

21<sup>st</sup> Annual  
Albert B. Sabin

# Gold Medal

Award Ceremony

Presented to

Mathuram Santosham, M.D., M.P.H.

*for his outstanding research and  
public health efforts to prevent  
H. influenzae type b (Hib) diseases*

Tuesday, April 29, 2014  
Bethesda North Marriott Hotel &  
Conference Center  
North Bethesda, MD



Professor  
Mathuram Santosham



Professor of  
International Health and Pediatrics

Founder and Director  
Center for American Indian Health

Johns Hopkins Bloomberg School of  
Public Health and School of Medicine

We are here tonight to honor and celebrate the outstanding accomplishments and contributions in the field of vaccines of our colleague, our mentor, our friend, Mathu Santosham. Mathu's professional titles attest to his accomplishments at the highest levels. He is professor of Pediatrics and International Health at Johns Hopkins University and is the Founder and Director of the Center for American Indian Health.

## International Expert Mathuram Santosham

Vaccine efficacy trials rotavirus, *H. influenzae* type b (Hib), pneumococcus

Global policy work Hib Initiative

Pioneering work on oral rehydration therapy

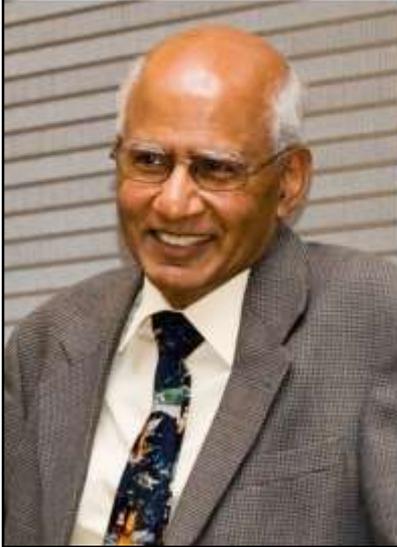
Neonatal survival interventions

American Indian health disparities



He is a widely recognized and celebrated international expert in the area of vaccines against rotavirus, pneumococcus and Haemophilus influenzae type b----the area of work and contribution for which he is being awarded this year's Sabin Gold Medal Award. But he has also made equally impactful contributions in the area of oral rehydration therapy for diarrheal disease, neonatal survival strategies and more broadly in the area of reducing health disparities for this country's first nations American Indian people. Millions of deaths around the world have been prevented because of his medical and scientific contributions. Ostensibly this is what we are here to celebrate.

## Honors and Recognition Mathuram Santosham



- ✓ Thrasher Research Fund Award
- ✓ Indian Health Service Certificate of Merit
- ✓ Indian Health Service Award
- ✓ Indian Health Service Director's Special Recognition Award
- ✓ Johns Hopkins Distinguished Alumnus Award
- ✓ Robert Austrian Lecture Award

Mathu has been celebrated with numerous awards from the Indian Health Service, the Thrasher Research Fund, and the pneumococcal scientific community through the Robert Austrian Award along with awards from his own institution to recognize him from among the many outstanding alumnae of the school.



His work and sage advice valued by many around the world, including shown here ABC's Chief Health and Medical Editor, Dr. Rich Besser.



Here with Martin Sheen at the Native Vision Camp in 2012.



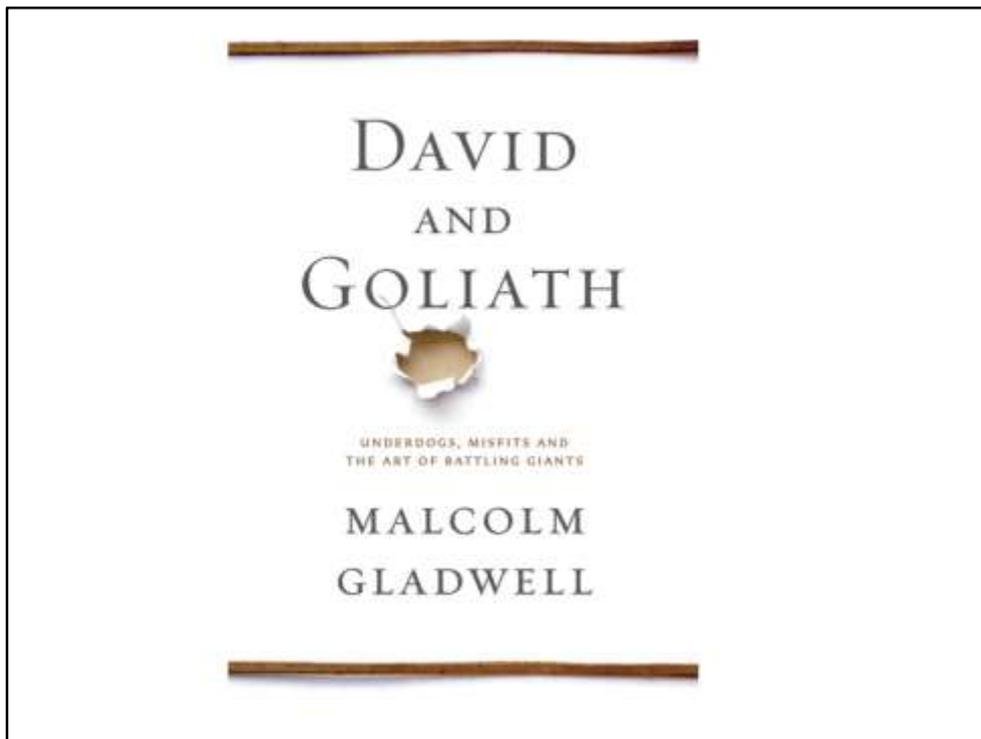
Here working with Robert Redford on American Indian health disparity issues.



He has welcomed Melinda Gates to the Johns Hopkins School of Public Health



And has been an advisor also to Bill Gates as shown here during Mr. Gates visit to India.



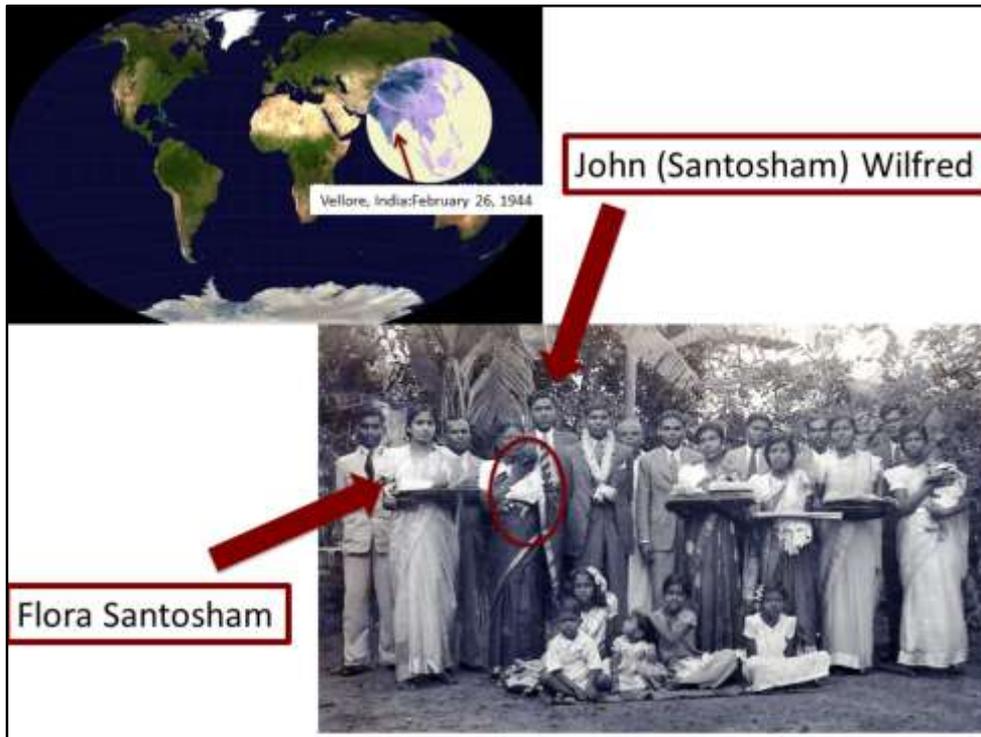
Although his public health and scientific accomplishments are in themselves enormous, monumental---perhaps even herculean would be an apt way to describe the fact that millions of infant deaths have been averted around the world because of his contributions---I want to contextualize them through a personal lense. This is a David and Goliath story----an almost implausible story except that it is true---of how many times and how many ways these accomplishments may never have happened had it not been for Mathu's absolutely unshakable hope, courage, and faith in life and in the people around him.



**“Do not judge me by my successes,  
judge me by how many times I fell down  
and got back up again.”**

**---Nelson Mandela**

Mathu, like millions around the world has a great admiration for Nelson Mandela and I could not help but see that Mathu experiences his own tremendous contributions with the same humility and grace that Mr. Mandela did his. These words by Nelson Mandela “Do not judge me by my successes, judge me by how many times I fell down and got back up again.” echo the perseverance that Mathu shows for missions he chooses in life. For any of you who have tried to say no to Mathu, you will surely know exactly what I am referring to.



Mathu was born in British colonial India, in the city of Vellore, in 1944. Remember that India did not achieve independence until 1947 and it is this historical backdrop that provides the context for Mathu's early years in life. Here is shown with his father, John (Santosham) Wilfred and his mother Flora Santosham just a few days after his birth. You will not mistake which baby in this photo is Mathu if you have ever been out hiking with him and will see that his skinny legs came with him at birth.



When Mathu was 5 years old, his father joined the Indian Foreign Service, but his position was contingent on agreeing to be posted to Nepal which was an agonizing decision for his parents. After a short period of prayer and reflection the decision was to accept the position and the travels began. With three children in tow, Mathu's parents made the voyage to Kathmandu but this required a week long journey on foot since there were no roads from India to Nepal and no trains. Mathu was carried to Nepal in a basket this whole way to his new home in Nepal. There were no schools in Kathmandu for Mathu to attend so his mother, Flora, home schooled him until they returned to India when he was 8 years of age.

#### Notes from Mathu

One of the statements that my mother made to me when I was in Nepal had a profound effect on my life. Soon after we arrived in Nepal, I went with my mother into town for shopping. I remember standing in a crowded street of Kathmandu which was full of poor children, many of them with obvious poor health. Things like kwashiorkor and marasmus (severe malnutrition) were rampant those days. Children would typically be emaciated with poor nutrition and many had bad skin infections that were obvious even to me as a child. I clearly remember one old lady whose hand was obviously gangrenous and her hand was infested by maggots. My mother pointed to some of the

poor children and said, “ you must one day become a doctor and help as many of these children as possible”. For some reason that statement stuck in mind through out my childhood. I don’t even remember considering any other profession for my career through out my life.



“ You must one day become a doctor and help as many of these children as possible”  
--Flora Santosham (Mathu, age 5 years)

It was during this time in Nepal that something happened which set Mathu’s life course in motion. One day on a trip to the market, upon seeing the level of poverty and ill health of the children in the streets, Mathu’s mother said to him “you must one day become a doctor and help as many of these children as possible.” This vision from his mother stuck with Mathu throughout his childhood years and he never considered any other career.

#### Notes from Mathu

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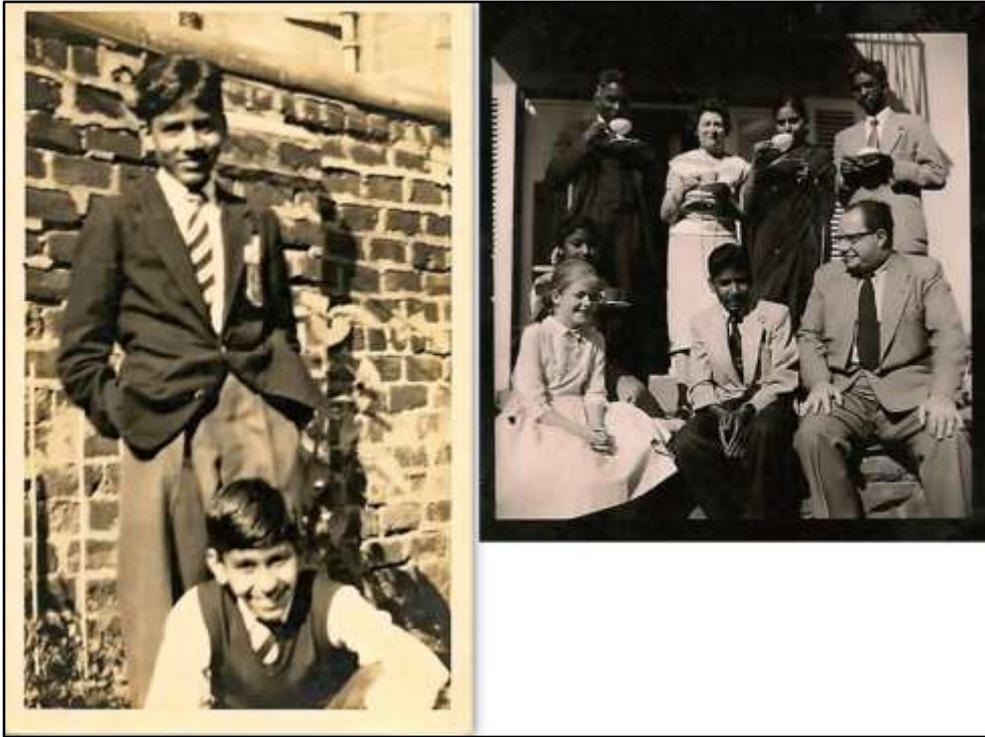
gangrenous and her hand was infested by maggots. My mother pointed to some of the poor children and said, “ you must one day become a doctor and help as many of these children as possible”. For some reason that statement stuck in mind through out my childhood. I don't even remember considering any other profession for my career through out my life.



When Mathu was 8 years old his parents were transferred to Pondicherry, a French protectorate which is now, of course, part of India. Again the options for schooling were not viable in Pondicherry so Mathu was sent to Madurai for his first experience at school when he was 8 years of age. From that point onwards, he never lived again with his parents on a full time basis. When he was 12 years old his parents moved to Bonn, Germany and Mathu, unable to be schooled there because of finances and schooling options was sent to Scotland where his family had relatives with whom he could live.



Here is what Glasgow looked like in the year that Mathu arrived.



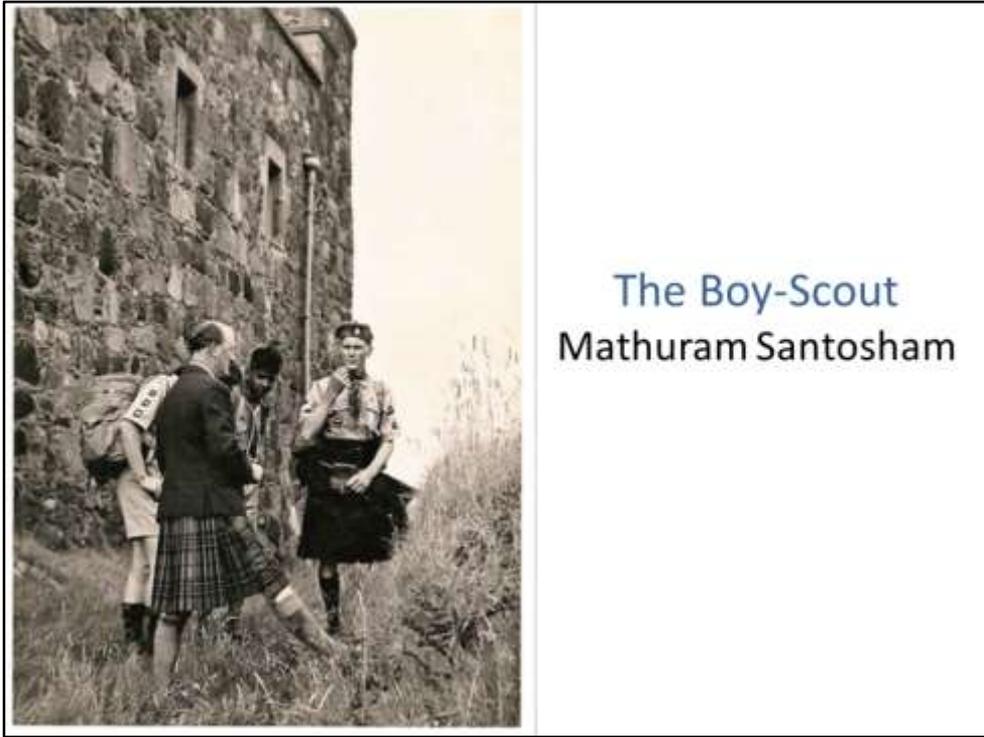
Mathu is shown here with his cousin Sam at school and with family and friends doing what Mathu does best---shmoozing.



Mathu, with his older brother Viji, in Scotland is shown in this photo (Mathu is second from right on the couch). Things did not start off as well as these photos indicate. A year into his schooling he had to take an exam that determined if he would complete his schooling after 8<sup>th</sup> grade or go on through high-school (11+ exam). This exam took place after he had been in Scotland only one year and it did not go well for Mathu. He scored in the second lowest category of six categories, and so would not be able to attend high-school. He was very dejected and was advised by the head of school to go into carpentry or to become an auto mechanic. However he had a teacher, Miss. Grant, who had a belief in Mathu, and she along with the Head of the School, appealed to School Board to allow Mathu to repeat the year. That next year, after another year in the same grade, Mathu took the test again and this time made it to high-school. Mathu's life in high-school was one of great activity and engagement.

In the meanwhile his parents were transferred to Ceylon (Sri Lanka) and then Rhodesia (Zimbabwe, Malawi, Zambia, Zanzibar) where Mathu's father became the Indian High Commissionere.r

School: boy scouts, literary, debating, rowing, badminton, cricket



Mathu was active in the Boy Scouts, shown here with Chief Scout Lord McLean, successor to Lord Baden Powell, founder of Boy Scouts



Opening Batsman Cricket  
Mathuram Santosham



Opening batsman High School cricket team

Keynote speaker at Annual Robert Burns Supper  
Mathuram Santosham



Delivering the keynote address at the Annual Burns Supper Celebrations in honor of Scottish poet Robert Burns

Physician (1970 JIPMER, Pondicherry)  
Mathuram Santosham



As you know, Mathu's singular aim was to go to medical school, and as you also know he did become a doctor as shown here treating a young child many years later, but let me assure you the path was not smooth and there were substantial barriers his tenacity had to overcome. The path was no more straight than the path from childhood to graduating high-school.

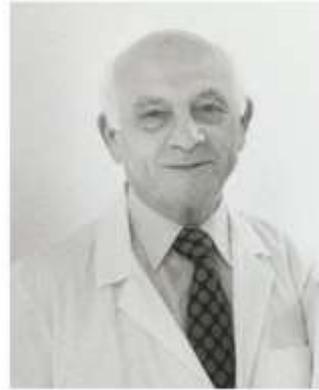
**Jawaharlal Institute of Post Graduate Medical Education and Research (JIPMER) in Pondicherry, India graduating in 1970.**

Although he aimed to go to Medical School after Glasgow his high school grades were not sufficient to gain entry in India to medical school. As a consequence he planned to return for another year to high-school in Glasgow. However, suddenly just before he was to return to Scotland, his medical school rejection was reversed and he was admitted to Pondicherry Medical School. However, by the time this happened and he arrived, classes were already underway for the past 2 months. Furthermore he hadn't had biology classes in highschool so he was miserable and clearly feeling that he was not prepared for this undertaking. He was called to the Dean's office and told that he would need to do year of undergraduate work in biology and then should reapply to medical school the next year, which he dutifully did. One week before that new medical school year was to start, he had still not been admitted so went journeyed to Delhi where he intended to make a plea to the Foreign Office (which was responsible for the schooling of children of diplomats). He had no appointments to see the

relevant officials, and he had no plan for exactly who he should see. However, after some lucky chance encounters with government officials in that Ministry who knew his father well and had great respect for him, Mathu heard 2 days later, that he had been re-admitted....and so his improbably journey continued.

It was in medical school that his motivation to become a pediatrician was cemented as he watched children die on the wards---routinely--- and in the emergency room for lack of basic care. He was committed by now to become a pediatrician. During this time his parents were now posted in Guyana where his father was serving as Indian High Commissioner. While in his next to last year of medical school in Pondicherry a tragedy struck. On a visit to relatives in Baltimore on July 16, 1969, a year before he was to graduate medical school, Mathu's mother suddenly and unexpectedly died at age 51 from a brain hemorrhage and was buried here in Baltimore. This was devastating to Mathu who was very close with her. This unexpected tragedy commits him to trying to find a residency in Baltimore so he can honor his mother.

**Pediatrician (Baltimore City Hospital, 1971-4)  
Mathuram Santosham**



**Harold Harrison, MD**

.... And indeed he did so, though not quite in the way he expected. Here Mathu is shown in his first year in the USA 1970. He found a program that would accept him and served at a facility called Church Home Hospital which had described itself as “just a stone’s throw from Johns Hopkins” which was true. However it had no affiliation at all with Hopkins! He was clear that staying at Church Home would not provide the training he was seeking. However a year later he was able to secure a residency at Baltimore City Hospital (now called Johns Hopkins Bayview Campus) under Harold Harrison, himself a pioneer in oral rehydration therapy. Dr. Harrison was the next person in what you will see is a key chain of people who saw in Mathu this light and promise.

## MPH and Pediatric ID Fellowship (1974-76)

Mathuram Santosham



**Masters of Public Health**



**Pediatric Infectious Disease Fellowship**



**Richard Moxon**



**George Siber**

Following residency and mentoring from Dr. Harrison, Mathu became clear that he wanted a career in public health. He spent the next year on his MPH and then set about applying for EIS and Pediatric ID Fellowships, but could not get into any programs including. He got to the final stage of interviews at Rhode Island but was turned down in the last minute. He was crushed. He spoke with Dr. Harrison about his situation and was given a job as a staff Pediatrician and was told he could apply for Fellowships the following year.

In the same year Richard Moxon joined Pediatric ID Division as a junior faculty at JHU; Richard was assigned to City Hospital for ID consult and so encountered Mathu who told Richard of his interests. By now Harold Harrison had retired and the acting chief of pediatrics urged Richard to help Mathu. He immediately took Mathu under his wings. Although, they did not have a slot for Mathu as a formal fellow, he put together a program of rotations for Mathu which included a month in the microbiology lab at Baltimore City Hospital and got the chief of PID at JH to give Mathu official credit and certificate as a JH PID Fellow. Mathu's first research projects assigned by Richard dealt with quantitative blood cultures and correlation with Hib meningitis, as well as a descriptive cases series in Baltimore of Hib meningitis.

And so began Mathu's career that started with the next in the line of key people in mathu's career. Along with George Siber shown here, these quirks of fate began a long, and innovative lifetime of work to wipe out Hib disease.

## Dr. Ray Reid



Mathu will tell you how he moved to the White Mountain Apache reservation after finishing his fellowship to work on diarrheal disease and began a lifelong partnership and friendship with Dr. Ray Reid working on the Navajo reservation.

## Founding of Center for American Indian Health (1991)



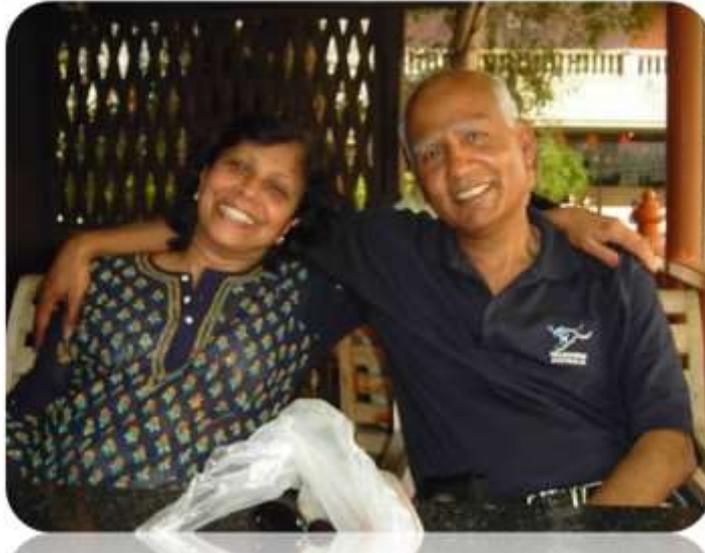
This work then resulted in founding the Center for American Indian Health in 1991

Husband to Dr. Pat Santosham (1972)  
Mathuram Santosham



Along this career path was a parallel personal story which is central to who Mathu is as a person. After a year of living in Baltimore, Mathu returned to India to marry a medical school classmate of his, Pat Santoshm, who was training as an anaesthesiologist. Here they are shown in 1972.

Dedicated Husband of 42 Years  
Mathuram Santosham



Married for 42 years.

Father to Vasanth and Shireen  
Mathuram Santosham



Math became a dedicated father to Vasanth (left) and Shireen (right) of whom he is incredibly proud.



Deep belief in friendships---shown here with close friends Bob and Maureen Black.



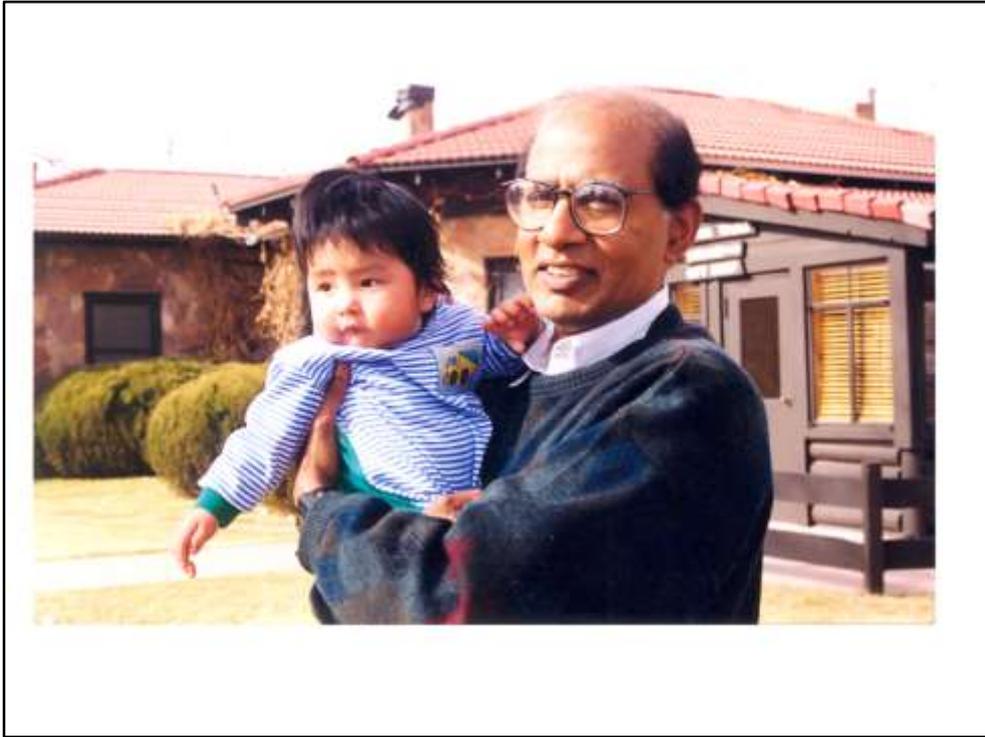
Unfailing belief In communities



Those of us lucky enough to be his colleagues as well---colleagues to whom he has a deep loyalty, dedication, commitment---shown here with Alison Barlow and me.



Commitment to children around the world



A deep sense of compassion, humility and privilege to do the work and contribute in the ways we all can



Profound respect for all cultures, and all stations in life



Someone who embraces the world with his compassion and dedication.



And sees strength, resilience and honor in lives well lived.



“ There is no passion to be found playing small--  
-in settling for a life that is less than the one you  
are capable of living”.

--- Nelson Mandela

Returning to the words of Nelson Mandela, I could not help think he was speaking about Mathu.



Mathu you are the embodiment that in a world that is all too often judged by its “results driven” measures, deep personal qualities rise above adversity and are the core of our common human experience. You inspire us to a higher level through your daily actions, your unwavering morality and compassion and your insistence that with faith and commitment we really can make the world a better place. It is my highest honor to present to you, Mathu Santosham, our Teacher, Mentor, Friend, Navigator, Scientist, Courageous Advocate, Person of Faith and Profound Humanist this Sabin Gold Medal Award for your outstanding research and public health efforts to prevent disease due to Haemophilus influenzae type b (Hib).

# Mathuram Santosham, MD, MPH



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