

Division of Environmental Chemistry (ENVR)

In July of 2015, an online evaluation was conducted with members of the American Chemical Society Division of Environmental Chemistry (ENVR). The purpose of the evaluation was to ascertain member involvement with the division, most important functions of a division, participation and interest in events or activities hosted by the division, and likelihood to attend future events or activities. The findings will be used by the Division of Environmental Chemistry to steer strategic planning discussions later in 2015. The evaluation was sent to more than 4,100 Division of Environmental Chemistry members with valid email addresses; 9% completed the evaluation ($n=371$).

KEY FINDINGS

- More than half of respondents have been members of ENVR for more than 5 years; another 13% have been members for less than a year.
 - Just over a quarter of respondents indicated that they were at least **somewhat involved** in ENVR in the past year; but the vast **majority would recommend** ENVR to a colleague.
- Respondents said it was important for a technical division to provide opportunities for an **exchange of technical information** and **represent the field to the public**. Providing awards and recognition was not as important to respondents.
- Respondents rated ENVR positively in their performance of providing opportunities for an exchange of technical information, but did not score so well for representing the field the public.
 - ENVR could consider focusing on the public perceptions of Environmental Chemistry.
- **Technical programming at ACS National Meetings** was ranked the most important activity for ENVR to continue. Joint/co-sponsored activities with other Divisions or organizations held in the US were also important for continued development.
 - Respondents were somewhat split on their interest in attending technical symposia at an ACS Regional Meeting. This is expected as ACS Regional Meetings are typically smaller events attended by a few hundred.
- When the division communicates with its members about topics and activities related to environmental chemistry, they **prefer to be contacted via email** directly from ENVR.
- Other popular ACS Technical Divisions members of ENVR belong to include **Geochemistry** and **Analytical Chemistry**.
 - More than two-thirds of respondents who are members of more than one ACS Technical Division consider ENVR to be their **primary division**.

ANNOTATED QUESTIONNAIRE

Q1. Approximately how long have you been a member of the ACS Division of Environmental Chemistry (ENVR)?

		Frequency	Count
Less than 1 year		13%	67
1 to 5 years		31%	164
6 to 10 years		16%	85
More than 10 years		40%	209
Valid Responses			525

Q2. How would you rate your level of involvement in ENVR in the past year?

		Frequency	Count
Extremely involved		2%	9
Very involved		6%	29
Somewhat involved		20%	105
Not very involved		42%	222
Not involved at all		31%	161
Valid Responses			526

Q3. How important are the following ACS Technical Division functions to you?

	Extremely important	Very important	Somewhat important	Not very important	Not at all important
Provide opportunities for an exchange of technical information (meetings, symposiums, etc.)	32%	39%	20%	7%	2%
Provide networking opportunities	22%	37%	28%	10%	3%
Increase international visibility of ACS in matters concerned with environmental chemistry	22%	35%	28%	12%	4%
Represent the field within the industry or discipline	15%	48%	28%	6%	3%
Represent the field to the public	17%	41%	32%	8%	2%
Provide training/professional development specific to the field	14%	40%	30%	12%	4%
Provide awards or recognition for excellence in the field	15%	29%	34%	16%	6%

	20%	40%	60%	80%	100%	Total
Provide opportunities for an exchange of technical information (meetings, symposiums, etc.)	72%					474
Provide networking opportunities	59%					473
Increase international visibility of ACS in matters concerned with environmental chemistry	57%					468
Represent the field within the industry or discipline	63%					471
Represent the field to the public	58%					465
Provide training/professional development specific to the field	54%					470
Provide awards or recognition for excellence in the field	43%					472

Q4. How would you rate ENVR's performance in each of the following?

	Excellent	Good	Fair	Poor	Terrible
Provide opportunities for an exchange of technical information (meetings, symposiums, etc.)	32%	51%	15%	2%	0%
Provide networking opportunities	17%	46%	32%	4%	1%
Increase international visibility of ACS in matters concerned with environmental chemistry	9%	50%	34%	5%	2%
Represent the field within the industry or discipline	10%	51%	33%	6%	1%
Represent the field to the public	6%	34%	44%	13%	2%
Provide training/professional development specific to the field	5%	43%	40%	10%	1%
Provide awards or recognition for excellence in the field	15%	56%	24%	5%	1%

	20%	40%	60%	80%	100%	Total
Provide opportunities for an exchange of technical information (meetings, symposiums, etc.)	83%					361
Provide networking opportunities	63%					341
Increase international visibility of ACS in matters concerned with environmental chemistry	60%					323
Represent the field within the industry or discipline	60%					329
Represent the field to the public	40%					312
Provide training/professional development specific to the field	49%					310
Provide awards or recognition for excellence in the field	70%					315

Q5. What types of activities are most important for ENVR to continue or develop? Please rank each activity. 1 is high importance.

	1	2	3	4	5	6	RANK
Technical programming at ACS National Meetings	54%	19%	13%	6%	5%	2%	1
Technical programming at ACS Regional Meetings	14%	26%	14%	19%	15%	12%	3
Joint/co-sponsored activities with other Divisions or organizations held in the US	11%	24%	26%	20%	13%	6%	2
Joint/co-sponsored activities with other Divisions or organizations held outside the US	8%	8%	16%	16%	23%	28%	5
Awards specific to the field	6%	14%	10%	17%	22%	32%	6
Social events for networking	6%	10%	20%	22%	22%	20%	4

Q6. What other programs, products, or services would you like ENVR to consider developing?

There were more than 100 suggestions for other programs, products, or services.

INTERNATIONAL

- Sessions on international environmental projects
- Stronger international collaborations in organizing scientific conferences
- Assistance to members from developing countries, regional networking events
- European working groups or platforms
- “A program to support the publishing of research articles for scientists from any country which have limited research project budget in the ENVR ACS Journals.”

COLLABORATION

- SETAC (2), AEESP
- “Information about opportunities available for professors to collaborate with other universities and /or with chemical industries.”
- Use social media more effectively to increase exposure. Integrate all aspects of environmental chemistry (air, water, soil, climate) and work with ACS to push these [and then attach the Division's name to those efforts!].

GOVERNMENT/POLICY

- “I'd like to see the Division take public positions, be willing to stand up for its concerns publicly, in newspapers, in advocacy (where it believes the issue warrants it).”
- “Regulatory support (i.e. develop information used to aid regulators in determining appropriate regulations)”

Q7. How likely are you to attend technical symposia sponsored by ENVR at an ACS National Meeting in the next three years? Select one.

		Frequency	Count
Definitely would attend		29%	108
Probably would attend		33%	125
Might or might not attend		21%	78
Probably would not attend		14%	54
Definitely would not attend		3%	10
Valid Responses			375

Q8. If offered, how likely would you attend technical symposia sponsored or co-sponsored by ENVR at an ACS Regional Meeting in the next three years? Select one.

		Frequency	Count
Definitely would attend		14%	54
Probably would attend		28%	105
Might or might not attend		35%	130
Probably would not attend		18%	69
Definitely would not attend		5%	18
Valid Responses			376

Q9. What specific topics should ENVR focus on for technical programming at upcoming conferences or symposia?

There were more than 150 suggestions for specific technical programming topics.

- New Analytical methods for current environmental problems. New techniques in bioaccumulation assessment. Novel disinfection technologies.
- Industrial innovation, industry approaches, international development.
- Integration of environmental chemistry with other scientific disciplines to solve environmental problems.

AIR / ATMOSPHERE

- Air quality: oil and gas operations, climate bioremediation, organic aerosols
- New techniques for air sampling and analysis,
- Ocean/Atmosphere energy exchange, Ozonolysis, Atmospheric chemistry
- Mechanisms of environmental toxicity
- Environmental remediation

WATER

- Water reuse
- Water-Energy-Food Nexus
- Water quality: developing nations, clean water supply
- Soil and groundwater pollution, storm water, wastewater treatment
- Microbial risk assessment
- Treatment of harmful algal blooms
- Remediation

GREEN CHEMISTRY

- Industrial Successes and Approaches to Green Chemistry
- Environmental/greener alternatives
- Toxicity testing methods
- Life Cycle Analysis

POLICY / PUBLIC AFFAIRS AND GOVERNMENT

- How scientists can be active in policymaking
- Politics of environmental affairs
- Government regulations affecting the environment and environmental analysis
- Communicating environmental chemistry to public and students
- Chemicals that will be regulated in developed countries.

OTHER TOPICS

- Occupational exposures, industrial hygiene and occupational safety and health
- Analytical techniques for detecting contaminants
- Resource management
- Development of sustainability metrics
- Environmental monitoring techniques and implications
- Emissions sampling and analysis, Automotive exhaust after treatment, Emissions from oil and gas industry
- Nanomaterials in the environment
- Natural dissolved organic matter, Natural products analysis
- Photocatalysis, Photochemistry

Q10. Would you recommend membership in ENVR to a colleague?








		Frequency	Count
Yes		90%	331
No		10%	35
Valid Responses			366

Q11. Why or why not? Please be specific.

There majority of respondents would recommend membership in ENVR to a colleague.

- “A hugely important area for scholarship, enterprise development and, potentially, leadership for moving the civilization toward sustainability.”
- “Because is the ACS division the most close to nature and environment where we live and represents in the same time the human activity and knowledge which has the capacity to repair the damage done by mankind to the Earth environment.”
- “ACS provides information and keeps me updated with everything in the field, would like to see more environmental engineering type of updates rather than specific only to chemistry and chemical engineers such as the publication of C&EN.”
- “Excellent programming at National Meetings, excellent opportunities for networking and member involvement.”

Q12. When ENVR contacts you, how would you prefer to be informed about topics and activities related to environmental chemistry? Select all that apply.

		Frequency	Count
ENVR Website		40%	146
ENVR Newsletter, envirofACS		55%	203
Email from ENVR		79%	293
Facebook		5%	20
Twitter		4%	16
Other, please specify:		1%	4
I do not wish to be informed about this		2%	6
Valid Responses			369



- Other responses include: LinkedIn (2) and C&EN

Q13. Which, if any, of the other ACS Technical Divisions do you currently belong? Select all that apply.









		Frequency	Count
Agricultural & Food		3%	11
Agrochemicals		4%	16
Analytical Chemistry		11%	40
Biochemical Technology		1%	5
Biological Chemistry		1%	5
Business Development & Management		1%	2
Carbohydrate Chemistry		0%	1
Catalysis Science & Technology		3%	11
Cellulose & Renewable Materials		1%	5
Chemical Education		5%	18
Chemical Health & Safety		3%	10
Chemical Information		1%	3
Chemical Toxicology		2%	9
Chemistry & The Law		1%	5
Colloid and Surface Chemistry		6%	23
Computers in Chemistry		0%	1
Division of Energy and Fuels		5%	17
Fluorine Chemistry		0%	1
Geochemistry		13%	48
History of Chemistry		1%	5
Industrial & Engineering Chemistry		5%	17
Inorganic Chemistry		3%	11
Medicinal Chemistry		1%	3
Nuclear Chemistry & Technology		1%	3
Organic Chemistry		2%	8
Physical Chemistry		4%	15
Polymer Chemistry		1%	4
Polymeric Materials: Science & Eng		1%	3
Professional Relations		1%	3
Rubber		1%	2
Small Chemical Businesses		1%	4
None of these		53%	197
		Valid Responses	372

Respondents who belong to at least one other ACS Technical Division








Q14. Thinking about your ACS Technical Division membership(s), do you consider ENVR to be your primary division?

		Frequency	Count
Yes		70%	121
No		30%	52
Valid Responses			173






Q15. Which, if any, of the other ACS Committees do you currently serve? Select all that apply.
(Only ACS Committees selected by at least one respondent are shown.)

		Frequency	Count
Analytical Reagents		1%	2
Chemical Abstracts Service		1%	4
Chemical Safety		1%	3
Community Activities		0%	1
Committees		1%	2
Divisional Activities		1%	2
Education		1%	2
Environmental Improvement		3%	11
International Activities		1%	2
Local Section Activities		3%	10
Nomenclature, Terminology and Symbols		1%	2
Nominations & Elections		1%	2
Patents and Related Matters		1%	2
Professional and Member Relations		0%	1
Professional Training		1%	2
Publications		1%	5
Public Affairs and Public Relations		0%	1
Public Relations and Communications		1%	2
Senior Chemists		1%	3
Science		2%	7
Technician Affairs		0%	1
Women Chemists		0%	1
None of these		89%	296
Valid Responses			334

Q16. Please indicate your current primary employment status.

		Frequency	Count
Employed full time		77%	287
Employed part time		3%	12
Postdoctoral or other fellowship		4%	13
Graduate Student		9%	34
Undergraduate Student		1%	3
Not employed but actively seeking employment		1%	3
Not employed and not seeking employment		0%	1
Fully retired		5%	18
Valid Responses			371

Q17. In what sector is your current or most recent primary employment?




		Frequency	Count
Industry, manufacturing		8%	28
Industry, non-manufacturing		16%	52
Academia		57%	189
Government		15%	50
Self-Employed		4%	13
Valid Responses			332

Q18. What is your current or most recent work specialty? Select one.

		Frequency	Count
Agricultural/food chemistry		2%	5
Analytical chemistry		6%	20
Biochemistry		0%	1
Biotechnology		1%	2
Chemical education		2%	7
Chemical engineering		4%	12
Clinical chemistry		0%	0
Environmental chemistry		64%	212
General chemistry		0%	0
Inorganic chemistry		1%	4
Materials science		1%	2
Medicinal/pharmaceutical chemistry		0%	0
Nanochemistry		1%	2
Organic chemistry		1%	4
Physical chemistry		2%	6
Polymer chemistry		0%	1
Other chemical science, please specify:		6%	19
Business administration		1%	2
Computer science		0%	0
Education		2%	5
Law		0%	1
Medicine/healthcare		0%	0
Other non-chemistry, please specify:		8%	28
Valid Responses			333

- Other Chemical Sciences
 - Atmospheric Chemistry
 - Environmental Engineering
 - Water Resource Management/Watershed Science
- Other Non-Chemistry
 - Environmental Compliance
 - Environmental Engineering
 - Environmental Insurance
 - Public Health
 - Sustainability
 - Toxicology
 - Water/Wastewater

Q19. Are you...?

		Frequency	Count
Male		66%	242
Female		33%	121
Prefer not to answer		1%	5
Valid Responses			368

20. What is your age?

(Age responses were recoded into groups.)

		Frequency	Count
20-29		10%	36
30-39		22%	78
40-49		21%	72
50-59		26%	93
60-69		11%	40
70+		4%	14
No Response		5%	18
Valid Responses			351

Q21. If you have any other comments or suggestions for the ACS Division of Environmental Chemistry, please provide them below.

There were more than 40 comments or suggestions for ENVR.

- “ACS Environmental Chemistry Division had a strong national programming for the last decade.”
- “Fostering international collaboration will encourage NSF and RCUK/European funding activities that will contribute to tackle environmental problems with a wider perspective.”
- “In theory, I very much support ENVR and I like being a member of ACS. However, in practice, I go to SETAC conferences (and sometimes the International Conference on Chemistry in the Environment, in Europe) rather than the ACS conferences. (Take note that I do not live in the US but this was also true when I did live in the US). Many years ago, I did go to an ACS conference, but outside of the one session I was presenting in, I wasn't interested in much else so I decided it was better to attend other conferences. I am sure this is a conundrum for your society but I am mentioning it because it is likely the case for many other environmental chemists.”
- “Programming at National Meetings seems scattered, with mostly short symposia. I am used to longer symposia that bring more people together.”
- “Participants at Environmental Chemistry Division activities at meetings are primarily academics, but for some reason the officers have been disproportionally from consulting. This is unusual for ACS, i.e. other divisions have memberships and leaderships that are primarily academic. It makes it harder for the Environmental Chemistry Division to "speak with one voice" on pressing matters, and it is harder to have influence within the American Chemical Society as a whole. Despite being a significant fraction of ACS membership overall, we have a surprisingly low profile within ACS. Take the recent "Rising Stars" story in C&E News. Why weren't there any young investigators from our division represented?”
- “The journal should be up to COPE standards. This should be resolved ASAP.
- “The importance of this division will go down in history as the measure of its influence in redirecting the civilization toward a sustainable future.”
- “Would like to see more environmental engineering information and updates with the ENVR and C&EN.”