My life studying new forms of matter

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Yale University
The early years

- A bit mischievous ...
- House rule: You can't keep it as a pet if you can't identify it
- House rule: No eating while standing on your head
Middle school

- Introduction to atoms...
  and then quarks
The structure of matter

atom $\sim 10^{-8}$ cm

nucleus $\sim 10^{-12}$ cm

electron $< 10^{-16}$ cm

proton (neutron) $\sim 10^{-13}$ cm

quark $< 10^{-16}$ cm

http://www.ehs.utoronto.ca/services/radiation/radtraining/module1.htm
Nucleons – the proton and neutron

High school

- Wanted to be a musician
- Terrible math experience
- Didn't take challenging science classes
Hey, they give you money if you do good in school!
- About $25,000 in scholarships
- Paid internships are good!
- North Carolina, Colorado, the Netherlands, and Switzerland
- Colorado State University
- Physics, biochemistry, and Physical science majors, chemistry, math, and German minors
Graduate School

- Applied only in physics
  - Accepted at Yale
- In my sixth year, graduating some time soon
A heavy ion collision

Relativistic pancakes

Quark soup

Explosive hadron soda
Relativistic Heavy Ion Collider

PHOBOS

PHENIX

STAR

RHIC

BOOSTER

LINAC

AGS

HTB

HITL

BRAHMS

¾ m
The STAR detector

Over 1,200 tons

~4m

~4m
Me at work
My collaboration
My travels
Being a scientist

- Hard work – hard classes, long hours
- Interesting problems
- You do something different every day
- Meet interesting people
- See different parts of the world
- A lot of flexibility in work hours
- Little flexibility in location – you live where the jobs are
- Solid paychecks, scholarships