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A DIVISION OF THE AMERICAN CHEMICAL SOCIETY

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Chemistry and the Law NEWSLETTER

CHAIR'S MESSAGE

MATTHEW HLINKA

As we move into the second half of 2026, I am encouraged by how much momentum CHAL has built and how much opportunity lies ahead. Our division continues to grow in both scope and ambition, and I am grateful for the dedication of our volunteers, collaborators, and members who make this possible.

This year has been defined by connection: connection within the division, connection across divisions, across disciplines, and across the increasingly diverse community working at the intersection of chemistry and the law. Our strategic planning efforts in 2025 set the foundation, and we are now seeing those priorities come to life through expanded programming, new partnerships, and the launch of initiatives that will shape CHAL for years to come.

One of the most exciting developments is the creation of our new Forensics Subdivision (FORS). The energy around forensics within ACS has been unmistakable, and CHAL is proud to provide a permanent home for this growing community. Our inaugural class of FORS officers has been selected and approved by the CHAL Executive

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Committee. Please congratulate **Kelly Elkins** (Chair), **Theresa DeAngelo** (Chair-Elect), **Nelu Marginean** (Treasurer) and **Danaya Middleton** (Secretary) on their new roles. We plan to officially launch FORS at the Spring 2027 meeting in New Orleans, where we will host a dedicated symposium and a series of kickoff events. This subdivision represents exactly what we aspire to be—a place where scientists, legal professionals, and technical experts can come together to learn, collaborate, and build something new. I encourage anyone with interest in forensic chemistry, forensic science policy, or the legal dimensions of forensic practice to get involved early through FORS programming.

Another exciting development is **Jeanine Varney's** acceptance of the new Communications Chair position. Jeanine will handle publicity for our various events and activities on the CHAL website, on LinkedIn and via email.

Our inter divisional collaborations continue to expand as well. At the Fall 2026 meeting in Chicago, CHAL will participate in a wide array of joint programming that reflects the breadth of our mission. These include a symposium on **Ethics in Publishing**, co hosted with CINF, ETHX, and PROF; a debate in the Expo Theater titled "**Should Patent Law Recognize Non Human Inventors?**"; a symposium on **Wearable Sensors** organized by the Committee on Science; and a **Cosmetic Technology Showcase** also organized by the Committee on Science. These sessions demonstrate the value of partnering across ACS—bringing together chemists, information scientists, ethicists, engineers, and legal practitioners to explore issues that none of us can fully address alone.

We also continue to strengthen CHAL's presence at ACS meetings through networking events, receptions, and participation in Division Row and ACS Connect. These touchpoints matter: they help us welcome new members, reconnect with long time colleagues, and introduce CHAL's work to the broader ACS community. Our monthly video calls remain an important venue for planning and discussion, and I encourage anyone interested in contributing to join us.

Finally, I want to acknowledge the ongoing support from the ACS Divisional Activities Committee (DAC). Their renewed focus on helping divisions grow and thrive by facilitating collaboration and spearheading initiatives to improve communication and administrative tools has already made a meaningful difference. CHAL will continue to actively participate in DAC initiatives and share our perspective of a small but highly engaged division.

Thank you for your continued commitment to CHAL. The work we do together—programming, outreach, mentoring, and community building—strengthens not only our division but the broader ACS community. I look forward to seeing many of you in Chicago as we continue advancing the mission of Chemistry and the Law.

Matthew Hlinka
CHAL Chair, 2026-27

CHAL
PROGRAMMING AND EVENTS AT FALL 2026 MEETING

Sunday August 23

CHAL In-Person ExComm Meeting
3:00pm - 4:00pm CDT
Woven + Bound Restaurant, 2121 S. Prairie Ave., Chicago, IL (inside the Marriott Marquis by the McCormick Convention Center)

Monday August 24

Forensic Chemistry
8:00am - 12:00pm CDT
Room: N226 (McCormick Place Convention Center)

8:00am - 8:25am CDT
Enantiomeric analysis of medetomidine in seized drug samples using chiral derivatization and gas chromatography-mass spectrometry
Marginean, Ioan,

8:25am - 8:50am CDT
Spectroscopy- and bioprinting-based multidimensional predictive toxicological assessment of novel psychoactive substances
Huang, Rui

8:50am - 9:15am CDT
Analysis of heavy metal contaminants in ashwagandha herbal supplements
Garraty, Mikayla

9:15am - 9:25am CDT
Break

9:25am - 9:50am CDT
Visualizing the reaction products of sodium rhodizonate with lead (II) or barium (II) salts: New insights into forensic gunshot residue detection
Hopkins, Scarlet

9:50am - 10:15am CDT
Innovative application and prospect of electronic nose technology in forensic science
Peng, Di

10:15am - 10:45am CDT
Break

10:45am - 11:10am CDT
Revealing burials: A multidisciplinary approach to locate buried human remains
Lepine Leclerc, Sabrina

11:10am - 11:35am CDT
Looking beneath the surface: Layer-resolved molecular changes in human soft-tissue decomposition by high-resolution MALDI FTICR MS
Ho, Jerika

11:35am - 12:00pm CDT
Diving into decomposition: Characterizing VOC profiles of submerged remains via TF-SPME and GC×GC-TOFMS
Ouimet, Frederique

Monday August 24 (cont.)

Wearable Sensors

2:00pm - 6:00pm CDT
Room: W196a (McCormick Place Convention Center)

2:00pm - 2:10pm CDT
Opening Remarks

2:10pm - 2:30pm CDT
Wearable Devices for Sensing Molecular Flux from the Surface of the Skin
Rogers, John

2:30pm - 2:50pm CDT
From Lab-on-Skin to Living Systems: Wearable Sensors and Real-World Data for Sports Performance and Recovery
Ungaro, Corey

2:50pm - 3:10pm CDT
Wearable Microfluidic Systems for Remote Health, Fatigue, and Hydration Management
Aranyosi, AJ

3:10pm - 3:20pm CDT
Break

3:20pm - 3:40pm CDT
From Sweat Chloride to Digital Biomarkers: Wearable Microfluidic Sensors for Personalized Cystic Fibrosis Care
Manu, Jain

3:40pm - 4:00pm CDT
Applications of Wearable Sensing in the US Air and Space Forces
Christensen, James

4:00pm - 4:20pm CDT
Privacy at Peak Performance: Legal Implications of Wearable Technology in Athletics
Klosek, Jacqueline

4:20pm - 5:00pm CDT
Panel Discussion and Closing Remarks

5:00pm - 6:00pm CDT
Digital Poster Session and Award Reception

Ethics in Publishing

2:00pm - 5:20pm CDT
Room: W194a (McCormick Place Convention Center)

2:00pm - 2:05pm CDT
Introduction

2:05pm - 2:25pm CDT
Evolving AI policies and the impacts on institutional research integrity guidance: Discussion at Sandia National Laboratories
Nelson, Andrew

2:25pm - 2:45pm CDT
Reference integrity in the age of GenAI: Teaching publishing ethics through citation verification in upper-level chemistry
Servugina, Yulia

2:45pm - 3:05pm CDT
Ethics, AI and forensic investigation of authorship and integrity in publishing
Elkins, Kelly

3:05pm - 3:25pm CDT
Ethical implications of being wrong
Jones, Mark

3:25pm - 3:35pm CDT
Break

3:35pm - 3:55pm CDT
Publishing ethics in chemistry: Safeguarding integrity, transparency, and trust
Li, Brian

3:55pm - 4:15pm CDT
Independence of science: From passive publication to ethical stewardship in an era of predatory patronage
Villalona, Jairo

4:15pm - 4:35pm CDT
Impacts on scholarly academic work in a world of autocracy creep
Schelble, Susan

4:35pm - 4:55pm CDT
Worldwide perspectives of intellectual property protection of works generated by artificial intelligence
Arabi, Alya

4:55pm - 5:15pm CDT
Introduction of Acta Polymerica Sinica
Guo, Shuyue

5:15pm - 5:20pm CDT
Close

CHAL Reception

6:00pm CDT
Fatpour McCormick, 2206 S Indiana Av, Chicago, IL
For more information, see the last page

Tuesday August 25

Hot Topics in Chemistry & the Law

8:00am - 12:00pm CDT
Room: N226 (McCormick Place Convention Center)

8:00am - 8:20am CDT
From apprenticeships to twenty years: English origins of the patent term and questions of modern applicability
Sigmon, Anna

8:20am - 8:40am CDT
Inherency in chemical patent law: Bridging doctrine and experimental proof
South, Clinton

8:40am - 9:00am CDT
From bench to patent: how experimental data shapes pharmaceutical IP and commercialization
Raincrow, Jeremy

9:00am - 9:20am CDT
Technologies for drug repurposing: Case studies and patentability strategies for strong IP protection
Chinthala, Sreenivas

9:20am - 9:30am CDT
Break

9:30am - 9:50am CDT
Defending pharmaceutical patents before the European Patent Office's Boards of Appeal
Nicoll, Andy

9:50am - 10:10am CDT
Patenting strategies in the chemical sciences: Updated USPTO guidance provides hope for molecular diagnostics and AI–based methods
Braunlin, William

10:10am - 10:30am CDT
Patent lexicography: Cautionary tale of "Branched Alkyl" ≠ "Branched Alkyl"
Rucando, David

10:30am - 10:50am CDT
Quantum computing and intellectual property: An overview of the evolving patent landscape
Bian, Yoko

10:50am - 11:00am CDT
Break

11:00am - 11:20am CDT
Ethics for technical experts: Where chemistry meets the law
Oelker, Abigail

11:20am - 11:40am CDT
Understanding FDA's New Drug Exclusivity
Schmuff, Norman

11:40am - 12:00pm CDT
Department of War chemical and material risk management: Strategy and implementation
Williams, Jarquees

ACS Debates: Should Patent Law Recognize Non-Human Inventors? Presented by CHAL and Office of Scientific Content Management

12:30pm - 1:20pm CDT
Room: Periodic Talks Theater, Booth 1107, EXPO HALL (F1) (McCormick Place Convention Center)
Debaters: Gabriel Ferrante and Ryan Abbott
Moderator: Richard Bone

Wednesday August 26

Consumer Relevant Quality Metrics in Cannabis

2:00pm - 4:15pm CDT
Room: N226 (McCormick Place Convention Center)

2:00pm - 2:05pm CDT
Opening Remarks

2:05pm - 2:25pm CDT
Particle Size Characterization and Thermal Stress Modeling for Shelf-life Assessment of Cannabis Emulsions
Nguyen, Taylor

2:25pm - 2:45pm CDT
Deep Eutectic Solvents Incorporating Cannabinoids: The Influence of Water on Stability
Cazzaniga, Candela

ACS MEETINGS

2:25pm - 2:45pm CDT
Deep Eutectic Solvents Incorporating Cannabinoids: The Influence of Water on Stability
Cazzaniga, Candela

2:45pm - 3:05pm CDT
Formulation-driven Modulation of Hydrogenated Cannabinoid Permeability: Comparative Evaluation of Surfactants, Cosolubilizers, and Vesicular Delivery Systems
Ramirez, Giovanni

3:05pm - 3:25pm CDT
Chemical Composition and Antioxidant Activity of Essential Oils and Cannabinoid Extracts from Three Cannabis Sativa L. Varieties Grown in Trinidad and Tobago
Gopee, Leshawn

3:25pm - 3:45pm CDT
Food Protein Ingredients as Novel Emulsifiers for Cannabinoid Delivery
Li, Xin

3:45pm - 4:15pm CDT
Panel Discussion

ACS MEETINGS – PAST, PRESENT, FUTURE

Highlights of the Upcoming Fall 2026 Meeting

Please join us in Chicago, Illinois at the 2026 ACS Fall Meeting from August 23-27, 2026. Our primary programming is on Monday and Tuesday (August 24-25). On Monday morning, we highlight contributors from our new Forensics subdivision with our Forensic Chemistry: Promises & Developments session in Room N226 of the Convention Center. On Monday afternoon, we celebrate the Committee on Ethics' 20th anniversary with our Ethics in Publishing session in Room W194a of the Convention Center, which is co-hosted with the Division of Chemical Information and Division of Professional Relations. The session will be followed by a Reception at the Marriott Marquis. Tuesday morning will feature our traditional Hot Topics in Chemistry and the Law session in Room N226 of the Convention Center. Our primary programming will conclude on Wednesday afternoon with our virtual CHAL Digital Meeting session. All four sessions are packed with exciting presentations and speakers, and we look forward to seeing many of you there.

In addition to our primary programming, the Fall Meeting features several programs and events that CHAL has contributed to and will be of interest to CHAL members. On Monday afternoon, the Committee on Science is hosting Wearable Sensors: Chemistry-Powered Technologies for Better Health, Fitness, and Security in Room W196a of the Convention Center. On Tuesday at 12:30 PM, Gabriel Ferrante and Ryan Abbott will kick off our new series of debates with Should Patent Law Recognize Non-Human Inventors? in the Expo Theater. On Wednesday at 9:20 AM, Matt Hlinka will interview ACS Hero of Chemistry winner Peter Toogood in Fireside Chat – What I Wish I Knew About IP as part of ACS's Heroes in Chemistry: Past, Present, and Future session in Room W196a of the Convention Center. On Wednesday afternoon, the Committee on Science is hosting

its Cosmetic Technology Showcase: Industry Insights session in Room W192b of the Convention Center. With such a broad array of programming, we think there will be something of interest to almost everyone in our division, as well as across ACS. The schedule can also be found online at: https://chemistryandthelaw.org/national-meeting-schedule-chicago/.

The other highlight of our time in Chicago together is the CHAL Reception. We will be located at Fatpour Tap Works – McCormick, located a short walk from the Convention Center, on Monday evening from 5:30-8 pm. Space is limited so please register in advance at https://www.eventbrite.com/e/american-chemical-society-chemistry-and-the-law-chal-reception-tickets-1997064364273.

As any of you who have attended an ACS meeting recently will be aware, there are a lot of other networking opportunities throughout the meeting. Please stop by our station at ACS Connect on Sunday evening, and our booth at Division Row at SciMix on Monday evening. Our booth at Division Row will additionally feature our new Forensics subdivision and will be a great opportunity to learn about the subdivision and meet a member of the leadership team.

Reflections on the Spring Meeting Chicago March 2026

CHAL had an impressive line-up at the Spring meeting this year. Programming was offered on schedule with symposia relating to international business and IP considerations, biotech, and many other hot issues in chemistry and the law.

Our traditional CHAL reception took place on Monday evening at Ray's in the City, which was jointly hosted by CHAS, SCHB, and CANN. It was great to see so many of you there.

We also had brisk attendance at the division's booth at ACS Connect on Sunday evening and our poster on Division Row on Monday evening.

2026 Regional Meetings

CHAL is increasing its visibility at the many ACS Regional meetings.

In May, Howard and Sally Peters were the keynote speakers at Middle Atlantic Regional Meeting (MARM) in Hershey, Pennsylvania. Their talk was followed by a Hershey-chocolate and champagne reception. Howard and Sally Peters will give a talk on chocolate and may have an exhibit table.

In November, CHAL will be contributing to the South Eastern Regional Meeting (SERMACS) in Memphis. Ram Sabnis will be presenting a workshop, "Chemical Patents Workshop: Intellectual Property for Chemists."

We look forward to hearing more about the outreach accomplished at this meeting and we are interested in any additional regional meeting opportunities.

DIVISION NEWS

Call for Abstracts: 2027 Spring Meeting, New Orleans

ACS is returning to New Orleans for the Spring meeting in 2027. CHAL is currently planning to host the following topics and is looking to add additional sessions:

- Hot Topics in Chemistry and the Law
- Forensic Chemistry
- Cannabis Chemistry and the Law (co-hosted with CANN)

Please submit abstracts for any of these sessions online via the ACS "maps" system. The deadline for abstract submissions is September 28, 2026.

DIVISION NEWS

Forensics Subdivision

Our new Forensics Subdivision (FORS) continues to take form. CHAL will host a forensics symposium at Chicago, and we plan to officially launch FORS at the Spring 2027 meeting in New Orleans with a dedicated symposium and a series of kickoff events. We are excited for these new opportunities for people with interests in forensic chemistry and policy. Please stay tuned as these plans continue to solidify!

Leadership Updates

We are pleased to announce that Jeanine Varney has agreed to step into the new Communications Chair position. Jeanine will handle publicity for our various events and activities on the CHAL website, on LinkedIn, and via email, and we look forward to working with Jeanine to develop this role.

We have also selected and approved our inaugural class of FORS officers: Kelly Elkins (Chair), Theresa DeAngelo (Chair-Elect), Nelu Marginean (Treasurer), and Danaya Middleton (Secretary). We are excited to watch this new group take shape.

CHAL has continued with its monthly video-call format for keeping the division leadership and other willing volunteers involved with the division's updates and ongoing work. We thank the many of you who have attended so far this year. If you want to be added to the invite list for our next meeting, please reach out to chemistryandthelaw@gmail.com.

2026 International Science and Engineering Fair (ISEF)

The 2026 International Science and Engineering Fair (ISEF) took place May 12–13, 2026, in Phoenix, Arizona. The ISEF is an annual science fair held in the United States and is widely considered one of the most prestigious pre-university scientific and engineering research competitions in the world. Each year, approximately seven million students from 75 countries participate in affiliated local, regional, and national fairs that serve as feeders to ISEF, with roughly 1,800 finalists advancing to the international competition.

Funded by a generous financial grant from the Peters-Bhatt STEM family, CHAL participated as a Special Award Organization and presented

awards totaling $10,000 at ISEF. CHAL members Howard Peters, James Carver, and Lisa Balbes reviewed the presentations and granted awards to the following winners.

First Place Award, $4,000

Colorimetric Arsenic Detection at Micromolar Concentrations and Machine Learning Assisted Development of a Composite Teabag for Arsenic Bioremediation in Drinking Water
Vick Tan
EP Academy, Eden Prairie, MN

Second Place Award, $3,000

The Effect of Different Rapidly-Composed, Biodegradable Hydrogel Formulations on Adhesion, Fire Retardation, and Viscosity
Margaret Saperstein
Washington-Lee High School, Arlington, VA

Third Place Award, $2,000

Unlocking a Tenfold Increase in Battery Performance: Poly (citric Acid) as a Novel Binder for Silicon Anode Batteries
Ryan Tae
Jericho High School, Old Westbury, NY

Fourth Place Award, $1,000

Sustainable Agriculture Enabled by Biodegradable Hydrogels for Improved Water and Nutrient Management
Aubrey Rose Isakson
Kidder County Tappen, Steele, ND

CHAL Members in the News

Ram Sabnis has received the United States Patent and Trademark Office (USPTO) 2025 Patent Pro Bono Certificate, which recognizes practitioners

CHAL Judges Dr. James Carver and Dr. Howard Peters. Dr. Lisa Balbes participated on the judging team virtually. Photo Credit: Dr. Amanda Silver

that have volunteered significant time and effort towards providing free patent legal assistance to financially under-resourced inventors and small businesses. This is the fifth consecutive year that Ram has been recognized by the USPTO for his patent pro bono work.

Howard and **Sally Peters** have continued their presentations celebrating chocolate. In February—a good time to think about chocolate—Howard and Sally gave four presentations in 21 days. On February 1, they presented "Chocolate—A Religious Experience." On February 7, they spoke at an ACS California Section event at California State University, Chico. On February 13, they presented to the Rebekahs of San Francisco. Finally, they presented to Professor Dick Zare's Kitchen Chemistry course in the Stanford University Chemistry Department.

If you are a member of CHAL and would like a recent achievement or recognition to be mentioned in the newsletter, please reach out to us at chemistryandthelaw@gmail.com.

Get involved!

Finally, we would welcome anyone interested in getting involved with the running of the division to join our monthly teleconferences (actually, video-calls on the Google Meet platform), usually on the third Monday of the month (except where holidays conflict). Please reach out to chemistryandthelaw@gmail.com for details.

TRIVIUM:
CHROME YELLOW

How a Nineteenth-Century Pigment Continues to Transform a Masterpiece
By Sarah Dallo

Last spring's Trivium explored how chemistry changed the course of human history through the discovery — and rediscovery — of the cure for scurvy. This month, we trade the high seas for an artist's studio, where chemistry has continued long after the final brushstroke.

Millions of visitors have stood before Vincent van Gogh's Sunflowers and admired its brilliant golden yellows. Yet few realize they are almost certainly not seeing the painting as Van Gogh intended. Some of those vivid yellows have slowly darkened since the paint first dried in the late nineteenth century. The transformation has taken more than a century, but it is still continuing today.

How can a completed painting continue to change long after the artist's death?

Van Gogh arrived in Arles in 1888 searching for light. Southern France offered an intensity of sunlight unlike anything he had experienced in the Netherlands, and yellow quickly became one of the defining colors of his work. Wheat fields, cafés, houses, and, most famously, the *Sunflowers* series all glow with brilliant yellows. Writing to his brother Theo, Van Gogh hoped "*to express the love of two lovers by a marriage of two complementary colours.*" No other color on his palette felt so much like light itself.

The pigment that made those paintings possible had its own remarkable history. In 1797, the French chemist Louis Nicolas Vauquelin identified a previously unknown element while studying the mineral crocoite, and isolated the metal the following year. He named it *chromium*, from the Greek *chroma* ("color"), because of the extraordinary range of colored compounds it produced. Within a few years, chemists had transformed one of those compounds into chrome yellow. Composed primarily of lead chromate ($PbCrO_4$), the pigment was brighter than many earlier yellows, highly opaque, relatively inexpensive, and quickly adopted by artists throughout Europe. Turner used it. Monet used it. Van Gogh embraced it.

Vincent van Gogh, Vase with Fifteen Sunflowers (1888)

When conservators first noticed portions of Van Gogh's yellows becoming olive-green or brown, the explanation seemed straightforward. As the years pass, protective varnishes yellow, dirt settles into the surface, drying oils slowly darken, and every painting bears the marks of time.

But some yellow passages changed while adjacent ones remained almost untouched. Cleaning failed to restore the lost color. Something inside the paint itself appeared to be changing.

The answer would require an instrument that did not exist during Van Gogh's lifetime.

Using synchrotron-based X-ray absorption spectroscopy and X-ray fluorescence microscopy, a team led by chemist Letizia Monico and colleagues at the Universities of Antwerp and Perugia, working with the Van Gogh Museum, examined microscopic paint samples without significantly damaging the artwork. Instead of analyzing the painting as a whole, they mapped the chemistry of individual pigment particles. The results pointed to the pigment itself. Under prolonged exposure to visible and ultraviolet light, chromium(VI), responsible for chrome yellow's brilliant color, is gradually reduced to chromium(III). The newly formed chromium compounds are darker, producing the olive-green and brown discoloration observed in several of Van Gogh's paintings. The reaction proceeds slowly over decades and within microscopic regions of the paint layer, explaining why the paintings appeared stable for generations before the changes became obvious.

Solving that mystery created another.

GUEST ARTICLE

If light was responsible, why had some yellows darkened dramatically while neighboring passages remained bright?

The answer, it turned out, was not on Van Gogh's palette. It was sitting in the ledgers of a paint factory in Paris.

Chrome yellow was never a single pigment. Nineteenth-century manufacturers produced several commercial formulations that differed in crystal structure and sulfate content. Historical purchase records, preserved in Van Gogh's letters and documented by the Van Gogh Museum's technical research team, show that Van Gogh ordered three different chrome yellows from the Paris supplier Tasset et L'Hôte in 1888. Modern analyses have identified multiple formulations within his paintings, including sulfur-rich varieties that are substantially more susceptible to photochemical reduction than nearly pure lead chromate. More than a century later, the appearance of a painted sunflower may depend as much on nineteenth-century industrial chemistry as on the artist's brushstroke.

Chrome yellow did not remain confined to artists' palettes. Throughout the nineteenth century it found widespread use in paints, printing inks, ceramics, plastics, and industrial coatings because of its brightness, opacity, and durability. By the middle of the twentieth century, lead had become recognized as a potent neurotoxin, while hexavalent chromium was linked to serious occupational diseases, including lung cancer following chronic inhalation exposure. Regulations governing lead- and chromium-containing materials expanded steadily, affecting their manufacture, workplace handling, environmental release, and use in consumer products. During Van Gogh's lifetime, chrome yellow symbolized one of chemistry's newest achievements. Today, lead chromate appears on lists of substances whose use is tightly controlled throughout much of the world.

The same analytical techniques that revealed the pigment's degradation are now helping conservators preserve it. Synchrotron radiation, Raman microscopy, hyperspectral imaging, and other non-destructive methods allow researchers to monitor chemical changes while leaving the paintings intact. The goal is no longer to restore Van Gogh's original colors. Instead, conservators seek to understand the reactions well enough to slow them.

We often think of a finished painting as a permanent object. Chemistry suggests otherwise. Long after the final brushstroke, molecules continue to react, crystal structures continue to reorganize, and oxidation states continue to shift. More than a century after Van Gogh painted Sunflowers, the chemistry has not finished. Neither, perhaps, has the story.

GUEST ARTICLE:
ADMINISTRATIUM @38(ISH)

2026 is a year replete with milestone anniversaries: USA at 250; ACS at 150; American corporate heavyweights, Apple, CostCo and Genentech, each reaching 50. My own alma mater – Clare College – hit 700 years since its founding. So it is easy to overlook a less

auspicious milestone: 38 years since the 'creation' of the first instance of Administratium.

Though brought into existence in 1988 – well ahead of its time – Administratium is still being encountered, though uncovering its origins requires some digging. We are forced to pore over archive footage – in the likes of the Wayback Machine – to rekindle our understanding of the mysterious substance.

Fundamentally, Administratium is the first element to have been authored, rather than discovered, isolated, or made. And the fact that it initially became a meme even without the Internet to give its dispersion into the milieu a boost, is a testament to its resonance with the scientific thinking of the time.

The earliest official citation to the element's description dates to an anonymous piece published in the January 1989 issue of *The Physics Teacher* (1). As reported in print, under the byline "Farcical Physics":

> The heaviest element known to science was recently discovered by investigators at a major U.S. research university. The element, tentatively named administratium, has no protons or electrons and thus has an atomic number of 0. However, it does have one neutron, 125 assistant neutrons, 75 vice neutrons and 111 assistant vice neutrons, which gives it an atomic mass of 312. These 312 particles are held together by a force that involves the continuous exchange of meson-like particles called morons.
>
> Since it has no electrons, administratium is inert. However, it can be detected chemically as it impedes every reaction it comes in contact with. According to the discoverers, a minute amount of administratium causes one reaction to take over four days to complete when it would have normally occurred in less than a second.
>
> Administratium has a normal half-life of approximately three years, at which time it does not decay, but instead undergoes a reorganization in which assistant neutrons, vice neutrons and assistant vice neutrons exchange places. Some studies have shown that the atomic mass actually increases after each reorganization.
>
> Research at other laboratories indicates that administratium occurs naturally in the atmosphere. It tends to concentrate at certain points such as government agencies, large corporations, and universities. It can usually be found in the newest, best appointed, and best maintained buildings.
>
> Scientists point out that administratium is known to be toxic at any level of concentration and can easily destroy any productive reaction where it is allowed to accumulate. Attempts are being made to determine how administratium can be controlled to prevent irreversible damage, but results to date are not promising.

The omission of the author's name from the piece led to no small amount of intrigue in the new element's first years of scrutiny and publicity. Not to mention, a brisk trade in derivative works. In 1991, the Ig Nobel Prize was launched by the Journal of Irreproducible Results.

Whereas an account of each year's Ig Nobel awards is typically presented in the Annals of Improbable Research, written records of the proceedings' earliest years have been lost to the mists of pre-Internet time, and the only published account of the ceremony is a report of a journalist in attendance. (2) According to her report, in the Ig Nobels' first annual award ceremony, at the MIT Museum, the physics prize was awarded to Thomas Kyle, for the discovery of "the heaviest element in the universe, administratium". It has been reported that Kyle is one of only 3 fictional people to have won the award. (3)

However, the early 1990's saw the birth of the modern form of the Internet, and administratium became one of the earliest scientific (joke) memes to spread quickly in the digital realm. (4,5,6) Always reproduced in a strictly serious tone, derivatives of administratium soon proliferated, along with yet more pointers to its origins. In one variant, a material data sheet for the substance refers to a 1994 publication and credits the British Government with the element's discovery. (7) Perhaps the most widely-cited derivative, a spin-off element, was Administrontium, whose recognition is credited to Ellin Beltz, published in the *Journal of Irreproducible Results* in 1994 (8). According to Beltz, while both elements have the same mass, 312, one key difference between Administrontium and Administratium is the former's ability to decay into Bureaucratritium. Persons exposed to the decay product are "recommended to take jobs in small, private companies where its effects can be mitigated by enterprise, initiative and risk-taking".

Other variants of Administratium – termed 'isodopes' by one author (9) – reveal differences in terminology: for example, in one report, the meson-like particles are referred to as "memos", though credit is given to a "competing group in Russia [that] named these particles morons and claims priority of discovery." (10) Another author, writing in 1996, states the element has only "70 vice neutrons, and 161 assistant vice neutrons … [and] an atomic mass of 232." (11)

In other accounts, new properties of the element were reported. In one observation, "Administratium's sample mass will actually INCREASE over time, since with each reorganization some of the morons inevitably become neutrons, forming new isotopes." (6) That author's further embellishment that "the characteristic of moron promotion leads some scientists to speculate that Administratium is spontaneously formed whenever morons reach a certain quantity in concentration, [a] hypothetical quantity [] referred to as the 'critical morass'" has been found in many other renditions. (e.g., (12))

Ultimately, though, the element's greatest – but rarely acknowledged – mystery was the identity of the first person to characterize it. Exasperated by that very fact, William DeBuvitz, a physics teacher at Middlesex County College in Edison, NJ, returned to *The Physics Teacher* to celebrate the 20th anniversary of Administratium. In his 2009 reminiscence (13), he claimed authorship of the original 1989 piece, recalling that he had first posted it on a bulletin board at the college in February 1988. He shed further light on the element's clouded origins, admitting that he had been tipped off as to its possible existence upon reading his college's announcement of the latest reorganization of its upper management. Staring at the periodic table of the elements, he spotted the missing link.

DeBuvitz pointed to more than 10,000 references to the element in an internet search in 2009. One reality for researchers today is that – even with the Internet – precise origins of particular information can be hard to pin down. Web-pages are not kept updated, or become 404's. Traces of Administratium have undoubtedly persisted over several decades, however, and by now the element has intruded on walks of life outside of academia's ivory towers. In fact Administratium – perhaps more by its design than by chance – is also now embedded in discussion of management theory (14), and even government (15), where it can be found, masquerading as Governmentium.

But, one fate for Administratium that may not have been forecast is the possibility – once remote, but now worth at least speculating – that it may be supplanted as the heaviest element. In 1989, the then-heaviest known element was atomic-number 109 (given the name Meitnerium in 1997), with a detected isotope weighing in at 278. But by now, with the official recognition of Oganesson, atomic number 118, and a claimed mass number of 294, the Holy Grail of exceeding Administratium's 312 is within reach. Or will everything truly grind to a halt, once such an element is finally isolated? Caution must surely be advised.

See also: **Unobtainium**, and **Bureaucratium**

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(1) https://web.archive.org/web/20130315075433/http://www.lhup.edu/~DSIMANEK/administ.htm

(2) Gilchrist, Alice, "Ig Nobel Prizes Debut". The Tech. Vol. 111, no. 40 (October 4, 1991); available at https://web.archive.org/web/20081230073735/http://tech.mit.edu/V111/N40/ignobe.40n.html

(3) https://en.wikipedia.org/wiki/Administratium

(4) https://webhome.auburn.edu/~yostkev/funnystuff/newelement.html

(5) https://www.math.uni-hamburg.de/service/it-dienste/administratium.html

(6) https://www.mso.anu.edu.au/~jerjen/newelement.html

(7) https://www.usbio.net/biochemicals/A0900/Administratium

(8) http://ebeltz.net/resume/jir.html

(9) https://www.asa3.org/archive/asa/200211/0002.html

(10) chemteam.info/Humor/Administratium.html

(11) https://meyerweb.com/other/humor/administratium.html

(12) https://www.tbi.univie.ac.at/~studla/Administratium.html

(13) The Physics Teacher, Volume 47, Issue 1, pp. 33-33 (2009); available at https://ui.adsabs.harvard.edu/abs/2009PhTea..47...33D/abstract

(14) https://dvana.com/library/article/administratium

(15) https://www.adamsmith.org/blog/miscellaneous/governmentium https://www.independent.org/article/2017/12/19/governmentium/

COUNCILOR'S REPORT

Dr. James Carver

The Fall ACS Meeting (2026) is scheduled for Chicago, IL from August 23-27. The Spring ACS National Meeting is scheduled for New Orleans, LA from March 21-March 25, 2027. This meeting again will be a hybrid meeting. Most of the governance functions will be available on a hybrid basis. Technical presentations will be from Monday through Thursday with Sunday being a day of networking meetings.

This year marks the 150th anniversary of our American Chemical Society! The #ACS150 Team is coordinating several celebrations at this fall meeting in Chicago and throughout the year. At this meeting there will be several symposia including a ACS150 JACS Series on Tuesday, August 25 (am), C&EN's Future of Chemistry on August 25 (pm).

Candidates for the 2027 elections are:

For President-elect:
- Lisa McElwee-White
- Laura Sremaniak

For District III Director:
- Mukund Chorghade
- Bonnie (Helen) Lawlor
- Carl Piccenatto
- Stephanie Watson

For District VI Director:
- Anna Cavinato
- Timothy Long
- Orlando Rajos
- Jeannette Van Emon

For Director-At-Large:
- Michael (Mick) Hurrey
- Beth Lorsbach
- William Provine
- Carolyn Ribes

There are currently no petitions before Council.

Currently Planned 2026 Regional Meetings:

Midwest Regional Meeting (MWRM)
October 25-27; Manhattan, KS;
Local Host Section Kansas State University

Southeastern Regional Meeting (SERMACS)
November 4-7; Memphis, TN;
Local Host Section Memphis

Southwest Regional Meeting
November 8-11; Fort Worth, TX; Local Host Section Dallas-Fort Worth

Central Regional Meeting November 15-17
Covington, KY; Local Host Section Cincinnati

DIVISION AWARDS

Nominations are sought for two awards that CHAL makes, periodically:

1. Roger D. Middlekauf Achievement Award
   The Roger D. Middlekauf Achievement Award, was created in 1990 to honor the early CHAL ExComm Member who incorporated CHAL in DC. It recognizes outstanding contributions and service to the Division. The most recent recipient

DIVISION AWARDS

of the Roger Middlekauf Award is Andrew Berks, who received the award in 2025.

2. The Howard and Sally Peters Award For Non-Traditional Careers In Chemistry
This award was created in 2012 by the Division to recognize nontraditional careers in chemistry, in honor of chemists Howard and Sally Peters–long-term members of the Silicon Valley Local Section (formerly the Santa Clara Valley Local Section). Howard has laboratory research experience in high explosives at SRI International, Menlo Park and is now retired after a 30-year career as a patent attorney in the Silicon Valley. Sally has laboratory research experience at Geneva College, Beaver Falls, PA and the Department of Chemistry at Stanford University. She is now retired after 28 years as a chemical information specialist with XEROX PARC in Palo Alto, CA. The most recent recipients of the Howard and Sally Peters Award are Bonnie Carpenter and Lee Latimer, who received the award in 2025.

Please contact the Division Chair at chemistryandthelaw@gmail.com to make a nomination or for further information.

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THE AMERICAN CHEMICAL SOCIETY

DIVISION OF CHEMISTRY AND THE LAW

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ACS FALL 2026 NATIONAL MEETING · CHICAGO

Monday, August 24, 2026

6:00 – 8:00 p.m.

FATPOUR TAP WORKS — McCORMICK

2206 South Indiana Avenue · Chicago, Illinois

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