



# CHRISTIAN WOMEN IN SCIENCE – STATE OF CWIS

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ASA 2015 Annual Meeting

July 25, 2015

Tulsa, Oklahoma

Lynn L. Billman

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# What is CWIS?

- A place for Christian Women in Science to connect with like-minded people
- An affiliate group of the American Scientific Affiliation (ASA)
- Launch: July 2013 ASA Annual Conference
- Mission: *To encourage Christian women of all ages to pursue, sustain, and grow in a career in science, technology, engineering or math, and to encourage women in these endeavors to pursue, sustain, and grow in the Christian faith*

# What Does CWIS Offer You?

- For CWIS members
  - Emails on what's new
  - Access to others CWIS-ers throughout the country through the ASA membership directory
- For all CWIS-ers
  - Blog space dedicated to CWIS topics
  - Email Buddy program – especially for Students and Early Career
  - Lifting Up Stories
  - Personal help from CWIS leaders (Board)
  - Info and informal partnerships with related organizations
  - Connections and encouragement!

# CWIS Board of Directors

- Six women, coast to coast
- Secular academic, Christian academic, government research
- Early career, mid-career, retired
- Members, 2014-2015:
  - **Dr. Gayle Ermer**, engineering, Calvin College (MI)
  - **Dr. Beth Kroa**, chemistry, Bethel College (IN)
  - **Ms. Faith Tucker**, physics/astronomy education, Valley Christian High School (CA)
  - **Dr. Kristen Tolson**, biology, UC San Diego (CA)
  - **Dr. Pat Fitzgerald-Bocarsly**, immunology, New Jersey Medical School at Rutgers University (NJ)
  - **Ms. Lynn Billman**, chemistry and energy analysis, National Renewable Energy Lab (retired) (CO)

# CWIS Board and Contacts

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# Facebook – Please Like Us!

The image is a screenshot of the Facebook profile for the Christian Women in Science (CWIS) organization. The page features a header with the CWIS logo and name, a cover photo of a colorful nebula, and a navigation bar with tabs for Timeline, About, Photos, Likes, and More. The main content area shows a post by Timothy E. Billman with 454 likes and a post by CWIS with 422 post reaches. A large red watermark reading "NEED MORE GOOD 'FINDS!'" is overlaid diagonally across the page. The right sidebar displays statistics for the week: 422 Post Reach and 41 Post Engagement, along with a recent activity section.

Christian Women in Science

Page Messages Notifications 2 Insights Publishing Tools Settings Help

Promote

THIS WEEK

422 Post Reach

41 Post Engagement

Recent

2015

2014

2013

Christian Women in Science Organization

Create Call to Action Liked Message

Timeline About Photos Likes More

454 likes +1 this week Timothy E. Billman

422 post reaches this week

What have you been up to?

Christian Women in Science

Christian Women in Science (CWIS) is an affiliate group of the American Scientific Affiliation...

Like Page - 454 people like this page

NEED MORE GOOD "FINDS!"

# CWIS Blog

## Homage to Mary Anning

Posted By [Alice C. Linsley](#), Wednesday, May 21, 2014

[Edit Post](#) [Delete Post](#)



Today's Google Doodle pays homage to one of the great women in Science, Mary Anning.



Google Inc paid homage to the 215 anniversary of the birth of Mary Anning on May 21 2014 with this Doodle on the homepage. Image credit: Google Inc.

Mary Anning (1799-1846) by the age of 12 had already discovered in rocks of the English countryside fossils that she would later describe as a plesiosaur. She spent more than 30 years collecting and describing fossils mostly in rock of Jurassic age. Anning along with William Buckland, who was well aware and an admirer of Mary's work, and described the first true dinosaur, and Cuvier who described and wrote about dinosaurs were instrumental in developing a picture of life in the Jurassic. It eventually led to Cuvier's specific proposal that there had been an "age of reptiles." This was a time when reptiles would have been the dominant animal on all places of earth versus the mammals that we have today. Like the discovery of deep time itself over the previous century this idea of earth's changing biota over time presented a serious challenge to established notions of creation. (Read more from ...)

**NEED MORE BLOG WRITERS!**

# Lifting Up Stories



## Lifting Up – Dr. Pat Fitzgerald-Bocarsly



*Dr. Patricia (Pat) Fitzgerald-Bocarsly is a ten at the New Jersey Medical School at Rutgers University. Andrew Bocarsly, also a scientist, have raised at the time of this interview, were looking for a grandchild. Of their children, one daughter is another daughter is a social worker, and her science. Pat has long been a supporter of science, and recently discovered the [American Scientific Affiliation](#) (ASA). See more about Pat at her profile in the ASA membership directory.*

**Why are you a Christian?** While I was raised nominally Christian high school youth group. Being a Christian is not an intellectual solution -- God reached out to me and has been incredibly faithful to me. My husband and I met as undergrads; he came from a Jewish background and we talked about Jesus.

**Why are you a scientist?** I've always been fascinated with science from a first grade salt crystal experiment. In my first research lab things was my passion. I loved getting the data and discovering so many things. I have those "aha!" moments with my grad students. Biomedical science to me, and I was on the fence between becoming a physician or pursuing immunology as an undergrad, and it seems I've always been interested to do viral immunology.



## Lifting Up – Dr. Deborah Haarsma



*Dr. Deborah Haarsma serves as President of The BioLogos Foundation, a position she has held since January 2013. Previously, she served as a professor and chair of Physics and Astronomy at Calvin College in Grand Rapids, Michigan. Deb has long been a supporter, presenter, and contributor to the [American Scientific Affiliation](#) (ASA). See more about Deb at her profile in the ASA membership directory.*

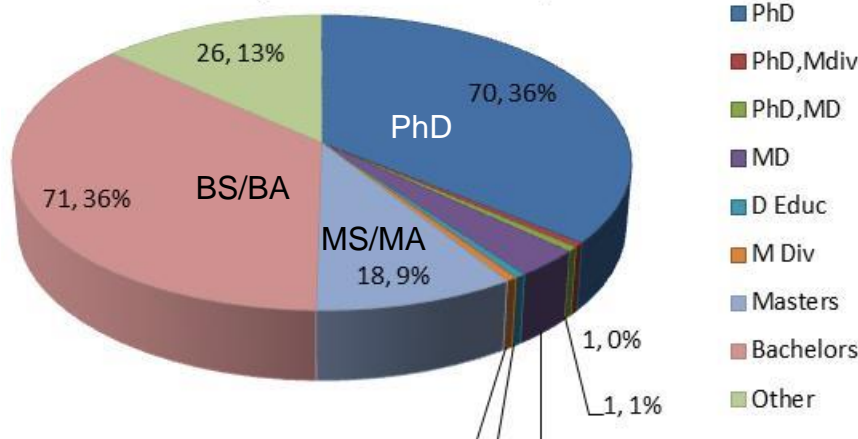
**Why are you a Christian?** While I grew up in a Christian home, I am a Christian today because I made an adult choice to follow Jesus. I committed and recommitted my life to Christ multiple times through my childhood and young adult years, and I grew to understand God, the Bible, and my need for Christ more deeply. Every day is still a journey, and I need God's grace and forgiveness.

**Why are you a scientist?** I almost wasn't. I grew up loving piano and classical music as well as science and math. I even did a double major in piano and physics, before deciding to pursue a science career. (I continued piano on the side, of course -- it's a lot easier than doing physics on the side!) In college, I remember lab projects where our group collected data, graphed it, and plotted the theoretical prediction over the data, and -- lo and behold -- it fit! I am still amazed every time I see physical theories, developed by human reasoning, accurately describing the real world that God created. In grad school, I decided to specialize in astrophysics because I was fascinated by the extreme physics out there in the universe that we can't replicate on earth, like

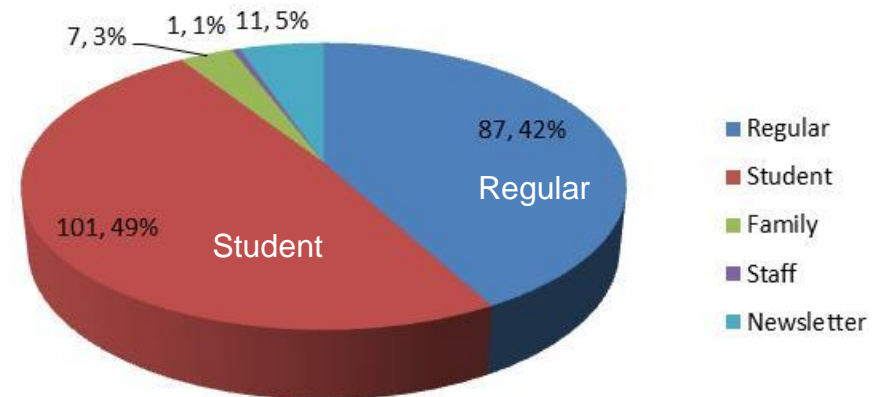
**NEED MORE STORIES!**

# CWIS – Who Are We? (207 members)

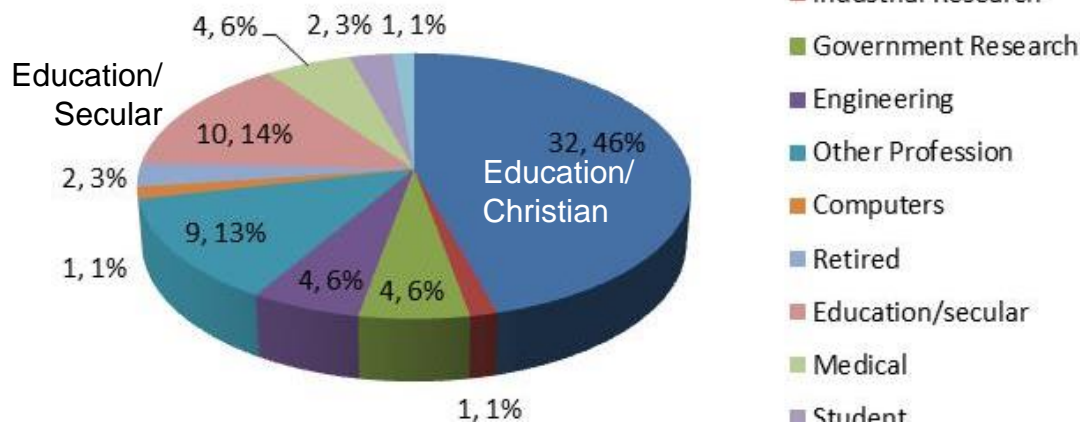
**By Highest Degree**  
(out of 195 entries)



**By Membership Type**

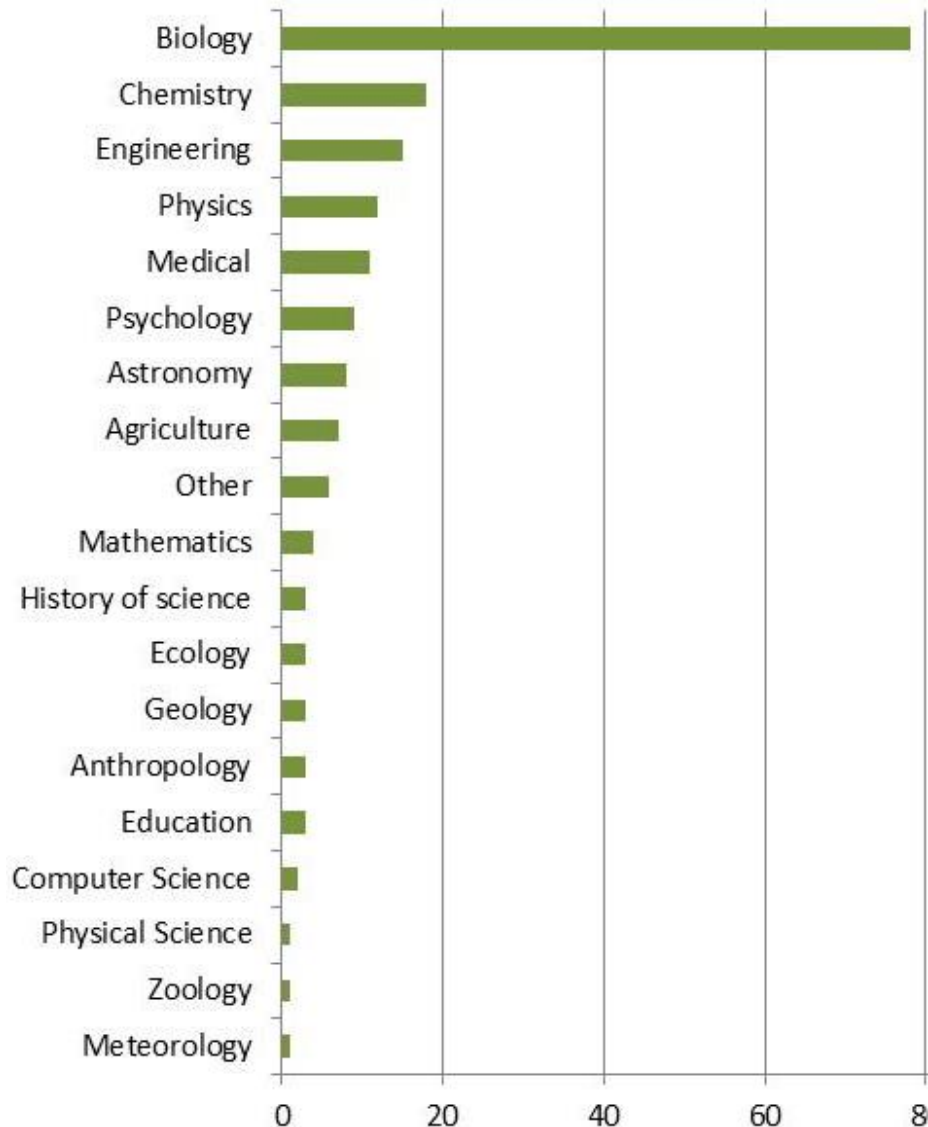


**By Profession**  
(out of 70 entries)

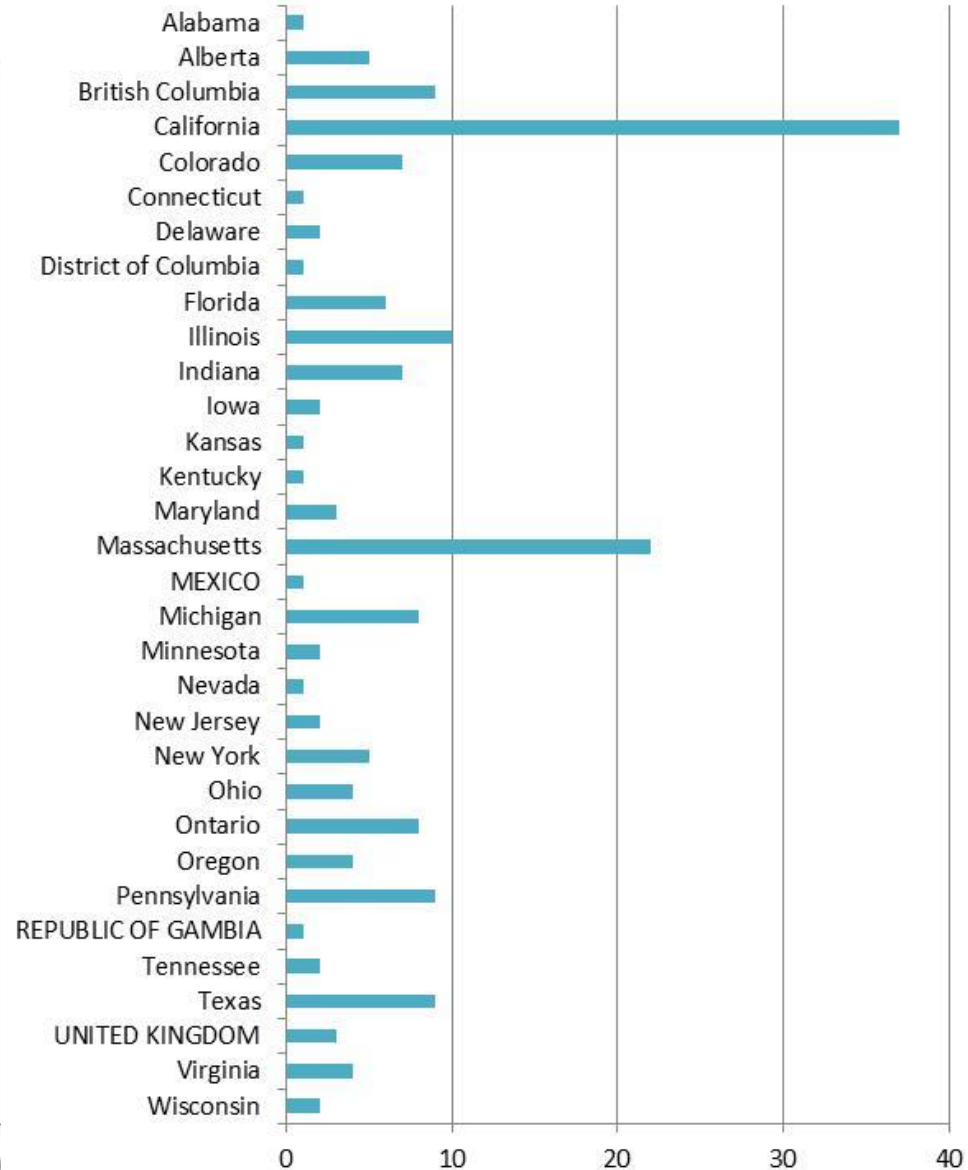


## By Technical Discipline

(out of 188 entries)



## By Location



# How to Find CWIS

- Webpage: <http://network.asa3.org/group/CWIS>
- Facebook:  
<https://www.facebook.com/ChristianWomenInScience>
- Email: CWIS.ASA@gmail.com

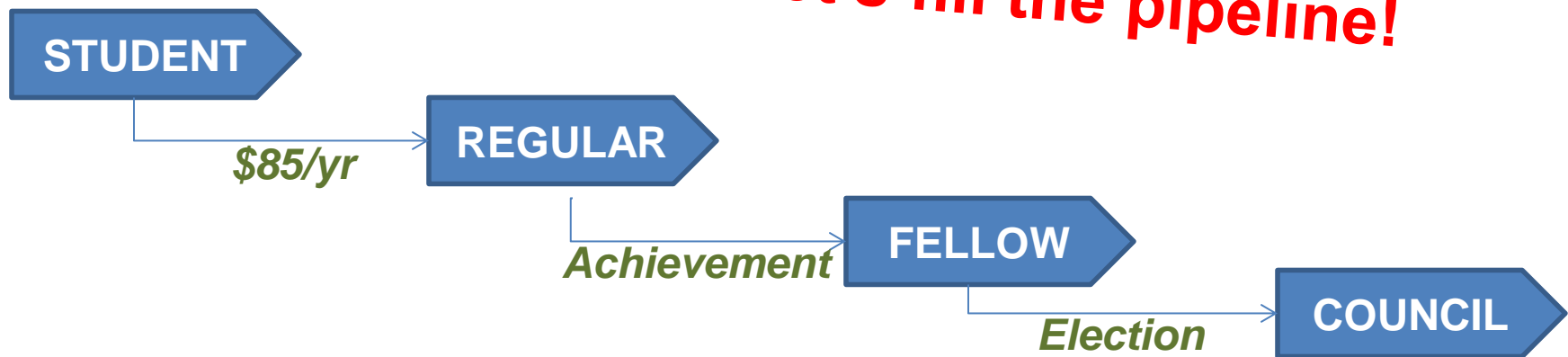
# Women in the ASA

	6/1/2013	7/10/2014	7/19/2015	
Members: Male	1450	1438	1580	
Members: Female	320	401	556	
Women as % of Total	18%	22%	26%	<b>GOOD NEWS!</b>
Fellows: Male	167	171	154	
Fellows: Female	19	19	22	
Women as % of Total	12%	11%	13%	<b>MIXED NEWS</b>
Students: Male	n/a	n/a	381	
Students: Female	n/a	n/a	358	
Women as % of Total	n/a	n/a	48%	<b>GOOD NEWS!</b>
CWIS Members	0	118	207	<b>GOOD NEWS!</b>

# Women on ASA Council

- ASA Council has five members, rotating one/yr
- Since 1983, we've struggled to retain one female among the five members each year
- Could not find a female candidate for the Fall 2015 election

**Let's fill the pipeline!**



# How Can We Retain Students in ASA?

- Nexus Forum! (to build connections; just launched)
- Ask them (do a survey)? **What do you think?**
  - Encourage the formation of campus-level ASA relationships?
  - Increase the amount of scholarship money to encourage SEC members to come to the annual conference?
  - Formalized networking opportunity at each annual conference?
  - Continue to have a “Plenary Speaker/SEC Member” social hour?
  - Offer a session or workshop at each annual conference on life/work issues?
  - Inform all SEC members about mentoring or mentor-like opportunities?
  - Maintain and expand a “Job Board”?
  - Improve the ASA online member database?

# Becoming a Fellow in ASA

- Five years as REGULAR member (not student)
- Strong accomplishments in at least two of these three areas:
  - Professional / technical achievements
  - Contributions to ASA (national or local chapter)
  - Contributions to faith/science discussions beyond ASA

**Tell me about someone  
you know and how they  
are qualified!**

**Tell me about yourself!**

# NEW! – Nexus Forum

- A place to connect with other ASAers
- Share with, and benefit from, fellow ASA members from all professions, perspectives, and life experiences.
- Outgrowth of CWIS efforts
- One new Topic each month

The screenshot shows the Nexus Forum website. On the left is a 'My Profile' sidebar with links: Profile Home, Manage Profile, Create Resumé/CV, Groups, Networks, Files & Links, Favorites, Messages, Connections (NEW), Membership Info (Renew!), and Refer a Friend. The main content area is titled 'Forums' and includes a search bar and links to 'My Subscriptions & Settings' and 'Top Posters'. Below this is a table for the 'NEXUS' forum, which has columns for 'TOPICS', 'POSTS', and 'LATEST ACTIVITY'. The table lists 'FORUM INFORMATION AND GUIDELINES' and two topics: 'Academia vs. Industry' and 'Career Stages'. A second table for the 'GENERAL' forum is partially visible at the bottom. Red circles highlight the 'Forums' header, the 'NEXUS' forum name, the 'Academia vs. Industry' topic, and a specific post titled 'Question 1: Academia vs. Industry' by L. Billman.

NEXUS	TOPICS	POSTS	LATEST ACTIVITY
<b>FORUM INFORMATION AND GUIDELINES</b> General information about the NEXUS Forum and guidelines for participation are posted here.	4	5	Welcome to the ASA NEXUS Forum by S. Carlson Wednesday, July 15, 2015
<b>Topic: Academia vs. Industry</b> Questions for discussion on issues related to science careers in academia and industry.	1	2	Question 1: Academia vs. Industry by L. Billman Thursday, July 16, 2015
<b>Topic: Career Stages</b> Questions for discussion relating to career stages for science professionals.	1	2	Question 1: Career Stages by L. Billman Thursday, July 16, 2015

GENERAL	TOPICS	POSTS	LATEST ACTIVITY
<b>OPEN FORUM</b>	27	191	Cosmos 2nd round?

# One New Question Each Week

## My Profile

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- » [Connections \(NEW\)](#)
- » [Membership](#)
- [Info \(Renew!\)](#)
- » [Refer a Friend](#)

## Calendar

[more](#)

**7/12/2015 » 7/31/2015**  
America and China: 150  
Years of Aspirations and  
Encounters, Grand Rapids,  
MI

**7/22/2015 » 7/25/2015**  
"The Human Difference?"  
Oxford, England

**7/24/2015 » 7/27/2015**  
"Hearing God's Voice in  
Nature," Tulsa, OK

**7/24/2015**  
2015 ASA Annual Meeting

**8/17/2015 » 8/21/2015**  
"The Origin and Concept of

## Question 1: Academia vs. Industry

[Forum Index](#) » [Topic: Academia vs. Industry](#) » [Question 1: Academia vs. Industry](#)

Moderator(s): [Sharon Carlson](#)

Thread Score: ★★☆☆☆  

Page 1 of 1



Reply

▼ Thread Actions

Search Forums...



7/16/2015 AT 4:41:00 AM GMT



### Question 1: Academia vs. Industry

What are the pros and cons of teaching at a university, doing research at a large or small company, or doing research at a government lab?

 [Permalink](#)  [Report](#)  [Quote](#)

[S. Carlson](#)

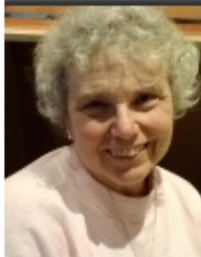
Posts: 29

Related resource: *Jurassic July: The Three-Legged Stool of Science*, by Andy Walsh. [Emerging Scholars Network Blog](#), July 8, 2015. ([Click here for link](#))

**Jump in yourself!**

Last edited Thursday, July 16, 2015

7/16/2015 AT 7:54:48 PM GMT



My experience is in doing research at Chevron (large company) and at the National Renewable Energy Laboratory (government lab). I also had a brief stint at a small private company with a few employees. I think the pros and cons is dependent on your personality. I value stability, and so was much happier at the large private company and government lab than the small company. Large institutions have more rules and regulations to follow, but provide more benefits and security, and variety in the types of work possible, in

 [Edit](#)  [Permalink](#)  [Report](#)  [Quote](#)

# Nexus Forum -- Potential Topics

- Academia vs Industry
- Career Stages
- Graduate School/Post doc Life
- Professional Expectations
- Entrepreneurship
- Maintaining Personal Balance
- Life Stages/Decisions
- First Generation College Student/Scientist
- Faith and Work
- Faith Journey
- The Job Market
- Identity/Self-Awareness
- Cultural Challenges
- Overcoming Roadblocks
- Crisis, Grief, and Loss
- Relationships and Family

***What's important to YOU?***

# CWIS Next Year in California

- Technical session/panel? On what topic/theme?
- Special local tour sponsored by CWIS? For women only? (Friday)
- Networking Lunch? Hike? (Saturday)
- “State of CWIS” meeting? (Saturday or Sunday evening)
- Bible study/devotional time for women only? (Friday)
- Something extra for women on Thursday?
- Organize child care (bring the family)?

**What do YOU think?**

# THANKS!

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