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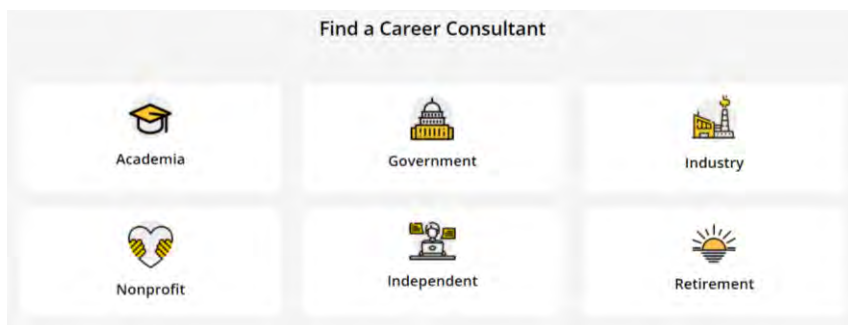


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Thursday, Feb. 3rd @12pm ET

- Optimize your LinkedIn profile
- How to attract new career opportunities
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Analyzing the Data from the 2021 ACS Salary Survey
Co-produced with ACS Careers and C&EN



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How Much Did American Chemists Make in 2021? Analyzing the Data from the 2021 ACS Salary Survey



KEVIN TRAYLOR
Manager of Research and Decision Support,
American Chemical Society



ERIC BRUTON
Chair, Committee on Economic and Professional
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Presentation slides are available now! The edited recording will be made available as soon as possible.

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Survey Methodology



- An online survey was conducted May 10 to June 23, 2021
- The survey was emailed by ACS to ACS members
 - Sent: 122,439
 - Response: 7,138 (5.83%)
- The survey sample was defined by:
 - ACS Members Worldwide
 - Excluded age 70+
 - Excluded emeritus and retired
 - Pulled from Netforum membership file dated May 1, 2021
- Incentive: 100 \$50 Amazon gift cards

	Survey	%	Sample File %*
U.S. members	5,488	76.9%	75.2%
Non-U.S.	1,650	23.1%	24.8%
Male	4,246	59.5%	63%
Female	2,663	37.3%	36.7%
Age <25	528	7.4%	14.2%
25-34	1,563	21.9%	20.2%
35-44	1,536	21.5%	17.5%
45-54	1,381	19.3%	19.8%
55-69	1,810	25.4%	28.2%

* based on available data by gender, age, etc.
gender: 29,867 missing | age: 41,874 missing

Education and Employment

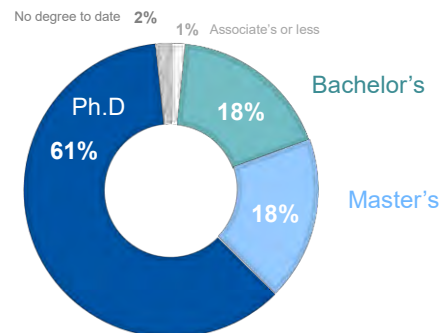
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Education: Highest Degree

- Six-in-ten ACS members have a Ph.D.
- Males and those age 35 - 54, are more likely to have attained a doctorate than their counterparts.
- Women and younger members are more likely to have a Bachelor's degree to date.

	Gender		Age					Race			
	Male	Female	<25	25-34	35-44	45-54	55+	White	Black	Asian	Hisp
Base	(n=3081)	(n=2217)	(n=381)	(n=1117)	(n=1132)	(n=1083)	(n=1557)	(n=4389)	(n=154)	(n=549)	(n=326)
Associate's or less	1%	2% †	16% †	0%	0%	0%	0%	1%	3%	2%	5% †
Bachelor's	14%	22% †	57% †	27% †	9%	11%	13% †	18%	27% †	13%	23% †
Master's	15%	22% †	5%	21% †	16% †	18% †	20% †	18%	19%	14%	15%
Ph.D	68% †	51%	0%	51% †	74% †	70% †	66% †	61% †	44%	69% †	51% †



† † indicates significant difference at the 95% confidence level

American Chemical Society

Source: ACS Workforce and Salary Survey, U.S. respondents

Q01/SC1: What is the highest degree you have received to date? Select one.

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Audience Survey Question

ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT



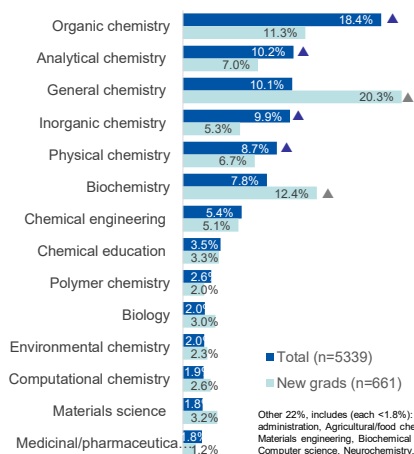
Which field of chemistry is most common for those with a Phd?

- Environmental
- Biochemistry
- Polymer
- Organic
- General

** If your answer differs greatly from the choices above tell us in the chat!*

Education: Field of Highest Degree

- Overall, organic chemistry is the highest degree attained by close to 1 in 5 ACS members surveyed, more than any other field concentration.
- General chemistry emerges as the top field among new grads.



Other 22%, includes (each <1.8%): Other chemical science, Business administration, Agricultural/food chemistry, Biotechnology, Nanochemistry, Materials engineering, Biochemical engineering, Law, Clinical Chemistry, Computer science, Neurochemistry, Other non-chemistry

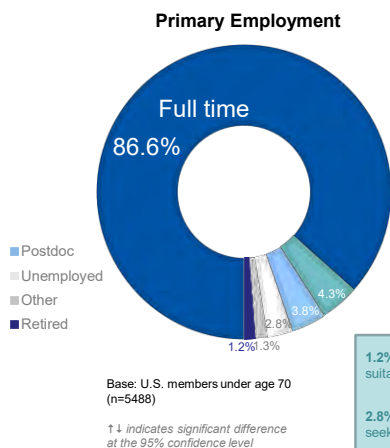
	Male (n=3031)	Female (n=2128)
Organic chemistry	21.9%▲	13.4%
Analytical chemistry	9.9%	10.9%
General chemistry	8.0%	13.0%▲
Inorganic chemistry	11.2%▲	8.5%
Physical chemistry	9.4%▲	7.5%
Biochemistry	6.5%	9.2%▲
Chemical engineering	6.8%▲	3.4%
Chemical education	1.9%	5.9%▲
Polymer chemistry	2.8%	2.5%
Biology	1.4%	3.0%▲
Environmental chemistry	1.8%	2.2%
Computational chemistry	2.2%▲	1.4%
Materials science	1.7%	1.6%
Medicinal/pharmaceutical chemistry	2.2%▲	1.3%

▲ ▼ indicates significant difference at the 95% confidence level

Employment: Status



- The majority of ACS members are employed full time.
- Unchanged since March 2020, 4.0 percent are underemployed – they have taken part-time work because suitable full-time work was not available, or they are unemployed and seeking employment.

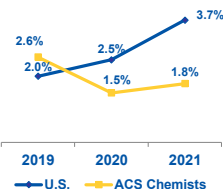


Part time

1.2% are working part-time because suitable full-time work was not available

2.8% are not employed but actively seeking employment

The unemployment rate continues to be lower than the U.S. unemployment rate, which rose since last year:



Adapted from ACS Comprehensive Salary and Employment Survey and ChemCensus 2002 to 2020 and Bureau of Labor Statistics Unemployment (as of March of each year)

Base: U.S. Regular members under age 70 (n=4236)

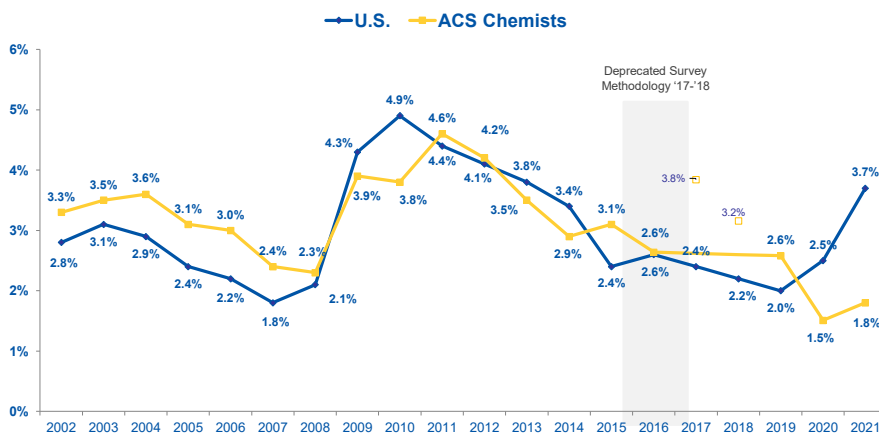
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Source: ACS Workforce and Salary Survey, U.S. respondents

Q4/SC4: Please indicate your primary employment status as of March 1, 2020. Choose the one category that best fits your situation.

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Employment: Status Trends



Adapted from ACS Comprehensive Salary and Employment Survey and ChemCensus 2002 to 2021 and Bureau of Labor Statistics Unemployment (as of March of each year)

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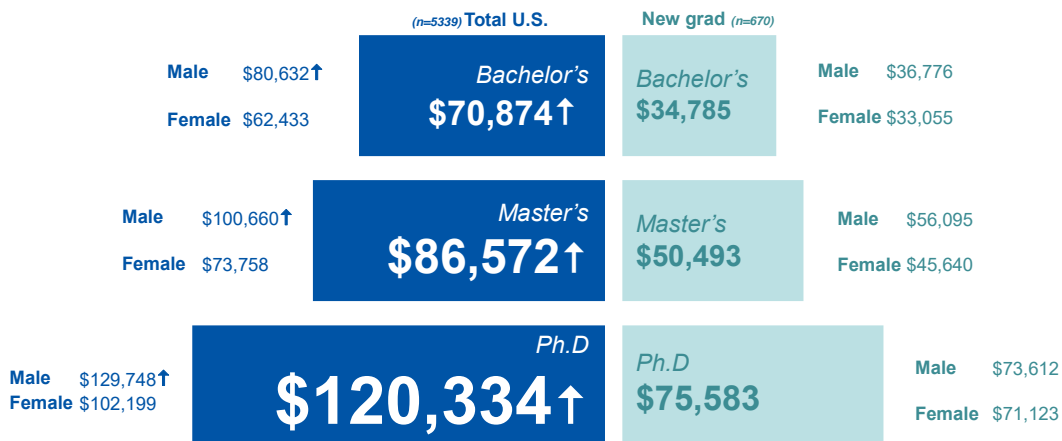
Source: ACS Workforce and Salary Survey, U.S. respondents

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Employment: Annual Salary



- Average annual salary ranges from \$70K to \$120K depending on highest degree held. Recent grads average base salary is \$34K to \$75K.
- Gender disparities persist, but are less pronounced among recent grads.



Mean base income shown
 † ↓ indicates significant difference at the 95% confidence level

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 Source: ACS Workforce and Salary Survey, U.S. respondents

Q11: What was your base ANNUAL salary from your primary employer?

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Employment: New Grad Job Fit



- Most recent grads are employed in positions that are at least somewhat related to their field and commensurate with their education and training, however, they report less alignment in 2021 than in 2020.

	Total (n=630)	Bachelor's (n=234)	Master's (n=127)	Ph.D (n=255)
My position is...				
Related to my field				
Strongly agree	60%	54%	60%	66%↑
Somewhat agree	27% ⁻⁶	30%	28%	24%
Commensurate with my education/ training				
Strongly agree	49% ⁻⁶	40%	55%↑	55%↑
Somewhat agree	32%	38%	28%	28%
Professionally challenging				
Strongly agree	51%	45%	46%	60%↑
Somewhat agree	27%	27%	32%	23%
Similar to what I expected to be doing when I began my academic program				
Strongly agree	32%	30%	35%	34%
Somewhat agree	29% ⁻⁶	30%	29%	28%

† ↓ indicates significant difference at the 95% confidence level
 +/- since 2020



Employed new grads (n=579)

Q06: Over the past three years, have you accepted a position or compensation package that offered less than your previous position in order to maintain employment?

American Chemical Society
 Source: ACS Workforce and Salary Survey, U.S. respondents

Q26: Please rate your agreement with the following statements regarding your primary employment.

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Audience Survey Question

ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT



Which job search resource do you find most beneficial?

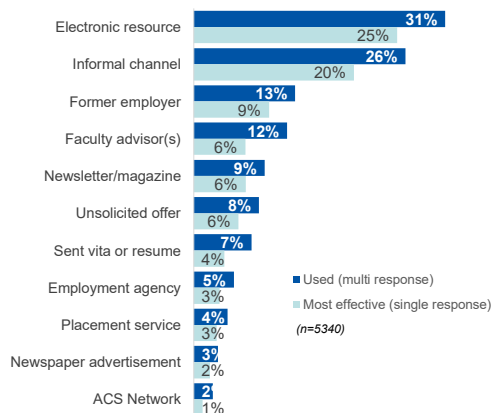
- Employment Agency
- Faculty Advisor
- Electronic Resources
- Informal Channels
- Sending out vita/resume

** If your answer differs greatly from the choices above tell us in the chat!*

Employment: Job Search



- Electronic resources or an informal channel are the top two most used job search channels and are considered the most effective.
- Recent grads' report they were more likely to use an electronic resource than their faculty advisor – a shift from last year.



Job Search Methods Used				
Bachelor's (n=975)	Master's (n=983)	PhD (n=3332)	Recent grad (n=661)	Not a recent grad (n=4576)
26%	27%	34% †	34% +11	31%
21%	25% †	28% †	21% -3	27% †
14% †	14% †	12%	11%	13%
15% †	8%	12% †	26% † -6	10%
1%	1%	13% †	0%	10% †
8%	9%	8%	5%	8% †
6%	9% †	7%	9%	7%
8% †	6% †	4%	6%	5%
4%	3%	4%	6% † -4	4%
5% †	4% †	2%	1%	3% †
1%	1%	3% †	1%	2% †

† † indicates significant difference at the 95% confidence level
+/- since 2020

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Source: ACS Workforce and Salary Survey, U.S. respondents

Q10A: Which job search methods did you use for your most recent position? Please select all that apply.

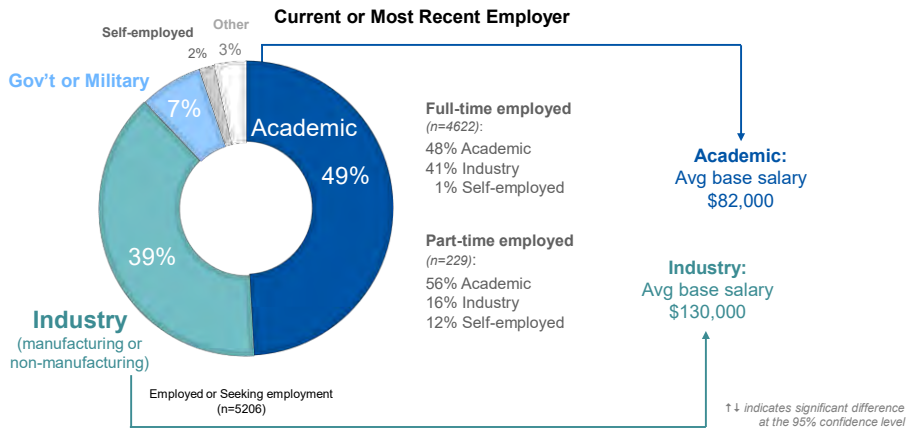
Q10B: Which was the single most effective job search method? Select one.

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Employment: Sector



- Half (49%) of members are employed by an academic institution.
- Just over one-third (39%) are employed in industry and have an average base salary significantly higher than their academic counterparts.



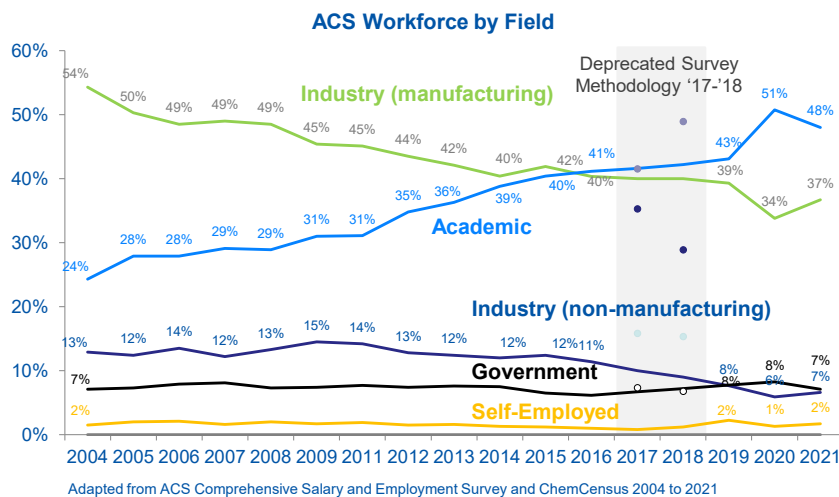
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Source: ACS Workforce and Salary Survey, U.S. respondents

QAB: Which of the following best describes your current or most recent employer? Select one.

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Employment: Sector Trends



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ACS Membership and Gender



- 40% of U.S. ACS members surveyed are female*.
- Female members have largely closed the experience gap with males but their base income remained the same while males increased -- creating a growing income disparity with male members than in 2020.



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Source: ACS Workforce and Salary Survey, U.S. respondents

Q27A: What is your gender? | Q28: What was your age on March 1, 2021?

Q10D: How many years of professional experience do you have in your field?

Q11: This March: What was your base ANNUAL salary from your primary employer?

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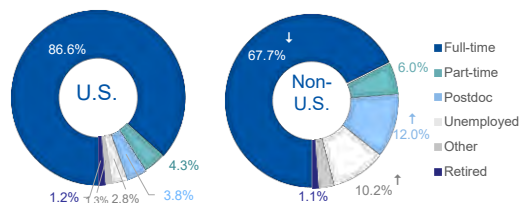
International Respondents



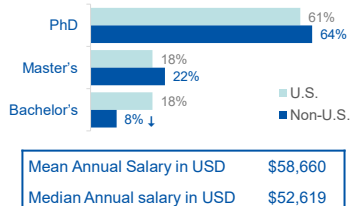
- International survey participants are primarily from India and Canada, and mostly male



- Non-U.S. respondents are less likely to be full-time employed, more post docs, and have a higher unemployment rate



- International members are more likely to hold a doctorate



- International respondents are largely employed academically

Current/Most recent employer	U.S.	Non-U.S.
Academic institution	49%	72% ↑
Industry	39%	16% ↓
Government/ Military	7%	7%
Self-employed	2%	2%
Other	3%	3%

Non-U.S. (International, n=1650)

↑ ↓ indicates significant difference at the 95% confidence level

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Source: ACS Workforce and Salary Survey, U.S. respondents

QAB: Which of the following best describes your current or most recent employer? Select one.

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Other ACS Member Resources

- Salary Calculator

<https://www.acs.org/content/acs/en/careers/salaries/salary-calculator.html>

- Salary & Employment Trends Archive

<https://www.acs.org/content/acs/en/careers/salaries/surveys.html>

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Source: ACS Workforce and Salary Survey, U.S. respondents

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Before You Press Send!

How to Avoid Email Pitfalls
and Faux Pas



Date: Wednesday, January 26 @ 2-3pm ET

Speaker: Mark Jones, Dow Chemical (retired)

Moderator: Patricia Simpson, University of Illinois at Urbana-Champaign

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What You Will Learn:

- Why good communication and good email, results from clearly defining your goal and shaping that goal for your audience
- How to make emails easy to understand and hard to misinterpret
- How many flaws of email communication make it a poor choice in some situations

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Can Medical Instruments Be Racist?

In partnership with the



Date: Thursday, January 27, 2022 @ 1-2pm ET

Speaker: Roger Turner, Science History Institute

Moderator: Bill Tszuzynski, The Unani Group LLC

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- The history of the spirometer and pulse oximeter from the work of Lundy Braun and Amy Moran-Thomas
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The Inclusivity Triangle

Approaching DEIR in Chemistry
through Academia, Industry, and
Community



Date: Tuesday, February 1 @ 1-2pm ET

Speakers: Pamela M. Leggett-Robinson, PLR Consulting / Sherine Obare, North Carolina A&T State University and UNC Greensboro / Shanina Sanders Johnson, Spelman College

Moderator: Paula Christopher, American Chemical Society

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- How to build a research environment where any student can successfully develop the skills, talent, competence, and confidence needed for the workforce
- How to utilize local section activities to increase inclusion of diverse perspectives, professions, and racial/ethnic/gendered identities of members

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