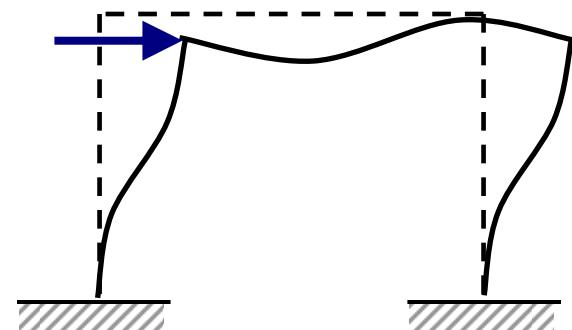


Joy of being an Engineer

Alok Deshpande



Education

- College of Engineering, Pune
 - Bachelor of Technology, 2010
 - Civil Engineering



Education

- University of Illinois at Urbana-Champaign
 - Master of Science in Civil Engineering, 2011
 - Structural Engineering



University of Illinois at Urbana-Champaign

- Relearnt
 - Analysis, Mechanics, Dynamics
 - Steel and Concrete Design
 - Earthquake Engineering
- New learnings
 - Random Vibrations
 - Fracture and Fatigue
 - Prestressed Concrete



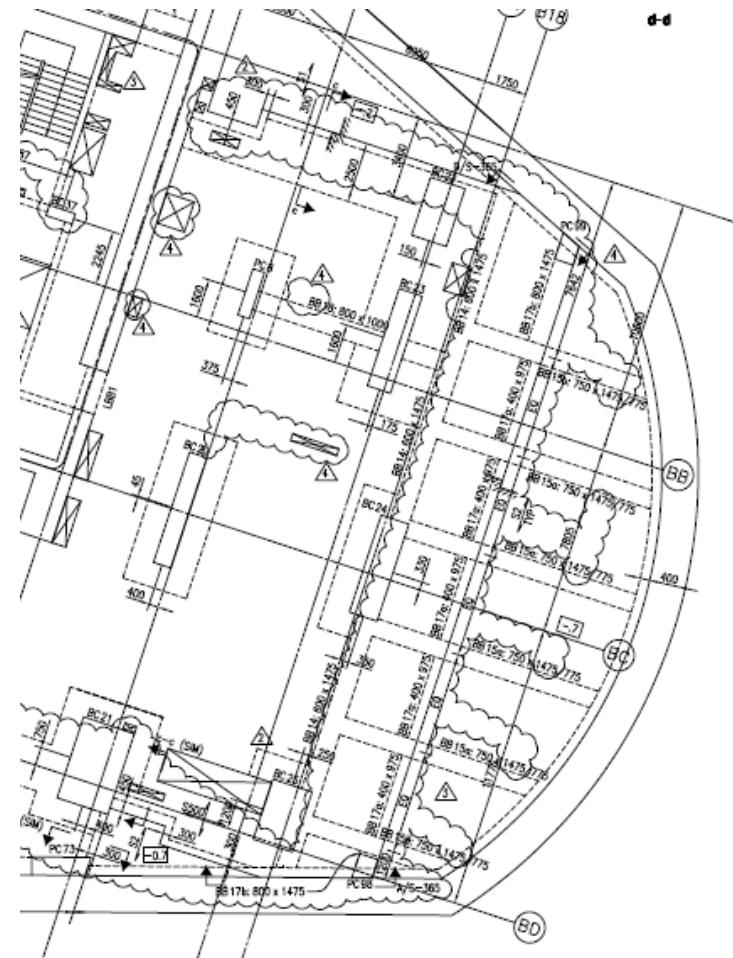
Experience

- Leslie E. Robertson Associates
 - Jan 2012 to Mar 2014
 - New York City & Mumbai

LERA
Leslie E. Robertson Associates

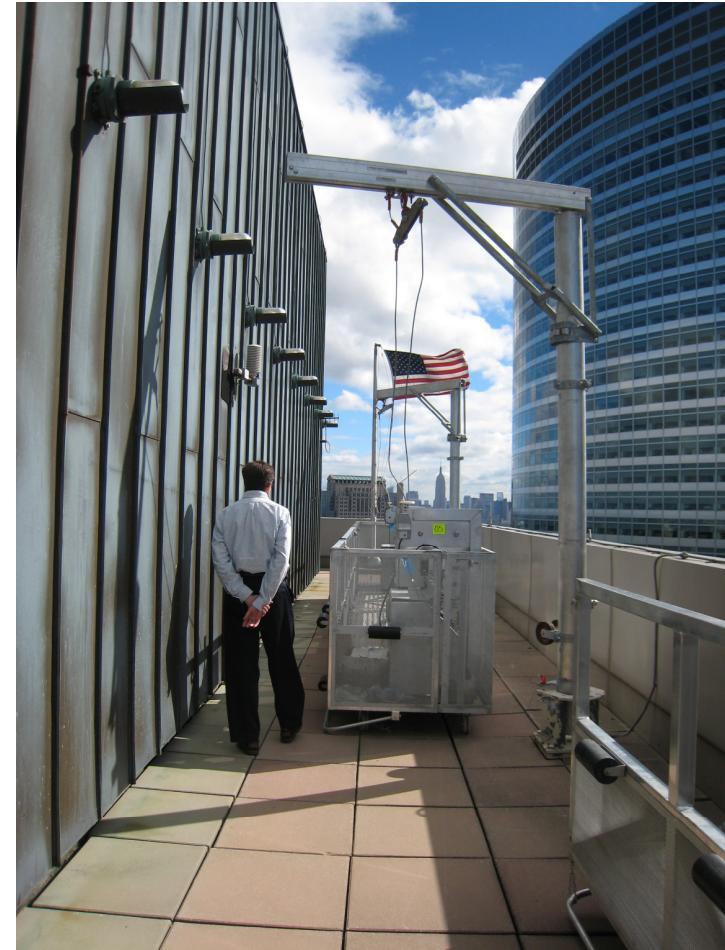
Leslie E. Robertson Associates, New York

- Element design
 - Slabs
 - Beams
 - Columns
 - Coupling beams
 - Deflections not strength!



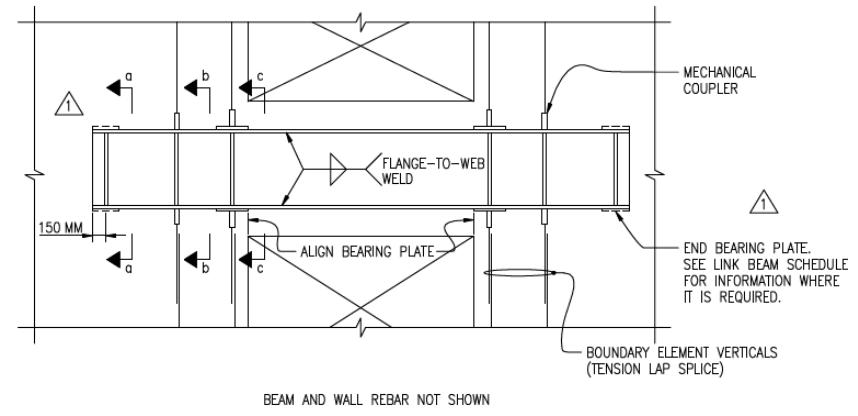
Leslie E. Robertson Associates, New York

- Construction admin
 - Submittals
 - RFIs
 - Shop-drawings
- Lateral thinking
- People-skills



Leslie E. Robertson Associates, New York

- Spreadsheets
 - Slab design
 - Varying-depth beam
 - Coupling beams
 - Composite coupling beams
- Understanding



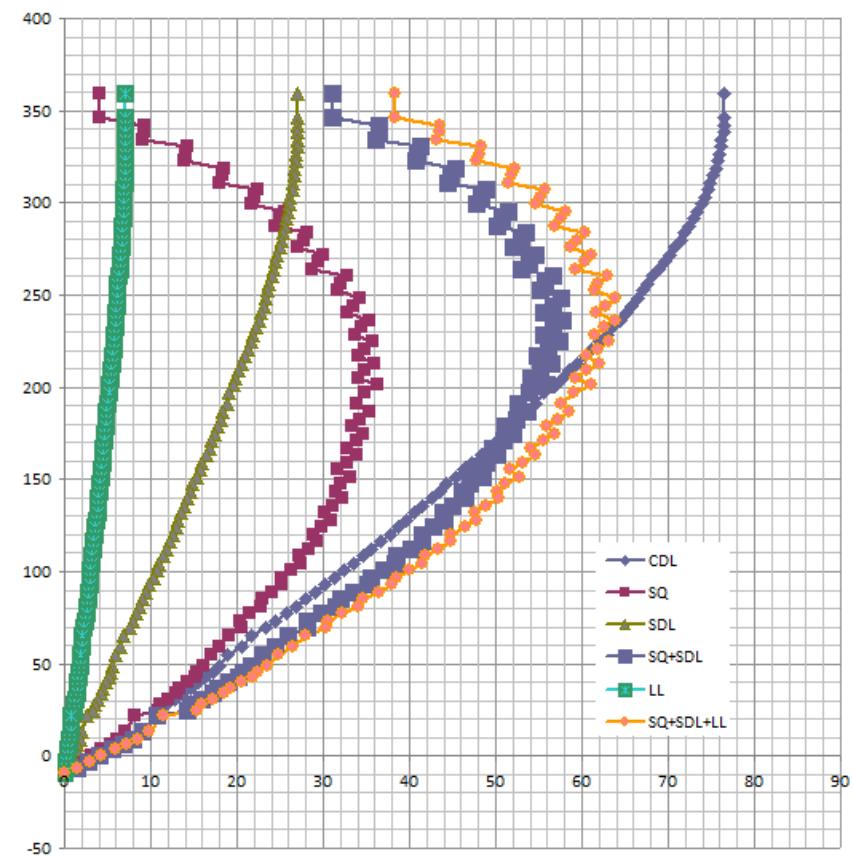
Leslie E. Robertson Associates, Mumbai

- Site-visits
 - Conformance
 - Clarify
 - Resolve problems
- Better understanding
- *Problem identification and solving!*



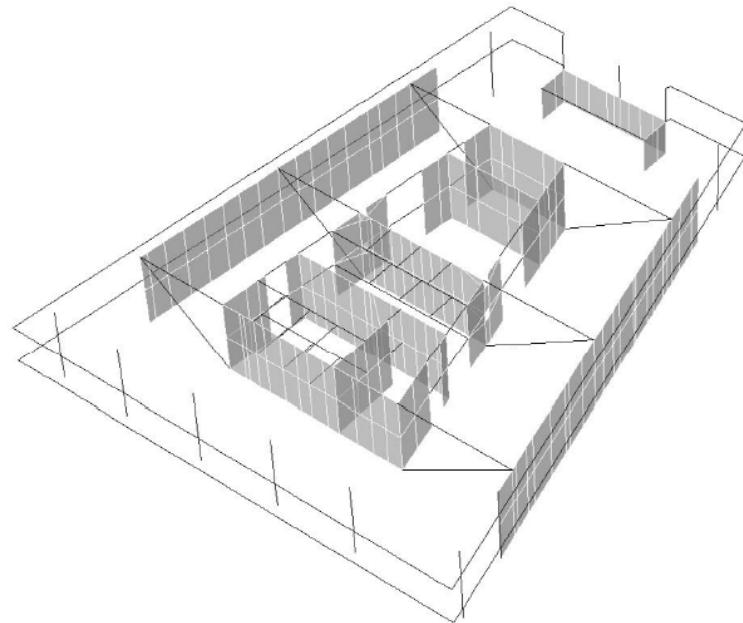
Leslie E. Robertson Associates, Mumbai

- Construction admin
 - Tower-crane
 - Settlement
 - Lean and shortening
 - Concrete quality
- Design specifications
 - International practice
 - Mode of communication



Leslie E. Robertson Associates, Mumbai

- Design development
 - Columns
 - Structural Walls
 - Coupling Beams
 - Transfer Girders
 - Outriggers
 - Belt-Walls
- Define load path
 - Simplicity



Experience

- Indian Institute of Technology, Madras
 - Apr 2014 to current
 - GSDMA Book on '*Seismic Design of Reinforced Concrete Buildings*'

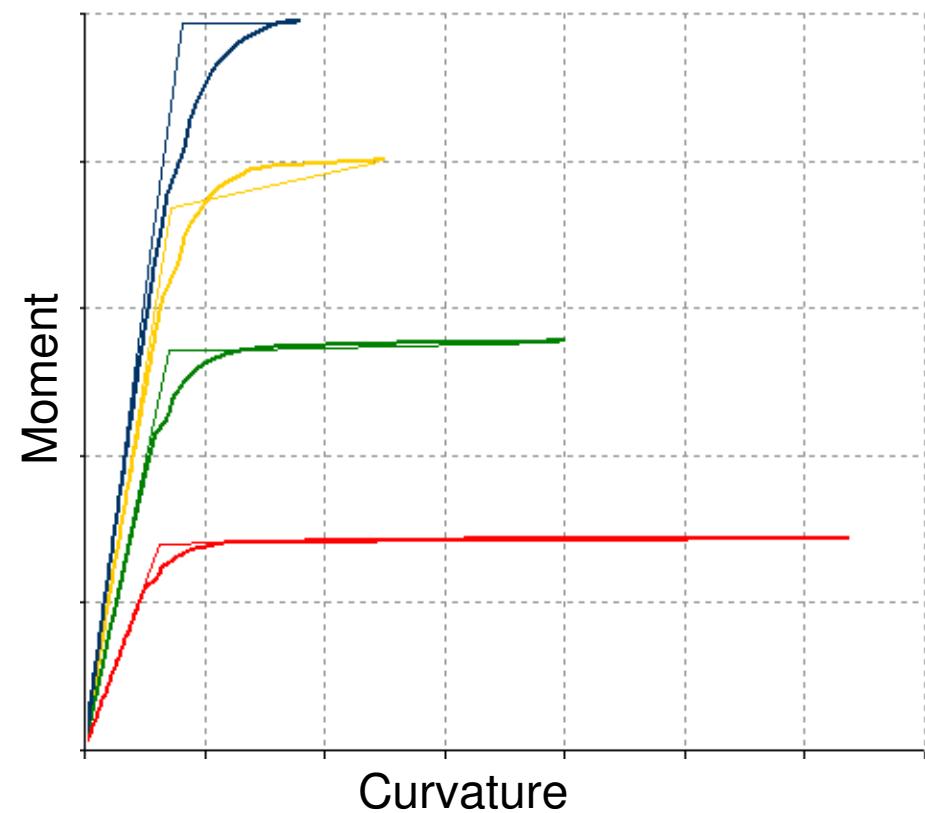


Indian Institute of Technology Madras

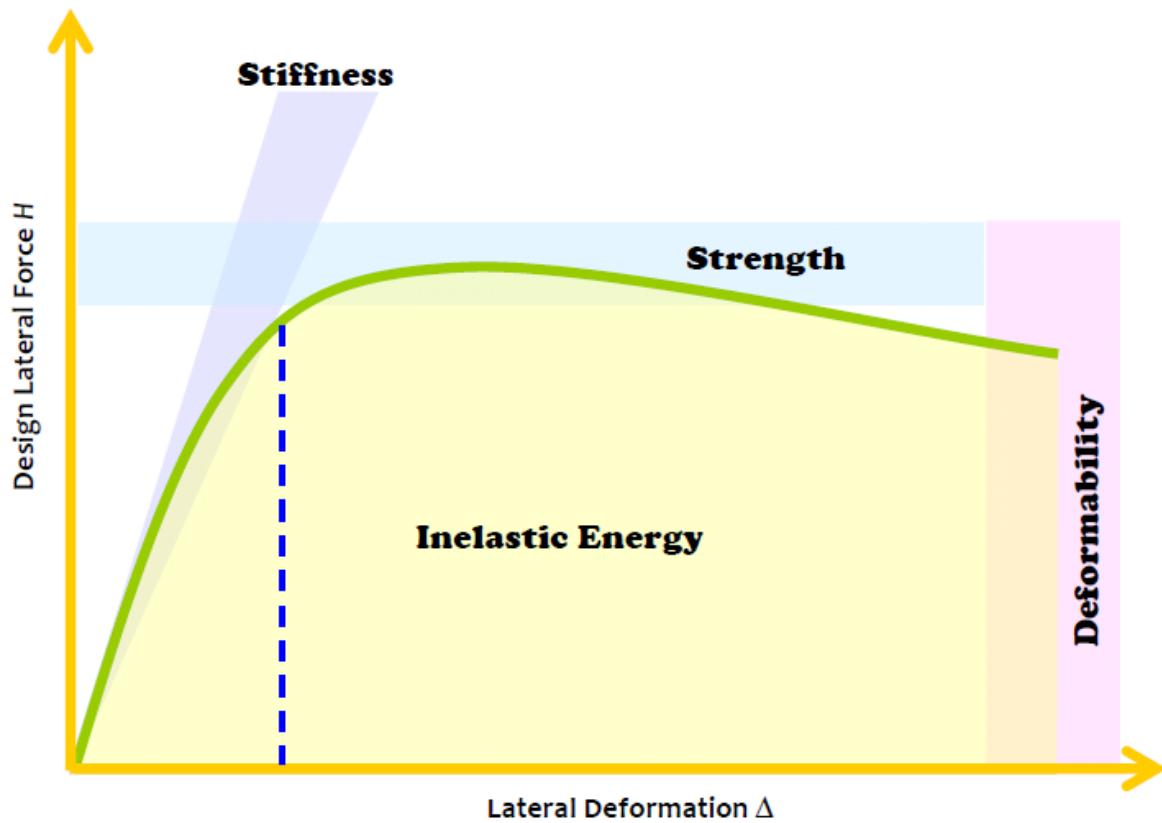
- RC design:

- Axial
- Flexure
- P-M
- Shear
- Torsion

- Strain based



Indian Institute of Technology Madras



The Winning Habit...



The Winning Habit...

- Cannot afford to be lax about Academics
 - ... and end up having nothing substantial to show in life for the duration of College



1. Professor C. V. R. Murty "*Becoming the Best – Choosing a Career*"

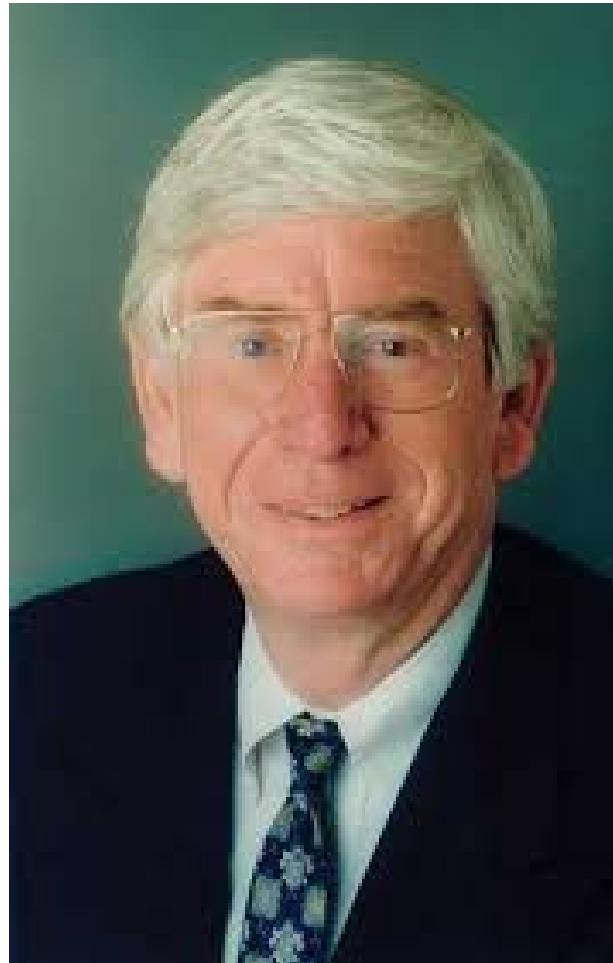
Importance of clear fundamentals

Fazlur Khan



Importance of clear fundamentals

Charlie Thornton



Importance of clear fundamentals

Bill Baker



We are Engineers, not technicians!

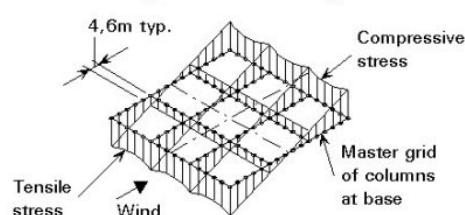
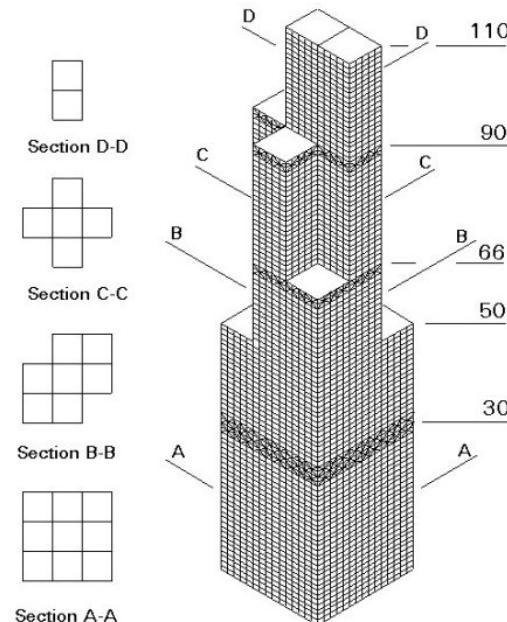
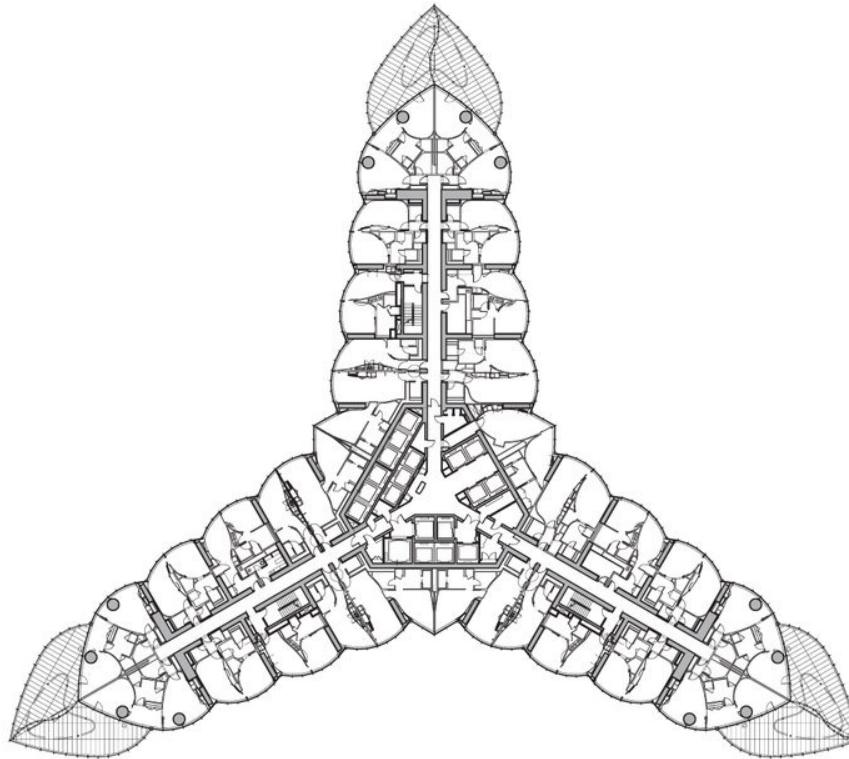


Figure 10 Sears Tower, Chicago, Illinois



The Winning Habit...

- “*... should know everything about something and something about everything.*”
 - Undergrad is about ‘everything’
 - Grad is about ‘something’

1. Professor Sudhir Jain ‘IIT Kanpur Summer Camp 2008’

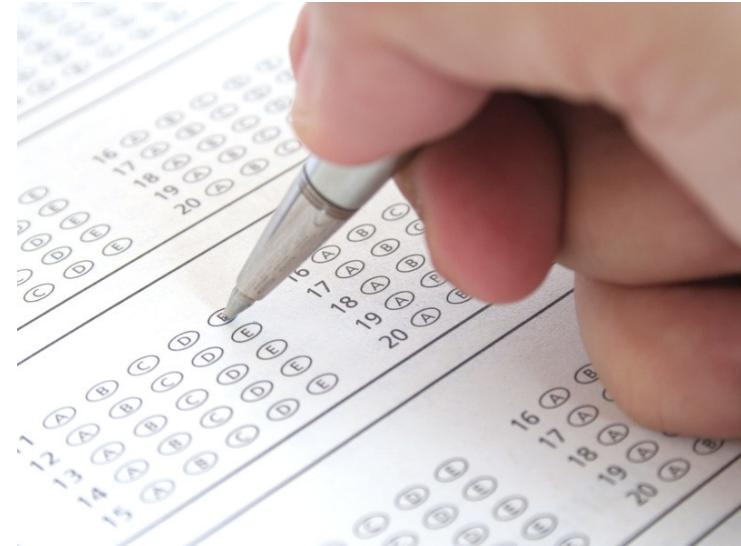
The Winning Habit...

- Guidance from elders
 - Professors!
 - Alumni
 - Professional engineers

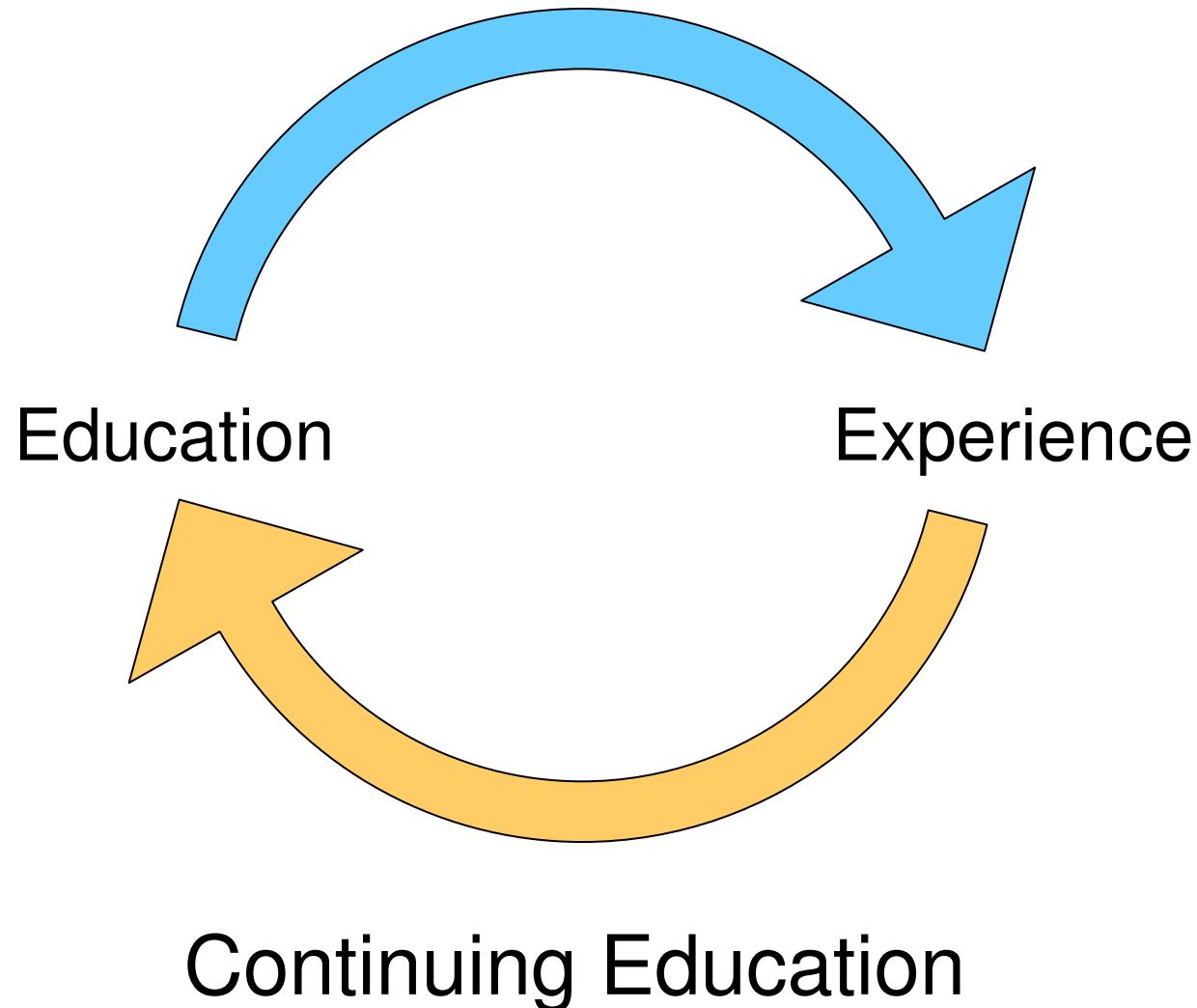


The Winning Habit...

- Test yourself
 - Grades
 - GATE
 - Paper presentations
 - Journal publications



The Winning Habit...



Continuing Education...

- Internships
- Summer Camp
- Research Assistantships
- Independent projects

Continuing Education...

- Summer 2007 - Neilsoft
- Summer 2008 - IIT Kanpur Summer Camp
- Summer 2009 - DAAD (Germany) internship
- Summer 2010 - *Stayed home!*
- Summer 2011 - LERA internship

Continuing Education...

- IIT Gandhinagar short courses
 - Masonry Design
 - Fire Engineering
 - Geotechnical Engineering
- NICEE (<http://www.nicee.org/>)
 - Earthquake Engineering
 - Codes with commentary
 - Free books

Continuing Education...

- Build yourself, not your resume

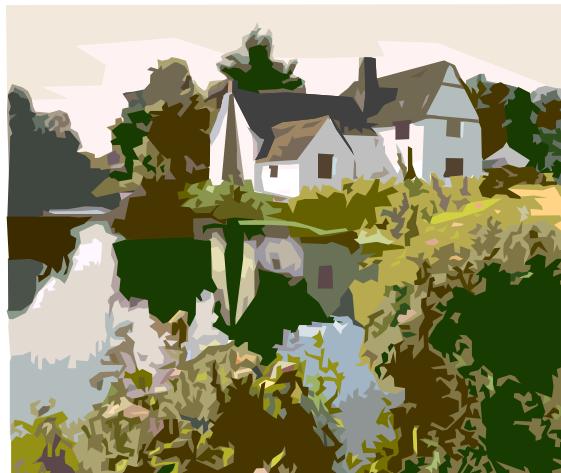
Resume will build itself...

- Develop a perspective on career options
- Enjoy learning in class
- Build contacts



Social development

- Go home and spend quality time with parents
...probably the only time you can go without asking for permission!



Building a Career



Opportunities for Civil Engineers

- Second nation building
 - Improved housing
 - High-speed transportation
 - Bridges and flyovers
 - River-linking
 - Power-plants
- Huge need for intelligent people

Opportunities for Civil Engineers

GOVERNMENT

- Job security
- Steady career

PRIVATE

- Can choose work
- Headway in profession

In summary,

- Talk to people, ask questions
- Who are you?
- What are your goals?

Foundations for Civil Engineers

- Need for higher education
 - Licensure requirements
 - Meaningful opportunities
 - Gain perspective

Avenues for higher education...

- Studies abroad
 - US, Europe, New Zealand, Japan
- GRE
 - English (4000 words!)
 - Maths (10th std)
 - Essay typing!
- Statement of purpose
- Funding opportunities

Avenues for higher education...

- Studies in India
 - IITs, IISc
 - High quality technical education
- GATE
 - true test of aptitude
 - take in final year
- Funding – no problem!

Personal Development...

- You are responsible for your own development!
- Employment is a business contract – both sides are looking only for their own selfish interests



Personal Development...

PROFESSIONALISM

- Clean, ironed clothes
- Polished leather shoes
- Boys - haircut and shave!
- Girls - professional clothes
- Courteous, polite



Personal Development...

RESUME

- 30 second rule
- One page only
- Update regularly!

JOHN DOE	
Full Address • City, State, ZIP • Phone Number • E-mail	
<hr/>	<hr/>
OBJECTIVE: Design apparel print for an innovative retail company	
EDUCATION:	
UNIVERSITY OF MINNESOTA College of Design	City, State May 2011
▪ Bachelor of Science in Graphic Design ▪ Cumulative GPA 3.93, Dean's List ▪ Twin cities Iron Range Scholarship	
WORK EXPERIENCE:	
AMERICAN EAGLE Sales Associate	City, State July 2009 - present
▪ Collaborated with the store merchandiser creating displays to attract clientele ▪ Use my trend awareness to assist customers in their shopping experience ▪ Thoroughly scan every piece of merchandise for inventory control ▪ Process shipment to increase my product knowledge	
PLANET BEACH Spa Consultant	City, State Aug. 2008 - present
▪ Sell retail and memberships to meet company sales goals ▪ Build organizational skills by single handedly running all operating procedures ▪ Communicate with clients to fulfill their wants and needs ▪ Attend promotional events to market our services ▪ Handle cash and deposits during opening and closing ▪ Received employee of the month award twice	
HEARTBREAKER Sales Associate	City, State May 2008 - Aug. 2008
▪ Stocked sales floor with fast fashion inventory ▪ Marked down items allowing me to see unsuccessful merchandise in a retail market ▪ Offered advice and assistance to each guest	
VICTORIA'S SECRET Fashion Representative	City, State Jan. 2006 - Feb. 2009
▪ Applied my leadership skills by assisting in the training of coworkers ▪ Set up mannequins and displays in order to entice future customers ▪ Provided superior customer service by helping with consumer decisions ▪ Took seasonal inventory	
VOLUNTEER EXPERIENCE:	
TARGET CORPORATION Brand Ambassador	City, State August 2009
▪ Represented Periscope Marketing and Target Inc. at a college event ▪ Engaged University of Minnesota freshman in the Target brand experience	

Personal Development...

COVER LETTER

- Why this company?
- Why you?
- Convey passion of your chosen field



Take home ideas

Food for thought...

The 3 I's of Success

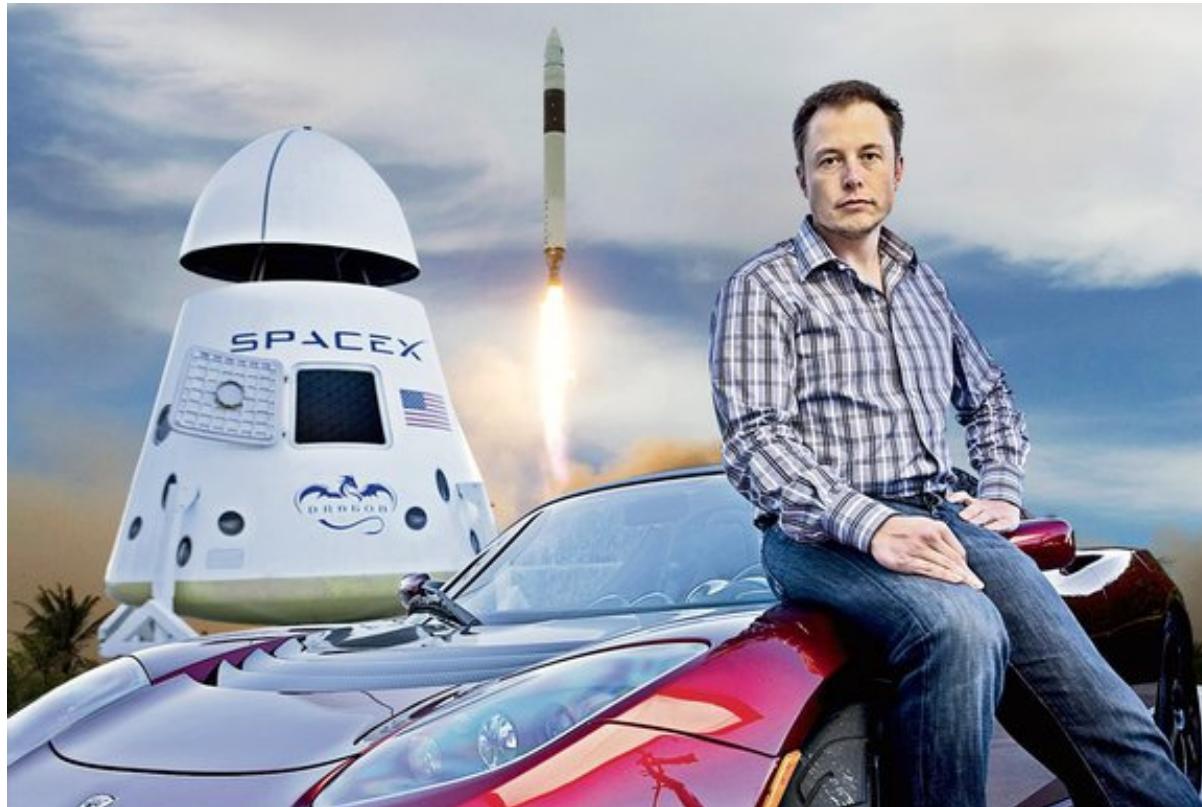
Imitate



1. Felix Candela: Strength and Elegance in Structural Engineering by Prof. Maria Garlock
(<https://www.youtube.com/watch?v=6VyCiXb-8jg>)
2. Prof. Rupen Goswami – IIT Madras

The 3 I's of Success

Imitate → Innovate



1. Felix Candela: Strength and Elegance in Structural Engineering by Prof. Maria Garlock (<https://www.youtube.com/watch?v=6VyCiXb-8jg>)
2. Prof. Rupen Goswami – IIT Madras

The 3 I's of Success

Imitate → Innovate → Inspire

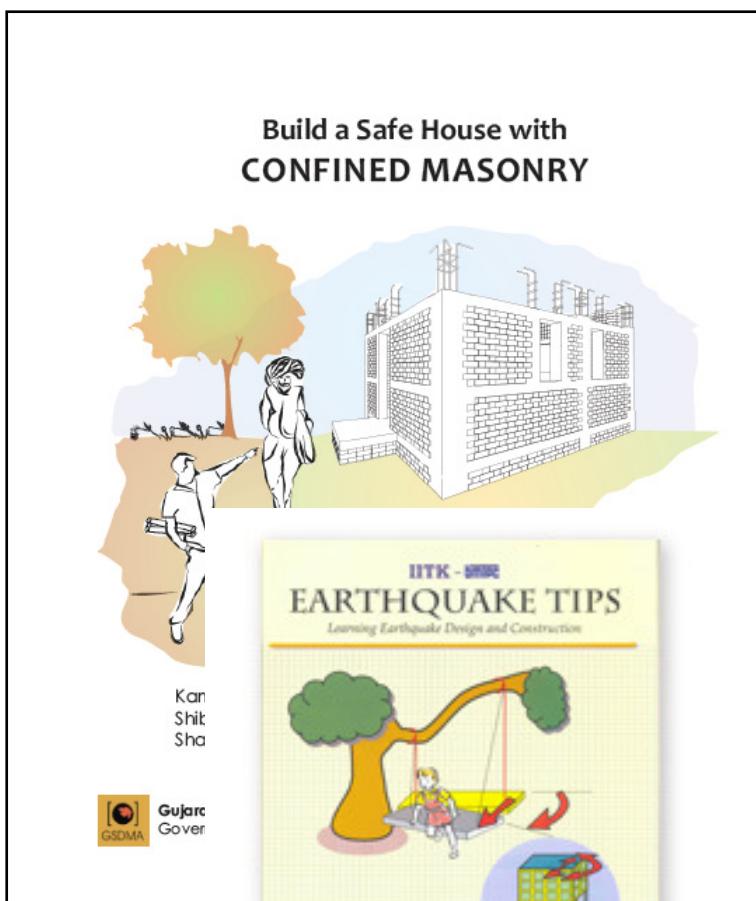


1. Felix Candela: Strength and Elegance in Structural Engineering by Prof. Maria Garlock (<https://www.youtube.com/watch?v=6VyCiXb-8jg>)
2. Prof. Rupen Goswami – IIT Madras

Ideals and Inspirations

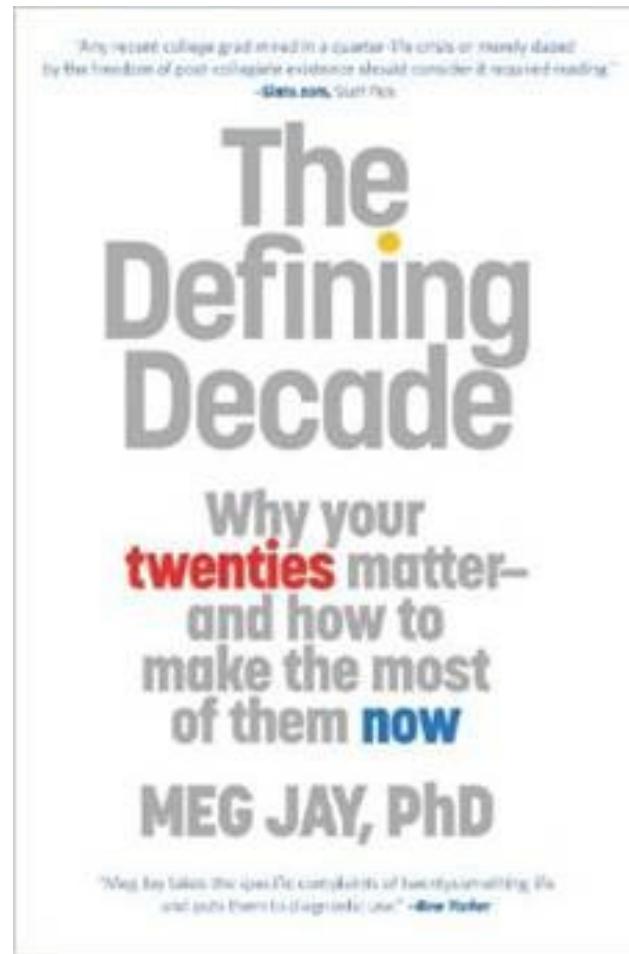
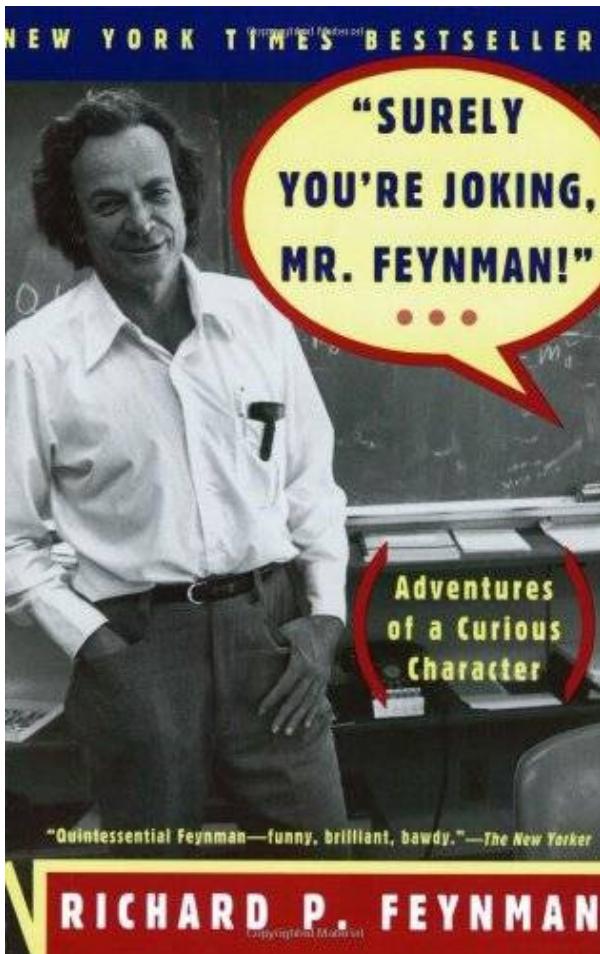
Reading resources ...

Technical must-reads



The image displays two book covers related to earthquake engineering. The left book, titled "Some Concepts in Earthquake Behaviour of Buildings" by C. V. R. Murty, Rupen Goswami, A. R. Vijayanarayanan, and Vipul V. Mehta, illustrates a building tilted during an earthquake. The right book, titled "Introduction to Earthquake Protection of Non-Structural Elements in Buildings" by the same authors, shows a multi-story building with various internal components like pipes and ducts, with a red arrow indicating seismic forces. Both books are published by the Gujarat State Disaster Management Authority, Government of Gujarat.

Non-technical must-reads!



In closing...

- Make your parents and teachers proud!

... think of the enormous sacrifices they have made for us to be where we are!





Thank you for your patience!

deshpandealok7@gmail.com