

Meet...

Ram Sasisekharan

BIOENGINEER, *Cambridge, Massachusetts*



BORN IN
Chennai, India

JOB SITE
MIT, Singapore, Bangkok ... anywhere the need arises

ALTERNATIVE CAREER CHOICES
When I was young, I always imagined I'd be a medical doctor

FAVORITE FOOD
Pasta, a complex carbohydrate!

FAVORITE WEEKEND PASTIME
Jogging, time with family, art, and enjoying the outdoors

What He's Doing

Ram Sasisekharan is investigating "life's basic rules for design." His contribution to this problem is understanding carbohydrates—indispensable natural molecules used by all life forms.

The complex carbohydrates you probably know are in foods—pasta and bread, for instance. However, in our bodies, complex carbohydrates are gluey substances that do an amazing number of things: They hold cells together and communicate messages. They look something like trees, with branches of all sizes extending in every direction.

Carbohydrates are difficult to study because our bodies stitch them together using a vast collection of enzymes. The details have been tough for scientists to understand or predict. Sasisekharan figured out a way to decipher nature's carbohydrate code: how to "sequence," or put in order, the many different parts of a carbohydrate.

"I volunteer to teach in Asia every summer. I enjoy sharing my experiences with the next generation of world health sleuths!"

His Findings

Sasisekharan's lure to tackling problems—really hard ones—has earned him a reputation as the go-to guy for tough chemical mysteries that need a solution immediately. For example, he recently got a call from the U.S. Food and Drug Administration, the government agency that keeps our foods and medicines safe. The problem they faced was a contaminated drug batch, and people were getting very sick. Some were dying. The drug was heparin, a blood-thinner used by millions of Americans to prevent heart attacks and strokes ... and itself a complex carbohydrate molecule.

To attack the problem, Sasisekharan developed a technique to detect the contaminant—a carbohydrate that looked just like heparin but worked very differently. His knowledge of carbohydrates is saving lives.

Meet more interesting chemists at <http://www.nigms.nih.gov/ChemHealthWeb>.