

Out in Inorganic Chemistry: A Celebration of LGBTQIAPN+ Inorganic Chemists

Cite This: *Inorg. Chem.* 2022, 61, 5435–5441

Read Online

ACCESS |

Metrics & More

Article Recommendations

The idea of a visibility campaign for LGBTQIAPN+^{1,2} inorganic chemists took shape about two years ago, as the world grappled with the early stages of the COVID-19 pandemic and with racial injustice. Martin Gouterman—a legendary porphyrin chemist and one of the first openly gay chemists of modern times—had died (although not from COVID-19).^{3–5} While composing an extended obituary for Martin, one of us (A.G.) also learned of other gay chemists⁶ who never came out and died in shame and loneliness, victims of another pandemic—AIDS.⁷ While those dark days might seem strangely irrelevant to the younger generation in the West, they still continue, to varying degrees, in the developing world. How many of our colleagues in the developing world, we found ourselves asking, struggle to obtain basic sexual health care, including HIV medication and pre-exposure prophylaxis (PrEP)? A global visibility campaign for our LGBTQIAPN+ colleagues thus seemed like an eminently worthy goal. That goal has now been partially realized via this Virtual Issue, *Out in Inorganic Chemistry: A Celebration of LGBTQIAPN+ Inorganic Chemists*, in which we feature recently published articles on forefront inorganic chemistry topics published in a variety of ACS journals by authors who have volunteered to present themselves as part of the LGBTQIAPN+ community.

Happily, on a worldwide basis, albeit with some notable exceptions, LGBTQIAPN+ rights have advanced by leaps and bounds in recent years. For some in the West, being gay has become a nonissue. An increasing proportion of our queer colleagues and students thus do not see their sexuality as having any bearing at all on their careers. Large-scale studies do, however, indicate that LGBTQIAPN+ individuals still endure significant barriers in their professional lives in the West.^{8,9} Many are still only partially out to their colleagues. Many struggle under cisnormative and heteronormative institutional cultures. Many experience bullying and harassment to a greater degree than their straight counterparts. Unsurprisingly, dropout rates are somewhat higher among LGBTQIAPN+ students and early-career scientists than those in the general population.¹⁰

The status of LGBTQIAPN+ people is dramatically worse outside Western countries. Indeed, the singular, disappointing aspect of putting together this Virtual Issue was that we essentially failed to attract participants from Asia and Africa. Part of the reason is clearly that homosexuality is illegal and entails severe punishment (and even death in a handful of countries) across large swaths of those two continents.¹¹ Unfortunately, we failed equally badly to recruit participants

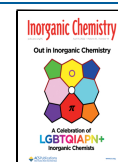
from several major countries where homosexuality *is* legal, underscoring the long road ahead for LGBTQIAPN+ equality on a worldwide basis. Private correspondence suggests that most queer scientists in these countries are not fully out, fearing repercussions to their careers.

Homophobia can be compounded by other factors—an effect known as intersectionality.^{12,13} Colonialism casts a long shadow, racism remains widespread, and LGBTQIAPN+ individuals of color remain marginalized.¹⁴ Other marginalized groups encompass various nonbinary identities¹⁵ (including transgender, intersex, asexual, and pansexual), polyamorous, and especially HIV+ individuals.¹⁶ A key goal is to achieve better inclusion of these less privileged groups. Much of the discussion around identity-based discrimination in the West has focused on either systemic or institutional bias or the most scandalous and grotesque forms of harassment.¹⁷ However, much damage is also done by day-to-day obstruction and milder forms of harassment, which over time can exact a devastating toll.

A visibility campaign such as this one is therefore highly relevant.¹⁸ It is about raising the profile of an underrepresented or marginalized group against the backdrop of the majority culture. Visibility instills a sense of belonging and pride, contributes to professional well-being and success, and thereby preempts attrition of vulnerable groups from academic ranks. Perhaps even more important, visibility drives acceptance and changes in law and policy, with the legalization of same-sex marriage in ~30 countries being a preeminent example.¹⁹ In the past few years, social media, especially Twitter, have provided critical platforms for LGBTQIAPN+ visibility. Indeed, this Virtual Issue was largely organized via Twitter.

A 2022 Gallup poll has revealed that a remarkable 21% of the U.S.'s Gen Z (born 1997–2003) identifies as LGBT—a dramatic increase relative to the Millennial generation (born 1981–1996)—with a distinct majority identifying as bisexual.²⁰ There are indications that this percentage is likely to increase even further. Similar increases are also being noted in Europe. We are literally seeing the emergence, out of the shadows, as it were, of a more diverse humanity. The evidence

Published: April 11, 2022



is strong that nurturing and leveraging this diversity is critical to all, from individual research groups to schools and organizations to entire countries.^{21,22}

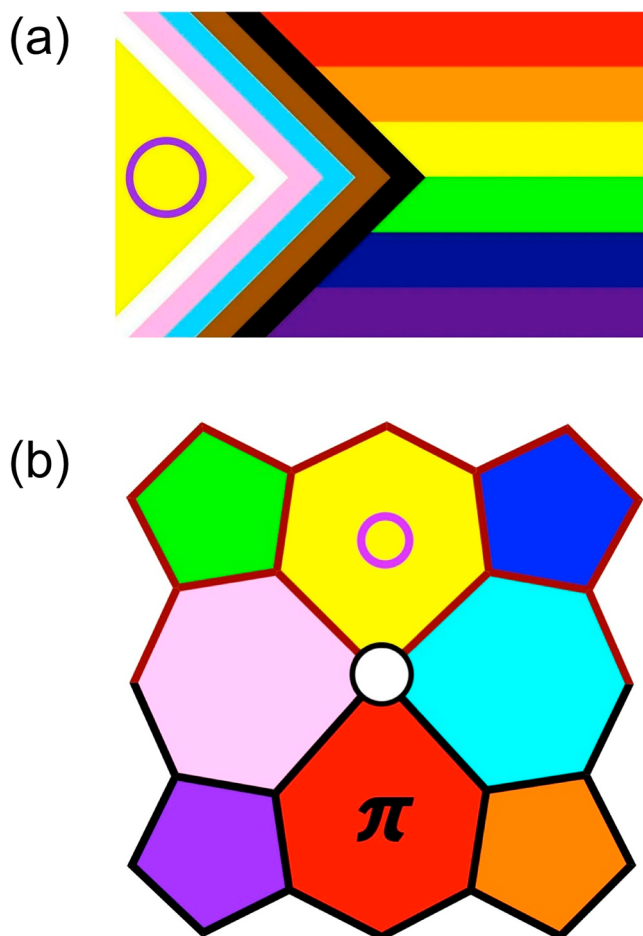


Figure 1. (a) The intersex-inclusive Progress Pride Flag recast in the form of (b) a metalloporphyrin. Besides the six colors of the familiar Pride flag, the additional colors black, brown, baby pink and blue, and white represent people of color, transgender and nonbinary identities, and those living with and deceased from HIV/AIDS. The purple circle and the Greek letter π represent intersex and polyamorous people, respectively.

This Virtual Issue presents 37 articles by 38 LGBTQIAPN+ scientists, as listed below. The participants cover a substantial age range, from graduate students to senior academics, and a wide range of institutions. Each participant has provided a personal statement on being out in academic and other professional settings. Each is a wonderful, dedicated scientist as well as an ally to other queer scientists in need of advice or assistance. In addition, we are pleased to participate in the ACS Diversity & Inclusion Cover Art Series, in which American Chemical Society journals are using Front Cover art as a platform to amplify marginalized voices and recognize historically excluded or underrecognized populations of chemists. The Front Cover of the issue in which this Editorial appears presents a graphic based on Daniel Quasar's Progress Pride flag, recast in the shape of a metalloporphyrin, an iconic inorganic–bioinorganic molecule (Figure 1). We hope you will find this collection a source of both scientific insight and personal inspiration.

Prof. Polly Arnold (queer), University of California, Berkeley, Berkeley, CA, United States. *Ultraslow Cerium(III)-NHC Catalysts for High Molar Mass Cyclic Poly(lactide)* (<https://doi.org/10.1021/acscatal.0c04858>). It is a nice feeling, every now and again, to be visible as a complete human doing science. The majority of us are used to bringing our whole selves to work and not editing out our private lives. It is tiring, the constant self-monitoring. Obviously, I am making these observations from a position of enormous privilege, having only worked in countries and departments where it is safe and legal to be out.

Prof. Nicholas D. Ball (gay), Pomona College, Claremont, CA, United States. *The Emerging Applications of Sulfur(VI) Fluorides in Catalysis* (<https://doi.org/10.1021/acscatal.1c01201>). It has been exciting to be a part of a generation of scientist/chemists who are beginning to live their lives more openly. I have been able to develop strong relationships with queer students, faculty, and staff, and I am enjoying being a part of that community. Navigating academia as a Black, gay male has been hard. As I advance in my career, I am being mindful to convert that trauma to empowerment. The next stage in my career is going to focus on working toward more inclusive spaces for queer people, remembering that not everyone has the privilege of being safe in their workspaces and community.

Dr. Roman Belli (gay), University of Minnesota, Minneapolis, MN, United States. *d⁰ Metal-Catalyzed Alkyl–Alkyl Cross-Coupling Enabled by a Redox-Active Ligand* (<https://doi.org/10.1021/acscatal.1c06002>). Early on in my academic career, I was not comfortable being out, in spite of having very supportive mentors. It was not until midway through my Ph.D. that I was completely open with my colleagues about being gay. At the time, there were few gay peers and role models that I could identify with. In the past couple of years, it has been exciting to see the many initiatives aimed at boosting LGBTQIA+ representation in STEM, that is, social media events and initiatives like this Virtual Issue. I am happy to be a part of “Out in Inorganic Chemistry” and be a role model for future LGBTQIA+ chemists!

Prof. Joseph Bennett (gay), University of Maryland, College Park, MD, United States. *Surface Transformations of Lead Oxides and Carbonates Using First-Principles and Thermodynamics Calculations* (<https://doi.org/10.1021/acs.inorgchem.0c03398>). Identifying as gay in STEM has changed dramatically in the past 20 years. When I was a graduate student, from 2003 to 2009, there were a few LGBTQ+ organizations on campus, but none were specifically for STEM students. While diversity was a topic of discussion in some forums, it was rarely applied to the LGBTQ+ community. Fast forward to 10 years later, and there is support across a wide variety of arenas; the American Chemical Society has held LGBTQ+ symposia, #LGBTQinSTEM is a major hashtag on Twitter, and more people know about LGBTQ+ scientists like Alan Turing and Sally Ride. It has become easier to identify as a gay scientist, feel bolstered by the STEM community, and at the same time feel completely normal. I proudly identify as a gay chemist and attend class with rainbow buttons on my bag, and doing so has helped me form stronger connections to the students that identify as “other” or “outsider”, which is a common feeling among STEM students. This is why programs devoted to diversity, equity, inclusion, and respect are so important in STEM at the university and professional level.

Prof. Miriam Bowring (queer nonbinary), Reed College, Portland, OR, United States. *Activationless Multiple-Site Concerted Proton–Electron Tunneling* (<https://doi.org/10.1021/jacs.8b04455>). Whenever I am asked how being queer has affected my career as a chemist, I think of the great answer I heard Carolyn Bertozzi give once: “I don’t know—I haven’t done the control experiment!” I am nonetheless proud to be a queer nonbinary inorganic chemist and to be part of this themed issue among incredible peers. I feel the special warmth of supportive community with other LGBTQIAPN+ inorganic chemists, including at Reed College, where I currently lead an undergraduate research laboratory, and at the Center for Sustainable Separations of Metals, with which I am affiliated. Increasing visibility, community, and population of LGBTQIAPN+ chemists is crucial, as we fight for equal opportunities for chemists of all marginalized groups to succeed and contribute. Despite a lack of direct experimental evidence, I do believe that my personal identity influences and enriches our research; I like to think that my group’s approach to chemical problems is also at least a bit queer!

Dr. Clément Camp (queer), Laboratory of Catalysis, Polymerization, Processes & Materials (C2P2), CNRS, Villeurbanne, France. *Strongly Polarized Iridium^{δ-}–Aluminum^{δ+} Pairs: Unconventional Reactivity Patterns Including CO₂ Cooperative Reductive Cleavage* (<https://doi.org/10.1021/jacs.1c01725>). I am a young PI (CNRS researcher in France) working on surface organometallic chemistry and catalysis. I am queer (I prefer using the word queer than gay for myself). I am not yet out to all my colleagues, only to the closest ones. Among the reasons why I remained closeted at work for a long time was the fear that if I was successful in obtaining a job, a research grant, or something else, it would be put down to some hypothetical diversity quota and not to the quality of my work. It is something I have heard repeatedly about female colleagues. Being invisible was comfortable in that regard. However, the downside was that I faced heteronormative assumptions from colleagues, which made me uncomfortable. Most people are judgmental and unaware of the struggles that queer people experience in their personal and professional lives, especially during their studies and early careers, when they are more vulnerable. I hope that will change in the future.

Prof. Michele Cascella (gay), University of Oslo, Oslo, Norway. *The Grignard Reaction—Unraveling a Chemical Puzzle* (<https://doi.org/10.1021/jacs.9b11829>). As a young researcher, I suffered a great deal from impostor syndrome. It is something that will probably never fully go away, but I have been lucky to work with supportive colleagues and mentors who have helped me to overcome the handicap. Now, older, I appreciate the importance of being a role model for the young and of establishing an inclusive environment for them. At my university, I sense a subtle, systematic exclusion of queer representation. For example, any official Diversity, Equity, and Inclusion (DEI) discussion is confined to the male/female dichotomy and heterosexual/cisgender stereotypes. Recently, I also experienced how the administration at times is simply not prepared to handle offences against LGBTQ+ people. I think that the challenge today is in making our community adequately visible at workplaces and in having our issues and rights properly acknowledged.

Prof. Benny Chan (gay nonbinary), The College of New Jersey, Ewing, NJ, United States. *Best Practices to Diversify Chemistry Faculty* (<https://doi.org/10.1021/acs.jchemed.1c00508>). Acknowledging the complexity and becoming

proud of my queer identities (gay/nonbinary/masculine) has been critical to my success as a scientist and educator. The intersection of my queer identities with my inorganic chemist identity has allowed me to create an amazing career that I never imagined while growing up. Not only do I continue my synthetic inorganic materials work but also my research also delves into creating diversity, equity, inclusion, and respect through equitable learning mechanisms (courses, curricula, etc.) for marginalized students in higher education and also into managing and recruiting diverse groups of people in the chemical enterprise. Our future depends on diverse people to do the science that will solve the big problems of our world.

Dr. Nicholas Chiappini (gay), Princeton University, Princeton, NJ, United States. *Photochemical and Electrochemical Applications of Proton-Coupled Electron Transfer in Organic Synthesis* (<https://doi.org/10.1021/acs.chemrev.1c00374>). When I came out as gay in undergrad, I was worried that I would feel isolated as a queer chemist, but the opposite has been true. Being queer has allowed me to forge deep connections with scientists across the world with shared experiences and loves. Queerness has driven me to constantly think outside the box and push back the boundaries of what I thought was possible, both in chemistry and in life.

Dr. Ricardo Fernandez-Teran (gay), University of Zurich, Zurich, Switzerland. *Living Long and Prosperous: Productive Intraligand Charge-Transfer States from a Rhenium(I) Terpyridine Photosensitizer with Enhanced Light Absorption* (<https://doi.org/10.1021/acs.inorgchem.0c01939>). Being gay in academia did not make a difference for me. I feel fortunate to have always been treated with respect and kindness in regard to my sexual orientation. I think, however, that feeling “fortunate” is something we have to change—making it more the norm than the exception—such that everyone is treated with respect and kindness, regardless.

Prof. Abhik Ghosh (bisexual, primarily gay), UiT—The Arctic University of Norway, Tromsø, Norway. *Rhenium Corrole Dimers: Electrochemical Insights into the Nature of the Metal–Metal Quadruple Bond* ([10.1021/acs.inorgchem.1c00986](https://doi.org/10.1021/acs.inorgchem.1c00986)). Being gay or bi in Norway has been a nonissue. I have also enjoyed many wonderful friendships with some of the most open-minded people on the planet. Life, unfortunately, is not perfect. In recent years, I have also experienced severe obstruction and harassment from certain individuals, which nearly led me to abandon my scientific career. Race, rather than gender and sexuality, appeared to be the decisive factor in these incidents. The odd racist or two, I realized, is sufficient to throw a monkey wrench into an otherwise progressive and well-functioning system.

Prof. Christopher Graves (gay), Swarthmore College, Swarthmore, PA, United States. *Synthesis and Characterization of a Tripodal Tris(nitroxide) Aluminum Complex and Its Catalytic Activity toward Carbonyl Hydroboration* (<https://doi.org/10.1021/acs.organomet.8b00933>). I recently presented a retrospective of my career at an Out4STEM outreach event for junior and senior high school students. As part of my story, I tried to think of the first time I met an out LGBTQIAPN+ professor, and it was not until I was a postdoc at a GRC meeting, where I met Greg Hillhouse. I am superglad to see lots and lots of queer friends contributing to this issue!

Prof. Marius Myreng Haugland (gay), UiT—The Arctic University of Norway, Tromsø, Norway. *Synthetically Diversified Protein Nanopores: Resolving Click Reaction Mechanisms* (<https://doi.org/10.1021/acsnano.8b08691>). As a student, I

struggled to understand how my sexuality was at all relevant to my career, having never encountered any additional obstacles just because I was gay. Nearly 15 years on, however, I have become more aware of how this aspect of my life influences me as a scientist. I have still been spared all forms of unpleasantness, apart from the odd unfortunate joke or unintentional tactlessness, but my awareness has rather arisen from the encouragement and comfort that I have felt upon realizing that several of my scientific role models, male and female, are also queer. Now that I am starting to appreciate the power of visibility, I am thankful to the Editors for this opportunity to play a small part in making things easier for the next generation of LGBTQ+ chemists, simply by letting them know they are not alone.

Prof. Bryan Hunter (gay), Northwestern University, Evanston, IL, United States. *A Cobalt Phosphine Complex in Five Oxidation States* (<https://doi.org/10.1021/acs.inorgchem.1c03020>). I think that the inorganic chemistry community is generally very welcoming, so it is no surprise to me that the LGBTQ+ cohort is flourishing. As a new Assistant Professor, I am looking forward to advising and mentoring future generations of LGBTQ+ students.

Prof. Henning Höppe (gay), Universität Augsburg, Augsburg, Germany. *From S–O–S to B–O–S to B–O–B Bridges: Ba[B(S₂O₇)₂]₂ as a Model System for the Structural Diversity in Borosulfate Chemistry* (<https://doi.org/10.1021/acs.inorgchem.0c02156>). In my experience, the first outing as gay in academia or any professional context is at least as challenging as coming out to family and friends. However, it is crucial to be visible and to be recognized as a “normal” human being nobody has to be afraid of—that is the basic message I learned: a priori it is not hate; it is always fear of the unknown.

Dr. Matthew Joannou (queer), Bristol Myers Squibb, New Brunswick, NJ, United States. *Diboron-Promoted Reduction of Ni(II) Salts: Precatalyst Activation Studies Relevant to Ni-Catalyzed Borylation Reactions* (<https://doi.org/10.1021/acs.organomet.1c00325>). I feel an enormous amount of pride in calling myself a queer inorganic chemist. Throughout the 10+ years of my chemistry journey, I have only ever felt welcomed and encouraged by this community. I hope to see our community ensure that this feeling of belonging is extended to all reaches of the LGBTQ+ community and people who do not just look like me. Then we can all focus on what truly matters: getting as many crystal structures as possible!

Prof. Karah Knope (lesbian), Georgetown University, Washington, DC, United States. *Reactivity of a Chloride Decorated, Mixed Valent Ce^{III/IV}₃₈–Oxo Cluster* (<https://doi.org/10.1021/acs.inorgchem.1c02705>). If I had been asked 5–10 years ago to be part of this Virtual Issue, I am not sure I would have accepted the request because I thought being gay was more of a professional liability than anything else. This view was shaped by the toxic political climate for LGBTQIA+ people in the United States during the formative stages of my career. Every decision—where to go to graduate school, where to postdoc, where to apply for faculty positions—was made with the following considerations: “can I be myself at this institution?”, “can I let people know me?”, etc. It felt limiting. The reality is that I was not comfortable being fully “out” in chemistry until recently. However, the political climate and visibility of LGBTQIA+ people in science have changed. I now see my identity as a lesbian as something that brings value and perspective to our community, and, importantly, I feel supported.

Prof. Jonathan Kuo (gay), The Pennsylvania State University, State College, PA, United States. *Metal/Ligand Proton Tautomerism Facilitates Dinuclear H₂ Reductive Elimination* (<https://doi.org/10.1021/jacs.0c10458>). It is hard to describe how identifying as a member of the LGBTQ+ community affects the experience in academia. Sometimes, I think it is all in my head—maybe it is. However, it ultimately boils down to this: I want to be evaluated based on my performance as a teacher, a mentor, and a researcher. I pursued this career because I love doing these things! Does being LGBTQ+ affect how my contributions are being perceived? Maybe it does, or maybe it does not. Someday, I hope that we do not even have to ask the question.

Dr. Sébastien Lapointe (gay), Ruhr-Universität Bochum, Bochum, Germany. *Cobalt Complexes of Bulky PNP Ligand: H₂ Activation and Catalytic Two-Electron Reactivity in Hydrogenation of Alkenes and Alkynes* (<https://doi.org/10.1021/acs.organomet.1c00488>). I was fortunate enough to have access to many tools, resources, and a supportive friend group during my Ph.D. studies at the Okinawa Institute of Science & Technology, which helped a lot to overcome some of the difficult parts of a Ph.D. In retrospect, as a gay man in academia, I was quite lucky and did not encounter many of the obstacles that many other LGBTQIAPN+ students still must overcome and struggle against daily. In the future, I want to become a professor to pursue cutting-edge research, but also, equally important, I want to be a beacon of change in academia. The academic management teams of many universities still have a very low representation of the LGBTQIAPN+ community, which often leads to inaction and directly affects young LGBTQIAPN+ students in STEM. We need to be the change for future generations of scientists and make academia a more welcoming and accepting community by first changing the problems at its core.

Prof. Allegra Liberman-Martin (bisexual), Chapman University, Orange, CA, United States. *Carbodiphosphorane-Catalyzed Hydroboration of Ketones and Imines* (<https://doi.org/10.1021/acs.organomet.1c00628>). I have been fortunate to have a strong community of LGBTQIAPN+ friends and mentors during my training and career. I am married to a person of a different gender, so I am often coded as straight unless I disclose to someone that I am bisexual. This disconnect between my identity and how I am perceived can be uncomfortable. I find it stressful deciding how and when to come out to colleagues and students, but I hope that being open about my queer identity can help others feel more welcome in the chemistry community.

Dr. Frederick Malan (gay), University of Pretoria, Pretoria, South Africa. *Self-Isomerized–Cyclometalated Rhodium NHC Complexes as Active Catalysts in the Hydrosilylation of Internal Alkynes* (<https://doi.org/10.1021/acs.organomet.1c00409>). I am fortunate to be working with wonderful colleagues at an institution that recognizes my worth and helps to create a diverse, happy, and inclusive environment, which for many would be considered privileges. This helps to create a more positive workplace experience where I can be myself while excelling in my career. I would like to break existing stereotypes and show others that things are changing and that one can truly be yourself, successful, and respected all at the same time.

Prof. Lorenzo Malavasi (gay), University of Pavia, Pavia, Italy. *Optical and Structural Property Tuning in Physical Vapor Deposited Bismuth Halides Cs₃Bi₂(I_{1-x}Br_x)₉ (0 ≤ x ≤ 1)*

(<https://doi.org/10.1021/acs.inorgchem.1c01545>). Being openly gay in my academic environment has never been an obstacle for my career or for any interaction with students or senior staff. However, in Italy, there is still much work to be done for inclusion of the LGBTQ+ community in academia and, in particular, in STEM disciplines. We must overcome transphobia, which continues to flourish in academic spaces, and cis- and heteronormative practices. The work to be done is only not with the students, who are extremely open and sensitive to inclusion issues, but also with the governance and legislative body. Diversity managers in any public body and in academia, a gender balance report that should go beyond the male/female equilibrium, and gay people represented in the governance body of universities and research centers are actions that should be urgently undertaken.

Dr. Carlos Martin-Fernandez (gay), Katholieke Universiteit Leuven, Leuven, Belgium. *On the Use of Normalized Metrics for Density Sensitivity Analysis in DFT* (<https://doi.org/10.1021/acs.jpca.1c01290>). I have been in the closet for most of my life. To some extent, doing a Ph.D. was key in my coming out: I moved to a different country, I changed my environment, and I lived new experiences that allowed me to find myself. In this journey from being an ally to explicitly being a part of the LGBTQ+ community, I feel constantly challenged to be more open-minded and to always try to learn from others, an approach that has also impacted how I do research. One of the most important things we can do for our students, and the next generation of scientists, is to be open and visible about who we are, and I am trying to do so always, for example, by participating in this (necessary) Virtual Issue.

Prof. Sara E. Mason (lesbian), University of Iowa, Iowa City, IA, United States. *Examining the Aufbau Principle and Ionization Energies: A Computational Chemistry Exercise for the Introductory Level* (<https://doi.org/10.1021/acs.jchemed.1c00700>). For me, going to graduate school to pursue a Ph.D. in chemistry was literally my chance to be “out” because it offered financial independence, a supportive environment, and the training on which I built my career. Now, as an educator, researcher, and mentor, I strive to lead a vibrant group of independent thinkers who can also work and discover together. It is a joy to learn from the unique backgrounds and perspectives of all group members while also helping each person make progress toward their individual professional goals.

Prof. Irene K. Metz (agender), Hawkeye Community College, Waterloo, IA, United States. *Examining the Aufbau Principle and Ionization Energies: A Computational Chemistry Exercise for the Introductory Level* (<https://doi.org/10.1021/acs.jchemed.1c00700>). As someone who identifies as agender but biologically female, I have largely hidden my LGBTQIAPN+ identity up until the past couple of years. Science has long appeared to have a policy of not asking gender-related questions until recently, leaving many of us feeling either ignored or that remaining silent was the better option. This has made it hard to connect with other LGBTQIAPN+ scientists. As a community college instructor, I also struggle with being out to my students and coworkers. Those who grew up in rural communities are often not comfortable with me and other LGBTQIAPN+ faculty, and some will show outright disdain and disgust while refusing to use our pronouns. This has made me question whether being open about my gender identity is really worth it in the field of academia. Thankfully, this is starting to change as more scientists are being more vocal

about their identity, especially on social-networking platforms, making it easier to find peers and mentors one can relate to.

Prof. Amanda Morris (lesbian), Virginia Tech, Blacksburg, VA, United States. *Role of Spin–Orbit Coupling in Long-Range Energy Transfer in Metal–Organic Frameworks* (<https://doi.org/10.1021/jacs.0c09503>). When I started my academic position, marriage equality was not a thing, my university had no protections for gender identity or expression, the university did not have an LGBTQ student center, and gender-neutral bathrooms were hidden in basements. The faculty-staff group on campus, for which I served as chair, advocated for change, and I am happy to report that all of this has changed. When I look back even 10 years, it is hard to not be proud of how far we have come. I am lucky to have been recruited to a welcoming department that supported me and my advocacy work.

Prof. Josué D. Mota-Morales (gay), Universidad Nacional Autónoma de México, Querétaro, México. *Macroporous Polyacrylamide γ -Fe₂O₃ Nanoparticle Composites as Methylene Blue Dye Adsorbents* (<https://doi.org/10.1021/acsanm.0c00951>). The first time I went to Ciudad Universitaria, the main campus of the National Autonomous University in Mexico in Mexico City, I was overwhelmed by the city dynamics and how large it was. However, for sure, something that changed me forever was to see the rainbow flag on a respected gay professor's office door. When academia expects the best from its members, it can only be possible if the environment provides a safe space to be themselves. Throughout my process to come out and my early academic life as a graduate student, I encountered nothing but support from the people around me, professors, and friends. I can only imagine the struggle to balance being closeted and trying your best to reach excellence in a very competitive academic life as it is nowadays. I should feel that I am lucky to be a proud LGBTQIAPN+ member of academia; it should not be an issue at all. However, I understand that I have the responsibility to make everyone feel welcome and facilitate the path for all of those who are out or on their way to accepting themselves as LGBTQIAPN+. Valuable and talented people in science come in all sizes, ethnicities, and religious backgrounds and from all of the LGBTQIAPN+ colors. Only by providing a safe space and common ground to focus on the human character of the person can we flourish in academia to help change our society and leave a better place for the next generations.

Dr. Grace Panetti (queer transgender), Princeton University, Princeton, NJ, United States. *Expanding the Rare-Earth Metal BINOLate Catalytic Multitool beyond Enantioselective Organic Synthesis* (<https://doi.org/10.1021/acs.accounts.1c00148>). My identity as a queer transgender person in chemistry has felt like a color filter being placed over my career. It has allowed me to notice and experience many wonderful things that, had I been straight and cisgender, I would not have experienced. The community I have found, the friendships I have made, and the self-discovery I have experienced have all been heavily influenced by my identity. To continue the analogy, I am sure that I have been “filtered out” of certain opportunities because of my identity, but I would never want them in exchange for the life that I live now.

Dr. Alexander Pöthig (gay), Technical University of Munich, Munich, Germany. *Molecular Oxygen Activation by Redox-Switchable Anthraquinone-Based Metal–Organic Frameworks* (<https://doi.org/10.1021/acs.inorgchem.0c03629>). Personally, I think being queer does not make a significant

difference in my professional life nowadays, but it took a while to get there. In the past, there had been situations in which people unconsciously made assumptions and I had to come out and explain myself repeatedly. I think that experience is common for queer people but probably made me more empathetic toward my coworkers' needs and helped me to be a better leader.

Dr. Jad Rabah (queer), Université Paris-Saclay, Gif-sur-Yvette, France. *Photoinduced Electron Transfer and Energy Transfer Processes in a Flexible BODIPY- C_{60} Dyad* (<https://doi.org/10.1021/acs.jpcc.0c05187>). Growing up queer, I thought that successfully pursuing a Ph.D. in science would be a way to make my conservative parents proud of me. Being queer thus became my ultimate motivation to try to excel at chemistry. Now, I embrace my queerness at work; I am proud of it because it made me the researcher I am today. In the end, my strategy worked. They are proud parents, not just because I am now a doctor but mostly because I am just fearlessly myself, out and proud.

Dr. Irving Rettig (queer trans man), Reed College, Portland, OR, United States. *Photocatalytic Aerobic Thiol Oxidation with a Self-Sensitized Tellurorhodamine Chromophore* (<https://pubs.acs.org/doi/abs/10.1021/acs.organomet.7b00166>). I am a queer trans man. Transitioning while I was a graduate student was formative to the way I view the academic community: I am treated far better by students, faculty, staff, and other researchers when they perceive me as male than when they perceived me as female. Before transitioning, I was regularly called "loud", "aggressive", and "unapproachable", but today those same attributes are labeled "confident", "intelligent", and "commanding of a room". I believe so many more people will succeed in ascending through higher education and onto careers in research if given the same preprogrammed respect, gratitude, and opportunities as their white male colleagues. In order to truly uplift underrepresented scientists, the entire scientific community must accept that we are not immune to stereotyping and bias. I love opportunities like this Virtual Issue that both celebrate our queerness within science and reiterate that we are still fighting for equality in the chemistry community.

Corey Richards (gay), Saint Louis University, St. Louis, MO, United States. *Iron-Catalyzed Alkyne Carboamination via an Isolable Iron Imide Complex* (<https://doi.org/10.1021/acs.organomet.1c00454>). Being out in academia has been an entirely positive experience for me; my peers and colleagues at Saint Louis University are all very welcoming, and I have been fortunate to have faced very little discrimination for being myself in the academic world. Nationally, however, there is still a long way to go on the path to equality. Antigay and antitrans bills regularly make their way to state legislatures around the country and are sometimes enacted into discriminatory laws.

Prof. Mark Ringenberg (gay), Universität Stuttgart, Stuttgart, Germany. *[(η^6 -*p*-Cymene)[3-(pyrid-2-yl)-1,2,4,5-tetrazine]chlororuthenium(II)]⁺, Redox Noninnocence and Dienophile Addition to Coordinated Tetrazine* (<https://doi.org/10.1021/acs.inorgchem.1c00094>). My career and being part of the LGBTQ+ community have been closely intertwined. Coming out in grad school was one of the most difficult but rewarding times in my life, where the support of especially my chosen family helped in both of these struggles. I have always tried to make an open and accepting work environment, which, in turn, has attracted many amazing students to work with me in generating new and exciting ideas. As a gay inorganic

chemist, I strive to make the world and my chemistry better and more colorful.

Prof. Eric Schelter (gay), University of Pennsylvania, Philadelphia, PA, United States. *Selective Reduction of Niobium-(V) Species to Promote Molecular Niobium/Tantalum Separation* (<https://doi.org/10.1021/acs.inorgchem.1c02976>). I do not really think about being out in academia much anymore, and I suppose that is the point, right? To live my authentic self, to continue to learn and grow, and to foster others so they can grow themselves, and to be grateful to trailblazers, like Greg Hillhouse, who prepared the way.

Prof. Jenifer Shafer (lesbian), Colorado School of Mines, Golden, CO, United States. *Complexation of Lanthanides and Heavy Actinides with Aqueous Sulfur-Donating Ligands* (<https://doi.org/10.1021/acs.inorgchem.1c00257>). I came out as a member of the LGBTQIAPN+ community in 2016, long after many painful equality battles had been won, thanks to the efforts of queer community members and their allies. For 32 years, I was not honest with myself regarding my sexuality because of the prejudices held against our community and my desire to not experience those prejudices. Today, I see growing comfort with LGBT people who conform, in various ways, with cisgender and heterosexual norms. For those who do not, it is of the highest importance that we serve as allies, amplify their voices, and celebrate their presence so that they are empowered to live their true selves.

Prof. Arthur D. Tinoco (gay), University of Puerto Rico, Rio Piedras, Puerto Rico. *Iron Chelator Transmetalative Approach to Inhibit Human Ribonucleotide Reductase* (<https://doi.org/10.1021/jacsau.1c00078>). "You probably got accepted (into college) because of affirmative action." "The sciences are not for students of color." "My students of color always need tutors." These were some typical remarks that were either directed at me or stated in my presence when I was a college undergrad, and they initially angered me so much! Anger morphed into inspiration, and I sought not necessarily to prove their ignorant prejudices wrong but to explore my potential as a scientist. Today I believe in the importance of being comfortable in my skin as a gay Latino research professor and embracing that identity out in the open. I have been told that "people won't like you because you are gay". However, my goal is not to be liked. It is to be respected for my scientific contributions. I seek to create/facilitate research spaces for others to embrace their own identities as scientists to further diversify the pool of STEM talent.

Prof. Claudia Turro (lesbian), The Ohio State University, Columbus, OH, United States. *Dirhodium(II,II)/NiO Photocathode for Photoelectrocatalytic Hydrogen Evolution with Red Light* (<https://doi.org/10.1021/jacs.0c12171>). I am not sure that I have had a lot of setbacks or difficulties in my career because of my sexuality. That said, when I started my independent career, people did not come out at work. While I did come out to a few colleagues, the majority of the faculty did not know anything about my personal life. It is refreshing to see the huge, positive change over the years. As department chair at a major research institution, I am completely out, with my spouse prominently participating in department events that include all faculty, students, and staff.

Dr. Dennis Wiedemann (gay), Technische Universität Berlin, Berlin, Germany. *Hybrid Perovskite at Full Tilt: Structure and Symmetry Relations of the Incommensurately Modulated Phase of Methylammonium Lead Bromide, MAPbBr₃* (<https://doi.org/10.1021/acs.jpcclett.0c03722>). Being openly gay while

studying and working has never been a problem in freedom-loving and hedonistic Berlin. Admittedly, I had white, cis-male privilege. There have been times, however, when I wanted a role model other than the traditional male professor—married with two kids. Luckily, at some point, a successful gay professor came along, and I realized that I might have a place in academia after all. Perhaps, I can be that role model for the questioning under the LGBTQ+ rainbow.

Abhik Ghosh  orcid.org/0000-0003-1161-6364

William B. Tolman  orcid.org/0000-0002-2243-6409

AUTHOR INFORMATION

Complete contact information is available at:

<https://pubs.acs.org/10.1021/acs.inorgchem.2c00729>

Notes

Views expressed in this editorial are those of the authors and not necessarily the views of the ACS.

REFERENCES

- (1) L = lesbian, G = gay, B = bisexual, T = transgender, Q = queer/questioning, I = intersex, A = aromantic/asexual, P = polyamorous/pansexual, N = nonbinary, and + = gender and sexual minorities not covered by the foregoing.
- (2) We have chosen to use this admittedly clunky abbreviation (as opposed to the shorter LGBTQ+ and LGBTQIA+) to emphasize the considerable diversity of our participants. At times, we have adopted the umbrella term queer as synonymous with LGBTQIAPN+.
- (3) Ghosh, A. An Exemplary Gay Scientist and Mentor: Martin Gouterman (1931–2020). *Angew. Chem., Int. Ed.* **2021**, *60*, 9760–9770. For a shorter account, see: Ghosh, A. Martin Gouterman: the gay man behind the four-orbital model. *Chemistry World* **2020**, 36–37.
- (4) For a historical account focusing on the U.S., see: Duberman, M. *Stonewall: The Definitive Story of the LGBTQ Rights Uprising that Changed America*; Penguin Random House: New York, 2019; p 432.
- (5) For another historical account focusing on astronomer-turned-gay-rights-pioneer Frank Kameny, see: Cervini, E. *The Deviant's War: The Homosexual vs. the United States of America*; Farrar, Straus and Giroux: New York, 2020; p 512.
- (6) Bourzac, K.; Dhar, P.; Viglione, G.; Savage, N. LGBTQ+ chemists you should know about. *Chem. Eng. News* **2021**. <https://cen.acs.org/people/lgbtq-scientist-chemist-history/99/web/2021/06>.
- (7) Shilts, R. *And the Band Played on: Politics People and the AIDS Epidemic*; Souvenir Press: London, 2011; p 630.
- (8) For a major report, “Exploring the workplace for LGBTQ+ physical scientists”, see <https://www.rsc.org/new-perspectives/talent/lgbt-report/>.
- (9) Cech, E. A.; Waidzunus, T. J. Systemic inequalities for LGBTQ professionals in STEM. *Sci. Adv.* **2021**, *7*, No. eabe0933.
- (10) For a recent summary, see: Boustani, K.; Taylor, K. A. Navigating LGBTQ+ discrimination in academia: where do we go from here? *Biochem. (London)* **2020**, *42*, 16–20.
- (11) See “LGBT rights by country or territory” at https://en.wikipedia.org/wiki/LGBT_rights_by_country_or_territory.
- (12) Crenshaw, K. W. *On Intersectionality: Essential Writings*; New Press: New York, 2017; p 320.
- (13) Collins, P. H.; Bilge, S. *Intersectionality*, 2nd ed.; Polity Books: Cambridge, U.K., 2020; p 304.
- (14) Cyrus, K. Multiple minorities as multiply marginalized: Applying the minority stress theory to LGBTQ people of color. *J. Gay Lesbian Ment. Health* **2017**, *21*, 194–202.
- (15) Borgogna, N. C.; McDermott, R. C.; Aita, S. L.; Kridel, M. M. Anxiety and depression across gender and sexual minorities: Implications for transgender, gender nonconforming, pansexual, demisexual, asexual, queer, and questioning individuals. *Psychol. Sexual Orientation Gender Diversity* **2019**, *6* (1), 54–63.
- (16) For example, see <https://www.theguardian.com/higher-education-network/2018/may/25/when-i-admitted-i-was-hiv-positive-my-fellow-academics-excluded-me>.
- (17) Burke, K. L. Harassment in Science. *Am. Sci.* **2017**, *105*, 262.
- (18) Sinton, M. C.; Baines, K. N.; Thornalley, K. A.; Ilangovan, V.; Kurt, M. Increasing the visibility of LGBTQ+ researchers in STEM. *Lancet* **2021**, *397*, 77–79.
- (19) Issenberg, S. *Engagement: America's Quarter-Century Struggle over Same-Sex Marriage*; Ballantine Books, 2021; p 944.
- (20) <https://news.gallup.com/poll/389792/lgbt-identification-ticks-up.aspx>. See also: <https://today.yougov.com/topics/relationships/articles-reports/2020/01/31/millennials-monogamy-poly-poll-survey-data>.
- (21) Page, S. E. *The Diversity Bonus: How Great Teams Pay Off in the Knowledge Economy*; Princeton University Press, 2009; p 328.
- (22) Asmal, L.; Lamp, G.; Tan, E. J. Considerations for improving diversity, equity and inclusivity within research designs and teams. *Psychiatry Res.* **2022**, *307*, 114295.