

Climbing the HEP Ladder

UEC/GSA/UTeV Career Night
September 8, 2005

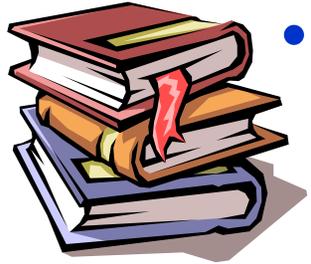
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My Background

- **Bachelor's degree from Hope College in 1991**
 - small liberal arts college in Michigan
 - 3 years of research in atomic physics
- **PhD from Notre Dame in 1997 (6 years)**
 - exotic meson experiment at Brookhaven
 - thesis topic: “A Study of the $f_1\pi^-$ System Produced in the Reaction $\pi^-p \rightarrow \eta\pi^+\pi^-\pi^-p$ at 18 GeV/c”
- **Post-doc at Kansas State (4 years)**
 - neutrino scattering with NuTeV at Fermilab
 - diffractive charm production, exotic particle search
- **Hired as Assistant Professor in 2001**
 - research on DØ

Life as a Graduate Student



- A time to learn and do
 - LEARN about particle physics
 - DO physics research



- You already know about the hard work
- Opportunity to show your stuff
 - identify problem which needs to be solved: **SOLVE IT**
 - **GET INVOLVED**: detectors, data-taking, software, analysis
 - **STAY ON TRACK**: finish thesis in a timely manner
 - **PLAY WELL WITH OTHERS**: don't work in isolation
 - **ENJOY**: enjoy what you do, do what you enjoy

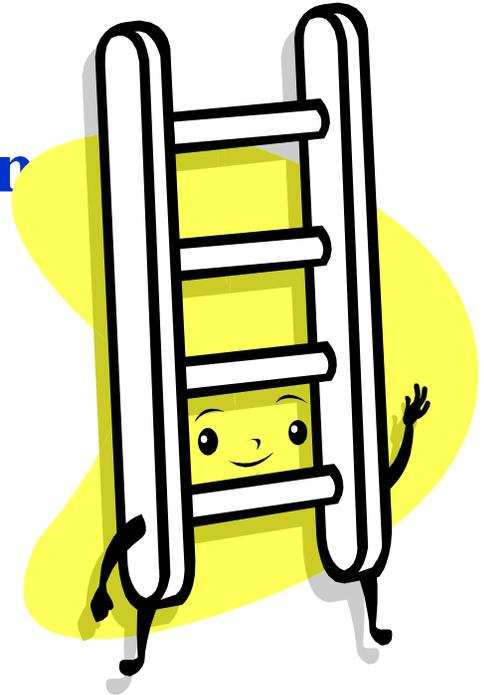
The Post-Doc Experience

- **Like an internship**
 - you will learn as much as a post-doc as you did in grad school
- **Much of the work in HEP is done by post-docs**
 - you have the time and skills
- **ENJOY!**
 - this is your best opportunity to do research full-time with few other responsibilities



Post-doc → faculty/scientist

- Do good work
- Show leadership qualities
- Give presentations: conferences, workshops, seminars (take every opportunity)
- Physics analysis – PUBLISH
- Need good letters of recommendation
 - identify candidates for letter writers
 - make certain people know who you are
- Most important skills:
 - leadership and physics knowledge



Applying for Permanent Job

- **CV: need publications and presentations**
- **Statement of Interest**
 - know what you want to do, state it clearly
- **Letters of Recommendation**
 - make sure they are good, can send more than minimum
- **Apply to a variety of jobs**
 - faculty, research scientist, Wilson Fellowship, small college?
- **Interview**
 - plan ahead, have answers to common questions
- **Get help and advice from senior colleagues**

Finally Faculty

- **Permanent positions (faculty, scientist, etc) give you the ability to shape your own direction**
- **Many other responsibilities:**
 - teaching, committees, grant writing, graduate students, travel, talks ...
- **ENJOY!**
 - lots of fun physics to do and teach
- **Still more rungs to climb**
 - Assistant → Associate → Full → Chair → ???
 - publications and letters of recommendation



The Big Question



- At each stage of your career, always ask yourself

Is this what I want to be doing?

- Many people continue in physics because they think they are supposed to “climb the ladder”
 - there are numerous alternatives
- If you are enjoying what you do, then continue doing it

HAVE FUN!