Society Committee on Education (SOCED)
Agenda Book
Confidential and Proprietary

Fall 2021 Virtual Committee Meeting

Tuesday, August 10, 2021
2:30 pm – 5:30 pm

American Chemical Society
American Chemical Society
Society Committee on Education
Virtual Meeting
August 10, 2021

SCHEDULE
Join Zoom Meeting
https://american-chemical-society.zoom.com/j/85661889259?pwd=VXlrbWNzbkhNT2llbkQrb1g0MWdwdzd0
Meeting ID: 856 6188 9259
Password: 439858
# Executive Session Agenda

**Society Committee on Education**  
**Fall 2021 ACS Meeting**  
**Tuesday, August 10, 2021**  
**2:30-5:30 pm EDT**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2:30 pm</td>
<td>Welcome, Introductions, and Diversity, Equity, Inclusion, and Respect Moment</td>
<td>1, 2, 3</td>
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<tr>
<td>2:45 pm</td>
<td>Approval of Minutes from Spring 2021 Meeting</td>
<td>4</td>
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<tr>
<td>2:50 pm</td>
<td>Chair’s Report (Information and Action)</td>
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<tr>
<td></td>
<td>SOCED Chair Carmen Gauthier will provide written or oral updates on:</td>
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<td></td>
<td>• Special Projects</td>
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<td>• Joint efforts with CPT</td>
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<td>• ACS Fellows Nomination</td>
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<td>• Fall 2021 ACS National Meeting events</td>
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<td>• ChemLuminary Awards</td>
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<tr>
<td>3:00 pm</td>
<td>Reports from Liaisons (Information and Action)</td>
<td>6</td>
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<td>3:20 pm</td>
<td>ACS Institute (Information)</td>
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<td>Terri Chambers will provide an overview of the new ACS Institute.</td>
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<td>3:30 pm</td>
<td>ACS Office of Diversity, Equity, Inclusion &amp; Respect (Information)</td>
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<td>Rajendrani (Raj) Mukhopadhyay will introduce the new ACS Office of DEIR and discuss how it can help fulfill ACS Goal 5 to embrace and advance inclusion in chemistry.</td>
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<td>3:40 pm</td>
<td>Committee on Committees (Information and Action)</td>
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<td>Rodney Bennett, Conc liaison to SOCED, will report on ConC activities and discuss the upcoming committee appointment process.</td>
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<tr>
<td>3:55 pm</td>
<td>Break</td>
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<td>4:10 pm</td>
<td>ACS Change Drivers (Information and Action)</td>
<td>7</td>
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<td>A member from the ACS Board Committee on Strategic Planning will review the recently updated change drivers and provide a framework for their use.</td>
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<td>4:25 pm</td>
<td>SOCED Restructuring (Information)</td>
<td>2</td>
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<td>SOCED Chair Carmen Gauthier will review and take questions on the new committee structure and subcommittee charges.</td>
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<td>4:30 pm</td>
<td>SOCED Strategic Plan Implementation (Information and Action)</td>
<td>2</td>
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<td>SOCED Vice Chair Mike Adams will share updates on progress.</td>
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<tr>
<td>4:40 pm</td>
<td>Subcommittee Reports (Information and Action)</td>
<td>8, 9, 10</td>
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<td>Tracy Halmi, Matt Mio, and Laura Pence, the chairs of the SOCED subcommittees, will provide the full committee with an overview of their subcommittees and a summary of their discussion on the following topics:</td>
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<td>• Next steps regarding SOCED strategies</td>
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<td></td>
<td>• Other subcommittee discussions requiring full committee consideration</td>
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<tr>
<td>5:20 pm</td>
<td>New Business</td>
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<td>5:30 pm</td>
<td>Adjourn</td>
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Reimbursement Policy for 2021

**Registration**

If you are attending the ACS Fall 2021 Meeting & Expo, we will reimburse you for the registration fee. SOCED members, associates and consultants who register for the meeting will be asked to view the undergraduate research posters and provide feedback to the students. More details will be provided during the SOCED August 10th meeting.
TAB 1
ACS Strategic Plan
strategy.acs.org

Vision
Improving all people’s lives through the transforming power of chemistry

Mission
Advancing the broader chemistry enterprise and its practitioners for the benefit of Earth and all its people

Core Values
- Passion for Chemistry and the Global Chemistry Enterprise
- Focus on Members
- Professionalism, Safety, and Ethics
- Diversity, Equity, Inclusion, and Respect (DEIR)

Goals

Goal 1: Provide Information Solutions
Deliver indispensable chemistry-related information solutions to address global challenges and other issues facing the world’s scientific community.

Goal 2: Empower Members and Member Communities
Provide access to opportunities, resources, skills training, and networks to empower our global members and diverse member communities to thrive.

Goal 3: Support Excellence in Education
Foster the development of innovative, relevant, and effective chemistry and chemistry-related education.

Goal 4: Communicate Chemistry's Value
Communicate — to the public and to policymakers — the vital role of chemical professionals and chemistry in addressing the world’s challenges.

Goal 5: Embrace and Advance Inclusion in Chemistry
Promote diversity, equity, inclusion, and respect; identify and dismantle barriers to success; and create a welcoming and supportive environment so that all ACS members, employees, and volunteers can thrive.
For the full ACS Strategic Plan that includes all terms used please use the link below. Terms used can be found on page 4 of the full document.

Full ACS Strategic Plan
The American Chemical Society aspires to be a diverse, equitable, inclusive and respectful community of highly skilled chemical professionals.

We encourage inclusivity and oppose discrimination in scientific learning and practice based on - but not limited to - race, religion, country or ethnic origin, citizenship, language, political opinion, sex, gender identity and expression, sexual orientation, disability, age, and economic class in academic, industrial, and government workplaces. The Society believes that an enduring commitment to diversity enables excellence, innovation, and transformative action in current and future generations of chemical professionals.

As a global scientific society, we affirm the international principles that the responsible practice of science, free from discrimination in all of its forms, is fundamental to scientific advancement and human wellbeing, as outlined by the International Council for Science’s (ICSU) Statute 5\(^\text{1}\).

We also affirm our commitment to a scientific environment that facilitates the execution and communication of scientific work with integrity, fairness, and transparency at all organizational levels. This extends to our general scientific endeavors—including our professional interactions and engagement with other scientists, trainees, and the general public. We recognize that harm to our profession, our scientific credibility, individual wellbeing, and society at large is caused by not doing so.

To this end, the Society will implement the principles of diversity, inclusivity, and equity within ACS leadership and membership to build a community across the chemical enterprise. We are committed to quantifying and monitoring our diversity.

\(^\text{1}\)The International Council for Science (ICSU) Statute 5 is found at [http://www.icsu.org/freedom-responsibility/cfrs/statue-5](http://www.icsu.org/freedom-responsibility/cfrs/statue-5)
Vision
The future of chemistry teaching and learning

Mission
Develop and implement policies and resources to advance chemistry education and to connect its diverse communities

Goal 1: Promote effective chemistry education
- Strategy 1 (revised): Contribute to a joint white paper on supportive educational environments for all graduate students and postdoctoral scholars.
- Strategy 3: Host a symposium, round table, or workshop to highlight the use of evidence-based instructional practices (EBIPs) by the Biennial Conference on Chemical Education 2020.
- Strategy 4: Identify and determine the strategies for how to disseminate effective chemistry education by Q4 2020.

Goal 2: Foster collaborative and sustainable environments for emerging and existing communities in chemistry education.
- Strategy 1: By Q4 2019, identify existing chemistry education communities, gaps in these communities and their needs and share with Goal 1 teams to help promote effective chemistry education.
- Strategy 2: Collaborate with ACS Education staff to develop a strategy for forming graduate student organizations by the end of 2019.
- Strategy 3: Work with the International Activities Committee to build a strategy to develop relevant student chapter programs, products, and services by the end of 2019.
- Strategy 4: Work with the Diversity and Inclusion Advisory board on issues related to equity in chemistry education by 2020.

Goal 3: Identify opportunities and approaches for communication and collaboration among education stakeholders.
- Strategy 1: Develop a robust and responsive liaison process.
- Strategy 2: Map out all current education initiatives, resources, and programs across ACS to inform articulation of SOCED roles and responsibilities by summer 2019.
- Strategy 3: Identify opportunities and approaches for collaboration among education stakeholders.
- Strategy 4: Determine possible structure of SOCED that aligns with roles and responsibilities by 2020.
SOCED Strategic Plan – Fall 2021 Update

VISION
The future of chemistry teaching and learning

MISSION
Develop and implement policies and resources to advance chemistry education and to connect its diverse communities

VISION
The future of chemistry teaching and learning

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V I S I O N
The future of chemistry teaching and learning

M I S S I O N
Develop and implement policies and resources to advance chemistry education and to connect its diverse communities

CHEMISTRY EDUCATION STAKEHOLDERS*

POLY
RO
CIND
HONI
DIVISIONS
SH
POSTDOCS
DUTC
UBAIST
CLFACT
CAFTACWD
TICPL
COMMITTEES
RNAATA
STUDENTS
CCSHC
NOX
DYCC
KINDERGARTEN
RDAACC
GRADUATECCA
ACE
MIDDLE
PNA
AT
ELEMENTARY
Y

* from Fall 2020 SOCED survey regarding G1-S4

STRATEGY TEAM PARTICIPATION FROM STAKEHOLDER GROUPS

- American Association of Chemistry Teachers (AACT) - 3
- Committee on Professional Training (CPT) - 1
- Committee on Chemists with Disabilities (CWD) - 1
- Division of Chemical Education (CHED) – 4
- International Activities Committee (IAC) – 1
- Graduate Education Advisory Board (GEAB) - 2
- Younger Chemists Committee (YCC) – 1
- ACS staff – 9

GOALS
1. Promote effective chemistry education
2. Foster collaborative and sustainable environments for emerging and existing communities in chemistry education
3. Identify opportunities and approaches for communication and collaboration among education stakeholders

STRATEGY STATUS
- 5 completed
- 2 changed
- 1 postponed

MISSION
Develop and implement policies and resources to advance chemistry education and to connect its diverse communities

POLY
RO
CIND
HONI
DIVISIONS
SH
POSTDOCS
DUTC
UBAIST
CLFACT
CAFTACWD
TICPL
COMMITTEES
RNAATA
STUDENTS
CCSHC
NOX
DYCC
KINDERGARTEN
RDAACC
GRADUATECCA
ACE
MIDDLE
PNA
AT
ELEMENTARY
Y

* from Fall 2020 SOCED survey regarding G1-S4

2018 Fall
- Input from SOCED and other stakeholders
- SOCED Strategic Planning Retreat

2019 Spring
- Ratification of SOCED plan
- Formation of strategy teams

2019 Fall
- Completion of G3-S2 (map of Education resources)
- Completion of G2-S2 (launch of GSO)
- Completion of G2-S3 (reauthorization of International Student Chapters)

2020 Spring
- Cancellation of Biennial Conference on Chemical Education – postponement of G1-S3
- Consideration of next steps for G2-S1 (community needs) and G3-S1 (liaison process)

2020 Fall
- Approval of changes to strategies G1-S1 and G1-S2
- Collection of insights regarding G1-S4 (dissemination)
- Preparation of G3-S3 report (stakeholder collaborations)
- Completion of G3-S4 (SOCED structure)

2021 Spring
- Implementation of G3-S4 (SOCED structure)
- Resubmission of symposium abstract for 2022 BCCE (G1-S3)

TIMELINE and MILESTONES

2018 Fall
- Input from SOCED and other stakeholders
- SOCED Strategic Planning Retreat

2019 Spring
- Ratification of SOCED plan
- Formation of strategy teams

2019 Fall
- Completion of G3-S2 (map of Education resources)
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- Completion of G3-S4 (SOCED structure)

2021 Spring
- Implementation of G3-S4 (SOCED structure)
- Resubmission of symposium abstract for 2022 BCCE (G1-S3)
ACS Goal 3: Support Excellence in Education

Foster the development of innovative, relevant, and effective chemistry and chemistry related education.

ACS will support reforms and initiatives that result in highly effective chemistry education, safer laboratory practices, and the preparation of technically competent, ethical, and competitive chemists ready to address global challenges. Through formal and informal educational resources, instruction, and mentorship, ACS and its members will encourage the incorporation of principles of safety and ethics throughout pre-college, undergraduate, graduate, and post-graduate education. The Society will promote the development and dissemination of evidence-based practices in chemistry education and professional development to foster a scientifically literate citizenry and ensure a highly qualified chemical workforce.

SOCED Vision, Mission, and Goals (2019-2021)

Vision: The future of chemistry teaching and learning

Mission: Develop and implement policies and resources to advance chemistry education and to connect its diverse communities

Goal 1: Promote effective chemistry education

Goal 2: Foster collaborative and sustainable environments for emerging and existing communities in chemistry education

Goal 3: Identify opportunities and approaches for communication and collaboration among education stakeholders

SOCED Charge per the ACS Governing Documents

1. Implement SOCIETY policies in chemical education;
2. Develop reports and recommendations to the Board and the Council on SOCIETY policies related to chemical education and SOCIETY programs for the improvement of chemical education;
3. Receive, review, and make recommendations to the Board and the Council on proposals for policies and programs in chemical education;
4. Act in an advisory capacity on matters relating to chemical education;
5. Recommend approval or disapproval of requests for the funding of new or unbudgeted items related to chemical education;
6. Establish all regulations for Student Chapters, such as criteria and procedures for formation, membership criteria, program activity standards, criteria for dissolution and reinstatement, and all other rights and privileges, with the approval of the Committee on Constitution and Bylaws; and
7. Act for the Council in chartering and dechartering Student Chapters.
**SOCED Committee Structure (effective January 1, 2021)**

**Executive Committee Composition and Responsibilities:**
Chair, Vice-Chair and Subcommittee Chairs

Provides strategic direction and guidance for the committee’s operations. Meets 4-6 times a year to plan for SOCED meetings; manage interim actions; and, to ensure the effective operations of the Committee. Staff liaisons to SOCED attend all Executive Committee meetings. The chair of SOCED typically serves for three years unless the individual’s term ends prior to the end of three years. Similarly, subcommittee chairs are appointed annually for up to three years unless their term on the committee expires within the three year period. Forms and dissolves subgroups as needed.

**Full Committee Composition and Responsibilities:**
Members (17), Associates (14) and Consultants (1-2, based on need)

SOCED’s General Responsibilities (in alignment with the SOCED charge)

1. Ensure the Society’s core values are reflected in SOCED and ACS Education activities.
2. Advise ACS Education on its Operational Plan which primarily supports Goal 3 of the American Chemical Society’s strategic plan.
3. Advise on programs, products and services that can aid in creating a diverse, equitable, inclusive and respectful environment within the chemical education ecosystem.
4. Provide strategic guidance for its subcommittees and acting on recommendations from the subcommittees.
5. Advise the Society and ACS Education on trends and where there are gaps in programming, products or services.
6. Respond to reports/requests from groups (not oversight): i.e., ChemClub Advisory Board; Hach Advisory Board; AACT Governing Board; Textbook Writing Teams; and, others as warranted.
7. Recommend and/or support new programs for funding.
Subcommittees

SUPPORTING EXCELLENCE IN EDUCATION SUBCOMMITTEE

Chaired by a member or associate of SOCED. Comprised of members, associates and consultants of SOCED. When feasible, the consultant from the Division of Chemical Education will serve on this subcommittee. Chairs of the subgroups associated with this subcommittee will also serve as members and serve as the representative for their subgroup.

- Advises ACS Education on opportunities and challenges related to the education ecosystem.
- Ensures the Society’s core values are reflected in the design and implementation of ACS Education programs, products, and services.
- Organizes and facilitates programming at ACS-sponsored meetings that reflect practices informed by education research and evidence.
- Recommends and fosters collaborative efforts with internal and external education stakeholders.
- Oversees the appointment process to build diverse and inclusive subgroups that connect stakeholders with unique perspectives and expertise.

Learning and Teaching: K-12 Subgroup:

Chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. The chair of the Supporting Excellence in Education subcommittee and the chair of SOCED must approve of the subgroup’s appointments. Subgroup members serve up to a three-year term.

- Provides feedback to ACS K–12 staff on ACS Education programs, products, and services.
- Serves as a voice for the K–12 community by discussing and providing guidance on K–12 chemistry education topics based on trends, research and effective practices.
- Supports and assists with the review and revision of the Guidelines and Recommendations for Teaching Middle and High School Chemistry.
- Selects finalists for two ChemLuminary Awards: “Outstanding High School Student Program Award” and “Outstanding Kids & Chemistry Award”.
- Works closely with the American Association of Chemistry Teachers to advance K–12 education.
- On behalf of SOCED, receives/reviews reports from the ACS-Hach Advisory Board; ChemMatters Policy Board, the AACT Governing Board, and other groups who advance K–12 education.

Learning and Teaching: Higher Education:

Chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. The chair of the Supporting Excellence in Education subcommittee and the chair of SOCED must approve of the subgroup’s appointments. Subgroup members serve a three-year term.
Serves as a voice for the Higher Education community by discussing and providing guidance on undergraduate and graduate chemistry education topics based on trends, research, and effective practices.

- Supports and assists with the review and revision of the Guidelines for Chemistry in Two-Year College Programs.
- Provides strategic guidance to staff who focus on higher education programs, products and services.
- Advises and supports the formation of strategic partnerships that will promote excellence in education within the higher education community.
- Collaborates with the Committee on Professional Training, USAB, and GSPSAB as appropriate to support excellence in education.

**STUDENT COMMUNITIES SUBCOMMITTEE**

Chaired by a member or associate of SOCED. Comprised of members, associates and consultants of SOCED. Chairs of the subgroups associated with this subcommittee will also serve as members and serve as the representative for their subgroup. A member of the subcommittee serves as the SOCED liaison to the Committee on Membership Affairs and the International Activities Committee and other committees as needed to ensure that the best interest of students are considered in membership-related decisions and actions.

- Provides strategic guidance for programs, products and services for undergraduate and graduate students, as well as postdoctoral scholars, [working with the Undergraduate Student Advisory Board, Graduate Student and Postdoctoral Scholar Advisory Board, U.S. National Chemistry Olympiad subgroup, and other subgroups] to ensure that these communities see value in being a member of ACS and are connected with ACS component groups (i.e., local sections and technical divisions) to help build a membership continuum. Provides recommendations to SOCED relative to this area, as appropriate.
- Ensures the Society’s core values are reflected in the design and implementation of ACS Education programs, products, and services for student communities.
- Oversees the student-based ChemLuminary process.
- Oversees the appointment process to build diverse and inclusive subgroups that connect stakeholders with unique perspectives and expertise while ensuring that the subgroups provide reports of their activities on a regular basis.
- Ensures that ACS student programming is relevant, valuable and provides the opportunity for scientific and critical skills building, as well as building networks.
- Receives reports (oral or written), as needed, from groups such as the ChemClubs Advisory Board, and other groups who have a connection to student communities.

**Undergraduate Student Advisory Board (USAB)**

Chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. The subgroup may also invite students to join USAB as needed. The chair of the Student Communities Subcommittee and the chair of SOCED must approve of the subgroup’s appointments. Subgroup members serve up to a three-year term.

- Serves in a consultative role to SOCED on matters related to student chapters and student members.
CONFIDENTIAL ACS SOCIETY COMMITTEE ON EDUCATION (SOCED) NEW STRUCTURE IMPLEMENTATION

- Oversees the student chapter report and awards process.
- Provides guidance for undergraduate student chapters globally.
- Provides strategic input for the successful development and execution of programs, products and services that supports the professional growth of and community building of undergraduate students working with staff from the Student Communities Office and the Student and Postdoctoral Scholars Office.
  - Including undergraduate student programming for ACS meetings working with staff from the Student Communities Office and the Student and Postdoctoral Scholars Office while ensuring that collaborative efforts are planned with GSPSAB.

Graduate Student and Postdoctoral Scholars Advisory Board (GSPSAB)

Chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. The subgroup may also invite students and postdoctoral scholars to join GSPSAB as needed. The chair of the Student Communities Subcommittee and the chairs of SOCED and the Committee on Professional Training must approve of the subgroup’s appointments. Subgroup members serve up to a three-year term.

- Provides strategic input for the successful development and execution of programs, products and services for graduate students and postdoctoral scholars
  - Including graduate student and postdoctoral scholar programming for ACS meetings working with staff from the Student Communities Office and the Student and Postdoctoral Scholars Office while ensuring that collaborative efforts are planned with USAB.
- Advises on the development of graduate student and postdoctoral scholar programming for ACS meetings working with staff from the Student Communities Office and the Student and Postdoctoral Scholars Office while ensuring that collaborative efforts are planned with USAB.
- Monitors and advises on effective practices in graduate student and postdoctoral scholar training.
- Provides guidance for the establishment and growth of Graduate Student Organizations.

U.S. National Chemistry Olympiad Subgroup

Chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. Four Task Forces assist this subcommittee with its work: Olympiad Exams Task Force; Olympiad Laboratory Practical Task Force; Mentor Selection Task Force; and the Exam Grading Task Force.

The chair of the Student Subcommittee and the chair of SOCED must approve of the subgroup’s appointments. Subgroup members serve up to a three-year term.

- Sets goals for the U.S. National Chemistry Olympiad competition, establishing rules and guidelines for the program and implementing recommendations and procedures to maintain the operation of the program.
- Reviews the exam (local and national) questions.
- Reviews and selects finalists for the USNCO ChemLuminary award.
- Advises on effective practices for increasing the awareness of the program.
SCIENCE EDUCATION POLICY SUBCOMMITTEE

Chaired by a member or associate of SOCED. Comprised of members, associates and consultants of SOCED. Chairs of the subgroups associated with this subcommittee will also serve as members and serve as the representative for their subgroup. A member(s) of this subcommittee will serve as science policy writing team leads or contributors, on behalf of SOCED, as requested by the Committee on Public Affairs and Public Relations.

- Recommends public policy statement updates to SOCED in preparation for recommending to the ACS Board of Directors every third year on issues including science education, federal funding for scientific research and education, and visas (related to education and scientific exchange).
- Identifies policy needs through research and collaboration both internally and, when appropriate, with external partners to ensure that SOCED is able to lead the conversation on improvements to and investments in our nation’s education systems.
- Communicates the value of a member driven public policy statement process and its role in the Society’s advocacy for the chemistry enterprise, through webinars, workshops, and other tools. Supports ACS public policy priorities by developing advocacy awareness through participating in advocacy workshops and messaging campaigns in collaboration with the ACS Office of External Affairs and the Committee on Public Affairs and Public Relations.
- Ensures the Society’s core values are reflected in the development, management, and implementation of ACS science education policies.
- Oversees the appointment process to build diverse and inclusive subgroups that connect stakeholders with unique perspectives and expertise while ensuring that the subgroups provide reports of their activities on a regular basis.
SOCED Subgroup Nomination Process
(Approved by the SOCED Executive Committee 2021-06-14)

1) Subgroup leads review subgroup goals and associated timelines (1-3 yrs) with ACS staff and identify specific expertise needed. Leads and ACS staff identify individuals (or organizations who could recommend individuals) having requisite expertise for potential membership in subgroups. Individuals at this stage can be anyone, including SOCED members and associates.

2) SOCED chair invites nominations (SOCED members and associates, and individuals not currently serving on SOCED) for subgroup participation. SOCED chair distributes nominations to subcommittee chairs and subgroup leads. Individual SOCED members and associates may self-nominate.

3) Subcommittee chair/subgroup lead/ACS staff member triads reviews nominations and other identified individuals and recommends to the SOCED chair an inclusive slate of subgroup members (along with contact information and a very short statement of qualifications).
SOCED Strategic Plan 2021 Plans – draft 2021-04-29

This chart maps out how strategies from the 2019-2021 SOCED Strategic Plan (see Appendix) can be carried out in the new SOCED structure

1 = primary responsibility
2 = engaged in implementation

<table>
<thead>
<tr>
<th>Executive Committee</th>
<th>G1-S1 (white paper)</th>
<th>G1-S2 (EBIPs)</th>
<th>G1-S3 (BCCE – EBIPs)</th>
<th>G1-S4 (dissemination)</th>
<th>G2-S1 (community needs)</th>
<th>G2-S4 (DEIR)</th>
<th>G3-S1 (liaisons)</th>
<th>G3-S3 (collaborations)</th>
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<tr>
<td>Consider follow up once white paper is complete</td>
<td>1 – select audiences/strategies</td>
<td>1 – select communities</td>
<td>1 – identify issues</td>
<td>1 – broaden and define roles (new structure)</td>
<td>1 – select collaborations</td>
<td>1 – consider education summit (scope/goals)</td>
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<td>Supporting Excellence in Education Subcommittee</td>
<td>1 – prepare descriptions</td>
<td>1</td>
<td>2?</td>
<td>2</td>
<td>2 – integrate effective DEIR practices</td>
<td>1 – frame SOCED work on critical outcomes</td>
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<td>Learning and Teaching: K-12</td>
<td>2 – incorporate into guidelines?</td>
<td>2</td>
<td>(middle school)</td>
<td>2 – critical outcomes (incorporate into middle/HS guidelines + ?)</td>
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<td>Learning and Teaching: HE</td>
<td>2 – incorporate into guidelines?</td>
<td>2</td>
<td>(two-year colleges)</td>
<td>2 – critical outcomes (into 2yr guidelines + ?)</td>
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<td>Other subgroups</td>
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<td>Student Communities Subcommittee</td>
<td>1 – TBD</td>
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<td>2 – integrate effective DEIR practices</td>
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<td>USNCO</td>
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a) To be selected using the summary of the G1-S4 survey responses and additional input from liaisons and stakeholders
b) Initial communities elected based on ACS Education recommendations: middle school and two-year colleges
c) To be identified from the ACS DEIR plans
d) To be selected considering the series of collaborations suggested in the G3-S3 report and additional input from liaisons and stakeholders
Vision
The future of chemistry teaching and learning

Mission
Develop and implement policies and resources to advance chemistry education and to connect its diverse communities

Goal 1: Promote effective chemistry education
• Strategy 1 (revised): Contribute to a joint white paper on supportive educational environments for all graduate students and postdoctoral scholars.
• Strategy 2 (revised): Provide descriptions and encourage use of evidence-based instructional practices (EBIPs) by end of 2020.
• Strategy 3: Host a symposium, round table, or workshop to highlight the use of evidence-based instructional practices (EBIPs) by the Biennial Conference on Chemical Education 2020.
• Strategy 4: Identify and determine the strategies for how to disseminate effective chemistry education by Q4 2020.

Goal 2: Foster collaborative and sustainable environments for emerging and existing communities in chemistry education.
• Strategy 1: By Q4 2019, identify existing chemistry education communities, gaps in these communities and their needs and share with Goal 1 teams to help promote effective chemistry education.
✓ Strategy 2: Collaborate with ACS Education staff to develop a strategy for forming graduate student organizations by the end of 2019.
✓ Strategy 3: Work with the International Activities Committee to build a strategy to develop relevant student chapter programs, products, and services by the end of 2019.
• Strategy 4: Work with the Diversity and Inclusion Advisory board on issues related to equity in chemistry education by 2020.

Goal 3: Identify opportunities and approaches for communication and collaboration among education stakeholders.
• Strategy 1: Develop a robust and responsive liaison process.
✓ Strategy 2: Map out all current education initiatives, resources, and programs across ACS to inform articulation of SOCED roles and responsibilities by summer 2019.
✓ Strategy 3: Identify opportunities and approaches for collaboration among education stakeholders.
✓ Strategy 4: Determine possible structure of SOCED that aligns with roles and responsibilities by 2020.
TAB 3
DRAFT 2021 Society Committee on Education (SOCED)
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SOCED 2021 Subcommittee Assignments

**Promoting Excellence in Education**  
Tracy Halmi, chair  
Terri Chambers, staff liaison

- Roxie Allen (A)  
- Sandra Bonnetti (F)  
- Dawn Del Carlo (C)  
- Kevin Gable (A)  
- Jeremy Garritano (F)  
- Daniel King (A)  
- Tyler Kinner (A)  
- Amy Nicely (A)  
- Sam Pazicni (F)  
- Missy Postlewaite (A)  
- Sarah Preston (F)  
- Ellen Yezierski (F)

**Science Policy**  
Laura Pence, chair  
Lauren Posey, staff liaison

- Jesse Bernstein (F)  
- Dorian Canalas (A)  
- Cheryl Frech (A)  
- Pamela Leggett Robinson (A)  
- Jennifer Nielson (C)  
- MaryKay Orgill (F)  
- Teri Quinn-Gray (A)  
- Danaé Quirk Dorr (F)  
- Susan Shih (F)

**Student Communities**  
Matt Mio, chair  
Nancy Bakowski, staff liaison

- Michael Adams (F)  
- Michelle Boucher (A)  
- Milly Delagdo (F)  
- Meledath Govindan (F)  
- Margaret Kanipes-Spinks (A)  
- Pam Kerrigan (F)  
- Judy Kim (A)  
- Irv Levy (A)  
- Kristine Smetana (F)

**Key:** Full Member (F) | Associate Member (A) | Consultant (C)
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TAB 4
The Society Committee on Education (SOCED) held its executive sessions via Zoom on March 11, 2021, beginning at 1:00 p.m. EST; and on March 16, 2021, beginning at 2:30 p.m. EDT. The following were present for all or part of the executive sessions:

**Members:** Carmen Gauthier (Chair), Tracy Halmi (Subcommittee Chair), Matt Mio (Subcommittee Chair), Michael Adams (Vice-Chair), Jesse Bernstein, Sandra Bonetti, Milagros Delgado, Jeremy Garritano, Meledath Govindan, Pamela Kerrigan, Joshua Pak, Samuel Pazicni, Sarah Preston, Dana’e Quirk Dorr, Susan Shih, Kristine Smetana, and Ellen Yezierski

**Associates:** Laura Pence (Subcommittee Chair), Roxie Allen, Michelle Boucher, Dorian Canelas, Cheryl Frech, Kevin Gable, Margaret Kanipes-Spinks, Judy Kim, Daniel King, Tyler Kinner, Pamela Leggett-Robinson, Irvin Levy, Amy Nicely, MaryKay Orgill, and Missy Postlewaite (Teri Quinn Gray was unable to attend)

**Consultants:** Dawn Del Carlo, Jennifer Nielson

**Liaisons:** Rodney Bennett (CONC), Bryan Boudouris (Project SEED)

**Guests:** Brian Mathes (MAC chair)

**Staff:** LaTressie Garrison (Staff Liaison), Jodi Wesemann (Associate Staff Liaison), Nancy Bakowski, Chelsea Broschart, Terri Chambers, Nicole Di Fabio, Ashley Donovan, Lis Gallegos, Racquel Jemison, Kelley Love, Joan Ogburn-Hyson, Lauren Posey, Lily Raines, and Joerg Schlatterer

**Summary of Action Items:**

**Action Item 21-1:** Recommend Missy Postlewaite to serve as an additional representative from SOCED on the ACS Scholars Subcommittee of the Committee on Minority Affairs – Carmen Gauthier

**Action Item 21-2:** Prepare the 2022 SOCED nomination for ACS Fellows – MaryKay Orgill (lead), Jesse Bernstein, Michelle Boucher, Tyler Kinner, Irv Levy

**Action Item 21-3:** Visit and provide feedback on chemical education posters in the Undergraduate Research Poster Session – Mike Adams, Sandra Bonetti, Dori Canelas, Mel Govindan, Tracy Halmi, Pam Kerrigan, Dan King, Irv Levy, Amy Nicely, Missy Postlewaite

**Action Item 21-4:** Visit and provide feedback on Student Chapter Posters during SciMix – Mike Adams, Sandra Bonetti, Michelle Boucher, Carmen Gauthier, Irv Levy, Matt Mio

**Action Item 21-5:** Submit reimbursements for ACS Spring 2021 meeting registration to Joan by May 14 – those visiting and providing feedback on posters

**Action Item 21-6:** Complete the Online Preference form at [https://www.yellowbook.acs.org](https://www.yellowbook.acs.org) between April 1-July 1 – all SOCED associates, members, and consultants completing a term in 2022

**Action Item 21-7:** Encourage those interested in "adopting a cabin" or serving as a webinar speaker for the 2021 Project SEED Virtual Summer Camp to sign up at the Project SEED website virtual program page – all
Action Item 21-8: Encourage those interested in submitting a proposal for a virtual research program as part of the Project SEED pilot to visit the Coordinate a Project SEED Summer Program page — all

Action Item 21-9: Provide revisions to new SOCED subcommittee charges by April 1 — SOCED subcommittee chairs

Action Item 21-10: Provide an update on CONC discussions of committee feedback on the Petition to Harmonize Committee Structures, Processes, and Terms — Rodney Bennett

Action Item 21-11: Send the committee the registration link for advocacy training in the ACS Learning Management System — Lauren Posey

Welcome
SOCED Chair Carmen Gauthier welcomed and thanked participants for taking time to meet virtually. She highlighted the SOCED vision, mission and goals. A diversity, equity, inclusion and respect moment focused on changes to the ACS Strategic Plan, including the revised core value and the new goal 5: Embrace and Advance Inclusion in Chemistry.

New members, associate members, and consultants were welcomed. After introductions, SOCED voting procedures were reviewed.

Election of Vice-Chair
After reviewing the responsibilities of Vice-Chair, nominations were solicited.
1. SOCED voted to elect Michael Adams as the 2021 SOCED Vice-Chair.

Adams will join Gauthier and Tracy Halmi, Matt Mio, and Laura Pence, the chairs of the new SOCED Subcommittees, on the SOCED Executive Committee.

Approval of Minutes
2. SOCED voted to approve the minutes from the Fall 2020 meeting.
3. SOCED voted to approve the minutes from the Subcommittee A Fall 2020 meeting.
4. SOCED voted to approve the minutes from the Subcommittee B Fall 2020 meeting.

Chair’s Report
Gauthier congratulated LaTrece Garrison, SOCED Staff Liaison, on her promotion to serve as the Executive Vice President for Membership and the Executive Vice President for Education. Garrison highlighted the opportunities for strengthening the connections between educational and membership efforts. She then announced that Terri Chambers was promoted to Senior Director, Education and that Jodi Wesemann was promoted to Director, Strategic Planning and will be working with both ACS Education and ACS Membership. Garrison, Chambers, and Wesemann will continue to serve as staff liaisons to SOCED.

Gauthier reported that the New Faculty Workshop series was reauthorized and congratulated the staff team, especially Ashley Donovan and Terri Chambers, for their work. She thanked Milly Delgado, Matt Mio and Sam Pazicni for contributing their time and expertise.
The informational items in the Chair’s report were highlighted: the SOCED Budget, the Lasting Encounters between Aspiring and Distinguished Scientists (LEADS) Conference, the ACS Bridge Project, Get the Facts Out, and Chemistry Festivals. Pam Kerrigan and Susan Shih were thanked for volunteering to review the Chemistry Festival grant proposals.

Gauthier noted that she and Adams will continue to hold conference calls with the chair and vice-chair of the Committee on Professional Training to ensure that both committees collaborate effectively without overtaxing volunteers or duplicating efforts on the many education initiatives that are underway.

Gauthier requested a volunteer to serve as a SOCED representative, along with Milly Delgado, on the ACS Scholars Subcommittee of the Committee on Minority Affairs. This subcommittee generally meets once a year, providing input on pressing issues relevant to program eligibility, vision, and mission.

**Action Item 21-1:** Recommend Missy Postlewaite to serve as an additional representative from SOCED on the ACS Scholars Subcommittee of the Committee on Minority Affairs – Carmen Gauthier

The process for preparing the SOCED nomination for ACS Fellows was reviewed.

**Action Item 21-2:** Prepare the 2022 SOCED nomination for ACS Fellows – MaryKay Orgill (lead), Jesse Bernstein, Michelle Boucher, Tyler Kinner, Irv Levy

Plans for student programming at the ACS Spring 2021 meeting were reviewed.

**Action Item 21-3:** Visit and provide feedback on chemical education posters in the Undergraduate Research Poster Session – Mike Adams, Sandra Bonetti, Dori Canelas, Mel Govindan, Tracy Halmi, Pam Kerrigan, Dan King, Irv Levy, Amy Nicely, Missy Postlewaite

**Action Item 21-4:** Visit and comment on Student Chapter Posters during SciMix – Mike Adams, Sandra Bonetti, Michelle Boucher, Carmen Gauthier, Irv Levy, Matt Mio

Committee members were encouraged to attend the Student Chapter Awards Ceremony.

**Action Item 21-5:** Submit reimbursements for virtual meeting registration to Joan by May 14 – those visiting and providing feedback on posters

Gauthier reminded the committee of the Presidential Symposia at the ACS Spring 2021 and the Town Hall meeting with the 2022 nominees for ACS President-Elect.

**Committee on Committees Report**
CONC Liaison Rodney Bennett provided an overview of the Petition to Streamline Committee Structures, Processes, and Terms. Concerns about the impact of the limitations of terms on the
implementation of the new SOCED structure were noted. Bennett indicated that CONC is considering how to minimize such impacts on the collection of leadership experience in committees and succession planning.

Bennett also reviewed the committee appointment process and the impact of the Petition to Streamline Committee Structures, Processes, and Terms on reappointments for each SOCED member, associate member, and consultant, if it is passed by Council.

**Action Item 21-6:** Complete the Online Preference form at [https://www.yellowbook.acs.org](https://www.yellowbook.acs.org) between April 1-July 1 – all SOCED associates, members, and consultants completing a term in 2022

**Liaison Reports**

Gauthier announced that Alison Hyslop will be serving as the liaison to SOCED from the Membership Affairs Committee.

Bryan Boudouris, the Chair of the Committee on Project SEED, reported on the 2020 Project SEED Virtual Summer Camp and plans for expanding it from a 4-week to a 6-week camp in 2021.

**Action Item 21-7:** Encourage those interested in "adopting a cabin" or serving as a webinar speaker for the 2021 Project SEED Virtual Summer to sign up at the Project SEED website virtual program page – all

Boudouris reported that Project SEED will pilot all-virtual research programs with a small number of mentors and students. Opportunities for SOCED to support this new initiative were considered.

**Action Item 21-8:** Encourage those interested in submitting a proposal for a virtual research program as part of the Project SEED pilot to visit the Coordinate a Project SEED Summer Program page – all

**SOCED Restructuring**

After reviewing the SOCED duties, Gauthier reminded the committee that the changes in structure were made to improve:

- The productivity and efficiency of the committee meetings;
- The alignment of all student activities that SOCED oversees;
- Collaborations with other groups within ACS; and
- The efforts to diversify the committee.

Gauthier reviewed the new structure, providing updates on the subgroups. Interested SOCED members, associates, and consultants – from any subcommittee – may be part of a subgroup, along with representatives from other stakeholder groups and subject matter experts.
Under the Promoting Excellence in Education Subcommittee, two subgroups are being established. The K-12 Teaching and Learning subgroup will be chaired by Tyler Kinner, and Lisette Gallegos will serve as the staff liaison. The Higher Ed Teaching and Learning subgroup will be chaired by Sam Pacizni, and Ashley Donovan will serve as the staff liaison.

Under the Student Communities Subcommittee, there are three existing subgroups. The Undergraduate Program Advisory Board will continue its work as the Undergraduate Student Advisory Board. Michelle Boucher is continuing to serve as chair, and Nicole Di Fabio is continuing to serve as staff liaison. The Graduate Education Advisory Board will continue its work as the Graduate Student and Postdoctoral Scholars Advisory Board. Judy Kim is continuing to serve as chair, and Joerg Schlatterer is continuing to serving as staff liaison. SOCED Subcommittee C will continue its work as the US National Chemistry Olympiad Subgroup. Joshua Pak is continuing to serve as chair, and Lily Raines is continuing to serve as staff liaison.

Tracy Halmi, chair of the new Promoting Excellence in Education Subcommittee, summarized its draft charge. Alternate names are being considered.

Matt Mio, chair of the new Student Communities Subcommittee, summarized its draft charge. He noted how the types and numbers of student communities has expanded over the years and the importance of fostering connections among them.

Laura Pence, chair of the new Science Education Policy Subcommittee, summarized its draft charge. The subcommittee will be considering the expansion of existing policy work to include providing education about process of developing and using statements, determining areas where policy statements are needed, and improving messaging to give the statements more direct influence on Capitol Hill as well as in other parts of ACS.

**Action Item 21-9:** Provide revisions to new SOCED subcommittee charges by April 1 – SOCED subcommittee chairs

**SOCED Strategic Plan**
Gauthier provided a brief update on the implementation of the SOCED 2019-2022 strategic plan by strategy implementation teams. Of the 12 strategies, 5 have been completed and 2 have been changed to better align with stakeholder activities.

As the new structure is implemented, the Executive Committee will be considering how the SOCED goals and remaining strategies will be fulfilled, mapping map the strategies to the appropriate subcommittees and confirming that all strategy leads are current members of the committee.

**New Business**
SOCED considered the petition to Harmonize Committee Structures, Processes, and Terms, up for Council action. The proposed changes will provide more opportunities for involvement and leadership in ACS governance. The importance of considering impact on leadership and
succession planning, in general and at this time of transition for SOCED, was noted. Although there was support for the change in Councilor requirements, there was concern that implementing term limits at this time would result in an untimely loss of leadership and momentum with the SOCED restructuring.

5. SOCED voted to take no position on the petition to Harmonize Committee Structures, Processes, and Terms and recommend that the changes in Councilor requirements and term limits be separated.

SOCED considered the petition to Amend the Duties of the Committee on Local Section Activities, also up for Council action. The connections of student communities to local sections were considered.

6. SOCED voted to endorse the petition to Amend the Duties of the Committee on Local Section Activities.

The March 11 SOCED Executive Session adjourned at 3:00 p.m. EDT.

At the start of the March 16 SOCED Executive Session, Gauthier thanked everyone for joining.

**Membership Affairs Committee Report**

Brian Mathes, the chair of the Membership Affairs Committee, provided an overview of the proposed 2022 Schedule of Membership, the process used to update it, and the potential impact on membership growth and dues revenue. The committee discussed the impact on chemistry teachers, undergraduate and graduate students, and postdoctoral scholars. The opportunities for engaging those in the new community associates category were also considered.

**Further Discussion of Petition to Harmonize Committee Structures, Processes, and Terms on SOCED**

In preparation for the CONC meeting, Bennett solicited more input on the proposed petition. The importance of expanding involvement of younger members in ACS governance, getting relevant expertise, encouraging greater participation of Associate members of committees, and supporting succession planning were discussed. Bennett noted the importance of a successful implementation of the new SOCED structure.

**Action Item 21-10**: Provide an update on CONC discussions of committee feedback on the Petition to Harmonize Committee Structures, Processes, and Terms – Rodney Bennett

**Subcommittee Reports**

Halmi shared the highlights of the discussion regarding the charge for the Promoting Excellence in Education Subcommittee. The importance of the following were noted: engaging stakeholders; leveraging theory, evidence, and effective practices; and advancing diversity, equity, inclusion, and respect. The subcommittee will continue to refine its charge considering
the SOCED vision, mission and goals, as well as the audience, stakeholders, and greater mission and goals of Society. It will also move forward with the formation of subgroups and reviewing ChemLuminary nominations.

Mio shared the highlights of the discussion regarding the charge for the Student Communities Subcommittee. The importance of clarifying that the subcommittee is focused on a wide range of communities, not just student chapters, was noted. The subcommittee will continue to refine its charge. It will also consider how to facilitate communications among subgroups and review ChemLuminary nominations.

The Student Communities Subcommittee discussed and recommended that SOCED endorse the 2022 Schedule of Membership.

7. SOCED voted to endorse the 2022 Schedule of Membership

Pence shared the highlights of the discussion regarding the charge for the Science Education Policy Subcommittee. She noted the opportunities to expand beyond the management of existing policy statements, including providing messaging, pursuing advocacy, and developing reports and new policy statements.

The committee was encouraged to take advantage of advocacy training.

**Action Item 21-11:** Send the committee the registration link for advocacy training in the ACS Learning Management System – Lauren Posey

Gauthier thanked the subcommittees for their thoughtful consideration and implementation of the new charges.

**New Business**
There was no new business.

Gauthier reminded the committee of the student programming being held at the ACS Spring 2021 meeting and associated action items.

The March 16 SOCED Executive Session adjourned at 4:27 p.m. EDT.
Participants: Carmen Gauthier (chair), Michael Adams (guest), Tracy Halmi, Matthew Mio, Laura Pence

Staff: LaTrease Garrison (staff liaison), Nancy Bakowski, Terri Chambers, Joan Ogburn-Hyson, Jodi Wesemann (Lauren Posey was unable to attend)

1. Welcome and Safety Moment
Chair Carmen Gauthier welcomed everyone, noting her excitement about the activities for 2021.

During the safety moment, Gauthier announced that future SOCED meetings will not be recorded, unless there is a compelling business need. This is based on legal guidance from ACS Counsel.

2. Review SOCED Spring Meeting Agenda
The agendas for the March 11 and March 16 SOCED Executive Sessions were reviewed.

One of the first actions during the March 11 SOCED Executive Session will be to elect a Vice-Chair for 2021. The floor will be open for nominations.

Action item: Nominate Michael Adams to serve as SOCED Vice-Chair for 2021 during the March 11 SOCED Executive Session – Matt Mio

The roles of members and associate members in regards to making motions and voting was clarified.

The Diversity, Equity, Inclusion, and Respect (DEIR) Moment on March 11 will focus on the new goal in the ACS Strategic Plan. Mio noted that he has a collection of DEIR moments that could be used for future meetings.

The March 16 session will end with a social half hour. As an incentive to use the new ACS Network platform, SOCED will be invited to share mocktail and cocktail recipes on the SOCED group.

3. Review SOCED Structure
Drafts of subcommittee and subgroup charges have been prepared for inclusion in the SOCED Agenda book. They will be introduced during the March 11 Executive Session. Input will be welcome before and during the March 16 subcommittee meetings. The subcommittees can
bring finalized charges back to the full committee on March 16. If more time is needed, the subcommittees can continue their work, finalizing the charges by April 1.

4. Subcommittee Assignments
SOCED Subcommittee appointments are made by the SOCED Chair. A draft spreadsheet of 2021 subcommittee appointments has been prepared.

Action item: Review subcommittee assignments, proposing any changes by Tuesday, February 23 – Tracy Halmi, Matt Mio, Laura Pence

The subgroups for the Student Communities Subcommittee are already in place. The appointments for other subgroups, along with the timing and process for making those appointments, remain to be determined. Members from one subcommittee can serve on subgroups for another subcommittee.

5. New Member Orientation Webinar
All SOCED members, associate members, and consultants are invited to attend the new member orientation webinar on March 5. Halmi and Mio will be able to join Gauthier. Pence may be able to attend, but it is not likely.

The objectives of the webinar are to:
- Acquaint new members to the committee
- Share the new structure, providing a high level overview
- Answer questions

Action item: Send new member orientation slide deck to the SOCED Executive Committee – LaTrease Garrison

6. New business
The duties for SOCED in the ACS Standing Rules refer to Student Chapters. The scope of this duty may need to be clarified, given the establishment of ACS International Student Chapters and ACS Graduate Student Organizations.

Action item: Consider potential changes to clarify official SOCED duties related to student chapters – Student Communities Subcommittee

Any proposed changes in duties could be shepherded by the Science Policy Subcommittee.

7. Recap action items and adjourn
Gauthier thanked everyone for their contributions.
Welcome
Chair Carmen Gauthier welcomed everyone, noting her excitement about the new SOCED structure and thanking everyone for the work on the subcommittee charges.

Review subcommittee charges

Promoting Excellence in Education Subcommittee
The subcommittee and subgroup chairs proposed a revised set of charges and a change of name to the Supporting Excellence in Education Subcommittee. The scope of ACS Education activities was discussed, noting that the Division of Chemical Education has a separate governance structure, strategic plan, and set of activities. The way in which SOCED guidance will be provided to ACS Education staff was discussed, highlighting the role of the subcommittees and subgroups.

Action item: Incorporate charges associated with ACS core values and subgroup appointment process into other subcommittee charges – Executive Committee

Student Communities Subcommittee
The subcommittee identified several edits to its set of charges and a broader question for consideration by the SOCED Executive Committee. The need to convey the range of student communities and consider what terms are used in various documents was noted.

Action item: Review the ACS governing documents, considering whether “student chapters” should be replaced with an alternate term – Executive Committee
Action item: Determine the process for revising ACS governing documents – ACS Staff Liaisons

The opportunity to consolidate the series of charges related to strategic guidance was noted.

Action item: Replace the charges related to strategic guidance with a single charge – Executive Committee

The addition of the charge related to subgroup appointments highlighted the opportunity to also consolidate related charges, now that they are better understood by the subcommittee.
Action item: Replace the charges related to subgroup appointments and reporting with a single charge – Executive Committee

The importance of encouraging communications among subgroups was highlighted.

The process and terms for appointments to Undergraduate Student Advisory Board, the Graduate Student and Postdoctoral Scholars Advisory Board, and the US National Chemistry Olympiad Subgroup were reviewed. Student liaison appointments to USAB are generally 18-months, with the flexibility to accommodate different circumstances.

Science Education Policy Subcommittee
The subcommittee proposed expanding on the current responsibility regarding policy statement management, adding charges focused on development and messaging. Charges associated with ACS core values and subgroup appointment process will be added.

Executive Committee
After considering the different natures of the subgroups and the timelines associated with them, the Executive Committee decided to assume the responsibility for forming and dissolving subgroups. The need for flexibility and accountability were noted.

1. The SOCED Executive Committee voted to approve the subcommittee charges with the revisions.

Review strategic plan mapping
During the first two years of the SOCED strategic plan, five strategies were completed. The remaining seven were reviewed, along with the recommendations in the final report from the Goal 3-Strategy 3 team, considering how they might best move forward with the new SOCED structure. Background and guidance will be key to successful transitions.

Action item: Confer with subcommittee chairs and staff liaisons about how various strategies might fit into subcommittee charges – Adams and Wesemann
Action item: Discuss next steps for the strategic plan at a future SOCED Executive Committee meeting – Executive Committee

Process for appointing subgroup members
One coordinated procedure is not feasible. The process and appointments for subgroups for the Student Communities Subcommittee are already in place. The timing and processes for making appointments for other subgroups will vary. The subcommittee chairs, working with staff liaisons, will coordinate and document the subgroup appointment processes.

As SOCED moves forward, efforts to identify subject matter experts for subgroups may include recommendations from SOCED members, staff, and other contacts. SOCED members from one subcommittee are encouraged to serve on subgroups for other subcommittees.
ACS Fall 2021 meeting format
Although the ACS Fall 2021 meeting will have a hybrid format, the plan is for the governance meetings to be virtual. Coordinated planning of virtual subcommittee and subgroup meetings will facilitate participation and reporting.

Action item: Schedule the SOCED Executive Session(s) in August – Gauthier and Garrison
Action item: Schedule the SOCED subcommittee and subgroup meetings before August, coordinating the times and dates to avoid overlap – subcommittee chairs and liaisons

New business
The Science Education Policy Subcommittee is planning a webinar on May 25, focused on the process of preparing and renewing policy statements and the federal policy issues in STEM education. The possibility of inviting all SOCED members and those from other committees was discussed.

Action item: Send information about the May 25 Science Education Policy webinar to the SOCED Staff Liaison for distribution to SOCED and the staff liaisons of other committees – Posey

Adjourn
The SOCED Executive Committee will meet again in June, considering the subgroup appointment process and next steps regarding the remaining strategies in the SOCED strategic plan.

Action item: Schedule June SOCED Executive Committee meeting – Gauthier and Garrison

Gauthier thanked everyone for their contributions.
Participants: Carmen Gauthier (chair), Michael Adams (vice-chair), Tracy Halmi, Matthew Mio, (Laura Pence was unable to participate)

Staff: LaTrease Garrison (staff liaison), Nancy Bakowski, Terri Chambers, Lauren Posey, Jodi Wesemann

Welcome
Chair Carmen Gauthier welcomed everyone, thanking everyone for the work on the subcommittee charges, strategic plan, and meeting planning.

Updates from PA&PR regarding Science Policy
LaTrease Garrison provided an update from the recent meeting of the Board committee on Public Affairs and Public Relations. The science education policy and process of updating it were discussed.

Affirm subcommittee charges
The revisions to the subcommittee charges were reviewed.

Action item: Send revised subcommittee charges (only) to SOCED for information – Gauthier and Garrison

The SOCED subcommittee chairs will distribute subgroup charges once finalized.

Review the subgroup appointment process
The document outlining the SOCED subgroup appointment process was edited to clarify that SOCED members or associates may volunteer/self-nominate.

1. The SOCED Executive Committee VOTED to approve the edited subgroup nomination process

Action item: Send subgroup nomination process out to SOCED – Gauthier and Garrison

Plans for July subcommittee meetings
Scheduling subcommittee meetings before July 20 will facilitate meeting the deadline for SOCED agenda book materials. The challenges of coordinating the meeting schedules was noted.

Action item: Include member of the SOCED Executive Committee on subcommittee meeting invitations – subcommittee chairs and staff liaisons
The Supporting Excellence in Education Subcommittee meeting will be held July 13 at 3:00-4:30 pm EDT.

The Student Communities Subcommittee meeting will be scheduled once the dates for the subgroups (USAB and GSPSAB) are determined. At this point, no changes in membership for either USAB or GSPSAB are anticipated. Submissions of the preference form may result in additional suggestions for later this year or next year.

The Science Education Policy Subcommittee meeting will be held July 7 from 2:00-3:00 pm EDT.

**SOCED strategic planning**

Mike Adams reported that he sent notes to the leads of the remaining strategy implementation teams about plans to have the SOCED Executive Committee and subcommittees consider next steps in the context of the new committee structure.

*Action item:* Copy Adams and Wesemann on any communications with strategy team leads – Halmi and Mio

**SOCED Executive Session agenda overview**

The draft agenda for the August 10 SOCED Executive Session was reviewed.

*Action item:* Plan for the Diversity, Equity, Inclusion, and Respect moment – Mio

Plans for continuing joint SOCED/CPT activities are under way. Joint luncheons and receptions at ACS meetings will resume in the spring and fall, respectively, of 2022. Joint webinars may resume later this fall. Potential topics were considered during a recent meeting of the SOCED and CPT chairs and vice chairs.

- Positioning chemistry (ACS) be more welcoming to diverse students (including a panel of students)
- Student Value for ACS Membership
- Value of ACS Approval
- Effective practices in pedagogy

*Action item:* Send topical suggestions for joint SOCED/CPT luncheons and webinars to Gauthier and Garrison by mid-July – all

*Action item:* Submit SOCED agenda book materials by July 20 – all

Since Gauthier, who will be attending the ACS Fall 2021 meeting, is considering an informal gathering of SOCED members in Atlanta. Based on the ACS Council Policy Committee ruling, registration to attend in-person/virtual components can be covered for SOCED members and associates.
To do something for the host city, ACS is planning a public outreach event at the Aquarium.

**Action item:** Let Lily Raines know of interest in participating in outreach event – all

Gauthier thanked everyone for their contributions, wishing all an enjoyable summer season.
TAB 5
Implementation of new SOCED Structure
Since the Spring 2021 SOCED Executive Session, the SOCED Executive Committee has:
- approved the revised subcommittee name of the Supporting Excellence in Education,
- incorporated subcommittee feedback into the collection of subcommittee charges,
- approved the revised subcommittee charges, and
- developed a subgroup nomination process.

Implementation of SOCED Strategic Plan
SOCED Vice-Chair Mike Adams has been working with the Executive Committee, considering the next steps for the implementation of the 2019-2021 SOCED strategic plan and subsequent efforts.

Special Projects
Progress continues on several special projects addressing key issues in education.

- The Lasting Encounters between Aspiring and Distinguished Scientists (LEAD) Conference, an initiative of ACS Immediate Past President Luis Echegoyen, will be an in-person 3-day event focused on preparing a diverse group of high-potential young professionals and students for successful and impactful careers that address global grand challenges. Applications are now being reviewed, the conference program is being developed, and logistics for meeting safely are being put into place.

- The ACS Bridge Project and development of the Inclusive Graduate Education Network is supported by the NSF Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering & Science (NSF INCLUDES) program, along with funding from industry partners. More information about the ACS Bridge Program and ACS Bridge Professional Development, a collection of activities designed to increase the number of underrepresented minority students who receive doctoral degrees in chemical sciences, is available at www.acs.org/bridge. Bridge site proposals are due September 1.

- Get the Facts Out is supported by the NSF Improving Undergraduate STEM Education initiative. More information about the toolkit and other activities designed to change perceptions about K-12 teaching and increase the number of chemistry majors who enroll in teacher certification programs is available at www.acs.org/GetTheFactsOut. A presentation on Get the Facts Out was part of the virtual 2021 ACS Mid-Atlantic Regional Meeting.

- Impact Indicators and Instruments for Individual Development Plans is supported by the NSF Innovations in Graduate Education program. Pilot testing is in progress for a tool kit for demonstrating changes in student actions and attitudes resulting from use of the IDP process. More information is available at I3IDP.org.

ACS Fellows Nomination
MaryKay Orgill is chairing a working group to review the ACS Fellow qualifications and prepare the SOCED nomination packet for the 2022 awards cycle.
Society Committee on Education
Report to Council

This report updates the Council on SOCED’s progress implementing the actions agreed on during its Spring 2021 meeting, and highlights significant accomplishments of the Society’s education programs.

SOCED implemented a new structure that better aligns with committee roles and responsibilities. Three subcommittees have been formed: Science Education Policy, Supporting Excellence in Education, and Student Communities. A collection of advisory boards and working groups will engage a range of experts and stakeholders from across the education community, developing interactions and collaborations to fulfill the SOCED vision, mission and goals.

Vision: The future of chemistry teaching and learning
Mission: Develop and implement policies and resources to advance chemistry education and to connect its diverse communities
Goal 1: Promote effective chemistry education
Goal 2: Foster collaborative and sustainable environments for emerging and existing communities in chemistry education
Goal 3: Identify opportunities and approaches for communication and collaboration among education stakeholders

SOCED activities also help fulfill several goals of the ACS Strategic Plan, including Goal 3 (support excellence in education), Goal 2 (empower members and member communities), and Goal 5 (embrace and advance inclusion in chemistry). The committee is committed to ensuring that the Society’s core values are reflected in SOCED and ACS Education activities.

Science Education Policy
The SOCED charge includes developing reports and recommendations to the Board and Council on Society policies related to chemical education. The Science Education Policy Subcommittee will be incorporating key aspects of two policy statements, the Importance of Hands-on Laboratory Science and the Teaching of Evolution, into the Science Education Policy statement, as well as feedback from the Committee on Public Affairs & Public Relations. A webinar for SOCED members was held to develop advocacy awareness and review the policy statement process.

Supporting Excellence in Education
SOCED is also charged with advising on matters relating to chemical education. The Supporting Excellence in Education Subcommittee is considering the design and implementation of ACS Education programs, products, and services. These include the following:

- Professional development activities, such as the New Faculty Workshops and the Postdoc to Faculty Workshop, continue to be held virtually in 2021.
- The American Association of Chemistry Teachers (AACT) continues to expand its collection of resources, including webinars, an online resource library, and ChemMatters digital archive. Science Coaches applications for the 2021-2022 school year are due September 1, 2021. Opportunities and challenges related to K-12 and higher education, such as leveraging theory, evidence, and effective practices, are also being considered.
Student Communities
As it fulfills its responsibilities regarding ACS Student Chapters, SOCED is also providing guidance regarding programs, products, and services for high school, undergraduate and graduate students, as well as postdoctoral scholars. These include the following:

- The ACS Graduate Student Organizations (GSO) program now has 7 GSOs, with more coming soon. The GSOs at University of Connecticut and Texas Christian University will be featured during the Graduate Student Summit held on July 14 in partnership with ACS on Campus.
- A total of 33 ACS Student Group Development and Engagement Grants and 13 ACS DEIR Faculty Advisor/Chapter Officer Grants have been awarded in the first half of 2021. There are now 88 ACS International Student Chapters chartered in 29 countries.
- The team selected to represent the US at the 2021 International Chemistry Olympiad to be held virtually on July 24–August 2 consists of:
  - Kien Phuong, Landon School, MD, Chemical Society of Washington
  - Nikhil Seshadri, University City High School, CA, San Diego Local Section
  - Qiyang Zhou, Princeton International School of Mathematics and Science, NJ, Princeton Local Section
  - Yitian Zhu, Seven Lakes High School, TX, Greater Houston Local Section

The first and second alternates are Nethaka Dassanayake (Ames High School, IA, Ames Local Section) and Nathan Ouyang (University High School, CA, Orange County Local Section). As in 2020, digital exams were used and the study camp was held remotely, omitting the laboratory portions. More information can be found in the article in the June 14 issue of C&EN, and updates can be obtained via social media with #USNCO.

The new Careers and the Chemical Sciences resource launched June 1. The transformation of the former College to Career website involved modernizing the user experience, updating and expanding featured content, and rebranding to broaden the audience.

During its Spring meeting, SOCED also received updates on the following special projects: the Lasting Encounters between Aspiring and Distinguished Scientists (LEADS) Conference; the ACS Bridge Project; and Get the Facts Out.

Through these and other activities, SOCED is fulfilling its mission to develop and implement policies and resources to advance chemistry education and to connect its diverse communities.

Respectfully submitted,
Carmen V. Gauthier, Chair
Society Committee on Education
<table>
<thead>
<tr>
<th>Associates</th>
<th>Consultants</th>
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<tbody>
<tr>
<td>Roxie Allen</td>
<td>Pamela Leggett-Robinson</td>
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<td>Michelle A. Boucher</td>
<td>Irvin J. Levy</td>
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<td>Dorian A. Canelas</td>
<td>Amy Nicely</td>
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<td>Cheryl B. Frech</td>
<td>Laura E. Pence</td>
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<td>Kevin P. Gable</td>
<td>Missy A. Postlewaite</td>
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<td>Teri Quinn Gray</td>
<td>Jennifer B. Nielsen</td>
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<td>Margaret I. Kanipes-Spinks</td>
<td>LaTrease Garrison, staff liaison</td>
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<tr>
<td>Judy E. Kim</td>
<td>Daniel B. King</td>
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<td>Tyler Kinner</td>
<td>Laura E. Pence</td>
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<td>Irvin J. Levy</td>
<td>Missy A. Postlewaite</td>
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TAB 6
In support of its vision to maintain and lead excellence in training chemistry professionals in the 2020s, the Committee on Professional Training’s (CPT’s) portfolio now contains almost 700 colleges and universities with ACS approved chemistry programs. In 2019-20, these programs graduated over 11,000 students with bachelor’s degrees in chemistry and over 8,000 students with bachelor’s degrees in biochemistry.

Enhancements to the Approval and Review Process: 2021 marked the full return of the standard reporting calendar for approved institutions using the new online reporting and reviewing system, CPARS (Chemistry Program Approval and Review System). Now both institutions and CPT reviewers use CPARS to submit and process pre-applications, applications, annual reports, and periodic reports. An extensive array of tutorials and training guides provide broad support to navigate CPARS and enhance the user experience. A major advantage of the new system is its ability to streamline the review process for approved programs with future periodic report submissions.

Approval and Review Statistics: While most academic programs did not return fully to face-to-face instruction in 2020-21, the ACS approval and review process continued without interruption. Since our last report in spring 2020, CPT will have held 8 meetings (all virtual due to the COVID-19 pandemic) to review 114 periodic reports. Furthermore, 8 programs applying for approval met virtually with CPT subcommittees in lieu of in-person conferences at ACS national meetings. CPT members expressed strong support for the virtual format for these conferences as these opportunities enabled a wider engagement of individuals from the programs seeking approval and provided CPT with a more comprehensive assessment of each program. For the first time site visits (the final step in the approval process) were completed virtually with an additional 5 programs.

Guidelines Revision: CPT’s mission focuses on providing guidelines and setting standards for the training of chemistry professionals. The committee continued its work in developing and revising the ACS Guidelines for Bachelor’s Degree Programs to both promote effective practices and encourage innovations in chemistry education. Modifications to the current guidelines will include a focus on the development of professional skills and competencies; promotion of a comprehensive view of safety; and recommendations for advancing diversity, equity, inclusion, and respect (DEIR) policies and educational practices in academic settings. The revised guidelines will further provide flexibility in
assessing faculty workload while preserving department learning outcomes and ensuring that departments embrace inclusive educational practices. A restructuring of the guidelines format will aim to encourage programs to continually enhance their curriculum. The revised guidelines are expected to be published in 2022.

**CPT Response to COVID-19:** CPT provided guidance in 2020 to approved programs affected by COVID restrictions. The temporary adjustment of the Guidelines provided flexibility to programs and their majors in a variety of areas including frequency of course offerings, virtual laboratory experiences, and pass/fail grading. An update to the COVID guidelines will be released in August 2021.

**Global Activities:** In support of the ACS’s vision for 2030, a “Bigger and Better ACS,” a working group within CPT has been exploring the options for the evaluation of undergraduate chemistry programs internationally. This committee has been working to identify the key indicators of recognition in non-U.S. environments. As part of a pilot, the working group asked a small group of international institutions to prepare an application for review by CPT. At its January 2021 meeting, CPT approved the recommendations regarding the pilot process (e.g., application form, method of review, virtual conference); the assessment tools used to evaluate international programs; the nature of the feedback to provide to international applicants, and the wording for the recognition. After reports from the international review team, the committee supported the recommendation that both the Universidad del Valle and Swansea University “Meet the ACS International Guidelines.” A third international program will be reviewed at CPT’s August 2021 meeting.

**Communication with the Chemistry Community:** To enhance communication with chemistry approved programs and the wider chemistry community, the web page for the ACS Approval Program has been significantly enhanced ([https://www.acs.org/content/acs/en/education/policies/acs-approval-program.html](https://www.acs.org/content/acs/en/education/policies/acs-approval-program.html)). The central location of links to the guidelines, the approval process, data and reports, etc. is a convenient and up-to-date resource. Also, a new quarterly ACS Approval Program Newsletter features timely program information and insights into the excellent chemical education provided by ACS Approved programs nationwide.

**MEMBERS**

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(Vice Chairperson)  
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Dr. Leyte L. Winfield
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UNIVERSITY OF CALIFORNIA, SAN DIEGO

Dr. P. Gregory Van Patten
MIDDLE TENNESSEE STATE UNIVERSITY

STAFF LIAISON

Dr. Michelle M. Brooks
The American Chemical Society Committee on Membership Affairs (MAC) remains focused on ensuring that our membership stays vibrant, relevant, and useful to chemical scientists and engineers worldwide. Our market tests, research, surveys, panels, simulations, and our members all articulated the need for ACS to offer new membership options to meet the changing needs of our diverse community.

We are thrilled that after nearly 3 years of work, the transformative 2022 schedule of membership was approved by the ACS Council and adopted by the ACS Board of Directors this past spring. This change to our governing documents is a huge stride in our journey to provide a modern membership experience. It positions ACS to cultivate a strong and large community of chemists and allied professionals unsurpassed in vibrancy, scale, and diversity.

Thank you to the countless champions who have partnered, supported, advocated, and challenged us on this journey. I am proud and excited that this transformation will be realized on Jan. 1, 2022.

What’s coming next? If you are already a member of ACS, you will be assigned to the Premium Package—which is identical to your current membership offering—on Jan. 1. Your membership experience will remain uninterrupted as your benefits and access remain unchanged.

When your membership is up for renewal in 2022, you will have an opportunity to either remain with the Premium Package or choose the new Standard Package, which is our most transformational new option and allows greater accessibility to the entire global enterprise that we serve. New industries, interests, and innovations are intersecting in greater and more diverse ways, and this no-cost option, with no prerequisites, is our response to the changing landscape of science, scientific pursuit, and globalization. The Basic Package qualifies you as an associate of ACS, and with it you can remain informed via C&EN’s weekly newsletter and access to six C&EN articles a month, along with other content and benefits. We piloted the Basic Package in 2020 by making it an option during the registration process for ACS Webinars, and the pilot was a great success. Based on feedback and overwhelming demand for a no-cost option, we are extremely excited to launch the Basic Package in 2022.

New and returning members will have the option to choose one of these packages within the constraints of their eligibility. Over the next few months, we will share additional information and provide venues to have your questions answered to ensure a smooth transition and positive experience for our entire community.

We have created a comprehensive guide with more information for you to explore at www.acs.org/newchoices. I encourage you to read the resources on ACS Membership Packages for a full breakdown of costs, benefits, packages, and FAQs.

This change to our governing documents is a huge stride in our journey to provide a modern membership experience. It positions ACS to cultivate a strong and large community of chemists and allied professionals unsurpassed in vibrancy, scale, and diversity.
TAB 7
MARKET DISRUPTION AND ECONOMIC DOWNTURN
ACCELERATING AUTOMATION OF CHEMISTRY
STRAINED PIPELINE AND CHANGING WORKPLACE
CONTINUED GLOBALIZATION OF CHEMISTRY
CHEMISTRY AND SOCIAL RESPONSIBILITY
EMBRACING OPEN SCIENCE
SCIENTIFIC DOUBT AND POLARIZATION IN THE U.S.

2020 ACS Change Drivers
For complete set of ACS 2020 Change Drivers go to: strategy.acs.org

**MARKET DISRUPTION AND ECONOMIC DOWNTURN**
- The world is facing an economic downturn as a result of the COVID-19 pandemic.
- Petrochemical production and investment has been increasing leading up to 2020, revealing opportunities in emerging economies.
- Market disruptions and issues of supply pose a threat to the industry.

**ACCELERATING AUTOMATION OF CHEMISTRY**
- Artificial intelligence (AI) and machine learning are increasingly being used in data mining and chemical manufacturing.
- Lab-based research is more commonly being outsourced.
- Clean energy is a motivator for technological advancements.
- Automation has security and workforce implications.

**STRAINED PIPELINE AND CHANGING WORKPLACE**
- Economic, institutional, and immigration issues disrupt the chemistry workforce pipeline.
- Millennials and Gen Z will soon make up the majority of the global workforce.
- Advancements in technology may address workforce shortages but will require new skills of employees.
- Workplaces and meetings have shifted to being increasingly virtual.

**CONTINUED GLOBALIZATION OF CHEMISTRY**
- Asia is rapidly prospering and becoming the focus of the scientific enterprise.
- Foreign investment into Asia continues to grow.
- Concerns around research quality in developing markets persist.
- Recent years have seen particularly acute and intensifying geopolitical tensions.

**CHEMISTRY AND SOCIAL RESPONSIBILITY**
- Chemistry has room to be more diverse and representative.
- Investment in diversity, equity, inclusion, and respect (DEIR) is growing.
- Consumers have higher expectations for safe, ethical, and transparent practices in the chemical industry.
- The industry continues to move towards a "greener" future.

**EMBRACING OPEN SCIENCE**
- Many influential funders and policy makers support open science and require open access to articles and data.
- Revenue from open-access publishing comes at the expense of traditional subscriptions.
- Preprint publishing is a growing means by which chemistry research is disseminated.
- The COVID-19 pandemic has spurred calls for open science.

**SCIENTIFIC DOUBT AND POLARIZATION IN THE U.S.**
- Americans are divided on key scientific issues and have differing levels of trust in scientists.
- Common online sources of scientific information are unsubstantiated.
- U.S. policy has reflected a shift away from scientific research and towards deregulation, particularly with regards to environmental protections.
HOW TO USE THE CHANGE DRIVERS

1. Review
   Understand changes going on in the environment around the chemical enterprise.

2. Orient
   Triage the Change Drivers for the most relevant to your work and how they are impacting or will impact your goals.

3. Plan
   Decide how to adapt and revise your plans based on these Change Drivers.

4. Act
   Take action with your plans as informed by the Change Drivers.

5. Iterate
   Review and reassess Change Drivers and your plans every six months or during major planning exercises.

Please provide feedback to the Strategic Planning Committee’s Staff Liaison
TAB 8
SOCED Supporting Excellence in Education (SEE) Subcommittee  
Fall 2021 ACS Meeting  
Tuesday, July 13, 2021  
3:00 PM  
Zoom Technologies

<table>
<thead>
<tr>
<th>Members</th>
<th>Associates</th>
<th>Consultants</th>
<th>ACS Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracy Halmi (chair)</td>
<td>Roxie Allen</td>
<td>Dawn Del Carlo</td>
<td>Terri Chambers (SEE staff liaison)</td>
</tr>
<tr>
<td>Sandra Bonetti</td>
<td>Kevin Gable</td>
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<td>Lisette Gallegos (K-12 Subgroup liaison)</td>
</tr>
<tr>
<td>Jeremy Garritano</td>
<td>Daniel King</td>
<td></td>
<td>Ashley Donovan (Higher Education Subgroup liaison)</td>
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<tr>
<td>Sam Pazicni (Higher Ed Subgroup chair)</td>
<td>Tyler Kinner (K-12 subgroup chair)</td>
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<tr>
<td>Sarah Preston</td>
<td>Amy Nicely</td>
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<tr>
<td>Ellen Yezierski</td>
<td>Missy Postlewaite</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Documentation</th>
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<tbody>
<tr>
<td>3:00 pm EDT</td>
<td>Welcome &amp; Chair’s Report</td>
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<td></td>
<td>- Welcome</td>
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<td></td>
<td>- ChemLuminary finalists</td>
<td></td>
</tr>
<tr>
<td>3:15 pm EDT</td>
<td>Subcommittee charge (Information/Discussion)</td>
<td>SOCED Committee Structure Implementation</td>
</tr>
<tr>
<td></td>
<td>The SEE chair will review the subcommittee’s charge.</td>
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</tr>
<tr>
<td>3:25 pm EDT</td>
<td>Subgroup chair presentations (Information/Discussion)</td>
<td>SOCED SEE K – 12 Subgroup  SOCED SEE Higher Ed Subgroup</td>
</tr>
<tr>
<td></td>
<td>Chairs of the K – 12 and Higher Education Subgroups will present draft goals, tasks, and next steps for SEE subcommittee feedback and discussion.</td>
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</tr>
<tr>
<td>4:05 pm EDT</td>
<td>SOCED Strategic Plan (Discussion)</td>
<td>SOCED SEE Strategic Plan</td>
</tr>
<tr>
<td></td>
<td>The SEE subcommittee will contribute to several components of the SOCED strategic plan. The subcommittee will discuss assigned goals and strategies and determine next steps.</td>
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</tr>
<tr>
<td>4:25 pm EDT</td>
<td>New Business</td>
<td></td>
</tr>
<tr>
<td>4:30 pm EDT</td>
<td>Adjourn</td>
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</tbody>
</table>
The Promoting Excellence in Education (PrEE) Subcommittee of the Society Committee on Education (SOCED) held its Spring 2021 meeting on Tuesday, March 16, 2021 beginning at 3:10 p.m. ET via Zoom technology. The following were present for all or part of the meeting:

**Members:** Tracy Halmi (PrEE Chair), Sandra Bonetti, Jeremy Garritano, Carmen Gauthier (SOCED Chair), Sam Pazicni, Sarah Preston, Ellen Yezierski  
**Associates:** Roxie Allen, Kevin Gable, Daniel King, Tyler Kinner, Amy Nicely, Missy Postlewaite (Teri Quinn Gray was unable to attend)  
**Consultants:** Dawn Del Carlo  
**Staff:** Terri Chambers, Ashley Donovan, Lisette Gallegos

The Spring 2021 meeting of the PrEE Subcommittee of SOCED was called to order at 3:10 PM.

**Welcome and Introductions**  
PrEE Subcommittee Chair Tracy Halmi provided welcoming remarks.

**Subcommittee Charge**  
The subcommittee discussed its proposed charge and approaches to clarifying its remit. A number of suggestions and items for consideration emerged during the discussion, including the following:

- ACS goals and core values along with the SOCED charge should be leveraged to identify the subcommittee charge and the subgroup’s goals.
- Excellence is in the subcommittee’s name. How is this being defined?
- Diversity, Equity, Inclusion, and Respect (DEIR) should be included as an area of focus throughout all SOCED subcommittee and subgroup charges.
- SOCED programming at National, Regional and other meetings should be explicitly mentioned as part of the PrEE charge.
- The educational ecosystem that PrEE will monitor is broad. How is this being defined?
- Subgroup membership should be broad and diverse.
- PrEE’s work should advance theory, evidence, and effective practice as drivers for teaching and learning.
- A change in the name of the subcommittee should be considered.

**ChemLuminary Awards**  
A call for ChemLuminary judges from PrEE’s membership will be issued electronically following the Spring 2021 meeting of PrEE.

The Spring 2021 meeting of the PrEE Subcommittee of SOCED was adjourned at 4:10 PM.
Supporting Excellence in Education Subcommittee

K – 12 Subgroup

Supporting Excellence in Education Subcommittee Charges

• Advises ACS Education on opportunities and challenges related to the education ecosystem.
• Ensures the Society’s core values are reflected in the design and implementation of ACS Education programs, products, and services.
• Organizes and facilitates programming at ACS-sponsored meetings that reflect practices informed by education research and evidence.
• Recommends and fosters collaborative efforts with internal and external stakeholders.
• Oversees the appointment process to build diverse and inclusive subgroups that connect stakeholders with unique perspectives and expertise.

SEE K-12 Subgroup Description:

As a subgroup of the Supporting Excellence in Education subcommittee, SEE K-12 focuses on chemistry and science learning across grade levels in K-12.

SEE K-12 will be chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. The chair of the Supporting Excellence in Education subcommittee and the chair of SOCED must approve of the subgroup’s appointments. Subgroup members serve up to a three-year term.

SEE K-12 SubGroup Standing Goals:

• Serve as a voice for the K-12 community by discussing and providing guidance on K-12 chemistry education and other education topics based on trends, research, and effective practices
• Survey K12 education stakeholder groups to inform the work of the subgroup, SEE, and SOCED
• Convene task forces charged with organizing and facilitating yearly symposia and/or workshops at ACS National meetings, ACS regional meetings, and Biennial Conferences
• Every five years, convene a task force charged with reviewing and revising the Guidelines and Recommendations for Teaching Middle and High School Chemistry
• Work with ACS staff to facilitate the judging and selection of finalists for the Outstanding High School Student Program and Outstanding Kids & Chemistry ChemLuminary Awards
• Interface regularly with ACS-Hach Advisory Board, ChemMatters Policy Board, the AACT Governing Board, and other groups who advance K-12 education to inform and advance the work of the subgroup and SOCED

SEE K-12 Subgroup 2021-2022 Goals

1) Collaborate with DivCHED and AACT to explore perspectives and ideas related to programming, resources, etc. focused on the translation of research to practice for K12 chemistry and chemistry-related learning. Examples could include concept inventories, learning taxonomies, planning for student assessment of learning, thematic frameworks, laboratory innovations, etc.
2) Convene a task force to plan the update and revision of the *Guidelines and Recommendations for Teaching Middle and High School Chemistry* to begin in 2022
3) Initiate a stakeholder study of anticipated users for the *Guidelines and Recommendations*
4) Convene a task force charged with planning symposia related to K12 chemical education research for ACS Spring 2023 meeting
Supporting Excellence in Education Subcommittee  
Higher Education Subgroup

Supporting Excellence in Education Subcommittee Charges

- Advises ACS Education on opportunities and challenges related to the education ecosystem.
- Ensures the Society’s core values are reflected in the design and implementation of ACS Education programs, products, and services.
- Organizes and facilitates programming at ACS-sponsored meetings that reflect practices informed by education research and evidence.
- Recommends and fosters collaborative efforts with internal and external stakeholders.
- Oversees the appointment process to build diverse and inclusive subgroups that connect stakeholders with unique perspectives and expertise.

SEE Higher Education Subgroup

Chaired by a member or associate of SOCED. Membership for this subgroup is by invitation only and may include individuals who are not members or associates of SOCED. The chairs of SOCED and its Supporting Excellence in Education subcommittee must approve of the subgroup’s appointments. Subgroup members serve up to a three-year term.

Higher Education Subgroup Standing Goals

- Every five years, convene a task force charged with reviewing/updating the Guidelines for Chemistry in Two Year College Programs (last updated in 2015).
- Advise ACS Education on key decision points regarding higher education products, programs, and services, as well as other initiatives in development.
- Convene task forces charged with organizing and facilitating yearly symposia/workshops at ACS National/Regional Meetings or Biennial Conferences, that advance use of practices in higher education informed by education research and evidence.
- Interface regularly with the Committee on Professional Training, the Division of Chemical Education, the Graduate Student and Post-Doctoral Scholars Advisory Board, and the Undergraduate Student Advisory Board to inform and support the work of the group.

Higher Education Subgroup Goals for 2021-2022

1) Review, provide feedback, and recommend next steps for the SOCED/DivCHED/CPT Resource Development Project
2) Follow up on SOCED recommendation regarding student evaluations of teaching
3) Draft a recommendation to the ACS to encourage the Kavli Foundation to incorporate chemistry education research into the Kavli lecture series (info: https://cen.acs.org/sponsored-content/acs-kavli-lectures.html)
4) Draft a recommendation to JACS that the journal incorporate chemistry education research (not specific to the higher ed)
5) Explore the development of a Chemistry version of CourseSource (https://www.coursesource.org/).
## SEE-HE Membership (as of 07 July 2021)

<table>
<thead>
<tr>
<th>Invitation</th>
<th>Email Address</th>
<th>Notes on Experience/Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas Bussey</td>
<td><a href="mailto:tbussey@ucsd.edu">tbussey@ucsd.edu</a></td>
<td>Teaching faculty, Vice Chair of Undergraduate Education at UCSD, DivCHED, CER committee, DivCHED board of pubs</td>
</tr>
<tr>
<td>Peg Harbol</td>
<td><a href="mailto:mharbol@cascadia.edu">mharbol@cascadia.edu</a></td>
<td>Cascadia Community College, GCPE project, NFW programs</td>
</tr>
<tr>
<td>Dan King</td>
<td><a href="mailto:daniel.king@drexel.edu">daniel.king@drexel.edu</a></td>
<td>Drexel U CER, SOCED, DivCHED secretary/counselor</td>
</tr>
<tr>
<td>Suazette Mooring</td>
<td><a href="mailto:smooring@gsu.edu">smooring@gsu.edu</a></td>
<td>Georgia State CER, Associate Editor for JCE</td>
</tr>
<tr>
<td>Sam Pazicni (chair)</td>
<td><a href="mailto:sam.pazicni@chem.wisc.edu">sam.pazicni@chem.wisc.edu</a></td>
<td>UW–Madison CER, SOCED, vice-chair GSPDAB, NFW programs</td>
</tr>
<tr>
<td>ChaMarra Saner</td>
<td><a href="mailto:cksaner14@catawba.edu">cksaner14@catawba.edu</a></td>
<td>Faculty member at Catawba College (NC), member of USAB</td>
</tr>
<tr>
<td>Clarissa Sorensen-Unruh</td>
<td><a href="mailto:csorensen@cnm.edu">csorensen@cnm.edu</a></td>
<td>Central New Mexico Community College, DivCHED BCCE and public relations committees member</td>
</tr>
<tr>
<td>Paulette Vincent-Ruz</td>
<td><a href="mailto:pvinruz@umich.edu">pvinruz@umich.edu</a></td>
<td>University of Michigan, post-doc in CER, JEDI</td>
</tr>
<tr>
<td>Leyte Winfield</td>
<td><a href="mailto:LWinfield@spelman.edu">LWinfield@spelman.edu</a></td>
<td>Spellman College, CPT member, JEDI</td>
</tr>
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## PRIMARY RESPONSIBILITY

<table>
<thead>
<tr>
<th>Goal 1 Strategy 2*</th>
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<tbody>
<tr>
<td>Goal 1: Promote effective chemistry education</td>
</tr>
<tr>
<td><strong>Strategy 2 (revised):</strong> Provide descriptions and encourage use of evidence-based instructional practices (EBIPs) by end of 2020.</td>
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<tr>
<th>Goal 1 Strategy 3*</th>
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<tr>
<td>Goal 1: Promote effective chemistry education</td>
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<tr>
<td><strong>Strategy 3:</strong> Host a symposium, round table, or workshop to highlight the use of evidence-based instructional practices (EBIPs) by the Biennial Conference on Chemical Education 2020.</td>
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<tr>
<th>Goal 3 Strategy 3 (in collaboration with SOCED Executive Committee)*</th>
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<tr>
<td>Goal 3: Identify opportunities and approaches for communication and collaboration among education stakeholders.</td>
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<tr>
<td><strong>Strategy 3:</strong> Identify opportunities and approaches for collaboration among education stakeholders.</td>
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## ENGAGED IN IMPLEMENTATION

<table>
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<tr>
<th>Goal 1 Strategy 1 (working group has primary responsibility)*</th>
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<tbody>
<tr>
<td>Goal 1: Promote effective chemistry education</td>
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<tr>
<td><strong>Strategy 1 (revised):</strong> Contribute to a joint white paper on supportive educational environments for all graduate students and postdoctoral scholars.</td>
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<thead>
<tr>
<th>Goal 1 Strategy 4 (SOCED Executive Committee has primary responsibility)</th>
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<tbody>
<tr>
<td>Goal 1: Promote effective chemistry education</td>
</tr>
<tr>
<td><strong>Strategy 4:</strong> Identify and determine the strategies for how to disseminate effective chemistry education by Q4 2020.</td>
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<thead>
<tr>
<th>Goal 2 Strategy 1 (SOCED Executive Committee has primary responsibility)</th>
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<tbody>
<tr>
<td>Goal 2: Foster collaborative and sustainable environments for emerging and existing communities in chemistry</td>
</tr>
</tbody>
</table>
education

Strategy 1: By Q4 2019, identify existing chemistry education communities, gaps in these communities and their needs and share with Goal 1 teams to help promote effective chemistry education.

Goal 2 Strategy 4 (SOCED Executive Committee has primary responsibility)

Goal 2: Foster collaborative and sustainable environments for emerging and existing communities in chemistry education

Strategy 4: Work with the Diversity and Inclusion Advisory board on issues related to equity in chemistry education by 2020.
The Supporting Excellence in Education (SEE) Subcommittee of the Society Committee on Education (SOCED) held its Fall 2021 meeting on Tuesday, July 13, 2021 beginning at 3:00 p.m. ET via Zoom technology. The following were present for all or part of the meeting:

**Members:** Tracy Halmi (SEE Chair), Sandra Bonetti, Jeremy Garritano, Carmen Gauthier (SOCED Chair), Matt Mio (Student Communities Chair), Sam Pazicni, Sarah Preston (Ellen Yezierski was unable to attend)

**Associates:** Roxie Allen, Kevin Gable, Daniel King, Tyler Kinner, Amy Nicely, Missy Postlewaite (Teri Quinn Gray and Missy Postlewaite were unable to attend)

**Consultants:** Dawn Del Carlo

**Staff:** Terri Chambers, Ashley Donovan, Lisette Gallegos, Joan Ogburn-Hyson, Lauren Posey, Jodi Wesemann

The Fall 2021 meeting of the SEE Subcommittee of SOCED was called to order at 3:10 PM.

**Welcome and Introductions**

SEE Subcommittee Chair Tracy Halmi provided welcoming remarks; attendees were encouraged to share three words that came to mind when they consider the impact of COVID-19 on education.

Halmi shared the finalists for the Outstanding High School Student Program and Outstanding Engagement with K–8 Students Chemluminary awards.

**Outstanding High School Student Program**

- Princeton
- North Jersey
- Savannah River

**Outstanding Engagement with K-8 Students**

- Brazosport
- East Central Illinois
- Virginia

The 2021 SOCED SEE judging team was thanked for their contributions: Roxie Allen, Sandra Bonetti, Tyler Kinner, Amy Nicely, and Shari-Joi Nicholson.

**Subcommittee Charge**

The subcommittee charge was reviewed and shared. It was noted that the final charge was crafted based on feedback from the Spring 2021 meeting of SEE and input from the SEE subcommittee and subgroup chairs. The change in the name of the subcommittee was highlighted; the alignment of the revised charge with ACS core values and SEE Spring 2021 recommendations was also identified.

**Subgroup Chair Presentations**
Subgroup chair Tyler Kinner presented an overview of the planned standing and 2021-2022 goals for the SEE K – 12 subgroup. Prioritized 2021-2022 goals include revision of the *Guidelines and Recommendations for Teaching Middle and High School Chemistry* and planning symposia related to K – 12 education research for the ACS Spring 2023 meeting.

Subcommittee members provided feedback on the proposed goals including
- Leveraging webinars and regional meetings to reach broader audiences than might attend ACS National Meetings
- Publicizing K -12 events that are being offered by other parts of the organization
- Focusing on engagement of teachers who are not already connected to ACS

Diversity, equity, inclusion and respect appear in the subcommittee’s charge. It was noted that it is important to monitor for this core value via subgroup tasks on an ongoing basis.

Subgroup chair Sam Pazicni presented an overview of the planned standing and 2021-2022 goals for the SEE Higher Education (HE) subgroup (SEE-HE). Among the standing goals, revision of the *Guidelines for Chemistry in Two Year College Programs* was identified as one of the subgroup’s key priorities. The SOCED/DivCHED/CPT Resource Development Project was discussed; subgroup members responded with enthusiasm and shared ideas for potential dissemination/uptake. These included chunking content to enable ease of use, connecting content to the *ACS Guidelines for Bachelor’s Degree Programs*, sharing the resource with graduate students, and a FAQ that identifies how the resource addresses common challenges in teaching and learning. The importance of sharing expectations around excellent teaching with undergraduate and high school students was also suggested as a potential opportunity area that the project might address.

There was also discussion of the 2021-2022 subgroup goals focused on advancing the visibility of chemistry education research; these include recommendations for the Kavli lecture series and JACS. The Pimentel award was also identified as an opportunity for partnership between DivCHED and SOCED to consider a path forward. The latter will be shared with the SOCED executive committee for further exploration.

**SOCED Strategic Plan**

With the reorganization of the SOCED subcommittee structure, the executive committee has distributed the remaining strategies among existing working groups, the subcommittees and the executive committee itself to support continued momentum on SOCED strategy. The SEE subcommittee discussed strategies for which SOCED has been assigned primary responsibility. Goal 1 Strategy 2 and Goal 3 Strategy 3 will be revisited by the subcommittee following the August 2021 meeting of SOCED. Goal 1 Strategy 3 is in progress.

The chair of the Student Communities subcommittee, Matt Mio, initiated a discussion relative to Goal 1 Strategy 1, a strategy for which SEE will be engaged in implementation. It was noted that this strategy will be approached holistically, connecting all relevant stakeholder subcommittees and subgroups for input. SEE members with institutional knowledge relative to this strategy were asked to provide contextual and historical information to the Student Communities Chair.

The Fall 2021 meeting of the SEE Subcommittee of SOCED was adjourned at 4:26 PM EDT.
## Society Committee on Education
### Student Communities Subcommittee Agenda
#### Fall 2021 (Atlanta) ACS Meeting
**Monday, July 19, 2021  10:00-12:00 PM EDT Via Zoom**
https://american-chemical-society.zoom.com/j/81952703036?pwd=Y2pyYkJVaEpoY2VKc2ZINjB4TnFiQT09 Monday 19 July 2021

<table>
<thead>
<tr>
<th>Time EDT</th>
<th>Topic</th>
<th>Tab</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>Welcome and Introductions</td>
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<tr>
<td>10:10 am</td>
<td>Chair’s Report</td>
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<tr>
<td>10:10 am</td>
<td>• SC Subcommittee Minutes – March/April 21</td>
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<tr>
<td>10:10 am</td>
<td>• ChemLuminary Award review volunteers</td>
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<td>10:10 am</td>
<td>• Student Chapter Annual Report</td>
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<td>10:20 am</td>
<td>SOCED Strategic Plan Follow-Up (Discussion and Action)</td>
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<td>10:20 am</td>
<td>• General: synergy among USAB, GSPSAB, USNCO</td>
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<td>10:20 am</td>
<td>• SP 1.1 joint white paper on supportive educational environments</td>
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<td>10:20 am</td>
<td>• SP 2.4 DEIR Advisory Board and Chemical Education</td>
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<tr>
<td>11:00 am</td>
<td>Break (15 min)</td>
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<td>11:15 am</td>
<td>Updates</td>
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<td>11:15 am</td>
<td>• New Faculty Workshops 2021</td>
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<td>11:15 am</td>
<td>• USAB (Boucher/DiFabio)</td>
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<td>11:15 am</td>
<td>• GSPSAB (Kim/Schlatterer)</td>
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<td>11:15 am</td>
<td>• USNCO (Pak/Raines)</td>
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<td>11:55 am</td>
<td>New Business</td>
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<td>12:00 pm</td>
<td>Adjourn</td>
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### Members
- Michael Adams
- Milly Delgado
- Meledath Govindan
- Pamela Kerrigan
- Joshua Pak
- Kristine Smetana
- Matt Mio (Chair)

### Associates
- Michelle Boucher
- Margaret Kanipes-Spinks
- Judy Kim
- Irv Levy

### ACS staff
- Nancy Bakowski
- Terri Chambers
- Nicole Di Fabio
- LaTreashe Garrison
- Lily Raines
- Joerg Schlatterer
- Jodi Wesemann
Meeting attendees:
Members
Matthew Mio (chair)
Michael Adams (liaison to MAC)
Milagros Delagdo
Meledath Govindan
Pamela Kerrigan
Joshua Pak (USNCO chair)
Kristine Smetana

Associates
Michelle Boucher (UPAB chair)
Margaret Kanipes-Spinks
Irvin Levy
Judy Kim (GEAB chair)

ACS Staff
Nancy Bakowski (staff liaison)
Nicole Di Fabio (UPAB staff liaison)
Lily Raines (USNCO staff liaison)

Subcommittee charge
• Matt Mio described the subcommittee charge, suggestions included aligning descriptions of different entities to reflect all communities we serve, i.e. “Student Communities” vs. “Student Chapters”. The charge will be distributed via email to finalize.

ChemLuminary Award review
• Volunteers were requested for a working group for the ChemLuminary Award review for “Fostering Interactions between Local Sections and Student Chapters.” Irv Levy, Pam Kerrigan, and Milly Delagdo volunteered and will meet with Nicole Di Fabio.

Subgroups, collaborators, and appointments
• The subcommittee discussed related subgroups, collaborators, and appointments. The subcommittee would like to explore reciprocal representation between USAB and GSPSAB.

Subgroup updates
• The USAB, GSPAB, and USNCO subgroup chairs provided updates on recent activities.

New business
• The Subcommittee was asked to review the Membership Activities Committee’s petition. SC Subcommittee will recommend that SOCED endorse the MAC proposal on Membership petition (Action)
U.S. National Chemistry Olympiad Subgroup
Of the Student Communities Subcommittee
Of the Society Committee on Education
ACS Fall 2021 National Meeting

*Times provided in Eastern Time zone, Zoom information below.*

<table>
<thead>
<tr>
<th>Saturday, July 17, 2021</th>
<th>12:00 pm – 12:10 pm</th>
<th>Introductions, Opening Remarks, Approval of 2020 Minutes (Pak)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12:10 pm – 12:15 pm</td>
<td>Staff Liaison’s Report (Raines)</td>
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<td></td>
<td>12:15 pm – 12:35 pm</td>
<td>Study Camp and IChO Report (Houck)</td>
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<tr>
<td></td>
<td>12:35 pm – 12:50 pm</td>
<td>Break</td>
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<td></td>
<td>12:50 pm – 1:20 pm</td>
<td>Discussion on 2021 – 2022 USNCO Cycle</td>
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<td></td>
<td>1:20 pm – 1:50 pm</td>
<td>Discussion on 2022 USNCO Schedule</td>
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<td></td>
<td>1:50 pm – 2:30 pm</td>
<td>Extending and Clarifying Student Eligibility, National Exam Limits per School</td>
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<td></td>
<td>2:30 pm – 3:00 pm</td>
<td>Coordinator Guidance and Digital Support</td>
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<td></td>
<td>3:00 pm – 4:00 pm</td>
<td>Discussion: Broadening USNCO Participation</td>
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<td></td>
<td>4:00 pm – 4:15 pm</td>
<td>New Business</td>
</tr>
<tr>
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<td>4:15 pm</td>
<td>Adjourn</td>
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Update for SOCED – USNCO Subgroup

19 July 2021

Summary
The 2020 – 21 season of the U.S. National Chemistry Olympiad proceeded despite the continuing COVID-19 pandemic. Collaboration from across ACS staff units and USNCO volunteers enabled local exams, national exams, and the study camp to be held virtually. Team USA will be brought to Washington, D.C. to participate in the virtual International Chemistry Olympiad from July 24 – August 2. The closing ceremony will be available for public viewing on August 2 at approximately 8:00 AM ET (to be confirmed).

The governing subgroup met 17 July 2021 to discuss the 2021 – 2022 season schedule, piloted programs to broaden participation, and additional ideas that could be pursued. A second session will be scheduled to review exam questions for 2022.

Programs designed to broaden participation in the USNCO will be continued and expanded as budgets allow next year, including a social media campaign and a webinar series targeted directly to high school students that will begin in the third quarter of 2021.
Social Distancing Socials (SDS): Ongoing project with 30 minute virtual socials with a mocktail recipe provided upon registration. Average attendance of ~65 +/- undergraduate and grad students, with some faculty advisors in attendance. Students are randomly assigned to breakout rooms and can discuss anything they’d like. Special recipes from each social have been collected and posted. Additionally, there is a monthly challenge linked to the social, like #JulyJobTour, with resources posted and collected from around ACS.org to help students navigate the challenge.

Journal Club: This continues to be a bimonthly journal article review with ACS journal editors. Editors choose a journal article for students to read in advance of discussion with the editor. Undergraduate and grad students in attendance. ~50 +/- students in attendance. As part of #JournalJune the challenge was presented to read 4 papers, and programming online helped students learn how to choose a paper and read a paper. Also in June, Journal Club featured Dr. Rodney Priestley of JACS Au. Collaboration with ACS Publications and ACS on Campus.

Spring Virtual Meeting (2021): Evonne Baldauff and Basu Bhattacharyya (program chairs), curated an amazing program that included talks by Eminent Scientist Lecture by Naomi Halas, Rice University; rescheduled (Spring 2020) Eminent Scientist Rigoberto Hernandez feature talk; diversity panel; student chapter symposium; chemical communicators panel; “Behind the Scenes, Graduate School Edition” run in conjunction with ChemIDP; Undergraduate Research Poster Session, hosted on Remo; the Student Chapter Awards Ceremony, hosted by USAB student liaisons; and
an After-party with a DJ and trivia. A variety of technologies were used for these events, such as Remo, Zoom, Vimeo, Eventbrite, social media, and more.

**Grad School workshops (2):** a first-time workshop called “Going Global for Graduate School: What to Consider;” was presented in April. Additionally, “I applied to grad school - now what?” was presented as part of the suite of programming being developed to follow student questions/needs throughout the academic year as they consider graduate school. The next webinar is scheduled for August (taking into account attendance issues over the summer months).

**Careers in the Chemical Sciences:** The refresh of College to Career, now Careers in the Chemical Sciences, launched in June 2021 with updates to the career resource for students. Changes have included aesthetic, career profile, salary, and sort/filtering enhancements.

**Fall Virtual Meeting and additional programming (2021):** This fall, due to fewer undergraduate students attending the meeting, and a particularly low number due to the pandemic, only the Undergraduate Research Poster Session will take place in conjunction with the meeting. This session will be held virtually on the Remo platform after a successful poster session in the spring. Additional fall programming will include: the graduate school workshops (2) that are part of the suite discussed earlier, as well as the Graduate School Fair. For the first time, Student Communities will host a virtual Grad School Fair using the Remo platform. The fair will take place post-national meeting on August 31, 2021. To date, 53 recruiters have RSVP’d for the fair.

**Spring Hybrid Meeting (2022):** We have co-chairs Amanda Carroll and ChaMarra Saner preparing a hybrid program with the understanding that it could go 100% virtual if circumstances require it. Programming includes panels on chemistry communication, diversity, and graduate school preparation. Some programming, the virtual programming, will most likely be spread out throughout the month of the meeting. Dr. Burks, known online as Dr. Rubidium, has agreed to accept our nomination for Eminent Scientist.

**Other USAB meeting business (July 2021):** Along with guiding and planning the programming listed above, USAB discussed ways to encourage and reward Student Chapters who engage with DEIR in their chapter and chapter programming. Additionally, a working group formed to help guide USAB in the identification and recognition/support of Eminent Scientists and other invited speakers.

**Engagement Grant:** ACS student chapter grant available for virtual activities, funding activities that will help students deal with the challenges of a virtual world as they build their chemical communities, enrich their professional development, and support their outreach efforts. Examples of projects that have been funded with this grant are "Social Distanced Student Chapter Lab Coat Tie-dyeing" and “La Química de las Cosas,” an initiative that seeks to explore the chemistry behind daily life things and processes.+ So far, 30 grants have been awarded, 13 to student groups in the US, including GSOs, and17 to international student chapters.

**DEIR Grant:** This is a new funding opportunity exclusively for faculty advisors and student leaders of student chapters (domestic and international) and GSOs. This grant supports professional development endeavors intended to increase and support DEIR. Applicants can apply to receive funds for DEIR professional development opportunities, such as courses, training, materials, etc. The goal of this grant is to help create more inclusive and respectful spaces within ACS student groups.
Max $750 USD award. To date, 11 student groups have been awarded DEIR grants, 5 in the US and 7 international student chapters.

**Student Chapter Reports:** ~230 reports submitted from undergraduate student chapters. ~25 reports submitted from international student chapters. Report count is lower in 2021 due to the full academic year taking place during COVID-19. Chapter report review will be done entirely online again this year, with many of the final reviewers volunteering through concerted efforts from USAB.

**Other Collaborations:** ACS Virtual Career Day (March), through ACS Career Navigator, was aimed at undergraduates; YCC/Senior Chemists collaborated to provide the “ACS Networking with Chemistry Professionals, Students, and Ice Cream Virtual Event” in March and will again in August.

**inChemistry:** Many articles have focused on responding to the challenges of the pandemic, virtual learning, and virtual experiences, and USAB serves as a resource to the publication. USAB membership provides article ideas, article authorship, and advice for these articles. One recent article, appearing both in inChemistry and C&EN, by Michele Solis, dealt with how undergraduate students navigated pandemic disruptions, and USAB helped C&EN find a diverse pool of undergraduate students to interview.

**Graduate Student Organizations (GSOs):** A new GSO program was launched in January 2020. Due to COVID, interest and growth was slow through the year, but interest and awareness has picked up, with seven GSOs now chartered with ACS. This new program creates a pipeline for undergraduate students to move on from their student chapters and start or join an ACS GSO in graduate school. Similar to the student chapter program, GSOs provide the opportunity for financial support through grants, access to professional/career development, and a global community/engagement with chemistry graduate student peers.

**Social media engagement:** Steady engagement with undergraduate and graduate groups through TikTok, Instagram, Twitter, and Facebook (@acsundergrad).

Respectfully submitted:

Michelle Boucher, Chair USAB
Nicole Di Fabio, Staff Liaison
2021 ACS Graduate Student and Postdoctoral Scholars Advisory Board (GSPSAB)
Fall Meeting
Virtual – Friday July 16, 2021

Members: Dr. Judy Kim (Chair), Dr. Sam Pazicni (Vice-Chair), Dr. Elizabeth Draganova (Tufts), Dr. Cora MacBeth (CPT), Annabelle Lolinco (YCC), Dr. Zeus de los Santos (NIST), Dr. Nicole Kaufman (LSU), Dr. Carmen Valdez-Gauthier (Florida Southern), Dr. Philippe Buhlman (Minnesota), Dr. Pushpa Murthy (Michigan Tech)

GSSPC: Tepora Su’a (WayneSt), Emily Eikey (Pitt), Sebastian Kenny (Purdue), Shanica Brown (Purdue), Rishi Patel (Purdue), Amir Alwali (Purdue), Allison Kempen (Purdue), Wilson Ong (Purdue) Maria Camila Aguilier (Rochester), Eric Schreiber (Rochester), Aleksa Milosavljevic (Rochester), Anees Keedakkatt (Rochester), Karla Sanchez Llieanos (Rochester), Shilpa Bhatia (Rochester), Duy-Khoi Dang (UMich), Azza Ben-Akacha (FSU), Raul Ortega

Liaisons: Dr. Penny Beuning (CEPA), Dr. Matt Mio (SOCED - Student Communities), Jessica Martin (CHS)

ACS: Dr. Joerg Schlatterer, Dr. Corrie Kuniyoshi, LaTreasie Garrison, Chris Schiavone, Nicole Di Fabio, Ruth Tessema, Leah Martinez, Zebib Gebretensae

Meeting summary approval

Dr. Kim (chair) solicited requests for updates on the Fall 2020 GEAB meeting minutes. No updates were requested. The chair shared an inclusion moment focused on the value of connecting students to available resources, reaching out and understanding cultural and language barriers may impact inclusion.

Chair’s report

The chair noted updates for the proposal to establish Graduate Student Awards. The idea was shared with SOCED and CPT and resulted in positive feedback and additional questions. This initiative will ideally be launched by next year. Three new awards will be created for graduate students in the chemical sciences.

The 2019 ACS Graduate Student Survey Report which examines the career preparation and socialization of graduate students in the chemical sciences was completed and is available for viewing at 2019-acs-graduate-student-survey-report.pdf.

Dr. Kim provided an overview of the restructure of GEAB into the Graduate Student & Postdoctoral Scholars Advisory Board (GSPSAB) which is now under SOCED. Dr. Mio introduced the new SOCED structure; this committee reports to Council and the ACS Board of Directors. Under this structure GSPSAB will advise on strategic influence, help the development of new programs, support diversity, equity, and respect (DEIR), support graduate student organizations, and effective practices in graduate student and postdoctoral training.

Committee Updates:

Dr. Kim noted reports in the agenda booklet from governing and partnering committees and opened the floor to representing committee liaisons to share updates not covered in the reports.

The Graduate Student Symposium Planning Committee (GSSPC)
FSU GSSPC is currently aiming to change the date of their symposium. The Student and Postdoctoral Scholars Office (SPO) will coordinate with GSSPC groups to avoid a conflict in overlap in programming schedules. University of Rochester is happy to report they will be organizing yet another GSSPC symposium.

The Committee on Economic and Professional Affairs (CEPA)
CEPA oversees a lot of career programming and development. Dr. Beuning (liaison to CEPA) requested that those that have ideas for new programming reach out to CEPA to provide input. Additionally, the CEPT’s current version of the Academic Professional Guidelines is going through review. GSPSAB members and guests are encouraged to send their comments and questions to penny@neu.edu by end of July, 2021.

The ACS Student and Postdoctoral Scholars Office (SPO)
Dr. Schlatterer (liaison and manager of SPO) highlighted major initiatives that occurred in SPO since the last fall meetings. These include the recent launch of the Careers & the Chemical Sciences website which allows for in-breadth and in-depth exploration of many career areas. Chris Schiavone is the leader of this exciting new initiative and product of ACS which is linked to other ACS career programming.
Breakout Group Discussion:

Discussion 1 - In keeping with SOCED’s Strategic Plan Goal 1 (Promote effective chemistry education) and Strategy 1 (Contribute to a joint white paper on supportive educational environments for all graduate students and postdoctoral scholars), GSPSAB members were asked to provide input on three guiding questions.

1) Is there a continuing need to respond through a joint white paper to the Graduate STEM Education for the 21st Century report?
2) What should be the impact of the SOCED response?
3) How should the SOCED response look like?

Highlights from this discussion included:

- Many members felt there would be an importance and urgency in having a joint response to show the society of chemists understand current and future needs of the community (in contrast not having a response would send a wrong message that the topic is “unimportant”).
- There is a need for graduate students to have equitable access to various professional development opportunities and avenues of support.
- In addition to promoting the value and importance of supporting graduate student needs, the response should include recommendations for practical and tangible solutions and interventions that could be applied.
- The white paper should be written with an understanding of the similar and different needs of the various STEM communities (e.g. what are the specific diversity needs within each community, how climates and cultures may respond differently, what are partnering needs between societies, etc.).
- There needs to be emphasis beyond stating the importance of the various issues at hand and intentionality of purpose and goals need to be clearly mapped out including to whom the report is disseminated and how direct is their connection with the impacted students?
- ACS is very large and should focus on providing as much of a positive impact as possible in partnerships and responses.

Discussion 2 - GSPSAB members were asked to provide input on three guiding questions.

1) What are the biggest needs for the support of graduate students and postdocs in the chemical sciences?
2) Which type of data would allow ACS and the chemical science community to tackle the graduate and postdoctoral education challenges of the 21st Century?
3) How should speakers be selected (i.e. by invitation, by call for abstracts, or a mix of both)?
4) Should the content of the symposium serve as the basis for SOCED’s statement on graduate and postdoctoral education in the chemical sciences? (SOCED Strategic Plan Goal 1, Strategy 1)

Highlights from this discussion included:

- When polled GSPSAB 75% (12) said “Yes” they were in favor of hosting an ACS Grad & Postdoc Education Symposium in 2022 and 25% (4) said “Maybe”.
- Biggest/perceived needs are: Mental health, DEIR, mentorship, leadership development, career transitions, relationship/network building, differences in needs of domestic vs. international students
- Data: mentoring outcomes, job placements, mental health, relationship with advisor (socialization), perception of progress to degree
- Speakers: should include all stakeholders (graduate students, postdocs, faculty, administrators, employers), mix of invited and from abstracts selected speakers, diverse speakers

Recommendation(s):
ACS/SOCED/GSPSAB should host an ACS Graduate & Postdoctoral Education Symposium - Building inclusive educational experiences in the chemical sciences for the 21st Century (a data driven symposium) in 2022.
TAB 10
American Chemical Society  
Society Committee on Education (SOCED)  
Subcommittee on Science Education Policy

Invites you to attend a webinar on

ACS Science Education Policy

Tuesday, May 25th
1:00pm-2:00pm ET

Join us for a discussion with ACS staff on the policy statement process and its relevance to education policy. We will hear from Brandi Neifert Bannister, Public Policy Specialist, on the specifics of the policy statement process, and Lauren Posey, Manager of Advocacy, on the federal education policy landscape.

To RSVP:

https://american-chemical-society.zoom.com/meeting/register/tZAkcuGprDopGdDmZy4PCYHe4qfXDZfnHySu

Questions:

Contact Lauren Posey, l_posey@acs.org
Developing the ACS Public Policy Message

Brandi Neifert Bannister
Public Policy Associate
External Affairs & Communications
Office of the Secretary & General Counsel
b_neifert@acs.org
The ACS Public Policy Message

- **Public Policy Priorities**
- Public Policy Statements
- Letters, Press Releases, Advertising
- Coalition Positions

Public Policy Priorities

**Addressing Challenges & Opportunities Through Scientific Innovation**
- Foster Innovation through Research & Technology
- Strengthen Science Education & the Scientific Workforce
- Advance Sustainability & the Environment
- Science in the Public Policy Arena
ACS Policy Statements

- Have a lifecycle of up to three years
- Are approved and prioritized by the Board of Directors
  - Committee on Public Affairs & Public Relations (PAPR)
- Provide the basis of the Society’s public policy efforts
- Are intentionally high-level to allow the Society to respond to developing and changing issues
- Voice of the Chemical Sciences

ACS Policy Statements

- Observations & recommendations on specific policy matters
- Intended for policymakers
- Currently 29 active
- One paragraph to 5 pages
- Collectively represent the broad interests of ACS and our members as a unified agenda
- [www.acs.org/policy](http://www.acs.org/policy)
### ACS Policy Issues 2021

#### Tier 1
- Climate Change
- Critical Materials
- Energy Policy
- Science Education Policy
- Science & Technology in the Budget
- U.S. Innovation & Entrepreneurship

#### Tier 2
- Preventing the Reemergence of Chemical Weapons
- Safety in the Chemistry Enterprise
- Scientific Insight & Integrity
- Sustainability & the Chemistry Enterprise
- Visas for Scientific Collaboration & Academic Study
- Workforce Related Immigration

#### Tier 3
- A Competitive U.S. Business Climate
- Chemical Risk Assessment & Regulations
- Ensuring Access to High Quality Science
- Freedom of International Scientific Exchange
- Intellectual Property
- Peer Review
- Water Treatment & Conservation

#### Tier 4
- Charitable Donations
- Disabilities
- Employment Non-Discrimination
- Forensic Science
- Healthcare Policy
- Hydraulic Fracturing
- Hands-on Science
- Inherently Safer Technology (IST)
- Regulation of Laboratory Waste
- Teaching of Evolution

### A Recent Example: Supplemental Questions for Visa Applicants

Visa Restrictions and Scientific Progress

Freedom of International Scientific Exchange
From Idea to Policy

IDEA

Staff Research

Writing Team

Joint Full Committee Approval

PAPR

ACS Policy

Draft to ACS Statement

Committees (or other ACS Units):
- Recommends drafts to PAPR
- Maintains policy expertise
- Works with ACS EAC
- Coordinates with other committees, divisions, etc.
- Helps advocate issues
- Reviews statements every third year

PA&PR (delegated by Board):
- Approves, declines, or returns drafts for further work
- Develops biennial ACS Public Policy Priorities
- Provides overall guidance for committees
- Leads statement reviews every third year
- Consults with Staff
Example One: Synthetic Biology

- Governance approached staff
- Governance research
- Staff research
- Symposium held in Philadelphia (2016)
- Decision: ACS doesn’t have standing to weigh in

Example Two: Workforce Immigration

- Idea percolated for several years
- 2017 started task force
- Research in tandem
- Work with parent committees
- Summer 2018 Board
  - Yes!
- Statement drafted
- Approval by committees Spring 2019
- Board approval June 2019
Goal 4 Communicate chemistry’s value
Working to ensure the health of the chemistry enterprise

- **225+** Congressional briefings & receptions on Capitol Hill
- **75+** Congressional Chemistry Caucus members
- **10,000+** Act4Chemistry Legislative Action Network members
- **20+** ACS-issued public policy statements

ACS member public policy engagement
- Advocacy training workshops
- Act4Chemistry Legislative Action Network
- Meetings on Capitol Hill, district offices and with federal agencies
- Provide congressional testimony
- Participate in congressional briefings

ACS staff registered lobbyists
- Work with policymakers, the administration and federal agency staff
- Draft and endorse legislation
- Lead stakeholder coalitions
- Support bipartisan congressional caucuses ex. Chemistry Caucus, STEM Education Caucus
SOCED Science Education Policy

Science Education Policy

- Funding
  - Teacher Professional Development and retention
  - Equity
  - Hands on Science
  - Teaching Evolution

Science and Technology in the Budget

- Targeted Funding
  - Funding Priorities

Visas/Immigration

- Research Security
  - Student Visas
  - H1B Workforce

- Safeguarding American Innovation Act

- Combating Sexual Harassment in Science
  - STEM Opportunities Act
  - Early Career Researchers Act
  - Rural STEM

U.S. Education Policy

- K-12 Education
  - Dept. of Education Programming
  - NSF Education and Human Resources Directorate (EHR)

- Higher Education
  - Research Funding (NSF, NIH, DOE, NIST)
  - Fellowship Programs
  - HBCU, MSI Grants

- Career and Technical Education
  - Workforce training
  - Apprenticeships

- Other Vehicles
  - Presidential Memorandum
  - G.I. Bill
  - Agency Authorization Bills (NSF, DOE etc)
K-12 Education Policy

- **Elementary and Secondary Education Act (ESEA)**, enacted in 1965
  - Professional development, provides instructional materials and resources for K-12 education.
  - Equal access to education, standards and accountability to close achievement gaps.

- **No Child Left Behind (NCLB)**, reauthorized ESEA in 2002.

Higher Education Policy

• The Higher Education Act (HEA), enacted in 1965
  – to strengthen the educational resources of colleges and universities and to provide financial assistance for students in postsecondary and higher education.
  – The legislation increased federal funding for universities, created scholarships, provides low-interest loans for students and established a National Teachers Corps.
  – Has been overdue for reauthorization since 2015

• Tax Legislation
  – Graduate Student Tax Exemption
  – Defensive Advocacy
Career and Technical Education Policy

- Vocational Education Act of 1963
- The Carl D. Perkins Career and Technical Education Act (Perkins)
  - Enacted in 1984, provides federal funding for supporting career and technical education in high schools, technical schools and community colleges.
  - Perkins provides almost $1.3 billion in federal support for career and technical education programs in all 50 States, including support for integrated career pathways programs.
  - Perkins/CTE was reauthorized by President Donald Trump and a bipartisan Congress in 2018. ACS Endorsed.

- Current Targets
  - Apprenticeships
  - RESTART Act
Other Policy Vehicles

- GI Bill
- NSF Authorization
  - Combating Sexual Harassment
  - MSI STEM
  - STEM Opportunities
  - Rural STEM Education Research

ACS Member Engagement

- Sign Up for Act4Chemistry, www.acs.org/act4chemistry
- ACS Advocacy Workshop
- ACS Governance Committee Policy Process
Questions?

• Brandi Neifert Bannister, Policy: b_neifert@acs.org
• Lauren Posey, Advocacy: l_posey@acs.org
Purpose: Start the process for revising and updating the STEM Education policy statement, which is up for renewal in 2022. This is a Tier 1 statement that addresses both education and workforce issues. Focus on policymakers rather than messaging.

I. First draft target: Agenda book for spring 2022 meeting (February)

II. Major issues:

1. Merging the Hands On Science and Evolution statements into the STEM education statement
   a.) Evolution Statement: Jesse Bernstein & Pamela Leggett Robinson
   b.) Hands on Science Statement: Susan Shih & MaryKay Orgill
   c.) Timeline: Group will begin reviewing/comparing statements in early August, comments & revisions due early September

   - Run through changes in statement in 2019 that allowed for absorption of Hands On Science and Teaching of Evolution
   - Are there things we need to make more explicit now that the time has come to get rid of those two statements

2. Diversity, Equity, Inclusion, and Respect
   a.) Jesse Bernstein, Pamela Leggett Robinson, MaryKay Orgill, Susan Shih & Laura Pence
   b.) Timeline: Group will meet virtually in early September

   - Directive from PA&PR

3. Emerging Trends
   a.) Danae Quirk Dorr, Dorian Canalas, Cheryl Frech, Jennifer Nielson & Laura Pence
   b.) Timeline: Group will meet virtually in early September

   - Context of the past year of virtual teaching and learning- broadband availability? Flexibility in certain areas such as standards? Hands on labs? Other issues that are policy-focused?
   - Emerging technologies or practices
III. Process for revision of Science Education Policy Statement

a. August: Address issue area #1
b. September: Teams for areas 2 and 3 meet, discuss issues and target areas of the existing statement for revision
c. October: Full Subcommittee meets to discuss potential revisions
PUBLIC POLICY STATEMENT

2019-2022

The American Chemical Society (ACS) Board of Directors Committee on Public Affairs and Public Relations adopted this statement on behalf of the Society at the recommendation of the Society Committee on Education. ACS is a non-profit scientific and educational organization, chartered by Congress, with more than 158,000 chemical scientists and engineers as members. The world’s largest scientific society, ACS advances the chemical enterprise, increases public awareness of chemistry, and brings its expertise to state and national matters.

SCIENCE EDUCATION POLICY

Well-educated scientists and engineers drive innovations that allow the United States to maintain its competitive edge in the global marketplace and improve the well-being of citizens worldwide. Science, including chemistry, is central to how people address problems at local, regional, national, and global levels. Preparing current and future students with the skills necessary to address rapidly evolving challenges requires investment at all levels of STEM (science, technology, engineering, and mathematics) education. It is vital that every student attains an appropriate level of science understanding to be prepared for current and future challenges and opportunities.

To achieve a robust and sustained pipeline of STEM talent, policymakers should pursue the following three objectives:

1. Promote lifelong, rigorous education of science concepts and practices in formal and informal settings to improve citizens’ understanding of science and its role in society.
2. Provide adequate state and federal support for science education, as well as pre- and in-service teacher preparation and continuing education, to strengthen the quality of teaching which will enhance student learning.
3. Encourage students of all backgrounds, particularly those from underrepresented groups, in the pursuit of education and careers in STEM fields.

To work towards these objectives, investments must be made systematically to three fundamental areas of science education.

Science Education System

- Promote science literacy by ensuring that science is a core subject and taught at every level of education.
- Provide for the development of evidence-based methods and curricular materials for teaching chemistry.
- Support the use of curricula that emphasize interdisciplinary aspects of chemistry, and the role of science in solving particular national and global challenges.
- Ensure that standards of learning are rigorous and broadly applicable.
- Encourage the expectation that all students have the opportunity to develop career appropriate STEM competencies.
- Ensure that facilities, including scientific information and library resources, support quality education by being well equipped, accessible, and up-to-date.
- Endorse hands-on laboratory science experiences that develop specific skills and recognize that computer-simulated activities are not equivalent replacements.
- Ensure federal, state, and local resources are equitably distributed to traditionally underserved and underrepresented communities.

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Page 100
• Foster a positive safety culture in laboratories by requiring a robust education in chemical health and safety.
• Support the development and implementation of green and sustainable chemical concepts at all levels of chemistry instruction.
• Create effective, alternative pathways for second-career opportunities in the chemistry enterprise.

K-12 Science Education

• Recruit, retain, value, and reward a diverse community of teachers who are well prepared in their science and education backgrounds, and offer them lifelong professional development opportunities to improve their content knowledge and pedagogical skills.
• Strengthen existing STEM teacher education programs by emphasizing the use of evidence-based methods and encouraging increased and up-to-date science content knowledge.
• Require science educators to obtain necessary safety training to facilitate learning in the laboratory and to conduct chemical demonstrations.
• Include current teachers as full participants in the design of programs for professional and curricula development.
• Improve coordination of formal and informal learning opportunities between teacher education programs and STEM departments at higher education institutions.
• Encourage interactions and partnerships between schools, teachers, students and STEM industries, businesses and professionals in order to provide experiential learning, enhanced teaching opportunities and appropriate role models.

Higher Education

• Incentivize efforts that improve the capability of higher education institutions to recruit and retain students, especially those from underrepresented groups, into the STEM fields.
• Promote coordination of programs between two- and four-year institutions to provide students who enter education at a variety of institutions with options for pursuing STEM degrees.
• Expand undergraduate research experiences by supporting summer and academic-year research projects and collaborations with industry, other academic institutions, government labs, and international partners.
• Invest in, promote, and reward educational research in STEM subjects that guide the development and evaluation of model programs, tools, and methods for improving the teaching and learning of science.
• Support the use of research-based practices for teaching undergraduate and graduate students, including the expectation that faculty are educated in these practices.
• Require institutions to provide comprehensive safety training and protocols in both teaching and research laboratories.

By meeting these objectives, the United States will have a continuously refreshed pool of educated students, informed citizens, and a prepared workforce ready to address challenges and opportunities.
IMPORTANCE OF HANDS-ON LABORATORY SCIENCE

Hands-on laboratory science experiences are critical to the learning process across all areas of study, beginning with kindergarten and continuing through post-secondary education. Research has shown that students who engage in well-designed laboratory experiences develop problem-solving and critical-thinking skills, as well as gain exposure to reactions, materials, and equipment in a lab setting. Sustained investments in hands-on experiences help inspire students to further their education and prepare them for high-technology careers by fostering skills sought by potential employers.

Hands-on experiences significantly advance learning at all levels of science education when appropriately designed and guided by qualified educators. During hands-on chemistry activities, students directly and safely investigate chemical properties and reactions, utilizing laboratory apparatus and instruments. These activities are essential for learning chemistry and improving science literacy. Web-based and computer-simulated activities may help increase student exposure to chemistry, reduce costs, and eliminate hazardous waste and safety concerns; however, these tools cannot be considered as equivalent replacements for hands-on laboratory experiences.

The Society believes that there is no equivalent substitute for hands-on activities where materials and equipment are used safely and student experiences are guided. The Society supports sustained investments to provide the facilities, equipment, curricula, and professional development needed for effective hands-on laboratory science experiences from kindergarten through post-secondary education.
TEACHING OF EVOLUTION: FACT AND THEORY

The American Chemical Society (ACS) strongly supports the inclusion of evolution in K–12 science curricula at an age-appropriate level because this theory is central to our modern understanding of science. The theory of evolution is not a hypothesis, but the scientifically accepted explanation of the incontrovertible fact that life and its many forms has changed over the years. Built upon hundreds of years of scientific observation and experimentation and tens of thousands of peer-reviewed scientific publications, evolution provides scientists and students with a unifying concept that explains the incredibly rich diversity of living things and their capacity to change and evolve over time. Evolution is an active field of research in which new discoveries continue to increase our knowledge and understanding of the specific processes and paths that biological organisms have followed over the billions of years that life has existed on earth. A central component of biology and biotechnology, modern evolutionary theory is also based on evidence derived from chemistry, physics, geology, and other disciplines. Because of the overwhelming evidence supporting evolution, it is recognized and endorsed as a key principle of science, on par with the atomic theory of matter, and as a central theme of science education by all major scientific societies.

Science and religion are two different human activities that seek to understand our world. Science rigorously applies the observation of natural phenomena and systems plus studies of modifications to these natural systems, to develop models that explain the order and function of the universe. As a key principle of science, evolutionary theory cannot be dismissed or diminished by characterizing it as mere conjecture or speculation. Furthermore, because it has developed out of scientific investigations, evolution cannot be equated with socially or religiously derived beliefs. Evolutionary theory, like all scientific descriptions of the workings of nature, is subject to continuing modification to reflect new knowledge gained through observation and experimentation.

The U.S. education system has witnessed repeated efforts to incorporate religious beliefs into scientific curricula as a counterpoint to evolutionary theory. Most recently these efforts have focused on intelligent design, which has been mischaracterized as a scientific theory by its principal proponents. Because intelligent design is not built upon a scientifically testable hypothesis, is not derived from a base of valid experimental studies, cannot point to any scientifically validated body of literature, and makes no testable predictions, it cannot be described as a scientific theory. The inclusion of non-scientific explanations in science curricula misrepresents the nature and processes of science. It also compromises a central purpose of public education—the preparation of a scientifically literate citizenry and workforce. Portraying non-scientific content as science in curriculum at any educational level poses a threat to the future scientific, technological, and economic competitiveness of the nation.

The American Chemical Society recognizes the critical importance of the scientific principles embodied in evolutionary theory and urges

- ACS members to educate themselves about challenges to the validity of scientific knowledge and actively join in efforts to expose misrepresentations of scientific fact, including efforts aimed at equating non-scientific creation beliefs with scientific knowledge.
- State and local education authorities to support high-quality science standards and curricula that affirm evolution as the only scientifically accepted explanation for the origin and diversity of species.
- School administrators and curriculum supervisors to ensure that evolution is taught in their classrooms, accurately represented in science textbooks, and appropriately assessed through local and state science tests.

The American Chemical Society (ACS) Board of Directors Committee on Public Affairs and Public Relations adopted this statement on behalf of the Society at the recommendation of the Society Committee on Education. ACS is a non-profit scientific and educational organization, chartered by Congress, with nearly 157,000 chemical scientists and engineers as members. The world’s largest scientific society, ACS advances the chemical enterprise, increases public awareness of chemistry, and brings its expertise to state and national matters.

chair: Laura Pence

Subcommittee Members:
- Susan Shih
- Danae Quirk Dorr
- Teri Quinn-Gray
- MaryKay Orgill
- Jennifer Nielson
- Pamela Leggett Robinson
- Cheryl Frech
- Dorian Canalas
- Jesse Bernstein

Staff Liaison: Lauren Posey

Summary of Agenda Book Materials: August 10, 2021

1. May 25th Education Policy Webinar Invite
2. Education Policy Webinar Slides
3. Summary of July 7th Subcommittee Meeting with assigned working groups

Subcommittee Charge:

Chaired by a member or associate of SOCED. Comprised of members, associates and consultants of SOCED. Chairs of the subgroups associated with this subcommittee will also serve as members and serve as the representative for their subgroup. A member(s) of this subcommittee will serve as science policy writing team leads or contributors, on behalf of SOCED, as requested by the Committee on Public Affairs and Public Relations.

- Recommends public policy statement updates to SOCED in preparation for recommending to the ACS Board of Directors every third year on issues including science education, federal funding for scientific research and education, and visas (related to education and scientific exchange).

- Identifies policy needs through research and collaboration both internally and, when appropriate, with external partners to ensure that SOCED is able to lead the conversation on improvements to and investments in our nation’s education systems.

- Communicates the value of a member driven public policy statement process and its role in the Society’s advocacy for the chemistry enterprise, through webinars, workshops, and other tools. Supports ACS public policy priorities by developing advocacy awareness through participating in advocacy workshops and messaging campaigns in collaboration with the ACS Office of External Affairs and the Committee on Public Affairs and Public Relations.

- Ensures the Society’s core values are reflected in the development, management, and implementation of ACS science education policies.

- Oversees the appointment process to build diverse and inclusive subgroups that connect stakeholders with unique perspectives and expertise while ensuring that the subgroups provide reports of their activities on a regular basis.
ACS Education Highlights
March – June 2021

Key points of contact:
Executive Vice President’s Office – LaTreasGarrison (l_garrison@acs.org)
Sr. Director – Terri Chambers (t_chambers@acs.org)
Collaborations and Communications – Jodi Wesemann (j_wesemann@acs.org)
Learning & Career Development – Vacant (interim contact Terri Chambers)
Communities & Educational Experiences – Nancy Bakowski (n_bakowski@acs.org)
Science Outreach – Lily Raines (l_raines@acs.org)
Educational Web Support – Lorinda Bullock (l_bullock@acs.org)

ACS Education Strategic Plan
ACS Education activities continue to be guided by the following vision, mission, and objectives, supporting the ACS Strategic Plan. In 2021, the ACS Strategic Plan was updated to reflect the Society’s commitment to creating a more diverse and inclusive enterprise. An updated set of change drivers will also be informing ACS Education activities.

Vision
To provide premier global chemistry education and professional development resources and experiences

Mission
To serve learners and educators by building communities and supporting innovative, relevant, and effective chemistry education and professional development

Goals
1. Build a global chemistry education and professional development portfolio
2. Provide relevant, effective, and customer-focused resources and professional training opportunities
3. Advance science education through building communities
4. Leverage informal science education and outreach
5. Assist in the growth and retention of ACS membership
6. Streamline and continuously improve operations

A brief description and highlights for goals 1—4 are on the following pages.
Goal 1. Build a global chemistry education and professional development portfolio

Expand the global reach and impact of existing educational, outreach, and professional development resources, identifying the additional resources, expertise, communications, and partners needed for a more comprehensive portfolio that is respectful of differences in cultures and reflective of differences in needs.

- **Offer remote versions of programs to global audiences**
  More [Career Pathways](#) workshops are being held for India in 2021, continuing the series started in fall of 2020. Collaborations with [ACS on Campus](#) also continue to provide career and professional development around the world.

- **Extend the reach and impact of ACS Chemistry Festivals by...**
  - **offering Festival Training Institutes**
    Participants of [Festival Training Institutes](#) are prepared to host successful outreach events in their home countries. A virtual 2021 Festival Training Institute is being planned for student chapters in India. Travel permitting, ACS Nigeria plans to host the 2022 Festival Training Institute in Ghana.
  - **providing Chemistry Festival grants**
    The schedule for [Chemistry Festivals](#) includes a mix of recently funded and postponed events, being held in-person and virtually. The first round of 2021 grants has been awarded. June 17, 2021 was the deadline for the second round of 2021 grant applications.

- **Increase the reach of ACS International Student Chapters**
  There are now 89 [ACS International Student Chapters](#) in 29 countries.

Goal 2. Provide relevant, effective, and customer-focused resources and professional training opportunities

Provide a comprehensive, cohesive portfolio of relevant, effective, customer-focused resources and professional training opportunities that enable learning and career development for students and professionals across all sectors of the chemical sciences.

- **Develop leadership skills by...**
  - **hosting the 2021 Leadership Institute Experience**
    This annual event for ACS volunteer leaders was transformed into 9-month engagement, starting with a kick-off held virtually on January 9-10. Participants took ACS Leadership Development courses the following week and continued taking courses and attending refresher events virtually through July.
  - **expanding online access to leadership courses**
    The facilitated ACS Leadership Development System courses are now being offered virtually in conjunction with ACS meetings.

- **Incorporate a holistic approach into the LEADS Conference**
  On November 4-6, 2021, the American Chemical Society is planning to host the [Lasting Encounters between Aspiring and Distinguished Scientists (LEADS) Conference](#), an in-person 3-day event in Washington DC focused on preparing high-potential young professionals and students for successful and impactful careers that address global grand challenges. Hosted by ACS Immediate Past President Luis Echegoyen, this event will bring together highly esteemed chemists, scientists, chemical professionals and Nobel Laureates for networking, self-reflection, career exploration, mentoring, and technical discussions. Applications are now being reviewed, the conference program is being developed, and logistics for meeting safely are being put into place.
Facilitate access to professional development opportunities by...

- launching the ACS Institute
  This collection of curated learning, training, and development opportunities from ACS in one searchable and conveniently accessible online learning portal was launched on May 4. The ACS Institute (institute.acs.org) provides learning opportunities for the broad chemistry community across the spectrum of learning – foundational education, career expertise, and professional development – organized by competencies, centers, subjects, and format.

- increasing access to Profession Education courses online
  ACS Professional Education offerings have been adjusted in response to COVID-19. Online Live courses provide high-quality instruction on a range of topics without requiring travel. Prices of On Demand courses have been reduced. Courses offered in conjunction with the Fall 2021 ACS Meeting & Expo will also be delivered virtually.

Foster transitions into faculty careers
The 2021 New Faculty Workshops are being held virtually June 17-22 and August 5-10. The 2021 Postdoc to Faculty Workshop was held virtually, July 30-31. The booklet Tips for Securing a Faculty Position shares advice from workshop facilitators.

Enhance career preparation
The online tool ChemIDP.org is available to guide users through the career planning process. The new Careers and the Chemical Sciences resource, launched June 1, and ACS Virtual Classrooms support the career exploration and development. The online ACS Graduate & Postdoctoral Chemist and inChemistry magazines include career sections.

Broaden participation in graduate education by...
The ACS Bridge Project is supported by a five-year $2.3 million alliance grant from the NSF Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering & Science (NSF INCLUDES) program, along with funding from the Genentech Foundation, PPG, Dupont, and Bristol Myers Squibb.

- expanding the ACS Bridge Program
  There are now nine ACS Bridge Sites and twenty ACS Bridge Partner departments. A total of 57 ACS Bridge Fellows are part of the program. Proposals to become an ACS Bridge Site are due September 1.

- offering ACS Bridge Professional Development
  Career and Professional Development Awards, ACS Career Kick-Starter workshops, and Graduate School Readiness & Professionalism Bootcamps are being offered to students who are from underrepresented racial/ethnic groups.

Get the facts out about middle and high school teaching
ACS has joined the Colorado School of Mines, Association of Mathematics Teacher Educators, the American Association of Physics Teachers, the American Physical Society, and the Mathematical Association of America in an information campaign. Information about the Get the Facts Out project and tool kit is being disseminated to the chemistry community via the website www.acs.org/getthefactsout, workshops and presentations, ACS Education booths, and ACS Publications. The project is supported by the National Science Foundation Improving Undergraduate STEM Education Initiative (NSF-1821710 and 1821462).
The Get the Facts Out project, guided by behavioral theory, aims to:
1) Change perceptions about the K-12 mathematical and physical sciences teaching professions among faculty, students, and parents;
2) Increase the frequency of faculty engaging in practices recommended in the Get the Facts Out toolkit; and
3) Increase the numbers of mathematics, chemistry, and physics majors who enroll in a teacher certification program.

The project is currently engaging a variety of institutions as quantitative and qualitative study sites in order to learn about the impacts of the Get the Facts Out toolkit on faculty and student perceptions of the K–12 mathematical and physical sciences teaching profession. Presentations in a variety of online venues such as MARM, the Northeastern NOYCE Conference, and the 2YC3 Virtual Symposium Series took place during the first half of 2021.

• Expand the resources of the American Association of Chemistry Teachers (AACT) by...
  o developing online resources
    As of mid-July, AACT has published 936 items in its online resource library. The ChemMatters digital archive, launched in 2020, is also available to AACT members, along with a complimentary magazine subscription.
  o offering webinars and virtual summer symposium
    As of mid-July, AACT has hosted 12 webinars in 2021 with a cumulative rating of 4.6 on a 5-point scale. 3,664 members registered to attend. Working with the ChemEd 2023 and 2025 committees, AACT held a series of Best of ChemEd sessions at the end of July.
  o piloting a two-phase application timeline for the Science Coaches program
    Applications from teachers and coaches for the 2021-2022 academic year are being accepted through September 1 for this joint ACS and AACT initiative, with early decisions being made in July. The requirement to meet six times, normally fulfilled face-to-face, will continue to be able to be met via virtual interactions.

• Expand the reach and increase the relevance of learning resources by...
  o bundling educational resources by topic
    Chemistry at Home puts a spotlight on the connections between chemistry and everyday life. Resources focused on five topics – the Earth, Water, Food, Health & Your Body, and the Periodic Table – have been bundled to aid parents and teachers in student enrichment.
  o providing remote lessons for grades 5-8
    Fifth grade Inquiry in Action lessons and Middle School Chemistry lessons are available in editable Google forms.
  o expanding digital access to ChemMatters
    Print-only subscribers to the high school magazine are being provided free digital access to all four ChemMatters issues from the 2020-2021 academic year.
  o supporting users of the 10th edition of Chemistry in Context
    Print and e-book formats are available for this edition of this issues-based undergraduate curriculum for non-science majors, released in 2020. Digital components and lab opportunities are integrated into the text. A webinar series and virtual networking opportunities are available to support adopters of the new edition.
Goal 3. Advance science education through building communities

Increase participation in and engagement with communities of educators and learners, building on the strengths of each program and partnerships to promote continued engagement with ACS throughout an individual’s career.

- **Support chairs of chemistry departments**
  Important issues in higher education are the foci for virtual discussions hosted quarterly by ACS Education for chairs of chemistry departments. Academic dishonesty was the topic of the April discussion. The July discussion will focus on being a new department chair.

- **Connect and support students and postdocs by...**
  - using multiple communication channels
    ACS Journal Clubs, virtual programming, social media campaigns, and the online ACS Graduate & Postdoctoral Chemist and inChemistry magazines are being used to engage students and postdocs.
  - providing special grant programs
    A total of 33 ACS Student Group Development and Engagement Grants and 13 ACS DEIR Faculty Advisor/Chapter Officer Grants have been awarded in the first half of 2021.
  - expanding the Graduate Student Organization (GSO) program
    Communities of graduate students who are interested in networking, career preparation and professional development can participate in the ACS Graduate Student Organizations (GSO) program. There are now 7 GSOs, with more coming soon. The GSOs at University of Connecticut and Texas Christian University were featured during the Graduate Student Summit held on July 14 in partnership with ACS on Campus. Starter grants are available to support the chartering of new ACS-GSOs.

- **Enhance diversity through partnerships focused on...**
  - increasing participation of those from groups underrepresented in the physical sciences
    ACS is one of five scientific societies establishing the Inclusive Graduate Education Network to increase the participation of women and individuals from underrepresented groups in graduate studies in the physical sciences. The 2021 IGEN National Meeting was held virtually, bringing together professional scientists, graduate students from underrepresented groups, and scholars of equity and inclusion in graduate education.
  - providing ACS career programming and hands-on outreach events
    Opportunities are being explored to participate in the virtual 2021 National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), the digital 2021 Society for Advancement of Chicanos/Hispanic and Native Americans in Science (SACNAS), and the in-person 2021 American Indian Science and Engineering Society (AISES) conferences, working with the new ACS Office of Diversity, Equity, Inclusion, and Respect.
• **Enhance networking and mentoring for ACS Scholars**
    In 2020, the [ACS Scholars Program](#) celebrated 25 years of providing renewable scholarships to over 3,300 underrepresented minority students majoring in chemistry-related disciplines. The anniversary celebration continues with the Senior Chemists Committee campaign to support the ACS Scholars Program. To date, over 445 alumni have since received a PhD, MD/PhD, or PharmD, with many more receiving a variety of advanced degrees. ACS Connects, the online platform established in 2020, is helping current ACS Scholars meet and network with each other and potential mentors.

• **Expand the reach and impact of Project SEED**
    Since many in-person research experiences could not be offered, virtual opportunities are being held for [Project SEED](#) (Summer Experiences for the Economically Disadvantaged) students. The ACS Virtual Project SEED Summer Camp launched on June 28, with over 360 high school students participating in a 5-week program of webinars, small group discussions, and independent assignments. In addition, 28 students are participating in a Virtual Research Pilot program, working with over 19 mentors across 11 Project SEED sites. These research projects include traditional computational and literature review projects, virtual lab shadowing and data analysis, and the creation of a chemistry graphic novel. Students will present their work through a virtual poster session during the ACS Fall 2021 Meeting.

• **Support the US National Chemistry Olympiad**
    In 2021, the [U.S. National Chemistry Olympiad](#) was once again held with online exams and without the laboratory component. Demographic data was collected from local section exam participants by the national office for the first time, and these results will inform future DEIR efforts. The nearly 1000 high school students who competed in the national exam were recognized with pins and digital certificates. From these students, 20 were selected for a 10-day virtual study camp featuring presentations from distinguished chemists in addition to rigorous technical training in various areas of chemistry. Team USA will compete at the [2021 International Chemistry Olympiad](#) to be held virtually on July 24–August 2.

• **Support early career teachers**
    Alumni of the ACS-Hach Second Career and Post-baccalaureate Scholarship programs participated in a mentoring program designed to provide support during the first three years of classroom teaching. Leveraging technologies such as Slack, Zoom, and text messaging, mentors and early career teachers collaborate to solve common teaching challenges and maintain connections that foster community. Additionally, early career teachers and their mentors met for a virtual retreat in Spring 2021.

• **Increase membership of the American Association of Chemistry Teachers (AACT)**
    As of July 12, [AACT](#) has 8,335 members, 89% of whom are teacher members. Approximately 50% of the AACT teacher members are taking advantage of the joint AACT/ACS membership option, launched in August 2018. A reduced dues rate is being offered to AACT teacher members through May 2022.
Goal 4. Leverage informal science education and outreach
Leverage existing and develop new informal science education and outreach resources, tools, training, and partnerships to ensure that all communities served by the ACS Education Division have access to high-quality materials.

- Support digital public awareness campaigns
  Chemists Celebrate Earth Week 2021 was celebrated virtually April 18-24 with the theme “Reducing Our Footprint with Chemistry”. National Chemistry Week 2021 will be celebrated October 17-23 with the theme “Fast or Slow… Chemistry Makes It Go!”

- Enhance informal science education by...
  - expanding virtual training
    The on-demand courses from the Outreach Training Program continue to be incorporated into virtual Festival Training Institute plans. Development is ongoing to further expand upon activity facilitation and selection guidance given findings from the ChemAttitudes project.
  - incorporating effective practices
    The Outreach Training Program materials are being updated to incorporate practices learned in the ChemAttitudes project and pilots of the Let’s Do Chemistry train-the-trainer online workshops, along with input from the Joint Task Force on safety in outreach settings. Let’s Do Chemistry train-the-trainer workshop modules are based on a research framework that increases participant interest, sense of relevance, and feelings of self-efficacy with respect to chemistry.
TAB 12
# ACS Acronyms and Abbreviations

Updated 2021-07-15

## ACS DIVISIONS

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<tr>
<th>Acronym</th>
<th>Division Name</th>
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<tbody>
<tr>
<td>AGFD</td>
<td>Agricultural &amp; Food</td>
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<td>AGRO</td>
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<td>ANYL</td>
<td>Analytical Chemistry</td>
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<td>BIOL</td>
<td>Biological Chemistry</td>
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<td>BIOT</td>
<td>Biochemical Technology</td>
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<td>Business Development &amp; Management</td>
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<td>CELL</td>
<td>Cellulose and Renewable Materials</td>
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<td>TOXI</td>
<td>Chemical Toxicology</td>
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<td>CHAL</td>
<td>Chemistry &amp; the Law</td>
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<td>Energy and Fuel</td>
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<td>FLUO</td>
<td>Fluorine Chemistry</td>
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<td>GEOC</td>
<td>Geochemistry</td>
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<td>HIST</td>
<td>History of Chemistry</td>
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<td>I&amp;EC</td>
<td>Industrial &amp; Engineering Chemistry</td>
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<td>DIC</td>
<td>Inorganic Chemistry</td>
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<td>MEDI</td>
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<td>NUCL</td>
<td>Nuclear Chemistry &amp; Technology</td>
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<td>ORGN</td>
<td>Organic Chemistry</td>
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<td>Polymeric Materials: Science &amp; Engineering</td>
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<td>PROF</td>
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<td>RUBB</td>
<td>Rubber</td>
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<td>SCHB</td>
<td>Small Chemical Businesses</td>
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### ACS COMMITTEES

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<tr>
<td>B&amp;F</td>
<td>Society Committee on Budget and Finance</td>
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<td>BOT</td>
<td>Board of Trustees, Group Insurance Plans</td>
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<tr>
<td>C&amp;B</td>
<td>Constitution and Bylaws</td>
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<tr>
<td>CA</td>
<td>Corporation Associates</td>
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<td>CAR</td>
<td>Committee on Analytical Reagents</td>
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<td>CCA</td>
<td>Community Activities</td>
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<td>CCPA</td>
<td>Chemistry and Public Affairs</td>
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<td>COMSCI</td>
<td>Science</td>
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<td>Patents and Related Matters</td>
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<td>CPC</td>
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<td>Professional Training</td>
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<td>Chemists with Disabilities</td>
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<td>N&amp;E</td>
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<td>NTS</td>
<td>Nomenclature, Terminology and Symbols</td>
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<td>Project SEED</td>
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<td>Society Committee on Education</td>
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<tr>
<td>WCC</td>
<td>Women Chemists</td>
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<td>YCC</td>
<td>Younger Chemists</td>
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**OTHER ACS ABBREVIATIONS**

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<tr>
<td>2YC₃</td>
<td>Two-Year College Chemistry Consortium</td>
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<td>AACT</td>
<td>American Association of Chemistry Teachers</td>
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<tr>
<td>BCCE</td>
<td>Biennial Conference on Chemical Education</td>
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<td>DEIR</td>
<td>Diversity, Equity, Inclusion, and Respect</td>
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<td>GCI</td>
<td>ACS Green Chemistry Institute®</td>
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<td>GSPSAB</td>
<td>Graduate Student and Postdoctoral Scholars Advisory Board</td>
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<td>USAB</td>
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<td>USNCO</td>
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