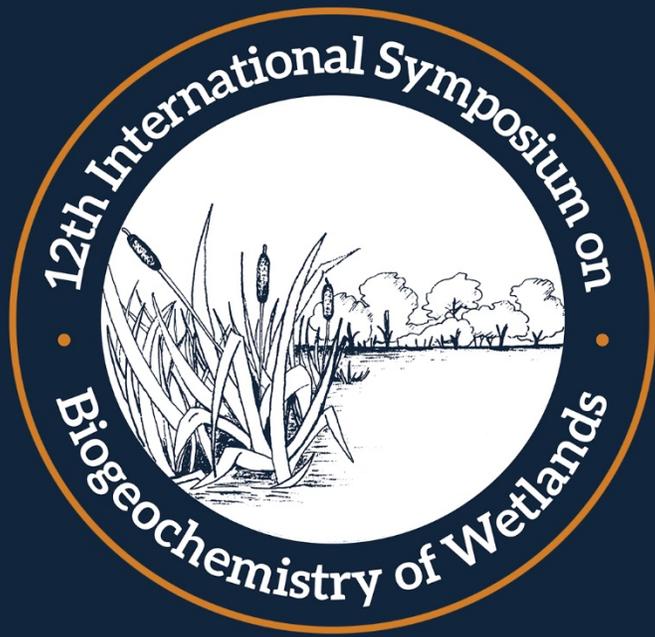
You lead by example, inspire, and challenge us.

We are better scientists, and better people, for having known and worked with you.



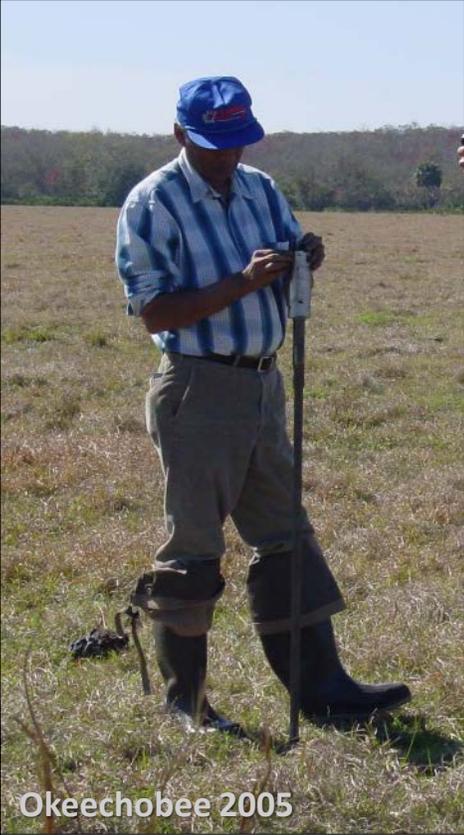


**Ron Corstanje**



**Mark Clark**





Okeechobee 2005



Hyderabad, India 2014



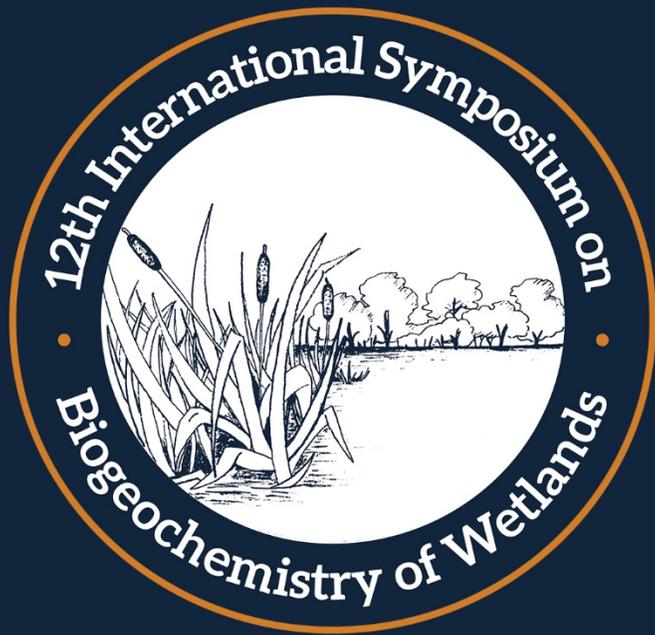
Okeechobee 2005



Hyderabad, India 2016



Ireland 2004



**Tom DeBusk**



3 6 8

2-4-80

827

USDA

40

2011 178 - 228

441

Turnpike

834

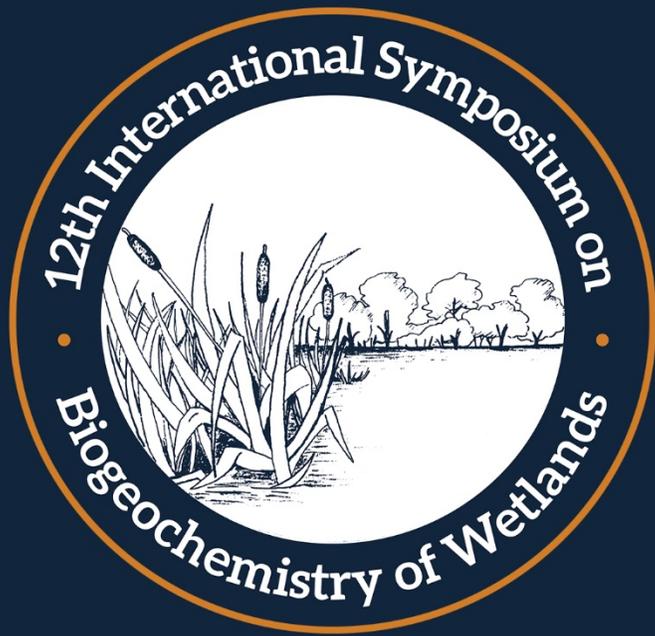












**Curt Richardson**

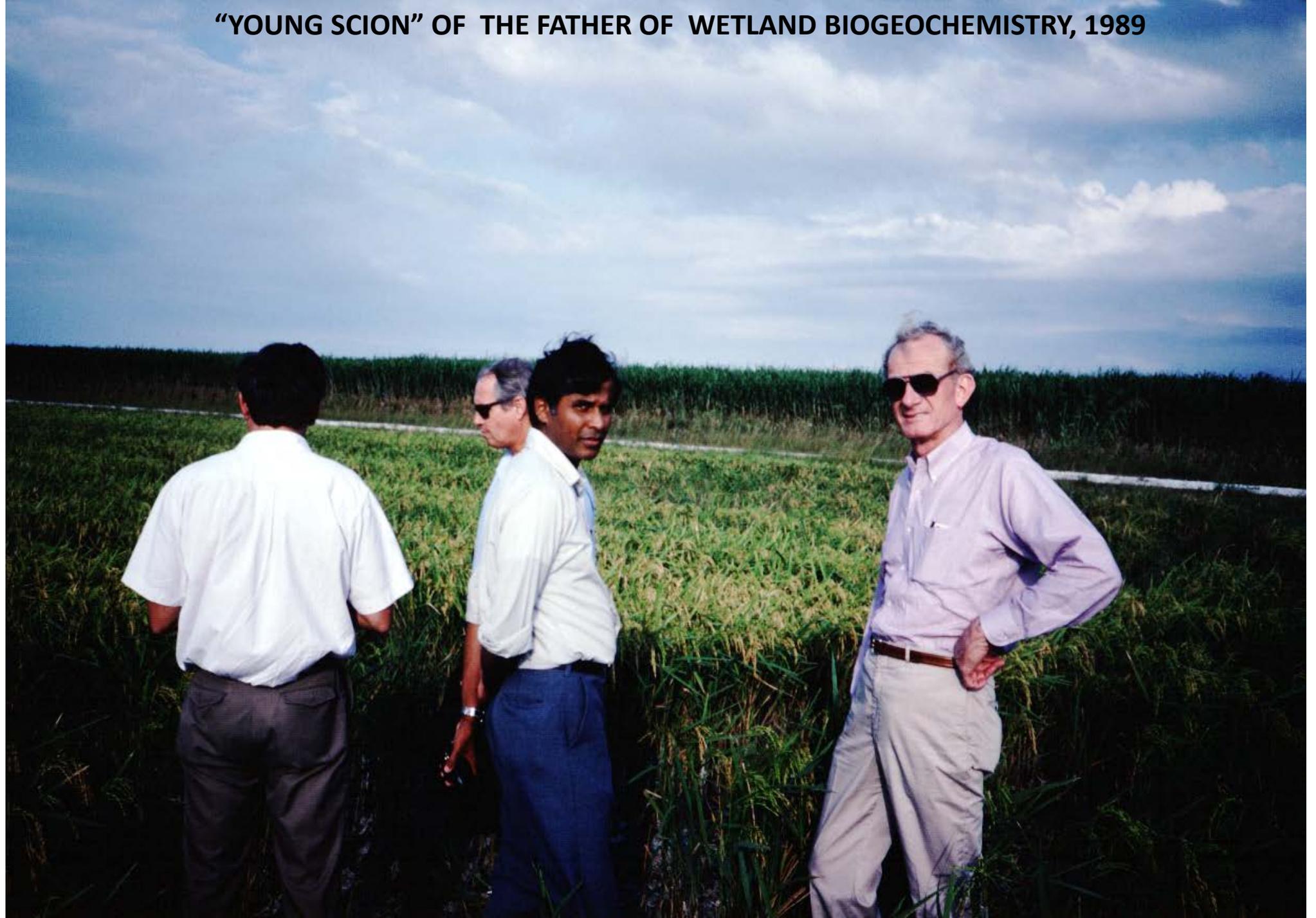


## FATHER OF WETLAND BIOGEOCHEMISTRY



DR. WILLIAM (BILL) PATRICK JR. LSU

**“YOUNG SCION” OF THE FATHER OF WETLAND BIOGEOCHEMISTRY, 1989**



BILL GAVE RAMESH  
INSTRUCTIONS  
ON HOW TO DO  
RESEARCH IN  
PEATLANDS .

RULE 1: ALWAYS  
RENT A HELICOPTER

RULE 2: NEVER  
ATTEMPT TO WALK  
INTO OR OUT OF A  
LARGE WETLAND



A man with a beard and a pink cap is sitting on a large, weathered log in a dense, swampy forest. He is wearing a light-colored, long-sleeved button-down shirt and light-colored pants. His hands are covered in mud, and he has a blue fanny pack with the 'KYTRIL' logo around his waist. The forest floor is covered in fallen leaves and various plants, with sunlight filtering through the trees.

**Bill Cooper, FSU**

**Panama, Swamp**

**RAMESH AT THE  
END OF  
HIS JOURNEY INTO  
BOCAS DEL  
TORO PEATLANDS  
IN PANAMA**

**WHERE IS THE  
HELICOPTER ?**



**TRAINED HIM IN PEAT  
SAMPLING  
TECHNIQUES**

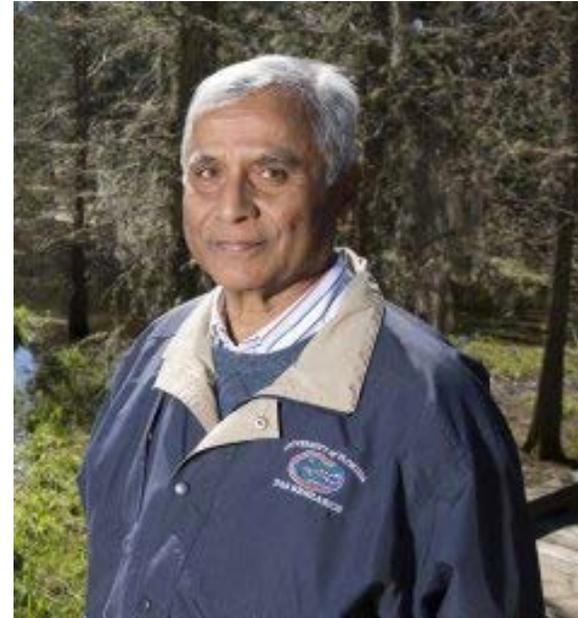
**ADVICE: IN BIOGEOCHEMISTRY  
KNOW ABOUT ALL  
CHEMICAL INTERACTIONS WELL  
BEFORE DOING ANY  
EXPERIMENT**





# Google Scholar

	All	Since 2013
Citations	3	3
h-index	1	1
i10-index	0	0



**EVALUATING THE BULLWHIP EFFECT ON UNRULY GRADUATE SOIL SCIENCE STUDENTS IN HARSH ENVIRONMENTS BY USING NEW STIMULATION TECHNIQUES. K. R. REDDY, 2014. International Journal of Unknown Research 5 (7) Pg. 1-72.**



K. Ramesh Reddy

FOLLOW

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Verified email at ufl.edu

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All

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Citations per year

**4TH MOST CITED SOIL SCIENTIST IN GOOGLE SCHOLARS**

TITLE

Managing

AN Sharpley,

Journal of en

Biogeoche

R Reddy, R

CRC press

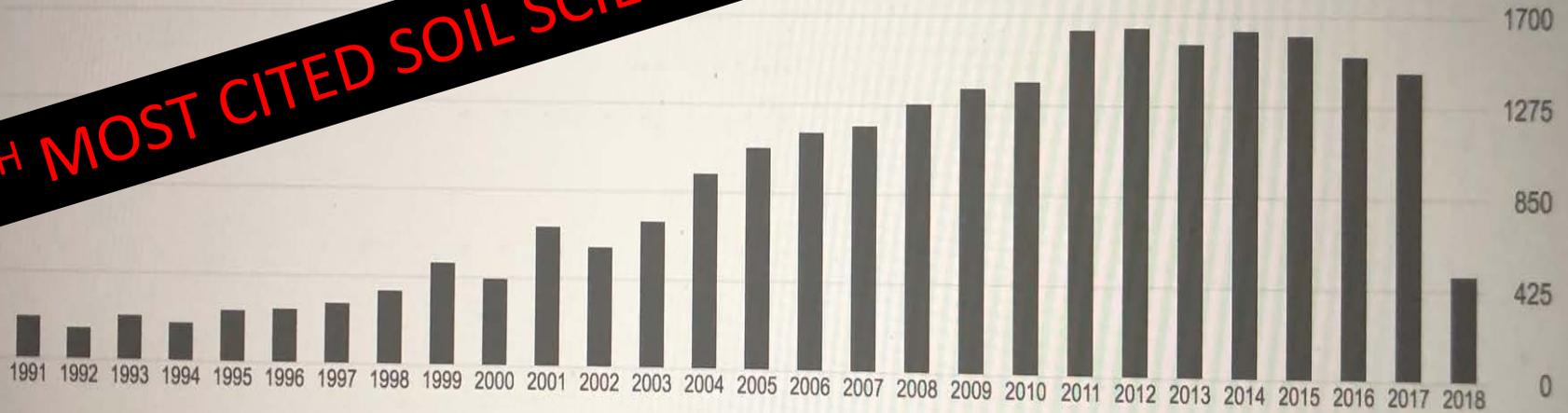
Phosphoru

R Reddy, R

Critical review

Nitrification-denitrification at the plant root-sediment interface in wetlands

Co-authors



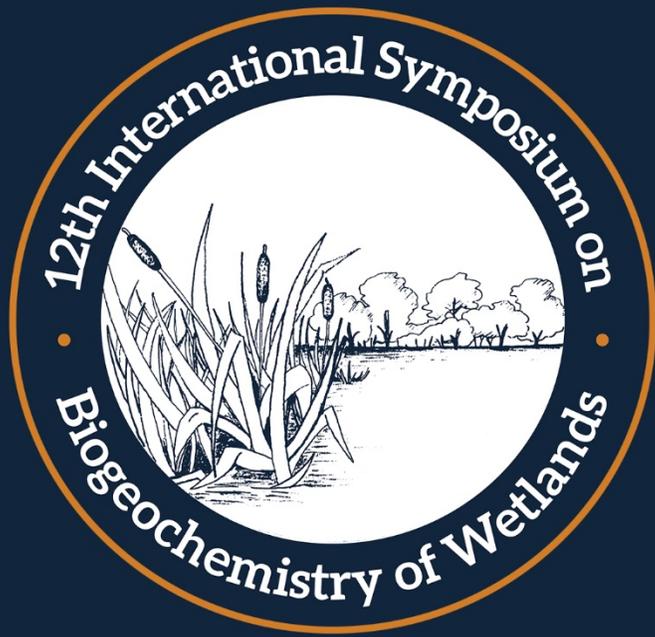


Ramesh joined the Party

Funding is Great

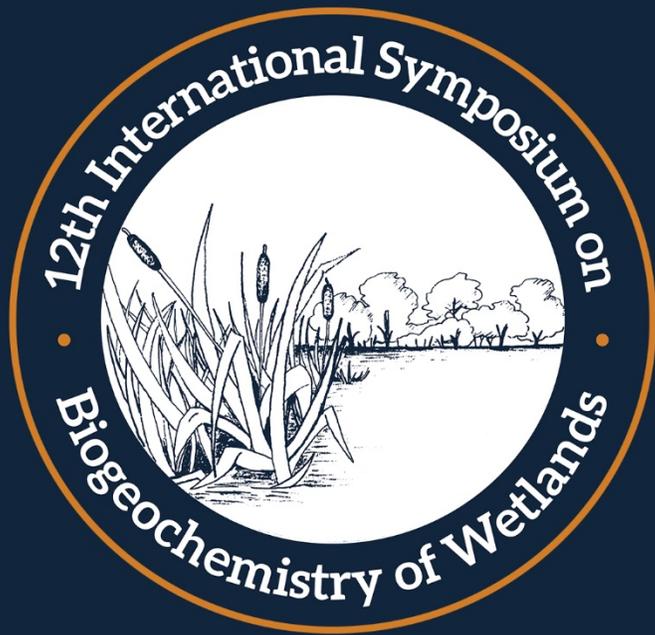






**Len Scinto**





**Phillip Moore**



# **The *Ramesh Effect* on my Career**

Philip A. Moore Jr.  
USDA/ARS  
Fayetteville, AR

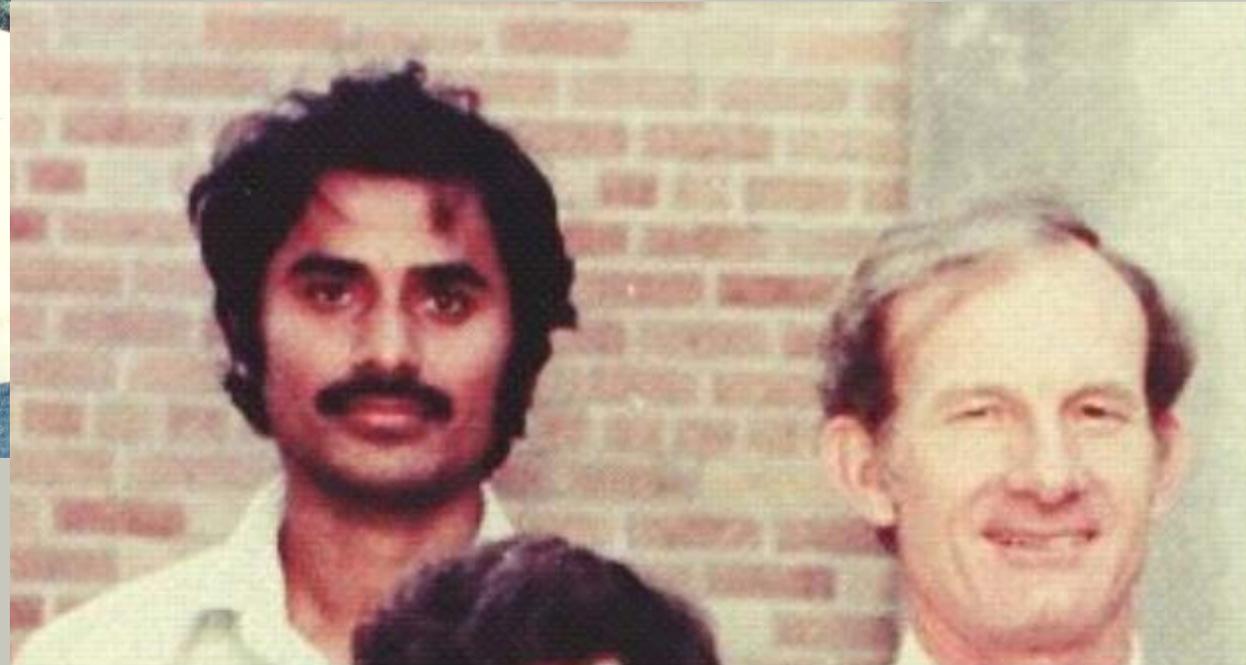
Wetland Biogeochemistry Conference  
Coral Springs, FL  
April 26th, 2018

# Ramesh and I both worked with Bill Patrick



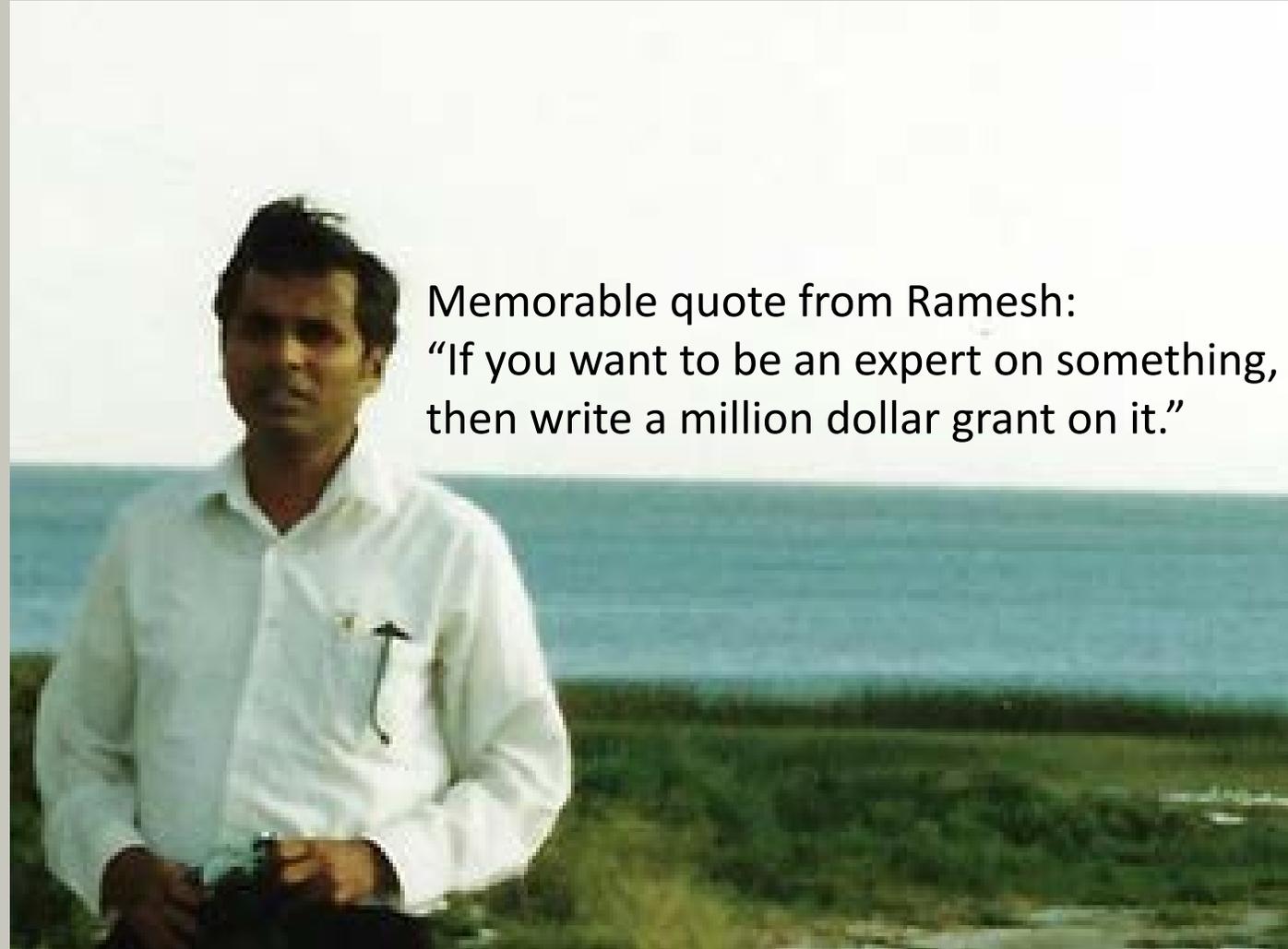
- ✓ Ramesh and I both did our Ph.D. under Bill Patrick at LSU in the Wetland Soils and Sediments Lab, which is now the Wetland Biogeochemistry Institute.
- ✓ Ramesh was there during the heyday of Patrick's career.

# Ramesh and I both worked with Bill Patrick

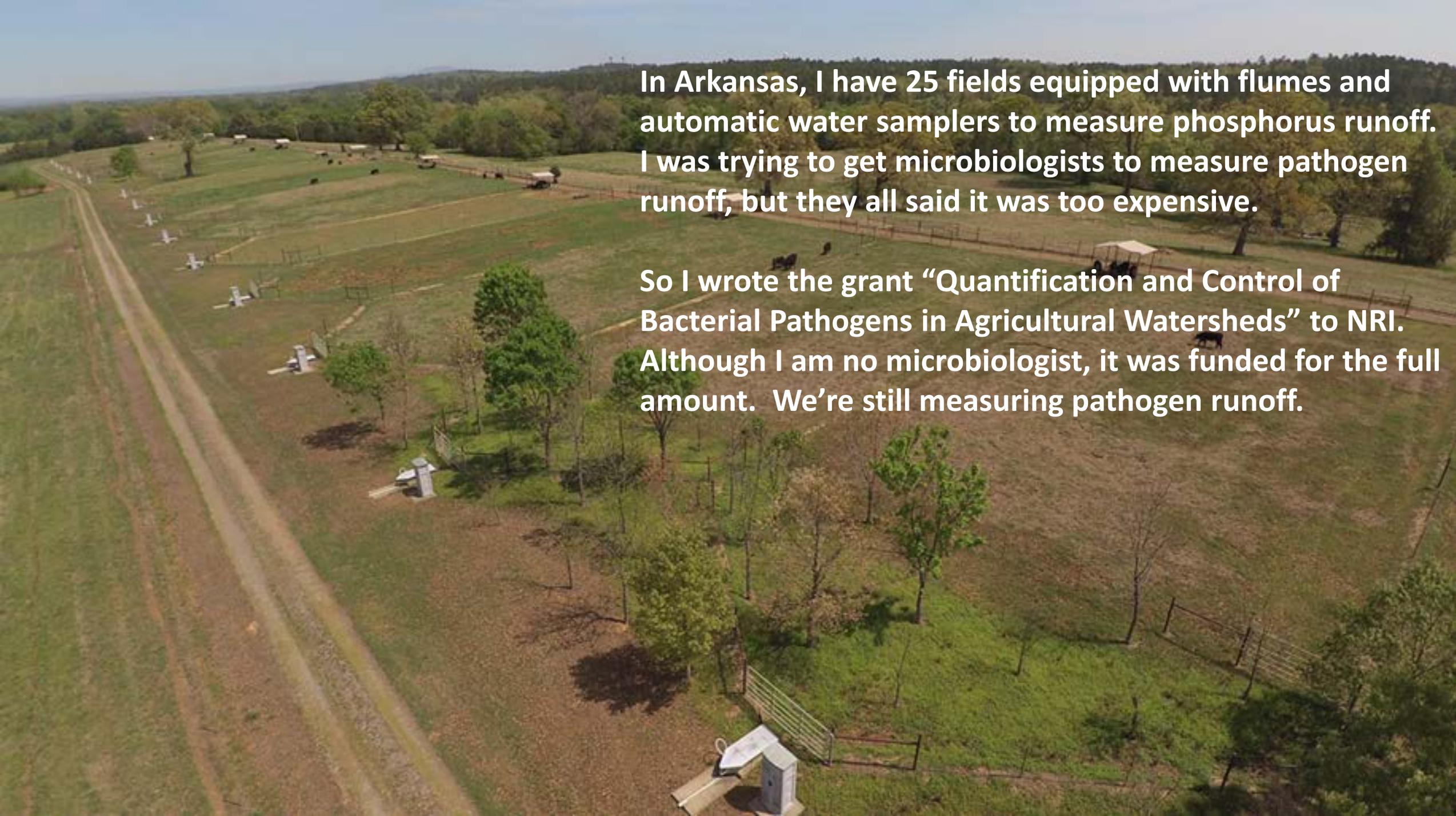


# Ramesh gave me my first real job!

- ✓ **When I arrived in Gainesville and met with Ramesh the first time, he told me he wanted me to work on internal phosphorus cycling in lakes (Lake Apopka and Lake Okeechobee).**
- ✓ **I had never worked on P.**
- ✓ **For the first six months Ramesh had me go to the library and do a very thorough literature review on P. I made copies of the papers for Ramesh and wrote up briefs for each paper.**



Memorable quote from Ramesh:  
“If you want to be an expert on something,  
then write a million dollar grant on it.”

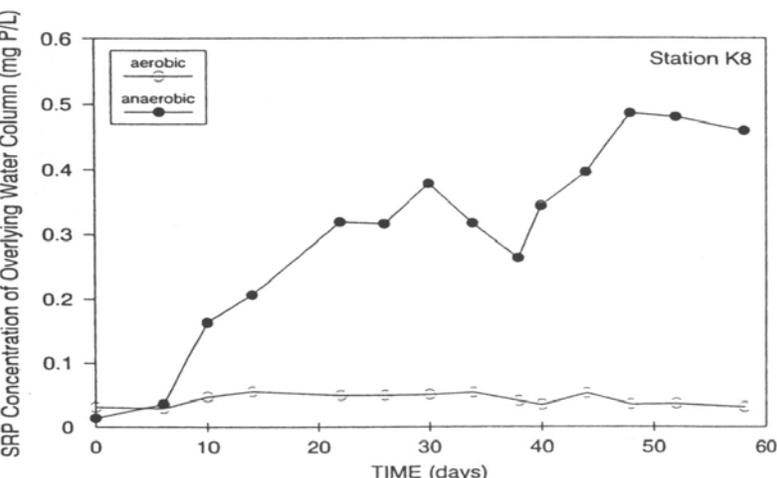
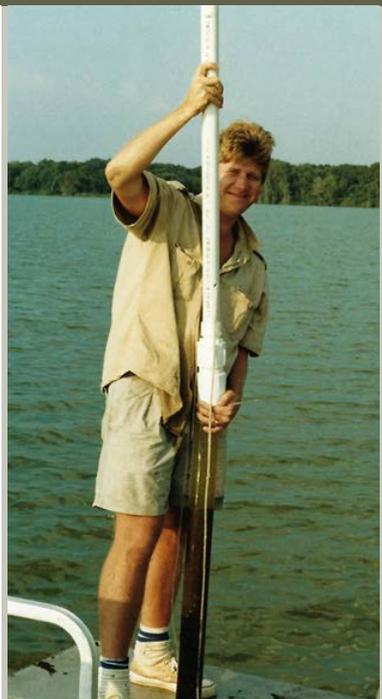
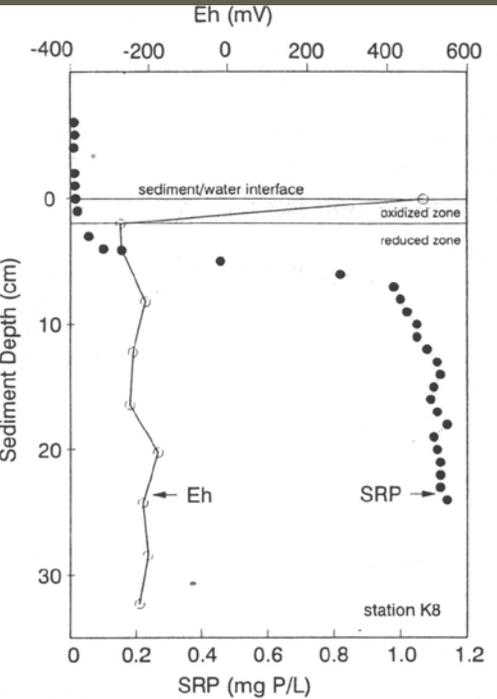
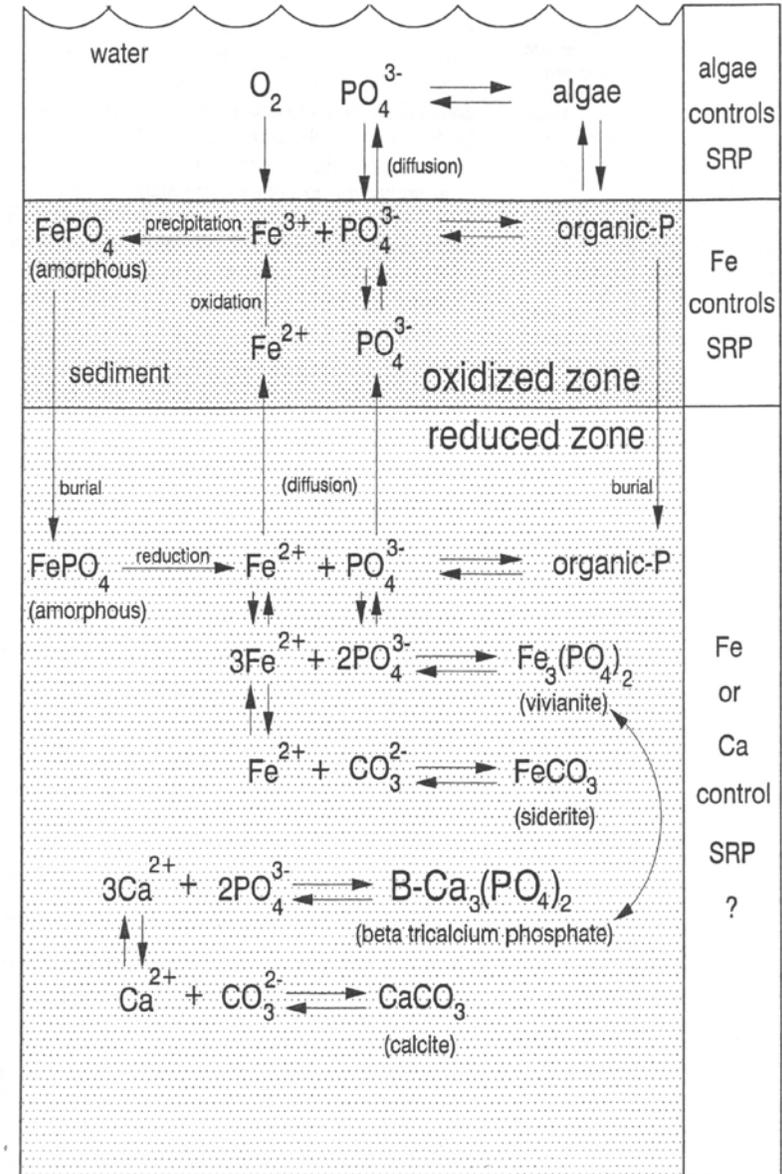


**In Arkansas, I have 25 fields equipped with flumes and automatic water samplers to measure phosphorus runoff. I was trying to get microbiologists to measure pathogen runoff, but they all said it was too expensive.**

**So I wrote the grant “Quantification and Control of Bacterial Pathogens in Agricultural Watersheds” to NRI. Although I am no microbiologist, it was funded for the full amount. We’re still measuring pathogen runoff.**

# Ramesh had me focus on the biogeochemistry of P

- ✓ We measured Eh and porewater P profiles in sediment and measured P fluxes from intact cores.
- ✓ Used Eh/pH microcosms to study P solubility.
- ✓ Tried to figure out what controls P solubility.



# Did that phosphorus work with Ramesh help my career?

## Phosphorus Publications

- *10 U.S. Patents on P*
- *8 book chapters on P*
- *83 refereed journal articles on P*
- *108 non-refereed articles on P*
- *1 State Law (Arkansas Phosphorus Index)*

*That phosphorus work basically made my career.*

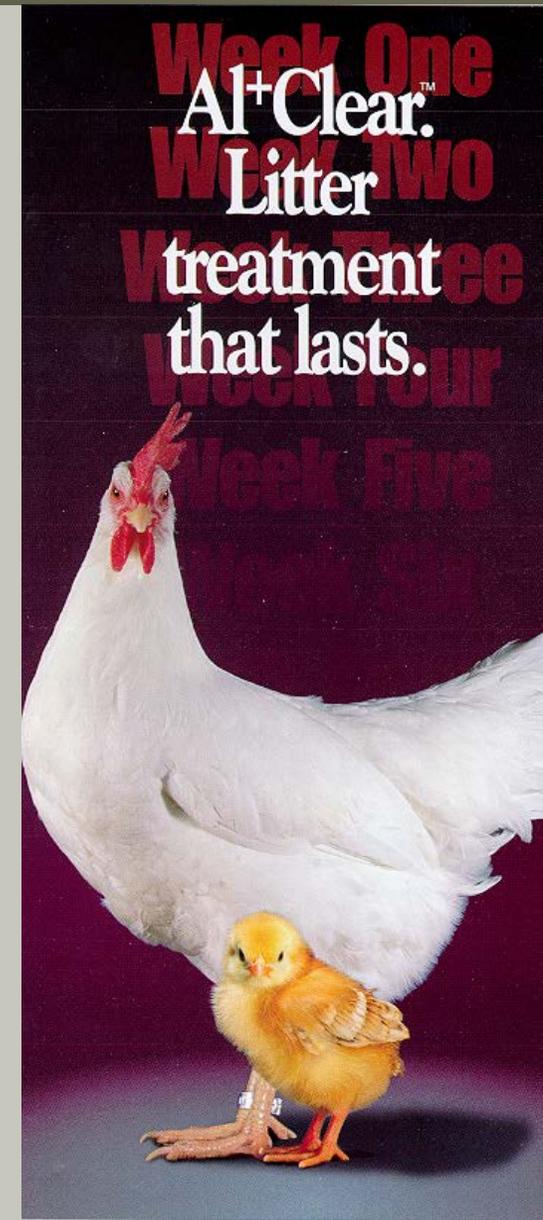
# Treating lakes with alum to precipitate P

- ✓ Internal cycling of P in Lake Apopka is high enough to keep it hypereutrophic for centuries.
- ✓ One solution we looked at was adding aluminum sulfate (alum) to the lake to precipitate the P.
- ✓ The problem is Lake Apopka is so big, alum-treatment would cost several hundred million dollars, so we never did do that.



# Treating poultry litter with alum to precipitate P

- ✓ When I returned to Arkansas, the big environmental problem was phosphorus runoff from poultry litter.
- ✓ I discovered that adding alum to poultry litter not only reduced P runoff; it reduced  $\text{NH}_3$  emissions from litter, which made chickens healthier and grow faster.
- ✓ I patented this technology and it is used to grow a billion chickens in the USA each year. It has annual impact of about \$10 million and greatly reduces air and water pollution.



At last, a litter treatment that fights pathogens and ammonia all through the critical early weeks.

Al+Clear™ litter treatment will hold pH and ammonia below dangerous levels during growout — more cost effectively than any other product currently available! Properly controlling ammonia and reducing litter pH levels during the entire early stages of growth can have a significant impact on both your profits and the health and marketability of your birds.



A simple application of Al+Clear, before chick placement, has been proven to:

- Reduce bacterial litter pathogens.
- Reduce harmful ammonia.
- Reduce condemnations.
- Improve feed conversion and weight gain.
- Conserve energy.
- Improve nitrogen content and reduce phosphorous runoff in water by 90% when litter is used for fertilizer.

In addition, producers praise Al+Clear for:

- Sharply reduced darkling litter beetle counts.
- Convenient application accommodates short layout times.
- Effective ammonia control with just one application per flock.

Talk to an Al+Clear Poultry Specialist today at 1-800-631-8050. Ask for our informative brochure.



**General Chemical**  
90 East Halsey Road □ Parsippany, NJ 07054

Patents Pending  
© General Chemical 1997

# Memorable Quote from Ramesh

**“If you write a paper that is really good and it gets rejected by more than one journal, then send it to Science or Nature, because if it’s that controversial then it’s probably really good science.”**



# What was the *Ramesh Effect*?

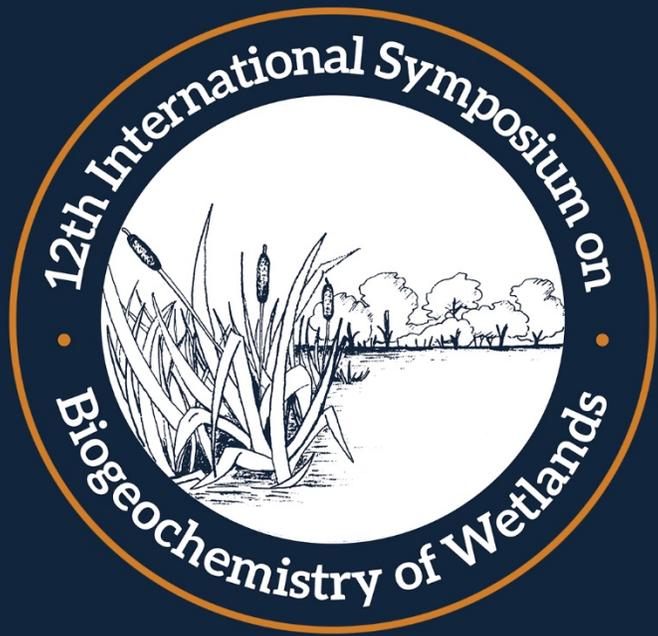
- ✓ Ramesh gave me my first job and trained me in P research, which made my career.
- ✓ Ramesh wrote letters of reference for my job with Univ. of Arkansas, then USDA/ARS.
- ✓ Ramesh wrote letters of reference every time I went up for promotion.
- ✓ Ramesh wrote letters of reference for every award I was nominated for.
- ✓ Ramesh was a fantastic mentor and has been a great friend for decades!

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**Thanks Ramesh.**

**We Love You Man!**



**Ronnie**  
**"The Very"**  
**Best**



NITRIFICATION - DENITRIFICATION REACTIONS IN FLOODED SOIL

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Department of Agronomy

by

Konda Rameshwer Reddy  
M.S., Andhra Pradesh Agricultural University, 1967  
August, 1976



