

Veronica Allen, PhD

Research Work Experience

- NWO Veni Laureate** April 2021-now
Kapteyn Instituut, Rijksuniversiteit Groningen, Nederland
Proposal title: “*Prebiotic molecules throughout stellar lifetimes: exploring the origin of life*”
- Postdoctoral Researcher** July 2020-March 2021
NASA Goddard Space Flight Center (GSFC), Greenbelt, MD, USA.
- NASA Postdoctoral Program (NPP) Fellow** July 2018-July 2020
NASA GSFC, Greenbelt, MD, USA. Advisor: Steven Charnley
Proposal title: “*Observational and Theoretical Studies of Interstellar Prebiotic Molecules*”





Education

- PhD, Astronomy** 2014-2018
Kapteyn Instituut, Rijksuniversiteit Groningen, Nederland
Thesis Title: “*Organic chemistry around young high-mass stars: observational and theoretical*”
Supervisor: Prof. Dr. Floris F. S. van der Tak
- Master of Physics/Bachelor of Science (MPhys/BSc), Physics with Astrophysics** 2009-2013
University of Leeds, United Kingdom
Master's thesis title: “*Accretion rates and CO disk analysis in massive young stellar objects*”

Languages

- English: Native;
Nederlands: Luisteren/Lezen - C1, Spreken/Schrijven - B2;
Français: A2/B1

Selected Communication Experience (language indicated)

- Astrochemist Veronica (ZZP)**  /  March 2024-now
As *Astrochemist Veronica*, I often work with the art and culture center BijVRIJDAG and Biblionet Groningen giving free astronomy lessons for primary school children in Dutch. I also create infographics translating research for the public and grant proposals to improve their understandability (examples [here](#)).
- Blaauw Observatory (Groningen) – 23 public events**  /  2014-2018, 2021-now
As a volunteer during my PhD, I gained experience interacting with the Dutch public at the three annual astronomy events. Since returning as a postdoc, I have been instrumental in creating and running the children’s program for the annual events: [Landelijke Sterrenkijkdagen](#), [Zpannend Zernike](#), and [Nacht van de Nacht](#). In particular, at the [Landelijke Sterrenkijkdagen](#) event in March 2022, we were still under Corona lockdown conditions, so I designed and managed an activity about different wavelengths of light with five outdoor stations, as well as speaking with the public at one of the stations during the night. From 2021, I designed and set up the activities, purchased supplies, interacted with the public, and oversaw volunteers.

Skype a Scientist (online) (38 sessions as of October 2024)  2017-now


The "Skype a Scientist" program connects scientists to classrooms from the youngest learners to second-chance high school students. I teach them about my work, answer their questions, and talk about my unusual career path.

Stichting SparkLab collaboration  June 2022-now

In collaboration with [SparkLab](#) (Nathalie Beekman), de Rijdende Popschool, Jonge Onderzoekers and others, we created an immersive and interactive exoplanetary experience for the village of Wehe-den Hoorn with exhibits designed by the primary school children culminating in an exposition on 27 September 2022. I provided scientific expertise and creative guidance for the children and the other collaborators. I continue to collaborate with this group creating scientific educational experiences for underprivileged children.

Keuzecollege ([Stichting Technasium](#)) Teacher, RUG  Nov 2022-Present

Updated, redesigned, and taught lectures on asteroids and minerals in the solar system for Klas 4 VWO students and assessed their final presentations. Currently re-designing the project.

High school student projects (12 projects as of Oct 2024)  Sept 2022-now

I often work with VMBO, HAVO, and VWO students on profielwerkstukken, career orientation interviews, internships, and other short projects.

Children's astronomy lessons (30 events as of Oct 2024)  /  2018-now

I have developed several short (20 minute) basic astronomy/stargazing lessons for children (ages 4-12) . I incorporate an interactive, activity-based educational style to teach the students about the phases of the moon, the day/night cycle, and introduce them to the solar system. I have recently added a lesson about constellations, star types, and different cultures' sky myths.

In July and August 2024, I embarked on a tour of South Africa, traveling to 7 cities and teaching over 1200 students about astronomy (vlog series here: <https://shorturl.at/NLGAK>).

Weekendschool ([Stichting IMC Weekendschool](#)) Teacher, RUG  Dec 2022, Dec 2023

Created and taught a lecture about astrochemistry and telescopes in Dutch to 2 groups of ~20 12-15 year old students with interactive experiments. Presentation [Here](#)

Hanzehogeschool art student advisor  June 2023

I worked with an art student to create a kinetic sculpture of AR Cassiopeiae, a septuple star system. It was displayed at an exhibition in the Tuin in de Stad, Groningen.

Lezingen  March 2023

I was invited to give a lecture for the Koninklijke Nederlandse Vereniging voor Weer- en Sterrenkunde, Gemma Frisius Leeuwarden (March 2022) and Stichting Weer- en Sterrenkunde Eemsmond Appingedam (March 2023). This lecture was on the subject of astrochemistry and the origin of life and was given in Dutch. Presentation [here](#)

Planetary Science Winter School  Nov 2019-March 2020

This school is a hands-on instrument design program to give scientists experience working with engineers in the creation of a real flight instrument to be proposed for a major NASA program. I shadowed a mechanical systems/structural engineer on the classified project.

NASA Goddard Space Flight Center (GSFC) Outreach (11 events)  2018-2020

NASA GSFC runs several high-profile outreach events during the year including International Observe the Moon Night, Earth Day, demonstrations at AwesomeCon in Washington D.C., and the Apollo 50th anniversary event on the National Mall.

Media interviews

- “Wat is een planetoïde en wat gebeurt er als er een inslaat op aarde?”  September 2024
<https://www.quest.nl/natuur/sterrenkunde/a62235640/planetoide-asteroide/>
- “Kenniscafé In Het Licht” Stadium Generale / December 2022
Part of a panel about light pollution and its effects.
<https://vimeo.com/777323145>
- “Kom naar Zpannend Zernike” oogTV  October 2022
<https://www.youtube.com/watch?v=Aq8XT8iA2Xw>
- “Staren naar driekwart van de zon” uKrant  October 2022
<https://ukrant.nl/staren-naar-driekwart-van-de-zon/>
- “Noord, oost, zuid of west: zó bekijk jij de sterren het best” Linda.nl  October 2022
<https://www.linda.nl/meiden/meiden-trending/zo-lees-je-de-sterren/>
- “NASA Science: Solar System Exploration interview feature”  March 2019
<https://science.nasa.gov/people/veronica-allen/>
- Zpannend Zernike social media spot  September 2017
<https://www.facebook.com/zpannendzernike/videos/794787564026431/>
- “Astronomers see mysterious nitrogen area in a butterfly-shaped star formation disk” 2017
http://www.astronomie.nl/#!/index/_detail/gli/astronomers-see-mysterious-nitrogen-area/

Selected Organizational Management Experience

- Astronomoms Virtual Seminar Series** August 2021-present
I co-organize monthly meetings for fellow early career mothers in astronomy. I manage the online forum and work on inviting speakers for our meetings. We are working with a sociologist to write an article about the state of mothers in astronomy and suggested best practices for retention following our community survey with more than 100 respondents.
- International Day for Women and Girls in Science** February 2023
I chaired this event, managing the speakers and a 45 minute discussion session. Along with other members of Young Minds Groningen, organized the event at DOT Groningen with the 3 invited speakers (including Jessica Dempsey). Advertised the program and acted as liaison with high schools.
- Kapteyn Science Day** December 2022
Organized speakers, planned sessions, chaired sessions along with a small team for the return to an in-person Science Day.
- ALMA Proposal Preparation workshops** March 2019, March-April 2020
For Cycle 7 (2019), I organized the venue and catering for a one-day proposal preparation workshop after receiving training at NRAO Charlottesville. I instructed the participants on the information necessary for a successful proposal, how to use the observers' tool, and about basic interferometry. For Cycle 8 (2020), these sessions were via Zoom.
- NASA GSFC Science Jamboree (code 691: Astrochemistry Laboratory)** July 2019
Arranged presentations and hand-outs, created [infographical posters](#), and organized volunteers for the 2019 Science Jamboree for NASA Goddard employees and interns with the theme “Astrochemical observations of the Solar System and Milky Way (with ALMA)”.

March for Science – Amsterdam Coordinator for Groningen 2017-2018

Advertised the march on social media and throughout the university and city of Groningen, oversaw the poster design session for Groningen participants, and organized transportation to the march for 25 local participants to Amsterdam. I was interviewed for 3 newspapers including the NOS. I remained involved with this project as it transitioned to “Stand up for Science”, a foundation for improving public engagement with science.

Chairing activities

EAS 2024 SS41 “Diversity for the advancement of science”: Co-organized and chaired the session (4 blocks of speakers, plus a discussion panel), Padova, Italy, July 2024

Young Minds Groningen – International Day for Women and Girls in Science: Co-organized event and chaired for three invited speakers and discussion session. DOT Groningen, Netherlands, February 2024

ALMA-JWST science day: Co-organized workshop and chaired a session. Kapteyn Institute, Groningen, Netherlands, January 2024

Kapteyn Science Day: Co-organized the micro-talk day and chaired half of the sessions, Groningen, Netherlands, December 2023.

Communication Training

Rijksuniversiteit Groningen Workshops

- Media training for academics
- Social Media for Research
- Scientific Storytelling
- Active Bystander Training
- Practical data visualization for scientists
- Reach out! Science communication and public engagement

Memberships of Professional Societies

Lecturers Without Borders (LeWiBo)	Since 2023
FORRT (Framework for Open and Reproducible Research Training)	Since 2023
International Astronomical Union	Since 2022
European Astronomical Society	Since 2022
Astronomical Society of the Pacific	Since 2017

Professional Service

International Astronomical Union EDI working group (subgroup co-chair)	Since 2023
European Astronomical Society Diversity and Inclusion advisory group	Since 2023
ALMA Cycle 8 2021 reviewer	May 2021
ALMA Cycle 7 TAC	June 2019
NASA ROSES Grant Review Panels (4)	2019-2020
Reviewer for A&A	

Awards

ALMA Ambassador Postdoctoral Fellows program (NRAO)	April 2020
Awarded a 2 nd position organizing and running 2 ALMA workshops. (\$10000 prize)	

NASA GSFC STAR award	August 2019
For my leadership and initiative in the planning and execution of the Science Jamboree.	
NASA GSFC Solar System Exploration Division Peer Award	July 2019
For extraordinary contributions to public outreach at GSFC.	
ALMA Ambassador Postdoctoral Fellows program (NRAO)	March 2019
One of 15 postdocs trained to organize and run an ALMA proposal workshop in the USA.	
Leids Kerkhoven-Bosscha Fonds (LKBF) grants	2015-2017
Grants for travel to conferences and working visits. (€2900 total)	
Scriven Bolton Award (University of Leeds)	2010
Awarded to the first year BSc student with the highest marks in astronomy (£1250 prize).	

Teaching Experience

HAVO Intern Supervisor (meeloper), RUG  Jan-March 2023 & Sept 2023-Feb 2024

A third year HAVO student shadowed me one day per week over 8 weeks. She worked on a project about light pollution and experienced the parts of an academic work day (meetings, analysis, writing, planning, collaborating, traveling, presenting). She returned in September 2023 to spend a semester working on a research project with me.

BSc project co-supervisor, RUG  2022

Designed a custom astronomy/science communication BSc project “Planetarium show for the general public, on how the theory of planet formation is confirmed, using ALMA data”. Supervised the student with weekly progress meetings and additional contact as needed. Final Grade 7.5.

Intern supervisor, NASA GSFC  2020

During the summer of 2020, I created a project for a high school intern to complete. I taught her the basics of data reduction of ALMA observations, background for star formation and astrochemistry, and how to make scientific figures. She presented her results to Goddard management at the end of her project.

Teaching assistant, Introduction to Astronomy University of Groningen  2015, 2016

Held problem-solving sessions with short overview lectures and assisted students with problem sets in this first-year undergraduate course. I taught 12 sessions per year covering all aspects of basic astronomy including star and planet formation, the stellar life cycle, galactic dynamics, and cosmology. Integrated multimedia and a flipped classroom approach to my sessions. (Course code: STISTK-10)

Education Training

Rijksuniversiteit Groningen Workshops

- Unlocking the potential of the Transition Makers Toolbox for your education
- Enhance Your Formative Feedback Strategy
- Inclusivity problems faced by students and fellow lecturers
- The Effect of Cultural Biases on the Inclusive Classroom
- Challenges in inclusive assessment
- Design towards Inclusion: Exploring ‘Universal Design for Learning’ as an inclusive design method
- Academic Culture and Well-Being

- What to do with a stressed PhD student
- Teaching for PhD Students

Coursera (MOOC cursussen)

(University of Illinois at Urbana-Champaign - Dr. William Cope and Dr. Mary Kalantzis)

- Learning, Knowledge, and Human Development
- Ubiquitous Learning and Instructional Technologies
- Multimodal Literacies: Communication and Learning in the Era of Digital Media
- Assessment for Learning
- New Learning: Principles and Patterns of Pedagogy
- Constructivism and Mathematics, Science, and Technology Education
- Negotiating Learner Differences: Towards Productive Diversity in Learning

(University of Cape Town)

- Becoming a changemaker: Introduction to Social Innovation (Prof. Bonnici, Prof. Nilsson)
- Disability Inclusion in Education: Building Systems of Support (Prof Judith McKenzie)

Presentations

Invited Talks/colloquia/panels

Workshop: “Empowering Allies: Understanding and Leveraging Social Advantages” 2 hour workshop at We@FSE Diversity Week 2024, University of Groningen, Netherlands, Oct 2024 (<https://prezi.com/view/370DilbWixwDxEEdXZ3dt/>)

Invited talk: “Supporting caregivers and neurodivergent academics at FSE” Opening ceremony We@FSE Diversity Week 2024, University of Groningen, Netherlands, Oct 2024

Invited talk+panel: “ADHD in Academia” AMOLF Diversity Day, Amsterdam, Netherlands, June 2024 (<https://prezi.com/view/i76OZ5jZdqYYEhgZGzrp/>)

Invited talk: “Balancing academia and caregiving: Exploring institutional support” Origin of Life Early-career Network (OoLEN), online via zoom, March 2024

Invited Panelist: “How can we improve access and inclusion in STEM education?” The role of STEM education in a changing world, Teaching Academy Groningen, University of Groningen, Netherlands, March 2024

Invited Lecture: “Astro-everything and our place in space”, Marie Curie student association, Radboud University Nijmegen, September 2023

Invited Panelist: “Community activities and actions towards systemic change” Session SS33, EAS 2023, Krakow, Poland, July 2023

Colloquium: “Baby's first tantrum ~ the chaotic chemical environment of Cha-MMS1” Leiden, the Netherlands, April 2023

Invited Panelist: “Women in Science” Hamburg Observatory, Germany, March 2023

Colloquium: “Astrochemistry and the Origin of Life” ASTRON, Dwingeloo, February 2023

Invited Lecture: “The Origin of Life” for Honours College Faculty of Science and Engineering University of Groningen, January 2023

Invited Keynote Speaker: “Astro-everything and our place in space”, PepSci Annual Meeting, Delft, the Netherlands, November 2022 (<https://zenodo.org/records/7373210>)

Invited talk: “Create your own space in science: Journey through an unconventional life” Lustrum speaker for the Honours College Social Association at the University of Groningen (via Zoom),

April 2021. (<https://doi.org/10.5281/zenodo.6422771>)*

Colloquium: “Observational studies of formamide formation” University of Groningen (via Zoom), April 2021.

Invited talk: “Observational studies of formamide formation” Monday science seminar, University of Wisconsin (via Zoom), December 2020.

Colloquium: “Observational studies of formamide formation” lunch talk at ESO, Garching, Germany (via Zoom), October 2020.

Colloquium: "Chemistry in high-mass star forming regions: observations and modeling" given at: NASA GSFC (October 2018); University of Groningen, Netherlands (October 2018); Academia Sinica Institute of Astronomy and Astrophysics, Taiwan (February 2019); and National Taiwan Normal University, Taiwan (February 2019).

Colloquium: “Complex cyanides as a chemical clock: Explaining cyanide segregation in G35.20-0.74N”. Colloquium at University of Leeds, UK, October 2017.

Invited panelist: “Children and your PhD”. Networking Breakfast, “I, Scientist”, Berlin, Germany, May 2017.

Invited Talk: “High Mass Star Formation”. SRON (Netherlands Institute for Space Research) meet and greet, Utrecht, the Netherlands, March 2017.

Colloquium: “The Curious Chemistry of G35.20-0.74N”. Colloquium given four times at: University of Leeds, UK; IRAM Grenoble, France; California Institute of Technology, USA; NASA Ames, USA; Summer 2016.

Contributed Talks

Contributed Talk: “Supporting Neurodivergent Academics” Inclusion in Astronomy Working Group session, IAU General Assembly, Cape Town, South Africa, August 2024 (<https://www.youtube.com/live/SUCc25syyg4?t=22104s>)

Contributed Talk: “Supporting Early Career Caregivers in Astronomy: The Astronomoms Story” Women in Astronomy Working Group session, IAU General Assembly, Cape Town, South Africa, August 2024 (<https://www.youtube.com/live/jQSqlJlxtnk?t=18728s>)

Contributed Talk: “Supporting early career caregivers in astronomy” Session SS23a Early Career Astronomers, EAS 2024, Padova, Italy, July 2024

Contributed Talk: “Playing with the Solar System” Session LS7 Science communication, EAS 2024, Padova, Italy, July 2024

Contributed Talk: “The extensive benefits of a neurodiverse workplace” Session SS33, EAS 2023, Krakow, Poland, July 2023

Contributed Talk: “Sulfur's journey from the volcanoes of Io” Kapteyn Science Day 2022, Groningen, the Netherlands

Contributed Talk: “Sulfur's journey from the volcanoes of Io” Astrochemical Link: From Clouds to Planets II, Berlin, Germany, October 2022

Contributed talk: “Solar System chemistry with the ALMA archive”, Kapteyn Science Day flash presentation, University of Groningen (via Zoom), June 2021

Contributed talk: "Empirical study of formamide formation around young O-type stars" at New quests in stellar astrophysics IV: Astrochemistry, Astrobiology, and the origin of life Puerto Vallarta, Mexico, April 2019.


Contributed Talk: “Complex cyanides as a chemical clock: Explaining cyanide segregation in G35.20-0.74N”. Dutch Network 2 bi-annual meeting, Groningen, the Netherlands, October 2017.


Contributed Talk: “Small Scale Chemical Segregation within Keplerian Disk Candidate G35.20N”. Dutch Network 2 bi-annual meeting, Leiden, the Netherlands, October 2016.

Contributed Talk: “Small Scale Chemical Segregation Within Keplerian Disk Candidate G35.20-0.74N”. AAS summer meeting, USA, June 2016.

Public Talks/panels

Invited Talk: “Astrochemistry and the Origin of Life”, SiriusA Exoplanets & Astrobiology Symposium, DOT planetarium, Groningen, May 2024

Public Talk: “Sterren en Stenen” Landelijke Sterrenkijkdagen, Blaauw Sterrenwacht, Groningen, Netherlands, March 2024 

Invited Talk: “Astrochemie en de Oorsprong van het Leven” SWSE Appingedam (KNVWS), the Netherlands, March 2023 

Invited Panelist: “In Het Licht” KennisCafé Stadium Generale, Groningen December 2022 

Invited talk: “Astrochemie en de Oorsprong van het Leven” at Vereniging Gemma Frisius (Royal Dutch Association for Weather and Astronomy), Leeuwarden, the Netherlands, March 2022

(<https://doi.org/10.5281/zenodo.6422688>) 

Invited talk: “Astrochemistry and the Molecules of Life” at Astronomy on Tap Groningen (via Zoom), June 2021

Contributed Talk: “Ask an Astronomer: Star formation and Astrochemistry”. Zpannend Zernike open day, Groningen, the Netherlands, October 2016.

Posters

“Playing with the Solar System: Creating positive experiences with science for young children” Office of Astronomy for Outreach session, IAU General Assembly, Cape Town, South Africa, August 2024 (<https://www.youtube.com/watch?v=LNo4A4an18s>)

“We are all nebula stuff: investigating the formation prebiotic molecules in star-forming regions” ALMA 10, Puerto Varas, Chile December 2023

“Toward decolonizing astronomy outreach, three steps away from Eurocentric bias” Session SS36a, EAS, Krakow, Poland, July 2023

(<https://k-poster.kuoni-congress.info/eas-2023/poster/938c0588-402d-4561-bb11-06c57f386274>)

“We are all nebula stuff: investigating the formation prebiotic molecules in star-forming regions” BEACON, La Palma, May 2023

“We are all nebula stuff: investigating the formation prebiotic molecules in star-forming regions” oLife, Groningen, The Netherlands November 2022

“Early career parents' seminar series” NAC, Blankenberge, Belgium, May 2022

“Characterizing outflows from low-mass object Chamaeleon-MMS1”. ALMA2019: Science Results and Cross-Facility Synergies, Cagliari, Italy, October 2019

(<https://doi.org/10.5281/zenodo.3585332>)

“Chemical Segregation in a high-mass disk candidate: Observations and Modeling”. Francesco's legacy: Star formation in space and time, Florence, Italy, June 2017, and Current and future perspectives of chemical modeling in Astrophysics, Hamburg, Germany, July 2017.

“An ALMA view of small scale chemical separation in G35.20-0.74N”. The 6th Zermatt ISM Symposium, Switzerland, September 2015.

“An ALMA view of chemical structure of high-mass hot cores in G35.20”. Nederlandse Astronomen Conferentie (National Dutch Astronomers conference), the Netherlands, May 2015.

“The small scale chemistry and kinematics of G35.20N with ALMA”. The Soul of High-Mass Star Formation, Chile, March 2015.

“The complex chemistry of massive star forming region G35.20-0.74N”. The Olympian Symposium on Star Formation, Greece, May 2014.

Publication List

refereed

1. “High-resolution study of outflows FHSC candidate Chamaeleon-MMS1”, Allen, V., Cordiner, M., Charnley, S., Wirstrom, E., Kuon, Y-J. (2024) *The Astrophysical Journal*, Volume 971, Issue 2, id.187, 13 pp.
2. “Exploring the formation pathways of formamide near young O-type stars”, Allen, V.; van der Tak, F. F. S.; López-Sepulcre, A.; Cesaroni, R.; Sánchez-Monge, Á.; Rivilla, V.; (2020) *Astronomy & Astrophysics*, Volume 636, id.A67.
3. “Substructures in the Keplerian disc around the O-type (proto-)star G17.64+0.16”, Maud, L. T.; Cesaroni, R.; Kumar, M. S. N.; Rivilla, V. M.; Ginsburg, A.; Klaassen, P. D.; Harsono, D.; Sánchez-Monge, Á.; Ahmadi, A.; Allen, V.; et al. (2019) *Astronomy & Astrophysics*, Volume 627, id.L6.
4. “Chasing discs around O-type (proto)stars. ALMA evidence for an SiO disc and disc wind from G17.64+0.16” Maud, L. T.; Cesaroni, R.; Kumar, M. S. N.; van der Tak, F. F. S.; Allen, V.; et al. (2018) *Astronomy & Astrophysics*, Volume 620, id.A31.
5. “The feedback of an HC HII region on its parental molecular core. The case of core A1 in the star-forming region G24.78+0.08” Moscadelli, L.; Rivilla, V. M.; Cesaroni, R.; Beltrán, M. T.; Sánchez-Monge, Á.; Schilke, P.; Mottram, J. C.; Ahmadi, A.; Allen, V.; et al. (2018) *Astronomy & Astrophysics*, Volume 616, id.A66.
6. “Complex cyanides as a chemical clock in hot cores”, Allen, V.; van der Tak, F. F. S.; Walsh, C. (2018) *Astronomy & Astrophysics*, Volume 616, id. A67.
7. “Accelerating infall and rotational spin-up in the hot molecular core G31.41+0.31” Beltrán, M. T.; Cesaroni, R.; Rivilla, V. M.; Sánchez-Monge, Á.; Moscadelli, L.; Ahmadi, A.; Allen, V.; et al. (2018) *Astronomy & Astrophysics*, Volume 615, id.A141.
8. “Chemical segregation in hot cores with disk candidates. An investigation with ALMA”, Allen, V.; van der Tak, F.; Sánchez-Monge, Á.; Cesaroni, R.; Beltrán, M. T. (2017) *Astronomy & Astrophysics*, 603, 133.
9. “Chasing discs around O-type (proto)stars: Evidence from ALMA observations”, Cesaroni, R.; Sánchez-Monge, Á.; Beltrán, M. T.; Johnston, K. G.; Maud, L. T.; Moscadelli, L.; Mottram, J. C.; Ahmadi, A.; Allen, V.; et al. (2017) *Astronomy & Astrophysics*, 602, 59A.

non-refereed

1. “Searches for Technosignatures: The State of the Profession”, Wright, J.; Allen, V.; + 125 authors (2019) *Astro2020 Decadal survey, APC white papers, Bulletin of the American Astronomical Society*, Vol. 51, Issue 7, 39.
2. “Impacts of Quantum Chemistry Calculations on Exoplanetary Science, Planetary Astronomy, and Astrophysics”, Kao, Der-you; Gacesa, M.; Wentzcovitch, R. M.; Domagal-Goldman, S.; Koppappu, R. K.; Klippenstein, S. J.; Charnley, S. B.; Henning, W. G.; Renaud, J.; Romani, P.; Lee,

- Y.; Nixon, C. A.; Jackson, K. A.; Cordiner, M. A.; Lombardo, N. A.; Wieman, S.; Airapetian, V.; **Allen, V.**; + 11 authors. (2019) Astro2020 Decadal survey, Science white papers, Bulletin of the American Astronomical Society, Vol. 51, Issue 3, 240.
3. "Using ALMA Spectra to Investigate a Potential Transient Exosphere of Ceres", Parks, M.; Nixon, C.; Cordiner, M.; Charnley, S.; Thelen, A.; **Allen, V.**; Palmer, M.; Chuang, Y. -L.; Kuan, Y. -J. (2019) 50th Lunar and Planetary Science Conference, LPI Contribution No. 2132, id.2974.
4. "Astrochemistry: the first step in understanding our origins", **Allen, V.**, Periodiek, March 2018,
5. "Small Scale Chemical Segregation Within Keplerian Disk Candidate G35.20-0.74N", **Allen, V.**; van der Tak, F.; Sánchez-Monge, Á.; Cesaroni, R.; Beltrán, M. T. (2016) AAS Meeting #228.

Proceedings

1. "Empirical study of formamide formation around young O-type stars" from New quests in stellar astrophysics IV: Astrochemistry, Astrobiology, and the origin of life, Memorie della Societa Astronomica Italiana (Journal of the Italian Astronomical Society)