

AstroPAH

A Newsletter on Astronomical PAHs

Issue 130 • September 2026





Editorial

Dear Colleagues,

Welcome to the 130th issue of the AstroPAH newsletter!

Our **Picture of the Month** shows stellar, PAH, and small dust grain emission for four of the 71 PHANGS-JWST targets analyzed by [Pathak et al. 2026](#). A full analysis of the mid-IR colors for the 71 local universe galaxies can be found in the paper.

We have two **In Focus** articles this month! The first one is a request to all AstroPAH readers to fill out a questionnaire to help us serve you better. We greatly value your opinion. It will only take 2-3 minutes! The second one is an interview with Baria Khan, a recent graduate who takes us through a wonderful journey of her life in Pakistan to the opportunity of working with the sophisticated JWST MIRI-MRS spectroscopic data.

The **Abstracts** in this issue span the full arc of astrochemistry, from laboratory work to theory to observation, and we have gathered many abstracts after our summer break. On the laboratory side, they include studies of grandPAHs, cyanonaphthalene, PAH formation and reactivity, and the adsorption of aromatics on model grain surfaces. On the observational side, we have the detection of phenalene outside of TMC-1, JWST observations of the Orion Bar, and a white paper on the Ariel exoplanet mission.

Check out the **Meeting** section for an announcement of the second workshop on "Identifying and Bridging Gaps in Laboratory Astrophysics" which will be held in Salt Lake City, UT, January 9-10, 2027, before the American Astronomical Society winter meeting.

Finally, we have several **Announcements** this month. If you're looking for a postdoc, check out the postdoc positions advertised by Ralf Kaiser at University of Hawai'i at Manoa, HI, USA and by Stefanie Milam and Perry Gerakines at NASA Goddard Space Flight Center in Greenbelt, MD, USA. We also advertise the 3rd issue of the Laboratory Astrophysics Newsletter focused on Astrophysical Ices!

AstroPAH can help you promote your research! Please send your contributions to [our email address](#).

Thank you all for your contributions!

The Editorial Team

**Next issue: 29 October 2026.
Submission deadline: 18 October 2026.**

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PAH Picture of the Month

Stellar, PAH, and small dust grain emission for four of the 71 PHANGS-JWST targets analyzed by [Pathak et al. 2026](#). F300M captures mostly starlight; the starlight-subtracted F770W captures mostly the PAH emission; F2100W shows mostly small dust grain emission, and the ratio F770W/F2100W shows red spots where PAHs are destroyed in H II regions and a systematic suppression of the F770W in the 'star formation deserts' found in the inner regions of massive galaxies.

Credits: Images from [Pathak et al. 2026](#).

AstroPAH Questionnaire

Help us serve the PAH community better

Dear AstroPAH readers,

As our board continues to evolve, we are actively exploring ways to enhance the newsletter's value for the community. We discussed several initiatives, including the transition to a more automated submission process via Google Forms to streamline the parsing of abstracts into LaTeX format.

Furthermore, we are expanding our ***In Focus*** section to include ***Expert Perspectives*** from senior researchers. We are also looking to recruit new editor(s), particularly those with an observational background, to ensure a balanced multidisciplinary approach. Your feedback is crucial as we implement these new processes and strive to bridge the communication gap between laboratory, theoretical, and astronomical research.

Please [click here](#) or scan the QR code below to fill out the questionnaire for us. It will only take 2 – 3 minutes!



Thank you for your contribution!

The AstroPAH Editorial Board

In Focus

An interview with Baria Shafiq Khan

Baria Shafiq Khan is a recent MSc. graduate from the University of Western Ontario, based in London, Ontario, Canada. She joined the Extended Core Team of the JWST Early Release Science Program, “PDRs4All” in 2022 and since then has been exploring the PAH family in the Orion Bar with Prof. Els Peeters. She pursued her undergraduate studies in Physics and Astronomy at the University of Toronto, where she gained training in myriad research disciplines, and was thrilled to study a variety of super cool objects, from active galactic nuclei and pre-stellar cores in space, to the study of the Higgs boson and the hunt of the obscure dark matter through experiments. An immigrant from Karachi, Pakistan, she is grateful to have built a home together with her family in Canada over the past decade, pursuing her interests in science education, faith, multiculturalism, and traveling.



What inspired you to become a scientist?

Becoming a scientist was never a future I had envisioned, but in retrospect, the intrigue toward science and mathematics from a young age, the encouraging mentorship of school teachers, and ultimately the decision of studying physics at university after migrating to Canada. All of it, made it possible. Growing up in Pakistan, I had heard of the incredible accomplishments of our sole Nobel Laureate Theoretical Physicist, Dr. Abdus Salam, which made studying physics particularly appealing. It wasn't until the second year of my undergraduate studies that I was officially introduced to Astronomy as a scientific discipline, through a course on Stars and Planets. I was fascinated, and thereby grew the motivation to train in astrophysics.

How did you get into PAH related / astrochemistry research?

My undergraduate thesis research was the first introduction to research in astrochemistry, in particular, the role it plays in understanding the earliest stages of star formation. However, I was first (gently) introduced to PAHs and their presence in space by Prof. Els Peeters, during the every early days of contemplating graduate studies at Western University. It wasn't very difficult for her to convince me to pursue research in this field, especially since the idea of playing with one of the very first JWST science data was very exciting! In the summer of 2024, I had the wonderful opportunity to attend the Global Astrochemistry Lecture Series (GALS) Summer course "Astrochemistry: From the Big Bang to Life", supported by the COST Action "NanoSpace", which broadened my knowledge and appreciation of the various open areas of research within astrochemistry.

What are your current research goals?

It has been quite an exciting journey leveraging the spectacular JWST MIRI-MRS spectroscopic data to probe molecular structures of PAHs in the Orion Bar. Last year, my research shifted focus on investigating the PAH charge and sizes in the Orion Bar. Both of these projects have revealed the complexity and sub-structures of the aromatic infrared bands (AIBs) that have typically been used as tracers of these PAH characteristics. Most intriguing to me, we now see evidence of another larger carbonaceous species, the Very Small Grains (VSGs) contributing to these bands. I have been curious on how to disentangle these VSG vs. PAH signatures in the wavelength windows that are most important for diagnostics of PAH properties in PDRs.

Which open question in Laboratory Astrophysics would you like to see answered in the near future? OR What are, in your opinion, the present forefronts of astrochemistry research?

At the 2026 'Exploring the aromatic Universe in the JWST Era' symposium, I was much intrigued by the efforts made by theorists toward advancing agreement between calculated and laboratory spectra for a variety of PAH species. I look forward to seeing this harmony grow, and the fruits it will bear as observers in the field continue to interpret the vast trove of JWST spectra of astronomical PAHs, and what they tell us about the PAH families in space.

Astrochemistry is a very multidisciplinary field. Can you comment on how you collaborate and communicate with different experts and what you like about such interactions?

I find that the multidisciplinary aspect of the field of astrochemistry is exactly what it makes it so rich and expansive. I am grateful to my collaborators, particularly, the experimentalists who shared their insights in quite an accessible way when it came to discussions on analyses of our observations and results. I was fortunate to spend a summer at FELIX in the Netherlands, in the company of Prof. Jos Oomens and his group, who most patiently introduced me to their wonderful world of free-electron lasers, mass spectrometers and infrared spectroscopy of gaseous ions. This experience in particular, gave me a profound insight into the how these laboratory experiments are conducted with great precision and dedication, and the utility of these results to help us understand what we see in our astronomical spectra.

What do you do outside of work?

Currently, I am grateful to enjoy the days that I spend witnessing my 1 year-old niece curiously explore the Big, Bright World, and brightening up our spirits with her evolving antics. I am also fortunate to contribute to the affairs of the local chapter of the Ahmadiyya Muslim Women's Association, especially as a mentor and teacher to young girls exploring their faith and growing identities as Muslims in the West. Recently, frequent trips to the local library have resulted in a newfound interest in graphic novels and memoirs.

What advice would you give a graduate student who wants a career in academia?

I firmly believe the skills that will serve you most in navigating academia will be your curiosity, resilience and commitment to growth as a scientist. To me, becoming and then ultimately being a researcher in the pursuit of discovering the unknown was truly a transformative, humbling experience. If you are fortunate to have a supportive mentor and colleagues, please do rely on them for support and advice. On days when everything feels particularly difficult and mundane, take a break, reflect on how far you have come already and the courage you have shown and continue to do so, and seek support from your community. I'm rooting for you!



Abstracts

Vacuum-ultraviolet photoionization of a grandPAH molecule: The interplay of alkyl groups and large polycyclic aromatic hydrocarbons upon photoionization

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Context. So-called grandPAH molecules are proposed to be omnipresent in various interstellar regions as they are large enough to be photostable against strong interstellar radiation fields. They are also notoriously difficult to synthesize and sublime. Measuring their gas phase spectra and molecular properties is thus very difficult.

Aims. We report on the experimental photoionization of a defined grandPAH cation ($\text{C}_{60}\text{H}_{18}(\text{C}_{12}\text{H}_{25})_4$ m/z 1415 amu). The molecule consists of a large PAH containing 60 sp^2 carbon atoms and four long alkyl groups ($-\text{C}_{12}\text{H}_{25}$) attached to peripheral positions. The alkyl chains wrap around the aromatic core and stabilize the dication leading to a lowering of the ionization energy. **Methods.** The ion yield spectrum of the grandPAH was recorded from 8.1 to 25 eV using an ion trap coupled to vacuum-ultraviolet (VUV) synchrotron radiation. To accurately extrapolate the experimental results toward the unsubstituted grandPAH itself, we perform a series of calculations to quantify this lowering of the ionization energy.

Results. The adiabatic ionization energy of the grandPAH cation was determined as 8.50 ± 0.35 eV. This dual experimental and theoretical methodology can be used to perform other spectroscopic measurements of large, alkylated PAHs to extract properties of the unsubstituted PAH. The implications of these results are discussed in the context of the behavior of large PAHs in interstellar and/or interplanetary dust particles as well as PAH units embedded in insoluble organic material which are found in meteorites.

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<https://www.aanda.org/articles/aa/pdf/2026/09/aa60570-26.pdf>

Probing Exoplanetary Chemistry with Ariel: Scientific Priorities and Observational Strategies

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Over the past two decades, increasingly precise observations have revealed that exoplanet atmospheres are chemically diverse and often far from equilibrium, with processes such as vertical mixing, photochemistry, and atmospheric circulation producing significant departures from thermochemical expectations. As large surveys across a wide range of planets begin to uncover population-level chemical trends, a coherent interpretation of these patterns remains elusive, particularly for gas giants and Neptune-like planets where disequilibrium processes likely dominate. The ESA Ariel mission will provide the first

homogeneous, statistically significant atmospheric dataset for nearly a thousand exoplanets, offering an unprecedented opportunity to investigate the origins of chemical diversity across planetary populations. This white paper highlights central scientific questions for understanding atmospheric chemistry and recognized as priorities for the community. These questions span the mechanisms driving disequilibrium chemistry, the role of sulfur- and phosphorus-bearing species, the influence of stellar activity, the formation of haze precursors, and the chemical evolution of atmospheres around stars of different ages and types. Because these topics connect chemistry, physics, and planetary evolution, they form the core focus of the Ariel Chemistry Working Group, which synthesizes current knowledge and identifies the diagnostics best addressed by Ariel's spectral capabilities. For each theme, we outline observational strategies and representative targets already included in the Mission Candidate Sample, illustrating Ariel's ability to address these questions. By linking large-scale observations to predictive atmospheric models, this work supports refinement of Ariel's target selection and enables population-level studies that will transform our understanding of planetary atmospheres.

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PDRs4All XXII. Near-Infrared continuum in the Orion Bar

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Conspicuous excess emission is present in the near-infrared (NIR) region in various objects, including reflection nebulae, planetary nebulae, and nearby galaxies. However, the spatial distribution and spectral shape of the excess emission remain poorly understood. We studied the NIR continuum emission spectroscopically and obtained its spatial distribution relative to the aromatic infrared band (AIB) at $3.3\,\mu\text{m}$ in the Orion Bar prototypical photodissociation region (PDR). We aim to characterize its spectral shape and discuss its origin. We employed 3D spectroscopic data of the Orion Bar taken with the integrated field unit of NIRSpec on JWST from the Early Release Science program "PDRs4All." Contribution from the foreground ionized gas was estimated using the Cloudy code and subtracted. The observed regions were divided into nine physically distinct regions and an average spectrum was derived for each region. The nine regions, including the ionized gas, atomic PDR, and molecular PDR, clearly show remaining continuum in the region $1\text{--}4.5\,\mu\text{m}$. The continuum at wavelengths longer than $2.7\,\mu\text{m}$ shows good correlations with the $3.3\,\mu\text{m}$ AIB, while the correlation of the continuum at $1.2\,\mu\text{m}$ is not significant. We further find that the NIR continuum in the Orion Bar can be approximated by a summation of two blackbodies. The low-temperature component correlates with the AIB well, while the high-temperature component does not. The average spectra also show absorption features at 3.0 and $4.27\,\mu\text{m}$, which are attributed to the presence in the spectra of water ice and CO_2 ice. We discuss possible origins of the NIR continuum, among which recurrent fluorescence from carbon clusters better explains the observed low-temperature component. The presence of ice species suggests a contribution from a deeper layer of the PDR along the line of sight producing characteristic ice absorption features.

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Circumstellar Origin of Chrysene (C₁₈H₁₂) via Self-Recombination of Resonantly-Stabilized 1-Indenyl Radicals and Implications to the Aromaticity of the Carbonaceous Asteroid Ryugu

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Polycyclic aromatic hydrocarbons (PAHs) represent key molecular building blocks of carbonaceous nanoparticles and have been identified in cold molecular clouds (TMC-1), meteorites (Murchison, Allende), and asteroids (Bennu, Ryugu). However, the understanding of their formation and molecular mass growth processes in these extreme environments has remained elusive, especially with the emergence of resonantly-stabilized free radical (RSFR)-mediated pathways. Here, we report a combined experimental and computational study on the self-recombination of the aromatic and resonantly-stabilized 1-indenyl radical (C₉H₇·) isomer-selectively forming the 18 π -Hückel PAH chrysene (C₁₈H₁₂) in an overall endoergic reaction. These features account for the circumstellar origin of chrysene in pristine samples of the carbonaceous asteroid Ryugu and of the Murchison meteorite. At the microscopic level, the ring expansion involving cyclopentadienyl moieties to two six-membered aromatic rings via pivotal spiroaromatic intermediates affords a versatile, RSFR-initiated mass growth channel essentially leading to graphene-type PAHs and eventually two-dimensional nanostructures in high temperature circumstellar envelopes and in combustion processes.

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Detection of the Polycyclic Aromatic Hydrocarbon Phenalene (C₁₃H₁₀) in the Very Low-luminosity Object MC27/L1521F

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To date, 14 polycyclic aromatic hydrocarbons (PAHs) ranging in size from two to seven (including five- and six-membered) carbon rings have been detected in the starless dense core Taurus molecular cloud (TMC-1 CP). Their detection raises questions about the distribution of PAHs in the cold interstellar medium (ISM) and their evolution during star formation. Here, we present the first interstellar detection of a three-ring PAH outside of TMC-1 CP. We detect phenalene (C₁₃H₁₀), a compact, peri-fused PAH, in the dense core MC27/L1521F, a molecular cloud in Taurus containing a very low-luminosity object. We compare the abundances of phenalene in the two sources with respect to the single-ring aromatic benzonitrile, and find that it is enhanced by a factor of 4 in MC27/L1521F. We discuss the implications for possible formation and destruction pathways in the two sources. These findings further support the widespread abundance of PAHs throughout the cold ISM and are consistent with survival, inheritance, or replenishment during the earliest stages of star formation.

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Infrared Spectroscopy of Cyanonaphthalenes under Interstellar Relevant Conditions and Their Potential Connection with Astronomical Aromatic Infrared Bands

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Context. Aromatic infrared bands (AIBs) are widely observed in diverse astrophysical environments and are generally attributed to vibrational emission from polycyclic aromatic hydrocarbons (PAHs). The recent interstellar detection of 1-cyanonaphthalene (1-CNN) and 2-cyanonaphthalene (2-CNN) has motivated detailed infrared spectroscopic studies of cyanosubstituted PAHs.

Aims. We aim to characterize the infrared spectra and vibrational modes of neutral 1-CNN and 2-CNN under cold and gas-phase conditions and to assess their possible spectroscopic relevance to the astronomical AIBs.

Methods. The gas-phase infrared spectra of neutral 1-CNN and 2-CNN were measured in a cold molecular beam using ion-dip spectroscopy. The observed bands were assigned with the aid of harmonic and anharmonic calculations at the B3LYP/N07D level. Infrared emission spectra were subsequently simulated from the experimental spectra within a single-photon approximation framework.

Results. We report the infrared spectra of neutral 1-CNN and 2-CNN measured under cold and gas-phase conditions relevant to the interstellar medium. Their vibrational features were assigned in detail, including fundamental vibrations as well as overtone and combination bands. The simulated emission spectra exhibit features in several wavelength regions associated with prominent AIBs, including the aromatic CH stretching region near 3.3 μm , the CC stretching region near 6.2 μm , the mixed CH in-plane bending and CC stretching region at 8.6–8.9 μm , and the CH out-of-plane bending region between 10 and 15 μm . **Conclusions.** The present spectra provide laboratory reference data for small cyanosubstituted PAHs and offer useful clues for interpreting selected AIB regions. These results suggest that cyanonaphthalene molecules are promising contributors to the aromatic infrared bands.

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Cycloalkanes and Aromatics on a Model Astrophysical Surface: Wetting, Dewetting and Thermal Desorption

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The interaction of small aromatic molecules (benzene and naphthalene), and of small cycloalkanes (cyclohexane and decalin), with an amorphous silica (aSiO₂) surface as a model of interstellar silicate grain materials has been explored. Experimental studies of the interaction of cycloalkanes with the aSiO₂ surface, employing temperature-programmed desorption to explore directly the binding of the adsorbates to the surface, are combined with data derived from previously published studies of the small aromatics. This reveals that, in the monolayer, the aromatic species wet the aSiO₂ surface while the cycloalkanes tend to dewet. The results of a simple computational comparison of the two reported herein suggest that this behavior results from the donation of charge from the extended π electron structure on the aromatic molecule to Lewis acid Si sites on the aSiO₂ surface forming a dative interaction and making these Si atoms hypervalent. Such behavior is not possible with the cycloalkanes and their interaction with the aSiO₂ surface is dominated by weak van der Waals interactions. Reduction of the binding energy of the cycloalkanes compared to the aromatic sees the surface residence time of the former significantly reduced compared to the latter. We speculate as to the possible impact of the role of Lewis acid–base behavior in weakening the bonding in the aromatics consequently reducing the activation energy for their surface hydrogenation in a catalytic fashion.

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Evidence for phenylium reactivity under interstellar-relevant conditions

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Recent work by Kocheril *et al.* has questioned the role of phenylium ($C_6H_5^+$) in interstellar aromatic chemistry. It is reported that $C_6H_5^+$ is unreactive toward key interstellar molecules, including molecular hydrogen (H_2) and acetylene (C_2H_2), challenging its proposed role in polycyclic aromatic hydrocarbon formation. Here, we present experimental and theoretical evidence demonstrating that phenylium reacts efficiently with C_2H_2 under astrophysically relevant conditions through a barrierless mechanism. These findings reinstate phenylium as a crucial precursor in the formation of the first aromatic ring, a critical bottleneck in models of polycyclic aromatic hydrocarbon growth in space.

E-mail: ugo.jacovella@cnrs.fr

Nature Astronomy (2026)

<https://doi.org/10.1038/s41550-026-02973-9>



Meetings

Identifying and Bridging Gaps in Laboratory Astrophysics

Workshop II

Salt Lake City, UT, USA
9–10 January, 2027

<https://labastro-workshop.github.io/>

Dear Colleagues,

We are delighted to announce that we are planning a second 2-day workshop, “**Identifying and Bridging Gaps in Laboratory Astrophysics II**”, to be held January 9-10, 2027, ahead of the Winter AAS meeting in Salt Lake City, UT. This workshop directly addresses a key recommendation from the Laboratory Astrophysics Task Force (LATF) convened by the AAAC in response to the Astro2020 Decadal Survey. We held our first meeting at the Summer AAS meeting in Alaska and would like additional input from the broader Astronomy and Astrophysics Community.

We are pleased to have joining us as invited speakers:

- *Planetary Atmospheres & Biosignatures*:

Dr. Natasha Batalha (NASA Ames) and Dr. Xander Thelen (Caltech) ,

- *High Energy & Time Domain Astrophysics*:

Dr. Maria Gatu-Johnson (MIT) and Dr. Lia Corrales (University of Michigan) , and

- *Diffuse Media, Gas, and Dust*:

Dr. Leah Dodson (University of Maryland) and Dr. Gabi Wenzel (MIT) .

Please use [this form](#) to express your interest in participating in this workshop (even if you've already registered for the AAS meeting and workshop). This workshop is not organized by [the AAS Laboratory Astrophysics Division](#), but has been encouraged by the division for you all to attend and support it. Finally, **you must register for the AAS meeting and the workshop** (with your AAS registration) to participate.

Workshop Webpage and Agenda (coming soon!): <https://labastro-workshop.github.io/>

We encourage participants to also submit abstracts to the AAS Winter Meeting (abstracts are due October 5). The Laboratory Astrophysics Division is hosting two Special Sessions to consider: LAD I: Molecular Collisions and the Cold Universe and LAD II: Atomic

Collisions and the Hot Universe. Additionally, there is a general laboratory astrophysics session (Category: Interdisciplinary Astronomy; Sub-Category: Laboratory Astrophysics) also offered.

Upcoming Important Dates for AAS:

Submissions for AAS abstracts are due by **October 5, 2026**

The period for early bird registration concludes on **October 12, 2026**.

Best Wishes,

Workshop SOC

SOC Members:

Stefanie Milam (co-chair, NASA Goddard)

Sarah Moran (co-chair, University of Maryland)

Jenny Bergner (UC Berkeley)

Steve Bromley (Auburn)

Brian Changala (JILA/CU Boulder)

Adam Foster (CfA/SAO)

Rob Hargreaves (CfA/SAO)

Heath LeFevre (University of Michigan)

Joan Marler (Clemson University)

Brett McGuire (MIT)

Randall Smith (CfA/SAO)

Clara Sousa-Silva (Bard College)

Kyle Crabtree (ex-officio, UC Davis)

Carolyn Kuranz (ex-officio, University of Michigan)

Nikole Lewis (ex-officio, Cornell University)

Mike McCarthy (ex-officio, CfA/SAO)



Announcements

Postdoctoral Positions

Reaction Dynamics & Materials in Extreme Environments

Advertised by Ralf Kaiser

The **Reaction Dynamics & Materials in Extreme Environments Group**, Department of Chemistry, University of Hawai'i at Manoa, invites applications for two Postdoctoral Associates in the areas of gas phase reaction dynamics.

The prime directive of the experimental gas phase studies is to investigate the formation of (precursors to) **polycyclic aromatic hydrocarbons (PAHs) (project I)** and **silicon carbides (project II)** exploiting crossed molecular beams coupled with atom/radical sources along with universal, ion-imaging, and laser induced fluorescence detection. The experimental results are merged with electronic structure calculations and dynamics simulations to eventually untangle the roles of these bimolecular gas phase reactions in the formation of nanoparticles (soot, grains) in combustion systems and deep space (interstellar medium, circumstellar envelopes).

Recent publications can be found here:

He, C., et al., *Angew. Chem. Int. Ed.* **62**, e202216972 (2023a)

He, C. et al., *JACS* **145**, 3084–3091 (2023b)

Tuli, L. B. et al., *Nat. Commun.* **14**, 1527 (2023)

Goettl, S. J. et al., *JACS* **145**, 15443–15455 (2023)

Yang, Z. et al., *Science Advances* **9**, eadi5060 (2023)

Medvedkov, I. A., et al., *Angew. Chem. Int. Ed.* **63**, e202315147 (2024)

Yang, Z. et al., *Nat. Astron.* **8**, 856–864 (2024)

Yang, Z. et al., *PNAS* **121**, e2409933121 (2024)

Yang, Z. et al., *ACS Cent. Sci.* **11**, 322–330 (2025)

Goettl, S. J. et al., *Sci. Adv.* **11**, eadv0692 (2025)

Goettl, S. J. et al., *Acc. Chem. Res.* **58**, 2682–2694 (2025)

Yang, Z., et al., *J. Am. Chem. Soc.* **147**, 47359–47369 (2025)

Biswas, S. et al., *Angew. Chem. Int. Ed.* **65**, ee8986387 (2026)

Goettl, S. J. et al., *Sci. Adv.*, **10**, eadq5018 (2024)

Metya, S. et al., *Angew. Chem. Int. Ed.* **65**, e17656 (2026)

Hu, W., et al., *Chem. Sci.* **17**, 5363–5373 (2026)

The appointment period is initially for one year, but can be renewed annually for up to five years based on satisfactory progress as defined by first author publications. The salary is competitive and commensurate with experience. Successful applicants should have a strong background in experimental reaction dynamics and laser systems. Experience in programming is a plus. Solid communication skills in English (written, oral), a publication record in internationally circulated, peer-reviewed journals, tenacity, and independent working skills are mandatory.

Please send a letter of interest, three letters of recommendation, CV, and publication list to Prof. Ralf I. Kaiser, Department of Chemistry, University of Hawai'i at Manoa, Honolulu, HI 96822, USA [ralfk@hawaii.edu]. The review of applications will start September 1, 2026, and continue until the positions are filled. A description of our research group can be found at <https://www.uhmreactiondynamics.org/>. *Only complete applications will be reviewed.*

E-mail for contact: ralfk@hawaii.edu

Webpage: <https://www.uhmreactiondynamics.org/>

Astrochemistry Postdoctoral Position at NASA Goddard Space Flight Center

Advertised by Stefanie Milam & Perry Gerakines

The **SubLIME laboratory** at NASA's Goddard Space Flight Center (GSFC) is seeking a postdoctoral fellow through the NASA Postdoctoral Program. Our research group is part of the Astrochemistry Laboratory in the Solar System Exploration Division at GSFC (Greenbelt, Maryland). We specialize in studying the submillimeter/millimeter pure rotational spectra, the chemistry, and the physical properties of sublimated species from interstellar/cometary/planetary ices. *Laboratory experience with submillimeter spectroscopy and/or vacuum and cryogenic systems is preferred.*

Opportunities that exist in our laboratory include:

1. Studies of the formation of complex organic compounds. This involves processing simple ices and studying desorbed species by their pure rotational spectrum for unambiguous identification/quantification of each molecule formed to compare to astronomical observations and astrochemical models.
2. Processing of simple ices to determine isotope fractionation that may occur within a mantle. Diffusion studies will also be conducted for comparison within different ice layers/mixtures.
3. The identification and spectral analysis of new species formed from sublimated ices to inform astrophysical/planetary searches.

More details on the position can be found at the NPP listing "Submillimeter spectroscopy of sublimated interstellar and planetary ices"[[0217-NPP-NOV26-GSFC-Interdisc](#)] .

Application deadline: Sunday, November 1, 2026 at 6 p.m. U.S. Eastern Time.

Details on the NPP program and how to apply can be found [here](#).

Eligibility: U.S. Citizens and Lawful Permanent Residents (LPR); Foreign Nationals eligible for Exchange Visitor J-1 visa status; and Applicants for LPR, asylees, or refugees in the U.S. at time of application with 1) a valid EAD card and 2) I-485 or I-589 forms in pending status.

E-mail for contact: Stefanie.N.Milam@nasa.gov.

Webpage: <https://www.zintellelect.com/Opportunity/Details/0217-NPP-NOV26-GSFC-Interdisc?contractdesignation=2>

Laboratory Astrophysics Newsletter

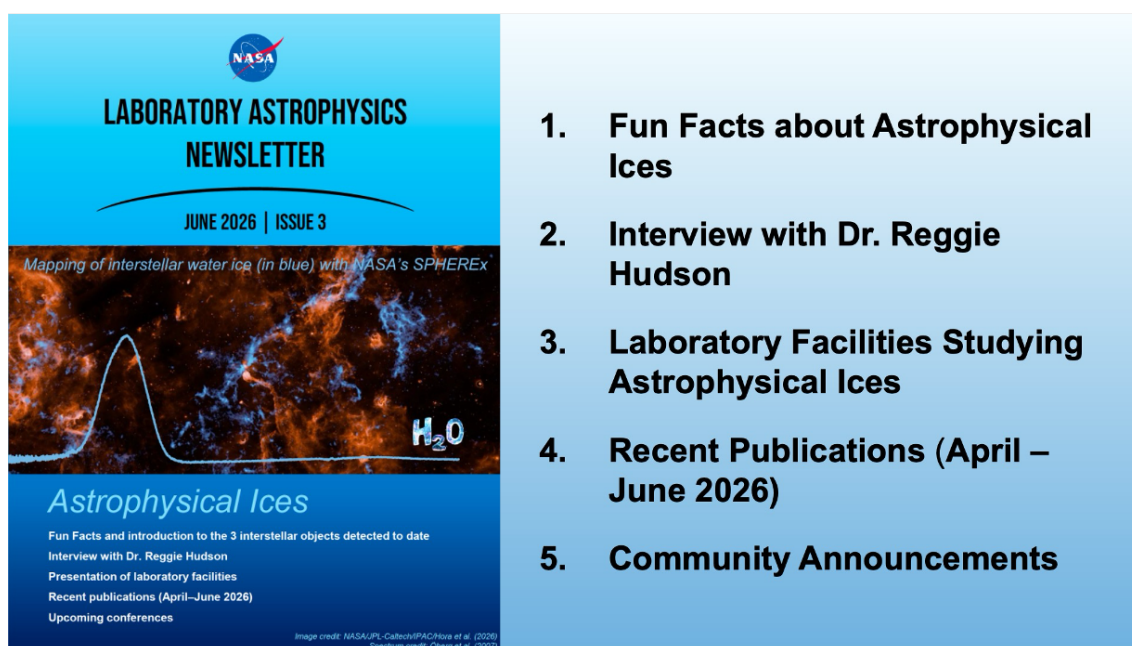
Advertised by

Michel Nuevo, Ella Sciamma-O'Brien, Partha Bera,
Lora Jovanovic, Joe Roser, Aaron McKinnon

The third issue of the **Laboratory Astrophysics Newsletter** is out!

The goal of this newsletter is to enhance communication and interactions between experimentalists, theoreticians, modelers, and observers in the fields of Astrophysics and Planetary Science around the world.

Each issue focuses on a particular theme in the Laboratory Astrophysics field and includes sections such as a cover image, a scientist interview, a description of facilities, recent publications in the field, and/or announcements for upcoming meetings. **Issue 3** focuses on **Astrophysical Ices**.



Cover and contents of the **Laboratory Astrophysics Newsletter's third issue**.

We hope you enjoy reading the Laboratory Astrophysics Newsletter and we encourage you to visit the newsletter website for current and past issues [here](#).

We welcome contributions to the newsletter. You can share publications and announcements through our [contribution form](#), and join our mailing list or contact us at labastronewsletter@mail.nasa.gov.

Keep an eye out for our next issue on Quantum Chemistry, coming out very soon in October 2026, and please let us know what you would like future themes to be or if you would like to contribute!

AstroPAH Newsletter

<http://astropah-news.strw.leidenuniv.nl>

astropah@strw.leidenuniv.nl

Next issue: 29 October 2026

Submission deadline: 18 October 2026