

**MINUTES OF THE MEETING OF THE ACS COUNCIL COMMITTEE
ON NOMENCLATURE, TERMINOLOGY, AND SYMBOLS (NTS)
IN BOSTON ON AUGUST 20, 2018.**

OPENING ITEMS: At 10:02 a.m. chair Michael Mosher opened the meeting of NTS with a call for self-introductions.

Attendees: **Members** – Mark A. Benvenuto, Carmen J. Giunta, Bob A. Howell, Gail Karet, Paul J. Karol, Susanne Lewis, Michael D. Mosher, Graham F. Peaslee, Daniel Rabinovich, Jeffrey A. Rahn, Michelle Rogers, Peter F. Rusch, Timothy Trygstad, Philip Verhalen, Tad Whiteside, Wayne Wolsey, and Robert A. Yokley; **Associates** – Maria Kriz and Sally Mitchell; **ConC Liaison** – Stephanie J. Watson; **Staff Liaison** – Molly A. Strausbaugh; **Guests** – Richard Hartshorn (IUPAC Secretary General), Deborah Kersman, and Sharon Verhalen.

NTS COMMITTEE STRATEGIC PLAN

Molly Strausbaugh reiterated to the committee the 3 goals of the NTS Strategic Plan (see below), and then the champions gave a brief overview of the strategies associated with each goal.

Goal 1: Achieve a common language of chemistry by educating its practitioners.

Goal 2: Facilitate the interaction of chemists to implement appropriate chemical representations.

Goal 3: Advocate for the use of a common language of chemistry.

At 10:07 a.m. committee members broke up into their selected “Project Team” working sessions. After lunch Project Team Reports were given.

Project Team Reports

Goal 1, Strategy 1 (By 2020, develop and write materials that educate K-16 students about NTS and its history, need for use, and importance), Mike Mosher:

- 3 worksheets for high school students are produced: SI base unit changes and periodic table updates.
- Team is working on creating a pamphlet for junior college instructors – one stop shop to provide information for instructors on updates regarding nomenclature.
- Future goals: Work with American Association of Chemistry Teachers (AACT) to present the worksheets that will be aligned with standards at the Orlando meeting.
- Continue to write educational-related articles for *J. Chem. Ed.* and *C&EN*.
- Mosher will upload worksheets on the NTS website

Goal 1, Strategy 2 (Develop regular schedule of presentations (symposia, workshops, program-in-a-box) with AACT, CHED, SOCED by Fall 2018 National ACS meeting), Sally Mitchell:

- Coordinating development of webinars.
- Working on items for primary/elementary education – in conjunction with International Year of the Periodic Table of Chemical Elements (IYPT) – resources for K-12 teachers, e.g., chemistry modeling.

- Planning a workshop for high school teachers in Orlando (Spring 2019), run by the ACS Chemistry Clubs, on how to teach and handle changes in nomenclature, terminology, and symbols.

Goal 1, Strategy 3 (Develop system to facilitate communication to the Society about NTS issues with a goal of reaching 20% of membership by Spring 2019), Maria Kriz:

- Target collaboration for communication via YCC's mechanism, provide items for councilor talking points, and ensure *C&EN* comment is completed each year.
- ACS Meeting APP – use the IYPT and the 100th Anniversary of IUPAC (IUPAC 100) and input games/contest in ACS meeting app (brought to you by NTS) or push notifications for trivia and tie in to larger ACS – with a prize to pick up at the ACS store in the EXPO through a TBD worked out contest.
- Notifications about the items in the app via *ChemMatters*.
- To-do: Verify development needs for app – Orlando or San Diego (Fall 2019), make contact with the YCC and leverage their social media network to share information tidbits.
- Grant application from IAC in collaboration with IUPAC by 12 September 2018.

Goal 2, Strategy 1 (By Spring 2019, develop and implement an NTS symposium series, partnering with ACS divisions/programming units), Michelle Rogers:

- Symposium targeted in San Diego – partner with HIST and Education division.
- ‘Periodic Table of Cheminformatics – Establishing a Common Language’.
- History and forward looking into InChI and cheminformatics.
- Full-day symposium – 6 invited talks and an open call for papers for 6 additional talks.
- Need sources for funding – Apply for IAC grant, seek co-sponsorships, determine budget needs.
- Targeting, short-term: 1 symposium a year, then move towards symposia every meeting.

Goal 2, Strategy 2 (Complete a inventory of ACS activities that fall within the purview of NTS by the end of 2018), Tad Whiteside:

- Going to get started on a more full inventory.
- Postpone working on this until end of 2019.
- Provisionally – include and pursue educational & symposium activities.
- Perhaps we need some facilitated interaction with other ACS committees, possibly, Analytical Reagents and/or SOCED.

Goal 2, Strategy 3 (Collaborate to complete updating of the Chemistry Braille Code), Philip Verhalen:

- Reviewed full code, and NTS committee helped with 18 points of question.
- Notes will be sent on to BANA's chemistry committee.
- Verhalen will be presenting the update on Chemistry Braille Code at SERMACS, October 2018.
- Braille Authority of North America (BANA) is meticulous in their review process, so it may take some time before NTS has a final response.

Goal 3, Strategy 2 (Reach out by September 2018 to the managing editors of Society publications to determine what NTS can do for them), Tad Whiteside:

- Identify and contact managing editors of Society Publications.
- ACS Style Guide is going to be re-vamped – contact Greg Bonnick from BioRad.
- Whiteside would like some additional support on this strategy.

Goal 3, Strategy 3 (On the basis of the resulting stakeholder map, develop an engagement model by Fall 2019 National Meeting), Molly Strausbaugh:

- Will look for upcoming activities.

All project teams will submit reports on actions from today's meeting to NTS chair and staff liaison by 15 December 2018. Report on activities

will be disseminated to committee 4 weeks prior to the Orlando Spring Meeting.

CHEMISTRY BRAILLE CODE

Graham Peaslee noted that the Braille Code for Chemical Notation was last updated in 1997. A major problem is the lack of a uniform code between different textbooks. This is most likely due to non-chemists writing the books. Philip Verhalen presented 18 Braille “bond/line” notations to the committee that still needed to be resolved.

Break for Lunch at 12:00 noon.

ADMINISTRATIVE REPORTS:

Chair’s – After lunch (1:09 p.m.) Michael Mosher had those who had not been previously introduced, introduce themselves. Mosher stated that Jim Carver, from the Task Force on Governance Design, would be speaking to the committee at 2:00 p.m. to discuss the petition before Council on the Petition to Streamline the ACS Governance Documents. He noted the 100th anniversary of IUPAC and the 150th anniversary of the periodic table in 2019.

The minutes of the New Orleans meeting (March 2018) were approved.

Staff Liaison – Molly Strausbaugh noted that this would be Michael Mosher’s last meeting as chair of NTS and thanked him for his leadership the past 3 years. She presented the budget and stated that money had been used for the Braille Code Chemistry group to meet and for sponsoring SERMACS 2018 at the Nickel level. Strausbaugh also noted changes to the NTS logo and website. She solicited volunteers to help maintain the website.

Committee on Committees (ConC) – ConC Liaison, Stephanie Watson presented 6 points of emphasis for ConC: diversity and inclusion, education, effective governance, external outreach, membership, and science. She then asked the committee if anything else should be added and if there was anything ConC could contribute to enhance NTS.

IUPAC Secretary General – Richard Hartshorn noted that IUPAC will celebrate its 100th anniversary at the 47th IUPAC World Chemistry Congress in Paris, France, July 5-12, 2019. He stated that a brief 4-page summary of organic nomenclature would be done in late 2018 or early 2019. This will parallel the 4-page summary on inorganic chemistry published 4 years ago. Hartshorn hoped that the 4-page summaries would be placed in all General Chemistry and Organic textbooks.

Hartshorn stated the importance of establishing better ties with NTS. He also noted that IUPAC was essentially a volunteer organization with 2000 volunteers and only 5 paid positions, operating on a \$1,000,000 budget.

ITEMS UP FOR COUNCIL ACTION AND COUNCIL CONSIDERATION

Task Force for Governance Design – Jim Carver a member of the task force gave a PowerPoint presentation outlining the reasons for streamlining ACS governance documents. The petition is up “For Consideration” in Boston, and “For Action” at the Orlando meeting (Spring 2019). After some discussion NTS voted to have no opinion on the petition. The majority of members felt that there was too much information to digest to offer an opinion.

Petition on Affiliation with Other Technical Organizations – Per our meeting in New Orleans NTS again elected to take no position on this petition.

Petition to Remove Restrictions for International Chemical Sciences Chapters – The petition addresses a similar petition that was narrowly rejected at the ACS Council Meeting in Washington, D.C. The current petition removes the allotment restriction that International Chapters shall not receive funds but does not authorize any allotment funds from ACS. A motion was made to support the petition at the New Orleans meeting.

IYPT (International Year of the Periodic Table of Chemical Elements)

2019 is the 150th anniversary of Mendeleev's periodic table. ACS is working with IUPAC's US-based national committee. A number of activities are planned, including IYPT challenge grants (administered by the ACS Committee on International Activities), IYPT focused symposia at 2019 ACS National Meetings, webinars, a calendar, articles in C&EN, infographic and video contests, and social media outreach.

POTENTIAL COLLABORATIONS WITH IUPAC

- NTS members were encouraged to take part in the *Gender Gap in Science Study*: <https://statisticalresearchcenter.aip.org/cgi-bin/global18.pl>. The survey is low in responses from North America and from chemists in general.
- IUPAC's Division VIII is looking for people to develop educational materials and encourages textbook authors to include Brief Nomenclature Guides in their textbooks.

IUPAC 100 PLANS

NTS members were encouraged to contribute to the *Periodic Table Challenge*:

<https://www.cognitofrms.com/IUPAC1/IUPAC100PERIODICTABLECHAL>

[LENGE](#). Submitted questions can be technical/scientific and/or historical. Include the correct answer and 3 incorrect answers.

IUPAC and the International Younger Chemists Network (IYCN) are creating a [Periodic Table of Younger Chemists](#). Beginning in July of 2018 and ending in July of 2019, 118 accomplished younger chemists will be honored. Each “Young Chemist Element” is profiled on the IUPAC 100 website and the elements will be revealed based on time of scientific discovery.

NTS HAPPENINGS

Paul Karol published an article on InChI code in the Journal of Chemical Education – [read it here](#).

Carmen Giunta prepared comments on [Draft Resolution A](#) regarding redefinitions of the kilogram, with a likely publication date after the General Congress votes in mid-November. Giunta solicited comments or suggestions from the committee to improve the document.

Gail Karet reported that the United States Adopted Names (USAN) Council approved several new stems during their meeting in July ([USAN New stems approved in July 2018](#)). She also noted a growing problem with companies using made-up common names for their products.

NEW BUSINESS

Paul Karol stated that he is working on an article on oxidation numbers derived from recent IUPAC recommendations. Richard Hartshorn noted the importance of the difference between nomenclature and terminology especially in the field of nanotechnology.

Jeffrey Rahn announced that he was resigning a secretary of the committee.

ADJOURNMENT: The meeting was adjourned at 4:07 p.m.

The next meeting of NTS will be held
in Orlando, FL.
Monday, April 1, 2019, time TBA.

Prepared by Jeffrey A. Rahn, Secretary, with help from Molly A. Strausbaugh, Staff Liaison.