Mid-Career: Labs/Industry Promotion to the Next Level

Lori Diachin, Ph.D.
Principal Deputy Associate Director
Lawrence Livermore National Laboratory

Eve M. Schooler, Ph.D.
RAEng Visiting Professor of Sustainable Computing
University of Oxford, UK

Special thanks to previous CRA-WP CMW speakers

CRA-WP
Computing Research Association
Widening Participation

Understand the promotion process and criteria: What is valued by your organization?

Every organization is slightly different so it's important to investigate what **YOU** need to do in the context of your current environment
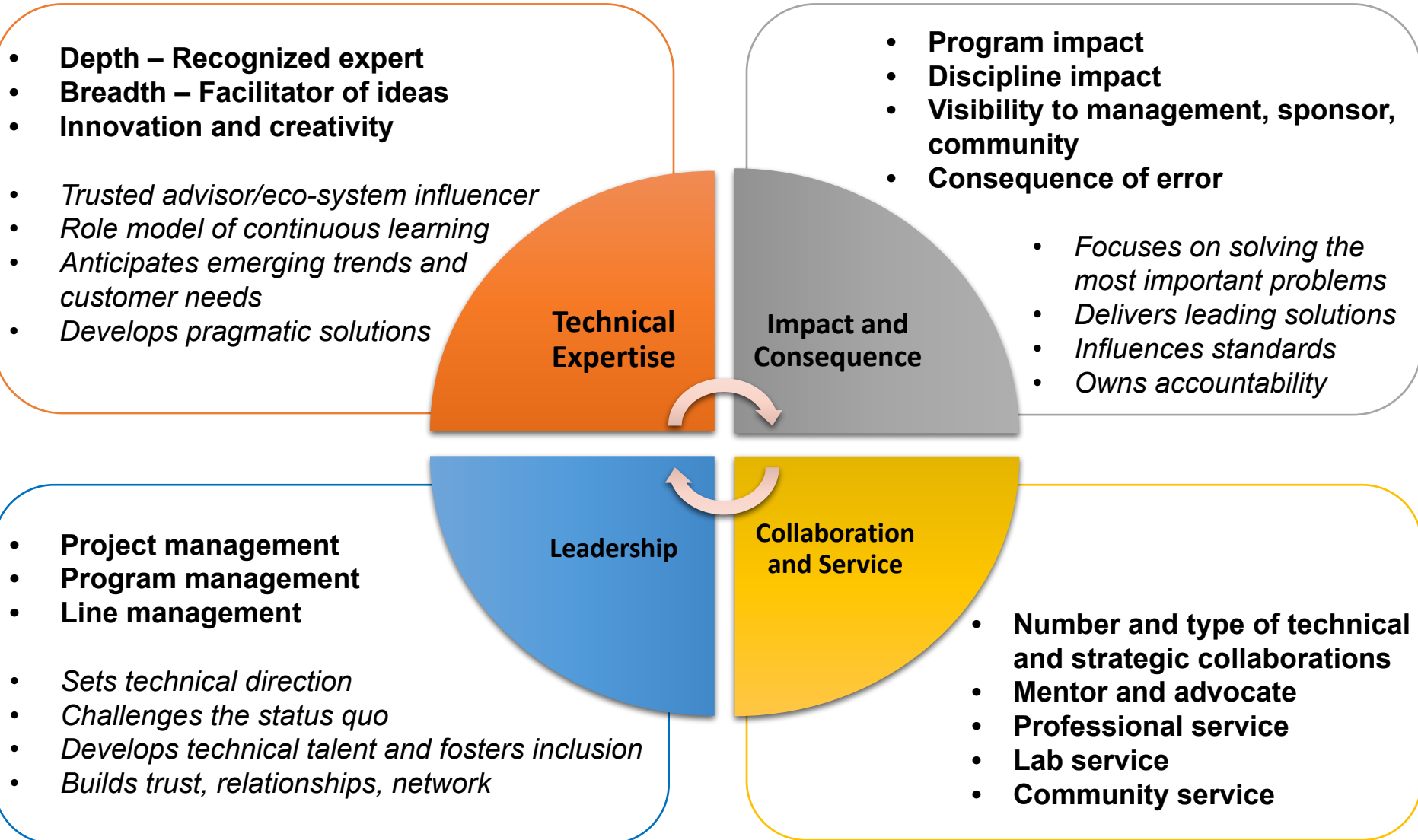
Understand your environment: Talk to others…

- Talk to your supervisor
  - about the process & criteria
  - about promotion readiness
- Talk to (recently-promoted) peers
  - How did they make the case?
  - What was the key change or contribution that earned the promotion?
- Talk to those who can write letters of support, if needed

Understand yourself: Get feedback…

- What are your strengths?
- Where are your gaps? What can you do to fill the gaps?
- What are your values? Your goals?
- In what type of job assignments do you thrive?

- Attend mock review sessions
- Solicit a 360 evaluation
- Solicit a mentor for candid feedback

Example Value System

Technical Expertise

- **Depth – Recognized expert**
- **Breadth – Facilitator of ideas**
- **Innovation and creativity**

- *Trusted advisor/eco-system influencer*
- *Role model of continuous learning*
- *Anticipates emerging trends and customer needs*
- *Develops pragmatic solutions*

Impact and Consequence

- **Program impact**
- **Discipline impact**
- **Visibility to management, sponsor, community**
- **Consequence of error**

- *Focuses on solving the most important problems*
- *Delivers leading solutions*
- *Influences standards*
- *Owns accountability*

Leadership

- **Project management**
- **Program management**
- **Line management**

- *Sets technical direction*
- *Challenges the status quo*
- *Develops technical talent and fosters inclusion*
- *Builds trust, relationships, network*

Collaboration and Service

- **Number and type of technical and strategic collaborations**
- **Mentor and advocate**
- **Professional service**
- **Lab service**
- **Community service**

Career ladder

- Multiple career pathways
  - Technical or non-technical
  - Individual contributor or manager

- Career "ladder "
  - Promotion is like advancement to the next rung (i.e., next grade or level)
  - Each rung has its own set of expectations

- **Mid-career goal:** e.g., Getting to "Principal"
  - A rung on the technical ladder to Fellow
  - Highly competitive – in terms of %'s
  - Considered a distinguished terminus

When might you be ready for promotion?

Step 1: Do excellent work at your current level

- Know your business. Know your long-term ambitions.
- **Understand expectations**
  - **Exceed them wherever and whenever you can!**
- Be accountable - credibility matters
  - Consistently keep your promises and follow through on assignments
- **Deliver impactful results**
- Take your job seriously. Have a good attitude!
  - Be a role model. Inspire others. Grow team spirit. Collaborate.
- Think about the big picture
  - Innovate to influence the broader eco-system

CRA-WP
Computing Research Association
Widening Participation

Step 2: Demonstrate you are ready for the next level

- **Ask for critical assignments** at the next level - show you deserve them and that your talents are underutilized

- **Take risks** - Step outside your comfort zone – stretch professionally

- **Volunteer** to represent your department at meetings, on committees, on important projects

- **Identify opportunities** to put unused skills to the test

CRA-WP
Computing Research Association
Widening Participation

Increase Your Visibility

- Do impactful work!
  - Understand what really matters to your boss, organization & company
    - What sorts of projects receive funding or extra funding?
    - What gets your management excited?

- Don't just know your department
  - Know who the key decision makers are
  - Ensure THEY know who you are, your accomplishments, your expertise and what value you bring to the organization
  - Know (adjacent) organizations/departments and what they do and the key people within them

- Make sure you, your work and your team are visible
  - Internally and externally

: Increasing visibility is not the same as bragging or clamoring for attention

CRA-WP
Computing Research Association
Widening Participation

Online presence is important to visibility

- Have a home page that includes a description of your research, full CV, biography, publications, etc.

- Join LinkedIn

- Create a Google Scholar page

- Blogging, facebook and X/twitter
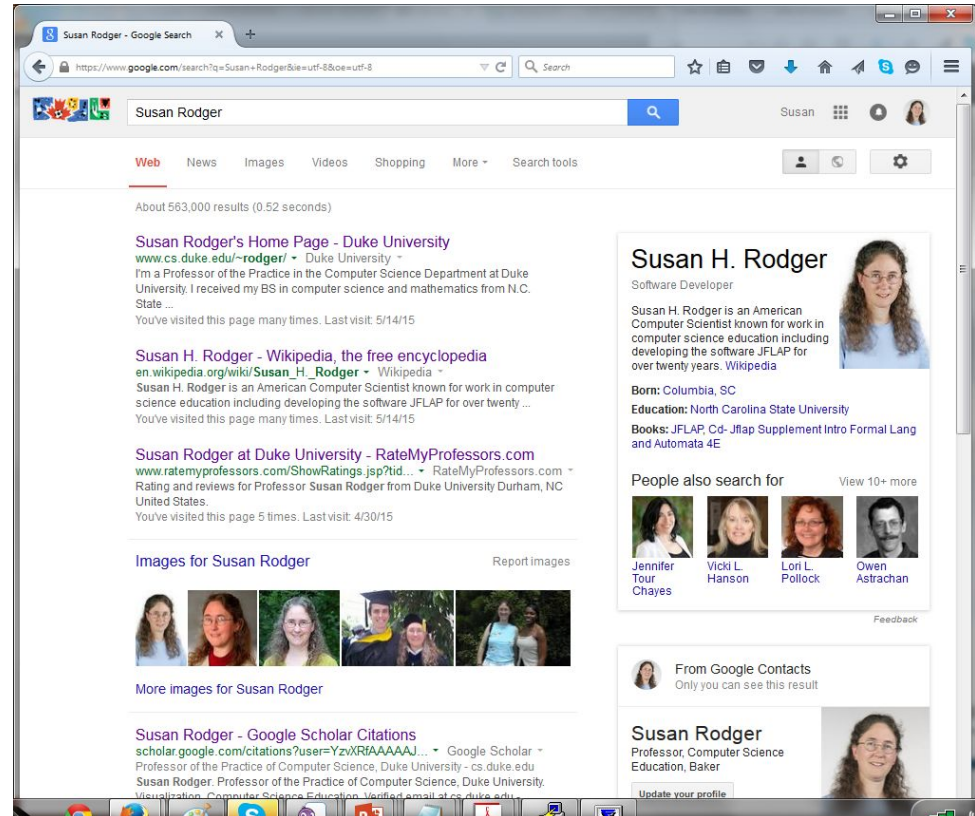
Take Initiative

- Actively participate
  - Give opinions, voice ideas in meetings, propose solutions
  - Volunteer for new kinds of assignments
    - Even if they're scary and beyond what you think you know!
  - Offer to serve as a reviewer, advisor, coach

- Initiate new work
  - Particularly when you see a technical gap
  - Particularly when you are passionate about an area

- Build bridges
  - To new collaborators and co-travelers

- **Take leadership**
  - When needed, when asked, when opportunity arises!

CRA-WP
Computing Research Association
Widening Participation

Include Mentors and Sponsors in your Network to help ensure success

- **Network:** Leads to sense of belonging, stronger community, loyalty

- **Mentor**: Helps advise you on your career and company culture

- **Sponsor/Champion**: Advocates for you; making sure your work is visible to influential people in the company

- Can help identify opportunities to shine
  - Speaking/presentation/job opportunities
  - Help you identify and pitch your strengths
  - Be sure to share your career goals!

- Have a variety of mentors and sponsors
  - Become a mentor or sponsor yourself

Actions that increased chances for promotion

- Volunteered for a variety of assignments - some were not very glamorous, some had high ambiguity, some were highly inter-disciplinary

- Stretched professionally – took on senior leadership roles and then worked hard to ensure they succeeded

- Found great mentors and sponsors… and mentees

- Took advantage of opportunities when they presented themselves – say Yes!

- Focused on improving presentation skills and speaking up more in meetings

- Introspected to understand strengths and weaknesses

- Built diverse teams with complementary skill sets

CRA-WP
Computing Research Association
Widening Participation

Other Helpful Learnings
(especially when promotion is delayed)

- Be positive while remaining realistic.

- Persevere. Be resilient. Be flexible. Be deliberate.

- Get comfortable getting outside your comfort zone; Growth can be uncomfortable.

- Be ready to seize unexpected opportunities.

No such thing as failure;
You are constantly learning!

CRA-WP
Computing Research Association
Widening Participation

Thank You

Q&A

CRA-WP

Computing Research Association

Widening Participation

Template Slides

Promotion to the Next Level

Karina Edmonds, Ph.D.
VP, Global Lead for Academies and
University Alliances at SAP
@dr_karinae

Jeanine Cook, Ph.D.
Principal Member of Technical Staff
Sandia National Laboratories, NM

CRA-WP
Computing Research Association
Widening Participation

Karina's Story

About Me

1. Immigrated from Dominican Republic
2. Encouraged to consider a different career path
   Distinguished Alumni Award
3. Engineering Hall of Fame & Distinguished Alumni Award
4. Caltech Aeronautics & Materials
5. Mother of 3 strong, intelligent, kind daughters

2

CRA-WP
Computing Research Association
Widening Participation

Karina Montilla Edmonds

- BS in Mechanical Engineer at University of Rhode Island
- MS, PhD at California Institute of Technology (Caltech)
- Northrop Grumman (Automotive Division for TRW)
- Jet Propulsion Laboratory (NASA, Managed by Caltech)
- Director of JPL Technology Transfer at Caltech
- US Department of Energy, under Secretary Chu (Obama Administration)
- Executive Director for Corporate Partnerships at Caltech
- Lead for University Relations at Google Cloud AI
- VP, Global Lead for Academies and University Alliances

Jeanine's Path

I enjoy technical work, leading projects, and driving the technical vision, which is why I have successfully and intentionally avoided the management path!

Education: B.S, Electrical Engineering
University of Colorado

M.S., Computer Science
University of Colorado

Ph.D., Electrical & Computer Engineering
New Mexico State University

Career:
- Sandia National Labs - 7 years
  - Came in at almost the highest level, Principal Member of Technical Staff
- New Mexico State University – 11 years
  - Promoted to associate
  - Pressured to go up for full, but decided to leave!
    - Did everything to make full, just wasn't committed to institution
- McDonnell Douglas – 6 years (a long time ago!)

CRA-WP
Computing Research Association
Widening Participation

Overcoming Obstacles

Almost didn't get a PhD

- Academic institutions often NOT accessible

Treated different than male colleagues in academia

- In spite of (or because of!) success
  - Wouldn't count credits from 10 grad students as class
  - Wouldn't let me buy-out of courses

Women have to yell to be heard!

Fresh out of graduate school

- Male classmates got offers for 20% higher salaries
- Offer withdrawn within seconds of deadline

First job out of graduate school

- Never recognized or heard
- Customer held very high opinion of me, but not my boss

Overcoming Obstacles

Amazing opportunity almost missed

- 'She is not going to want to move with three young kids!'
- Best intended colleagues can hold you back

Recognizing when no longer a fit

- 'You need to smile less.'

Watch out for re-organizations

- Re-organization can effectively lead to demotion

You Don't Get What You Deserve, YOU GET WHAT YOU NEGOTIATE

- The first offer is hardly ever the best offer

- If they want you, they will value your skills

- If they are not willing to negotiate, likely not a good place to be

know...

- Women request raises less frequently

- Women apply for promotions at strikingly lower rates

CRA-W
Computing Research Association
Women

Promotion at the Lab

- LTE ☐MTS☐PMTS☐DMTS

- Distinguished Member of Technical Staff
  - Very hard to get
    - Positions are EXTREMELY limited and these typically go to people who have spent their careers there]
  - Alternative path until a position opens
    - Lead (PI) of every project you're involved with!

But what should you do to try to get promoted?

Increase Visibility

- Do impactful work!
  - Understand what really matters to your organization
    - What sorts of projects receive funding or extra funding?
    - What gets your management excited?
- Don't just know your department
  - Know who the key decision makers are
    - They should know who you are and what value you bring to the organization
  - Know the other organizations/departments and what they do and people within them
- Make sure you and your work are visible

Show Initiative

- Take leadership when needed

- Participate
  - Give opinions, voice ideas in meetings
  - Volunteer for assignments
    - Even if they're scary and beyond what you think you know!

- Initiate new work
  - Particularly when you see a technical gap

Networking, mentoring, and sponsorship

Good Mentors Can:

- Give you additional perspective and advice on hard decisions

- Alert you to opportunities inside and outside your organization

- Tell you what you need to hear.. Not just what you want to hear

Good Sponsors:

- Can and will attest to the impact you can provide 1st hand

- Are in the circle of trust where they can impact your path

Networking

- As your job grows, you will need to depend on others to help achieve goals

- Networking gives you the opportunity to help and be helped

- The most sought-after opportunities may require more than a single sponsor

CRA-WP
Computing Research Association
Widening Participation

Other Helpful Learnings

- Be positive while remaining realistic.

- Persevere is a must. Be resilient and flexible.

- Get out of your comfort zone, growth is uncomfortable.

- Be ready to seize unexpected opportunities.

**No such thing as failure,
you either win or you LEARN**

Q&A

PROMOTION WITHIN THE NATIONAL LABORATORIES

Lori Diachin
Principal Deputy Associate Director, Computing
Lawrence Livermore National Laboratory

CRA-W
Computing Research Association
Women

Who am I?

The work me:

A Project Leader: 1995-present: Latest is the DOE exascale computing project $1.8B over 7 years; ~1000 researchers

A Line Manager: 2010-2016: Director, Center for Applied Scientific Computing, a 100 person research organization focused on math, CS and data sciences;
2016-2018 IT Dept Head (400 people); 2020-present PDAD for Computing (1400)

A Program Developer: 2003-2018: Math/CS Office of Science Portfolio at LLNL (30 projects); 2011-2018: Computation's LDRD portfolio at LLNL (10 projects)

Education: PhD in applied mathematics 1992

The non-work me:

A reader: I love novels

An Artist: I like to work on watercolors, stained glass

A nature lover: Love to hike, etc

A Doer: I love to cross things off my "to-do" list

An introvert: I crave quiet alone time

CRA-W
Computing Research Association
Women

Where I work – Lawrence Livermore National Laboratory

Experimental Test Site (11 miles^2 near Tracy, CA)

- National security mission
- Established in 1952
- Approximately 8,500 employees
- 1 square mile, 684 facilities
- Annual federal budget: ~ $3B

Step one – do excellent work at your current level

- Deliver impactful results. Be accountable.
- Keep your promises and follow through on assignments. Credibility matters
- Take your job seriously. Have a good attitude.
- Think about the big picture. Know your business.
- Know the expectations and exceed them where ever you can

Step two – show you are ready for the next level

- **Ask for more responsible assignments** and do them well – show you deserve them and that your skills are underutilized
- **Take risks** - Step outside your comfort zone – stretch professionally
- **Volunteer** to represent your department at meetings, committees or projects
- Look for opportunities to put unused skills to the test

CRA-W
Computing Research Association
Women

Increasing your visibility is critical to career advancement and promotion

- *You must work hard, but others need to know of your accomplishments and expertise*
- *Increasing visibility is not the same as bragging or clamoring for attention*
- *Key decision makers should know:*

  1. Who you are

  2. What value you bring to the organization
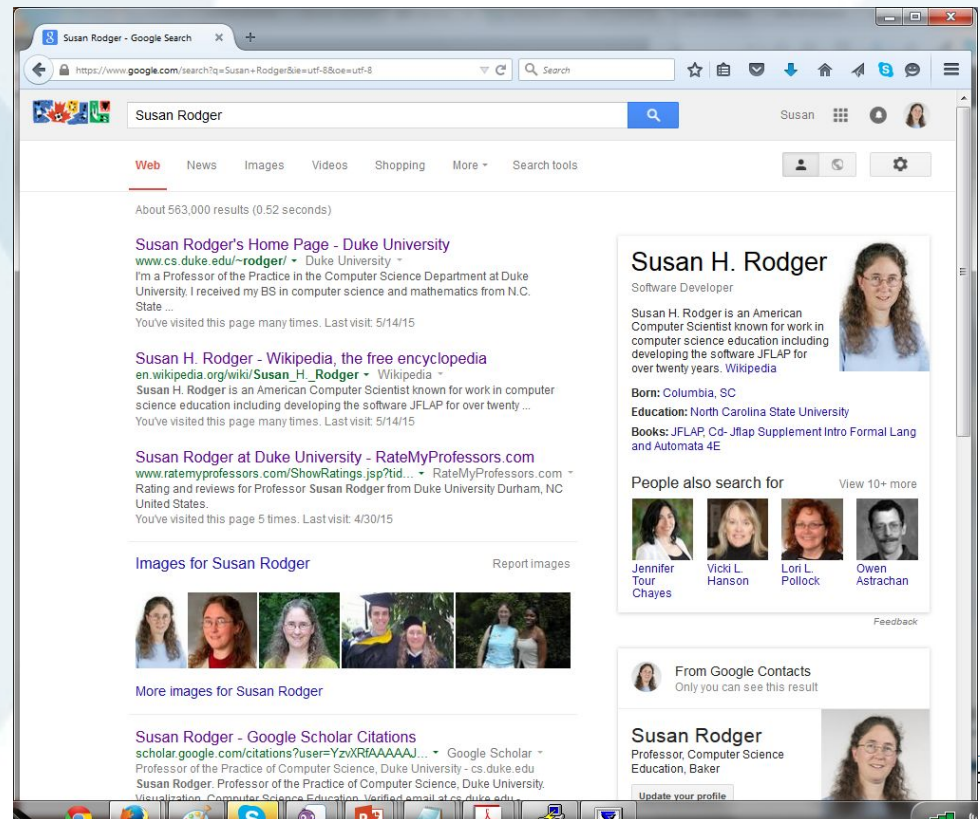
Your online presence is important to your visiblity

- Have a home page that includes a description of your research, full CV, biography, publications, etc
- Join Linked-In
- Create a google scholar page
- Blogging, facebook and twitter

Understanding the process is important – what is valued by your organization?

Every organization is slightly different so it's important to investigate what **you** need to do in the context of your current environment

Understanding your environment: Talk to others…

- Talk to your supervisor about the promotion process
- Talk to peers who were recently promoted
  - How did they make the case?
  - What was the key change that earned the promotion?

Understanding yourself… get feedback

- What are your strengths?
- Where are your gaps? What can you do to fill the gaps?
- What are your values?
- In what type of job assignments do you thrive?

- Have a 360 evaluation done
- Have a mentor give you candid feedback

CRA-W
Computing Research Association
Women

An example: The CASC value system has four basic axes we consider for promotion

Technical SKAs
- Depth
- Breadth
- Innovation and creativity

Impact and Consequence
- Program impact
- Discipline impact
- Consequence of error
- Management/sponsor visibility

Leadership Skills
- Project management
- Program management
- Line management

Collaboration and Service
- Number and type of technical collaborations
- Mentoring
- Professional service
- Lab service

Include mentors and sponsors in your network to help ensure success

- **Mentor**: Helps advise you on your career and company culture
- **Sponsor/Champion**: Advocates for you; making sure your work is visible to influential people in the company
- Both can help you identify opportunities to shine
    - Speaking/presentation opportunities
    - Help you identify and pitch your strengths
    - Be sure they know your career goals!
- Have a variety of mentors and sponsors
- Become a mentor or sponsor yourself

Computing Research Association Women

Other Helpful Learnings

- *Be positive while remaining realistic.*

- *Perseverance is a must. Be resilient and flexible.*

- *Get out of your comfort zone, growth is uncomfortable.*

- *Be ready to seize unexpected opportunities.*

No such thing as failure,
you either win or you LEARN

CRA-W
Computing Research Association
Women

Actions I have taken that have helped my chances for promotion

- Volunteered for a variety of assignments (some were not very glamorous)
- Stretched professionally – taking on deputy and leadership roles and then working hard to ensure they succeed
- Found great mentors and sponsors
- Take advantage of opportunities when they presented themselves – say Yes!
- Focused on improving presentation skills and speaking up more in meetings
- Introspection to understand strengths and weaknesses; build support teams with complementary skill sets

CRA-W
Computing Research Association
Women

Eve's original slides

Another example: Technical Readiness criteria

Expertise

- Recognized domain expert
- Trusted advisor and influencer
- Role model and advocate for continuous learning
- Facilitator of ideas across the company and industry
- Synthesizer and or simplifier of complex technical issues
- Expertly negotiates trade-offs and develops pragmatic solutions
- Anticipates emerging trends and future customer needs

Leadership

- Fosters a culture of inclusion, innovation, and empowerment
- Builds trust, relationships, networks and followership
- Develops technical talent and community
- Acts as a change agent, challenging the status quo
- Admits mistakes, owns accountability and learns from failure
- Effectively influences at all levels
- Sets technical direction
- Aligns organizational goals to technical vision and desired outcomes

Impact

- Formulates strategy to deliver leadership solutions
- Focuses on and prioritizes solving the most important problems
- Leads delivery of solutions that consistently outperforms competitors
- Invents breakthrough technical solutions
- Influences industry standards
- Demonstrates a track record of relentless execution to bring solutions to market
- Shapes the technology ecosystems in which the company competes

Industry Promotion:
A ladder of grade-level expectations

- Each rung is an increased level of responsibility
  - # of rungs is organization-specific
- **Mid-career goal:** Getting to "Principal"
  - First rung on the technical ladder on route to Fellow
  - Highly competitive – rarified honor in terms of %'s
  - Considered a distinguished terminus
- Alternate ladders may exist
  - Technical or non-technical
  - Individual contributor or manager
  - Organization-specific criteria at each rung