Resilience in Chemistry

Meeting Theme for Fall 2021 ACS National Meeting in Atlanta, Georgia

*Resilience: the capacity to recover quickly from difficulties; toughness.*

Theme Organizers

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Resilience in Chemistry

*Resilience: the capacity to recover quickly from difficulties; toughness.*

Combine these images of a chemist (in a lab coat) moving a molecule (bucky-ball?) moving up a mountain with the equation of modulus of resilience/axis represented and the ball illuminated like the sun?
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Conceptual Graphical Representation
Resilience in Chemistry

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Overall sub theme 1: “THE SCIENCE” Resilience of Chemical Systems Chemical resilience

Target Divisions:
AGFD, AGRO, ANYL, BIOT, BIOL, CARB, CATL, CELL, COMP, ENFL, ENVR, FLUO, GEOC, I&EC, DIC, MEDI, NUCL, ORGN, PHYS, POLY, PMSE, RUBB

Committees: CommSci, etc.

- Why/how materials/chemicals fail
  - Mechanical (shear, stress), chemical, UV, radiation, thermal, biological
- (+) Durability of chemicals, how do we make them durable in use
- (-) How to break molecules down to not linger in the environment
- Design of self-healing materials
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Overall sub theme 2: “THE PEOPLE” Resilience of Chemists and stakeholders Resilience in Research/Education

Target Divisions:
CHED, CINF, HIST, CHAS, TOXI, PROF
(Committees: WCC, CPT, CWD, Minority Affairs, Membership Affairs, Senior Chemists, Younger Chemists)

- Learning through difficulty, adversity, failure etc...
- Hypothesis-driven research does not always work the first 10 times
  - It’s called re-search for a reason
- Bouncing back from poor results, or exams and overcoming adversity
  - Einstein once failed math
- Highlight some of the best scientific discoveries were serendipitous
  - Saccharin, quinine, X-rays, sticky notes, microwaves etc...
- Health and safety, making R&D safer through learned past incidents
  - Challenger, bu-Li, Hg^{II}
- Making/handling more environmentally benign chemicals and materials
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Overall sub theme 3: “THE ENTERPRISE” Resilience in (of?) Chemical Enterprise

Target Divisions:
BMGT, SCHB, PROFF, CHAL, CINF, TOXI,
(Committees: CCS, Community Activities, Corporate Associates, Public Affairs/Public Relations, etc.)

• How chemical companies thrive and success through failures/setbacks
  • Start-ups, industry giants
• Innovation
• Adapting to change, market adjustments
• New products to meet growing demands
• Market competition
• Supply chain resilience
• Making processes safer for R&D and production
  • Environmental permits, risk management
• Resilience in chemical law, IP generation, enforcement, theft
**Plan of Attack**

Nominal Schedule (based on previous Theme Organizers)

<table>
<thead>
<tr>
<th>Time to Meeting Date</th>
<th>Action/Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-24 months</td>
<td>✓ MPPG selects theme</td>
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<tr>
<td>22 months</td>
<td>✓ MPPG Steering Committee appoints overall theme organizer</td>
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<tr>
<td>21 months</td>
<td>MPPG Chair communicates theme &amp; organizer to divisions</td>
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<tr>
<td>21 months</td>
<td>Organizer selects sub-themes, including organizers</td>
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<tr>
<td>20 months</td>
<td>Divisions tell organizer of their plans for theme</td>
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<tr>
<td>20 months</td>
<td>Organizer contacts local section for meeting site to discuss possible non-programming events at meeting (e.g., with local schools, museums, news organizations)</td>
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<tr>
<td>20 months</td>
<td>MPPG selects the theme</td>
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<tr>
<td>18 months</td>
<td>Organizer makes plans for plenary/showcase event in conjunction with President for year of theme (timing will depend on when President-elect is chosen)</td>
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<tr>
<td>18 months</td>
<td>Organizer reports back to MPPG and divisions with first draft of structure of theme program – symposia from divisions, special thematic symposia, showcase event, other activities</td>
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<tr>
<td>16 months</td>
<td>Organizer talks with ACS staff about special needs for theme at meeting site – venue for showcase/Presidential event, locations of theme symposia, connections with other societies, non-programming events (e.g., with local community)</td>
</tr>
<tr>
<td>12 months</td>
<td>Organizer reports back to MPPG and divisions with second draft of structure of theme program – symposia from divisions, special thematic symposia, showcase event, other activities; this should be close to the final version</td>
</tr>
<tr>
<td>12 months</td>
<td>Presidential office and organizer finalize plans for showcase event and begin process to line up speakers and make other arrangements</td>
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<tr>
<td>12 months</td>
<td>ACS staff and organizer begin plans for promotion of theme through both internal (ACS) and external venues</td>
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<tr>
<td>8 months</td>
<td>Organizer reports back to MPPG and divisions with final draft of structure of theme program – symposia from divisions, special thematic symposia, showcase event, other activities</td>
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<tr>
<td>6 months</td>
<td>Organizer and subtheme organizers oversee submission of symposia abstracts and other information into OASYS</td>
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<tr>
<td>4 months</td>
<td>Organizer and ACS staff finalize plans for locations of events and symposia at meeting site</td>
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<tr>
<td>At meeting</td>
<td>Organizer and ACS staff work on site to make sure thematic programming and other events proceed flawlessly</td>
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<tr>
<td>2 months after</td>
<td>Organizer and ACS staff report back to MPPG on how well theme process worked and how to improve this in the future</td>
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**To Do List**

- ✓ Develop Concept Document
- ✓ Develop graphics theme
- ● Establish Information Sharing resources
- ● Engage MPPG and Program Chairs on concept and solicit feedback and assistance
- ● Engage ACS Leadership (PRES-Elect, Board, Committee Chairs)
- ● Engage Local (Atlanta area) resources
- ● .... More to come
“The Ask (please!)”

• Programming Chairs, Symposium Organizers
  • Socialize current concept and solicit feedback
  • Consider topics that could be programmed to this Theme for the Fall 2021 meeting
    • We’d love it if each Division had at least one symposium on the theme!

• ACS Committee Chairs and Liaisons
  • Consider innovative activities that engage your committee/stakeholders on this concept

• ACS HQ
  • Provide guidance (protocol, lessons learned, etc.), resources (take our graphics concept to the next level!) and support to this endeavor

• Everyone
  • Provide feedback on the concepts and suggestions for activities, events or other initiatives