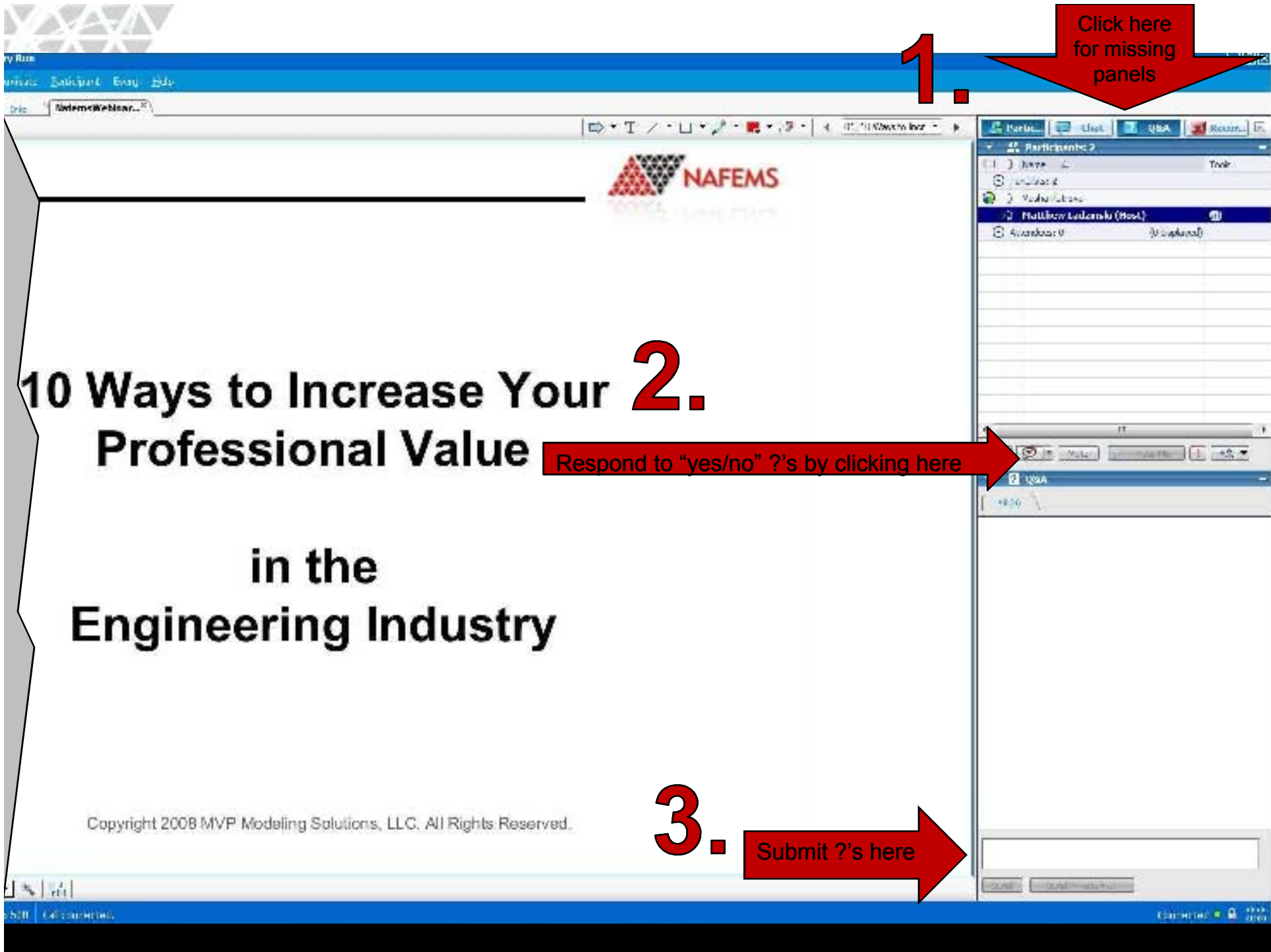




# 10 Ways to Increase Your Professional Value in the Engineering Industry

June 2<sup>nd</sup>, 2009





Click here for missing panels

1.

# 10 Ways to Increase Your Professional Value in the Engineering Industry

Respond to "yes/no" ?'s by clicking here

3. Submit ?'s here

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# Agenda

## 10 Ways to Increase Your Professional Value in the Engineering Industry

June 2<sup>nd</sup>, 2009

11am PDT (Seattle) / 2pm EDT (New York) / 7pm GMT (London)

▲ Welcome & Introduction (Overview of NAFEMS Activities)

▲ Mr. Matthew Ladzinski, *NAFEMS North America*

▲ 10 Ways to Increase Your Professional Value in the  
Engineering Industry

▲ Dr. Masha V. Petrova, *MVP Modeling Solutions, LLC*

▲ Q&A Session

▲ Panel

▲ Closing



Ladzinski



Petrova



THE INTERNATIONAL ASSOCIATION  
FOR THE ENGINEERING ANALYSIS  
COMMUNITY

## An Overview of NAFEMS Activities



Matthew Ladzinski  
NAFEMS  
NAFEMS North America



# Planned Activities

## ➤ Webinars

- New topic each month!
  - Composites – later this month (June '09)
  - Non-Linear – July '09
- Recent webinars:
  - Dynamic FE Analysis
  - Modal Analysis in Virtual Prototyping and Product Validation
  - Pathways to Future CAE Technologies and their Role in Ambient Intelligent Environments
  - Computational Structural Acoustics: Technology, Trends and Challenges
  - FAM: Advances in Research and Industrial Application of Experimental Mechanics
  - CCOPPS: Power Generation: Engineering Challenges of a Low Carbon Future
  - Practical CFD Analysis
  - Complexity Management
  - CCOPPS: Creep Loading of Pressurized Components – Phenomena and Evaluation
  - Multiphysics Simulation using Implicit Sequential Coupling
  - CCOPPS: Fatigue of Welded Pressure Vessels
  - Applied Element Method as a Practical Tool for Progressive Collapse Analysis of Structures
  - A Common Sense Approach to Stress Analysis and Finite Element Modeling
  - The Interfacing of FEA with Pressure Vessel Design Codes (CCOPPS Project)
  - Multiphysics Simulation using Directly Coupled-Field Element Technology
  - Methods and Technology for the Analysis of Composite Materials
  - Simulation Process Management
  - Simulation-supported Decision Making (Stochastics)
  - Simulation Driven Design (SDD) Findings

**To register for upcoming webinars, or to view a past webinar, please visit: [www.nafems.org/events/webinars](http://www.nafems.org/events/webinars)**



▲ Established in 2009

▲ Next courses:

▲ Dynamic FE Analysis – June 30<sup>th</sup>, 2009 (six-week course)

▲ Composites – July/August, 2009 (four-week course)

▲ Non-linear – August/September, 2009 (four-week course)

▲ Proposed course offerings:

▲ Stochastics – Summer 2009

▲ Verification & Validation – Late-Summer/Fall 2009

▲ For more information, visit: [www.nafems.org/e-learning](http://www.nafems.org/e-learning)



# Planned Events

Upcoming Nafems Events	
<b>Introduction au Calcul de Structures, aux Éléments Finis et à la Simulation Numérique</b> 9th Jun 2009 Course Paris, France	
<b>NAFEMS World Congress 2009</b> 16th Jun 2009 Congress Crete, Greece	
<b>Dynamic FE Analysis</b> 30th Jun 2009 e-Learning USA, Online	
<b>Practical Stress Analysis &amp; Finite Element Methods</b> 15th Sep 2009 Course Midlands, UK	
<b>Dynamics Testing &amp; Analysis Workshop</b> 16th Sep 2009 Workshop Bristol, UK	

Let us know if you would like to schedule an on-site training course (see *Introduction to FEA Analysis*)

<b>Introduction au Calcul de Structures, aux Éléments Finis et à la Simulation Numérique</b> 22nd Sep 2009 Course Paris, France	
<b>Analisi del comportamento a crash mediante test virtuale</b> 22nd Sep 2009 Seminar Bologna, Italy	
<b>Introduction to FEA Analysis</b> 22nd Sep 2009 Course Orlando, FL, USA	
<b>Recent Advances in the Fatigue Analysis of Welded Structures</b> 7th Oct 2009 Seminar Gaydon, UK	
<b>Introduction to FEA Analysis</b> 3rd Nov 2009 Course Seattle, WA, USA	
<b>Multidisziplinäre Simulationen</b> 9th Nov 2009 Seminar	

Multiple opportunities to attend conferences, seminars/workshops and training courses...



▲ When: **June 16<sup>th</sup> – 19<sup>th</sup>, 2009**

▲ Where: **Crete, Greece**

▲ Updates:

▲ Over 200 presentations

▲ Six Keynote Presentations

▲ Additional Workshops and Activities:

▲ Mini-symposium: Analysis and Simulation of Composite Structures Including Damage and Failure Prediction

▲ Engineering Analysis Quality, Verification & Validation





▲ Additional Workshops and Activities (cont.):

▲ High Performance Computing in Engineering Simulation

▲ Multi-physics Simulation: Advanced Coupling Algorithms and Strategies

▲ Crash



- ▲ Additional Workshops and Activities (cont.):
  - ▲ EC AUTOSIM Project – (one year)
  - ▲ EC FENet Project – (four years)
  - ▲ EC Multi-Scale Analysis of Large Aerostructures Project
  - ▲ NAFEMS Skills Management Initiative
  - ▲ Simulation Data Management
  - ▲ Material Data
  - ▲ Optimization/Robustness/Stochastics
  - ▲ Round Table Discussion on Business Drivers



### NWC09 Keynotes

➤ **Erich Schelkle** - Porsche AG and Automotive Simulation Center  
Stuttgart, Germany



➤ **Tsuyoshi Yasuki** - Toyota Motor Corporation, Japan



➤ **Martin Wiedemann** - DLR German Aerospace Center, Germany



➤ **Jacek Marczyk** - Ontonix, Italy



➤ **Louis Komzsik** - Siemens PLM Software, USA



➤ **François Besnier** - Principia RD, France





# NWMC 2009

NAFEMS WORLD CONGRESS 09  
JUNE 16<sup>th</sup> - 19<sup>th</sup> CRETE - GREECE



For more information about the NWC09, please visit: [www.nafems.org/congress](http://www.nafems.org/congress).





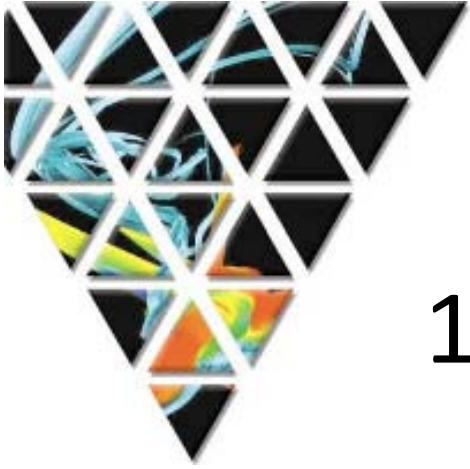
## ***MASHA V. PETROVA, PH.D.***

- Founder and CEO of MVP Modeling Solutions, LLC
- Creator of Successful Unemployment Toolkit™ for Engineers and Scientists

### Background:

- Ph.D. in Aerospace Engineering from the University of California at San Diego
- Created and taught courses on the computer simulation of reactive flows and trained professionals all over the globe, including the U.S., Canada, China, Japan and Germany
- Published papers in peer-reviewed journals and presented technical talks at conferences such as International Symposium on Combustion, American Society of Mechanical Engineers Turbo Expo, Society of Automotive Engineers, and American Institute of Aeronautics and Astronautics Aerospace Sciences Meeting and Exhibit
- Co-founder of the Women in Combustion group
- Active member the Society of Automotive Engineers and Toastmasters International
- Featured speaker and a course instructor for the American Chemical Society

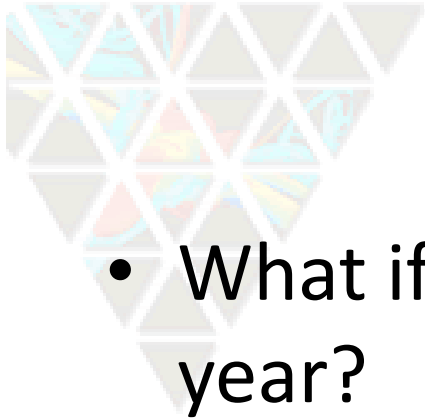




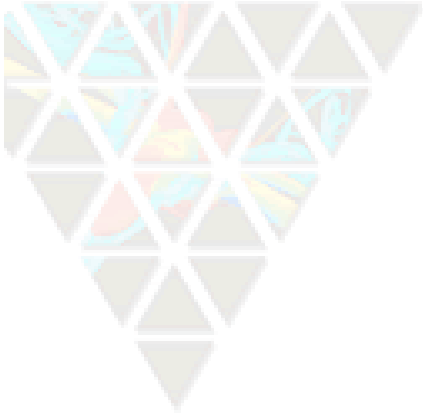
# 10 Ways to Increase Your Professional Value in the Engineering Industry

2 June 2009



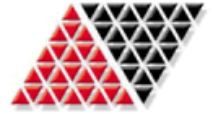
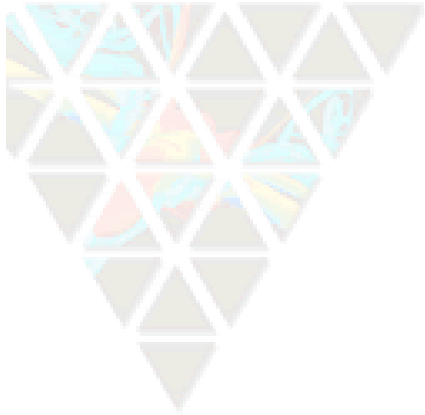


- What if your 1 month layoff stretches into 1 year?
- How can you increase chances of promotion in this economy?
- How can you make yourself more qualified and more appealing to future employers, whether or not you currently have a job?



- What can you do to become more like the employee in the second scenario?

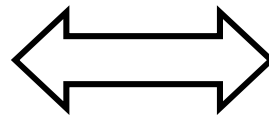




# Professional Development

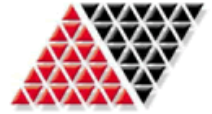
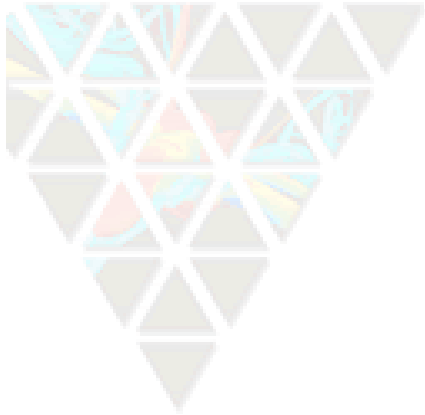
## Corporate World

- Coworkers give advice
- Boss sends you to conferences
- Share ideas at company meetings



## World of Self-Employed

- No coworkers
- No boss
- No company meetings

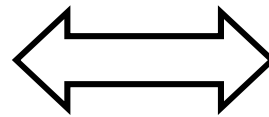


# Professional Development

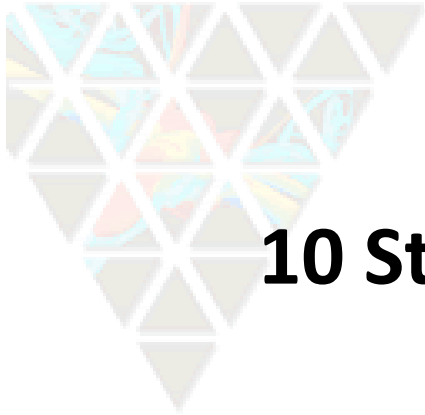
Corporate World

World of Self-Employed  
or Unemployed

Company provides  
development  
opportunities

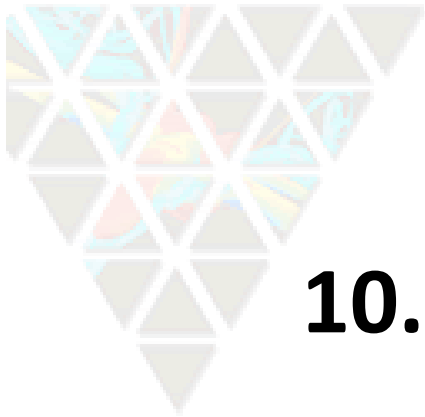


You develop you



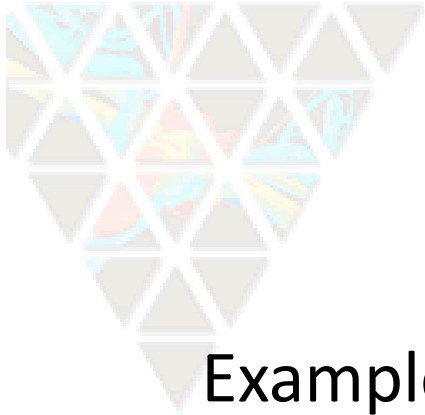
## **10 Steps for Professional Growth During Economic Downturn**

- That allow you to grow drastically as a professional
- When the economy comes back - you come back into the job market as a much stronger candidate



## 10. Join Professional Associations

- If you haven't already, join professional associations
- If you are already a member, join at least one or two more
  - Build relationships
  - Stay updated on current research
  - Potential references



## Examples of Engineering Associations

- NAFEMS, SAE, ASME, AIAA, etc

How do you find them?

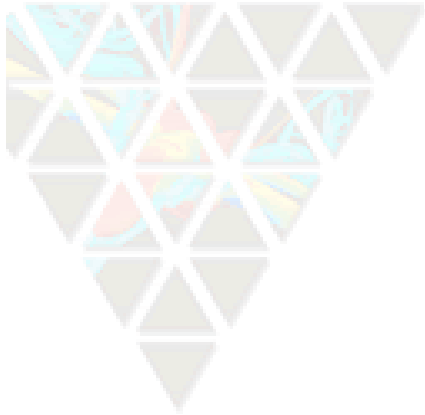
- Ask colleagues, Google,
- Check

*“National Trade and Professional Associations of the United States 2008 “* at your local library



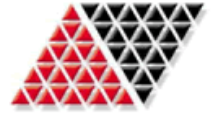
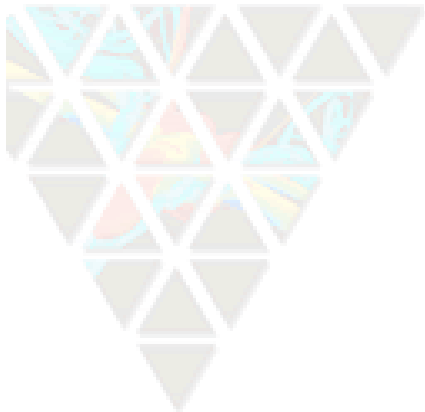
## 9. Become an ACTIVE Member of the Associations You Have Joined

- Serve on committees
- Chair conference sessions
- Volunteer for local events



## Benefits of Being Involved

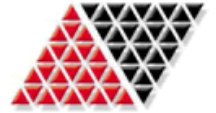
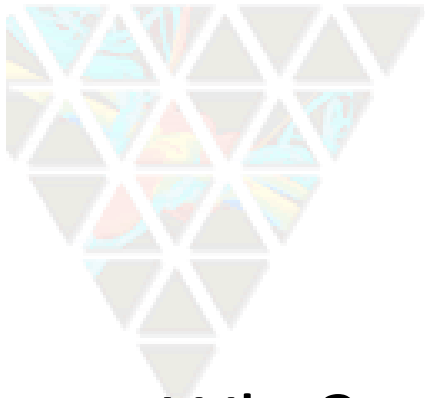
- Boost your resume
- Instant part of a team with similar backgrounds and interests
- Learn about new research and job openings
- References and recommendation letters



## Case Study: NAFEMS

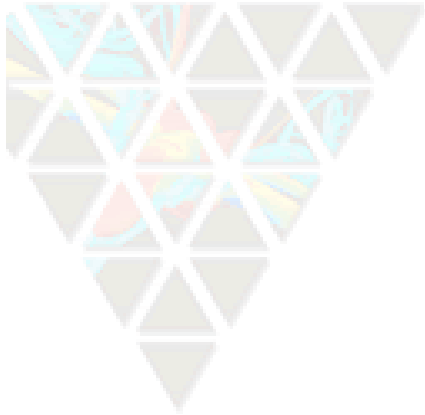
- Events - meet people and learn something new (travel to Greece!)
- Plenty of volunteer opportunities – great for your resume and for networking
- Training courses that you can take or apply to teach
- Speaking opportunities
- Several activities are FREE to members!





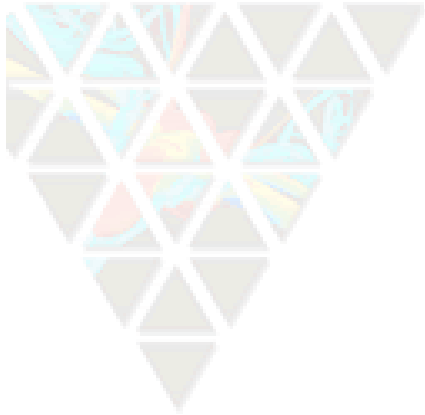
## 8. Give Talks

- Why?
  - Companies are dying for technical people who can explain their thoughts clearly and succinctly
  - Explain complex topics to customers, to managers, to CEOs and board members (typically very short attention spans)
  - Triple your value as an employee



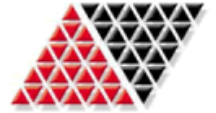
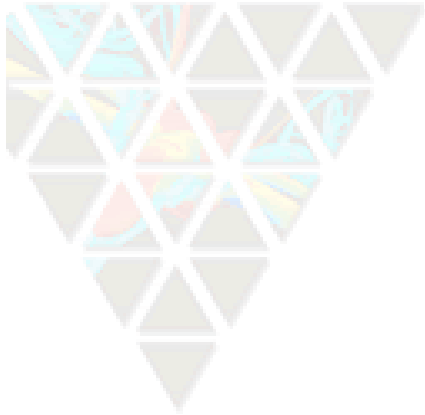
## Exercise

- Think about your Masters/PhD thesis or a technical proposal or a report you wrote recently..
- (30 seconds)



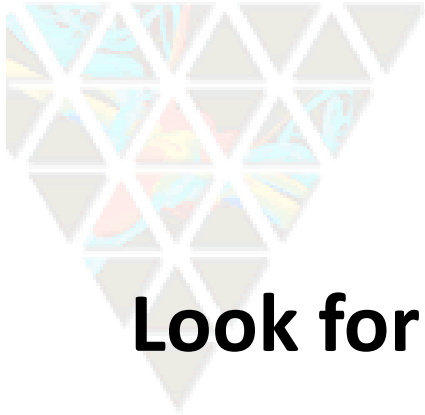
## Exercise (part 2)

- Explain the main point of your thesis/proposal/report in layman's terms (not using technical jargon)
- in 30 seconds or less..
- Go!



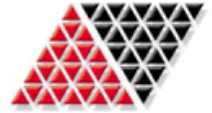
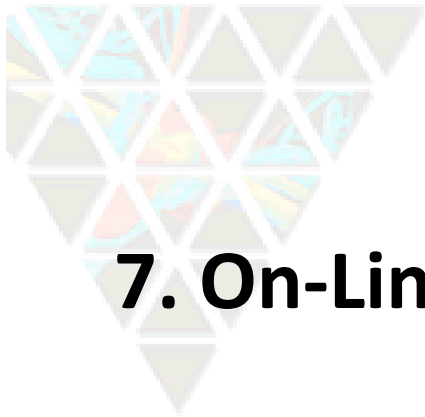
## Ready. Set. Speak.

- **Join Toastmaster International** -biweekly meetings are focused on helping you become a better speaker and communicator.
  - <http://www.toastmasters.org/>



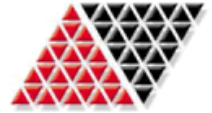
## Look for opportunities to give talks on anything!

- Organizations that are always looking for volunteer speaker:
  - Your kids schools
  - Boy and Girl Scout groups
  - International service/volunteer organizations



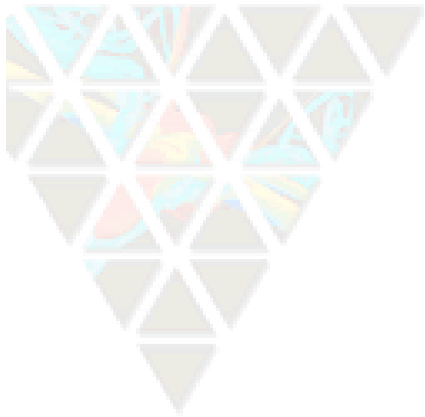
## 7. On-Line Professional Community (Facebook does not count)

- Example: [www.Linkedin.com](http://www.Linkedin.com)
  - <http://www.linkedin.com/in/mashavpetrova>
- Reach professionals all over the world, working in your field
- Spend some time creating your user profile and developing your connections



## If You Are Already a Member

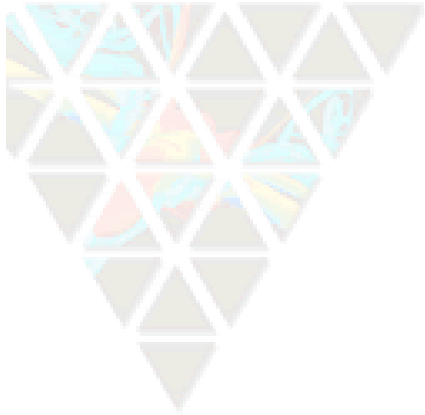
- Make the most out of it – get involved
- Join one of many linkedin groups
- Start discussions on the group bulletins
- Start your own online group



## 6. Write

- Companies love technical people who can write **well**
- Publish, and NOT just technical papers
  - Weekly or bi-weekly electronic newsletters to family/ friends
  - Write for Association Newsletters





## Start a Blog

- Web Log
- [www.blogspot.com](http://www.blogspot.com) (it's easy and free!)
- Blog example:  
<http://autocomments.blogspot.com/>



## 5. Create a Personal Business Card

**John Smith**  
CFD Engineer

101 Happiness Street  
Prosperity, CA 94372

P: 555-345-3456

E-mail: [johnsmith@gmail.com](mailto:johnsmith@gmail.com)

Website: [www.blogger.com/Johnsmith.com](http://www.blogger.com/Johnsmith.com)

Linkedin: [Linkedin.com/in/JohnSmith](http://Linkedin.com/in/JohnSmith)



## 4. Professional Lunch or Coffee Break

- Past professor
- Co-worker
- Ex co-worker
- Someone from your professional organization



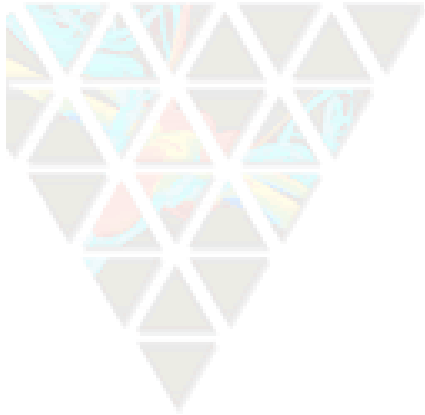
## Benefits

- Develop communication skills
- Get up to speed on current research and developments in your industry
- Feel like you are a part of the industry even if you are not working
- Find out about new position openings and more opportunities for professional growth



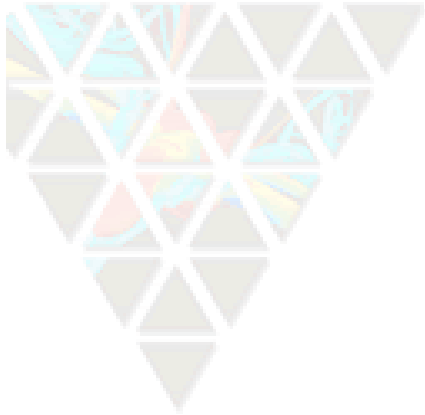
## 3. Teach

- Benefits: public speaking, writing, and networking all rolled into one
- Ask your professional contacts about teaching opportunities
- Part-time lecturer or adjunct
- Community colleges



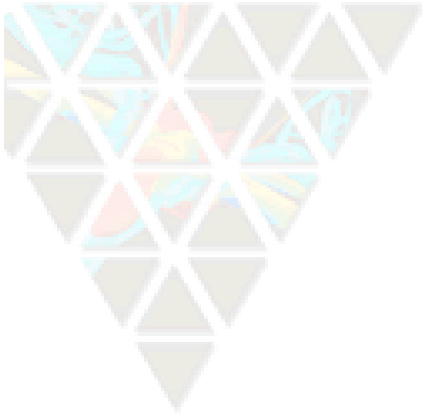
## 2. Become a Consultant

- For those who have mastered the art of good writing, clear communication and have build a solid database of professional contacts
- Might have to start a corporation or LLC



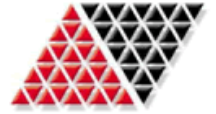
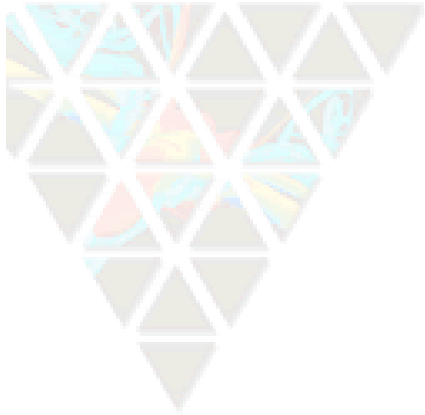
## Benefits / Downsides

- Benefits: no boss and possibly more money
- Downsides: no boss and possibly no money (requires a lot of commitment, self-discipline and some start-up capital)



- Whether you stay in business for yourself..
- or go back to work for a company
- “Professional Consultant” title, will build-up your resume





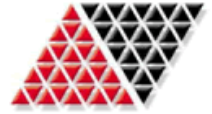
## **Bonus Slide: FREE Education**

- SAE Courses (Michigan location)
- CD-Adapco: “No Engineer left Behind Program”  
[www.cd-adapco.com](http://www.cd-adapco.com)
- ANSYS: “Land A Hand”  
[www.simutechgroup.com/training/lend-a-hand-program/](http://www.simutechgroup.com/training/lend-a-hand-program/)



# 1. Be Willing to Help Others

- Write that recommendation letter for your intern that you have been putting off
- Review that paper for a colleague
- Give advice to those who ask for it



**For more information and extensive references  
visit:**

**[www.SuccessfulUnemploymentToolkit.com](http://www.SuccessfulUnemploymentToolkit.com)**

- More extensive information
- Listen while you drive
- Brochure includes numerous additional references





THE INTERNATIONAL ASSOCIATION  
FOR THE ENGINEERING ANALYSIS COMMUNITY

# Q&A Session

Using the Q&A tool, please submit any questions you may have for our panel.





THE INTERNATIONAL ASSOCIATION  
FOR THE ENGINEERING ANALYSIS COMMUNITY

Thank you!

[matthew.ladzinski@nafems.org](mailto:matthew.ladzinski@nafems.org)