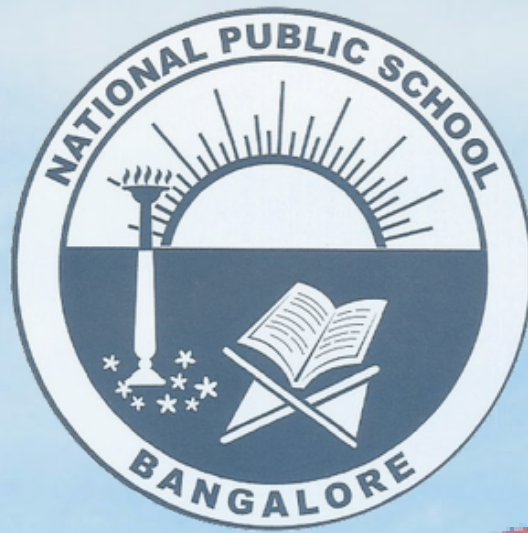


Volume 8

National Public School Koramangala

REVERBERANCE

1st February – 31st March 2023 Newsletter





Dear Readers,

With the advent of lovely pink spring followed, rather too soon, by golden summer, we come to the end of this eventful academic year. It is always extremely fulfilling to watch children grow, acquire knowledge and skills, and apply them in real-life situations to form enriching experiences. Every day children read, write and reflect; play and paint; analyse and articulate; dance and debate; enact and evaluate; and do other innumerable things that are part and parcel of their everyday learning. No statistics can measure the amount of their real learning, however, we get a reflection of that in their maturer outlook towards themselves and the world around them, with each passing year.

Please have a look at our achievements, events, activities, and articles. Please DO NOT MISS an article by our alumnus Aniket Sanghi (pursuing B.S. in Astronomy and Physics at The University of Texas at Austin) on astronomy- 'A Journey into the Unknown' under Udaan-Career Counselling section.

Achievements

World Scholar's Cup 2023

The World Scholar's Cup is an international team academic tournament and enrichment program conducted in over fifty countries. Bangalore regional round was held on 21st & 22nd January 2023 at Greenwood High International School. The theme for WSC was 'A World Re-Renewed'.

Our Junior WSC Team comprising **Anvay Varshney, Joaanna Renjith and Rishima Varija (Grade 6C)** has bagged 1 Gold and 2 Silver medals for Team achievements including 8th position in Scholar's Bowl event. In addition, Joaanna received 2 Gold medals and 2 Silver medals, Anvay bagged 2 Silver medals and Rishima won 1 Silver medal for individual accomplishments in various events including Team Debate, Collaborative Writing, Scholar's Challenge and Scholar's Bowl.



Our Senior WSC Team comprising **Kashvi Pathania, Nethra Ramakrishnan and Anushka Venu Kumar (Grade 9C)** participated in the debate, writing, and an MCQ test on various topics, like literature, social science, science, art etc. **Kashvi Pathania** won two silver medals, one for writing and the other for debate; **Nethra Ramakrishnan** won the DaVinci prize; **Anushka Venu Kumar** won three silver medals for debate, special areas, and social science. She also won a gold medal for the top scholar.

Both the teams, junior as well as senior, have qualified for the global round which will take place in Seoul, Bangkok, Doha, or London.

Reyaansh Agarwal (Grade 7C) bagged a slew of prizes in various prestigious competitions, as mentioned below:-

Reyaansh secured 20th rank in the 6th Grade Institute for Promotion of Mathematics (IPM) exam. He has been awarded a scholarship for his performance. The Mathematics Scholarship Examination syllabus comprises thought-provoking and challenging topics from higher-grade mathematics.

Reyaansh was awarded a Gold Medal in the Grade 7 level AMO 2022.

American Math Olympiad (AMO) is an international math competition for elementary, middle and high school students jointly organised by Singapore International Mastery Contests Center (SIMCC) and Southern Illinois University (SIU). Its framework is based on The US Common Core Standards and comprises of non-routine mathematics.

Reyaansh clinched silver honour in the Junior Category (10-17 Yrs) for his performance in IYMC 2022 Exam.

Reyaansh bagged 5th rank in 2nd level of the International Math Olympiad and . He received Zonal Gold medal, certificate of Zonal Excellence and a cash prize of INR 5000.

Sohham Joshi (Grade 8) secured National Rank 1 in the Sanskrit Olympiads this year as well.



TCS iON

In the TCS iON IntelliGem 2022-23, a National Contest on 21st Century Skills, Anvay Varshney (Grade 6C) was amongst the top 12 students in his Grade across the country and qualified for the Pre-finals for all 5 categories - Global Citizenship, Financial Literacy, Creativity and Innovation, Communication Skills, and Universal Values. He received the 'Certificate of Distinction' in all the five categories.

Prakaash Sarran (Grade 8) was the winner of doubles National Series under 16, at Chennai on 20th February 2023. Iconic retired professional tennis player Vijay Amritraj, next to Prakaash (in the picture) gave away the prizes and encouraged the young players.



AIKF Nationals Karate Tournament was held in Chennai on 11th February 2023. Three students of Grade 8 participated and all of them secured medals in the categories Kata and Kumite.

Shreya H of Grade 8A bagged Silver Medal in Kumite; R. G. Jhanvi of Grade 8B got 2 Bronze Medals and Anika G of 8C secured 2 Bronze Medals.

Chinmay Jujare and Arav Jaluka of Grade 8C won 3rd place in the Science quiz conducted by the Indian Institute of Astro Physics, Koramangla on February 25th.

Anvi Garg (Grade 9A) bagged a place in the region-wise list of the top 100 students in Aryabhata Ganit Challenge (AGC) conducted by CBSE on December 15, 2022. AGC is a National level Talent Search Exam for Class 8 to 10 students. Application of Mathematics in daily life needs the development of certain competencies and to promote such competencies among students through joyful assessment, Aryabhata Ganit Challenge (AGC) is conducted by CBSE.

Sreejani Bhaduri (Grade 7A) has been awarded SOF Academic Excellence Scholarship 2022-23 for her overall performance in all the SOF exams for the year 2022-23. She has been declared the winner for Grade 7 from Karnataka Zone 1. She will be awarded a trophy, a cash award/scholarship of Rs 5000/-, and a citation. Sreejani has received this award from SOF for the third time — Grade 4, Grade 6, and Grade 7.

Sreejani has also won the following ranks in Crest Olympiads. She received achievement trophies, a gold medal and merit certificates for the following contests.

CREST English Olympiad: International Rank 1

CREST Cyber Olympiad: International Rank 2

CREST International Spell Bee: South Zonal Rank 10

Anvay Varshney (Grade 6C) secured 3rd position in South India Regional Championship of WRO (World Robot Olympiad) India 2022. He won a Bronze Medal and has qualified for the Nationals.

Anvay additionally secured 2nd place in the Young Teams - Experienced Category in the Raspberry Pi-based International Robotics Competition 'Pi Wars — 2022'.

Ms. Anjana Chaudhary, our Senior Math Teacher has qualified for the finals of CEN TA (Centre for Teacher Accreditation) International Teaching Professional Olympiad (Senior Secondary Math) which consists of the top 5000 candidates all over the country. CEN TA's Teaching Quotient (TQ) is an online assessment of the most fundamental competencies for teaching. She is also eligible for a CEN TA TQ digital badge and is also featured in TQ Wall of fame.



Graduation Day

NPS Koramangala celebrated the most momentous occasion in the life of its eighteenth batch of Grade 12 students at the Graduation Ceremony on 4th February 2023. The august gathering and inspiring words of eminent guests, eternal blessings of the well-wishers, nostalgic recollections of friends, and sublime music amidst an ambience that exuded warmth and beauty, made the send-off a memory ensconced in the depths of everyone's heart and mind.

A montage of prized moments of the graduating batch, from elementary through their senior years, made everyone sentimental. The auspicious lighting of the lamp accompanied by the euphonious invocation to the almighty by Grade 8 and 9 students raised the curtains on a charming evening.

Mr RamG Vallath, an author, keynote speaker, tech cofounder, and social worker, was the chief guest for the day. He was accompanied by his wife, Ms. Jayashree Ramamurthy. The Vice Chairperson TISB, NAFL and NPS Group of Schools, Dr. Bindu Hari, Associate Director, TISB, NAFL, GMC and NPS Group of Schools, Ms. Josheta Hari and the Principal, Ms. Jyotsna Nair graced the occasion.

Mr Vallath's reminiscences about his childhood, education, the challenges he faced later in life due to a crippling autoimmune disease and how he forged a new path, reinventing his life, were a source of immense inspiration for the audience. Vice Chairperson, Dr. Bindu Hari exhorted the outgoing batch to always honour their parents, teachers, and society and pay them back in all possible manners. Dr. Bindu Hari also wished them a life full of joy and hope, and never to be afraid of failures. Both speakers advised the students to give back to society on their path to success. In her address, Principal Ms. Jyotsna Nair urged the young men and women to have a deep belief in their self-worth, to always keep moving towards their goals in life without giving up and thereby achieve excellence in their respective fields of endeavour. The parent speaker, Mr. Vijai Kishan Radhakrishnan extolled the ecosystem in which the school nurtured its students, equipping them to realise their full potential. Scrolls were presented to each of the graduands by the dignitaries.

Vedanth Subramaniam and Jayanth Vikram from the passing out batch shared their beautiful memories and expressed gratitude towards their school which has shaped them into poised and candid persons. School Prefect, Akita Anand read the Covenant, a solemn agreement that reminds the students of their duties in future and a pledge to abide by the values learnt, throughout their schooling. A soulful rendition of the classical melody from Kantara by Ankita Anand, to the beats of the mridangam by Sankarshanan Srikanth and the sonorous notes on the violin by Vishnu H Venkatram (Class of 2022-23) left the audience spellbound. The Candle Lighting Ceremony- a symbolic transfer of the light of knowledge from the teacher to the taught- brought the curtains down on yet another emotional farewell to a new batch of class 12 students. There wasn't a better way to say Hog Banni than the Music teacher Mr Jason Francis' mellifluous rendition of Let's Get Together Again.











Udyama 2022-23

Grade 6

One of the most significant events in Grade 6 calendar - 'The Entrepreneurship Project-Udyama' was held on 11th February in school auditorium.

The idea was mooted to the students in the month of October and the ideation process began individually. Subsequently, three unique & innovative ideas were zeroed down for three target groups; grandparents, parents and kids. Under the able guidance of Gr11C students, the Gr6 students prepared PowerPoint presentations.

The grade 6 students presented their intriguing ideas ranging from Tiny Eye Camera which detects germs to Digital Bag, Smart Walking Stick, Menu Shuffler and Growmore-a balcony garden.

The aspiring entrepreneurs astounded the audience with their distinctive product range; The Smart Pill Case for grandparents, Super Sox for kids, Smart Stove for parents and Electro case Suitcase for grandparents not only impressed the sharks but also left all and sundry keen to buy the products.

The whole project instilled analytical, mathematical and technical skills with team work being the highlight of the entire project.

Grade 6A



Grade 6B



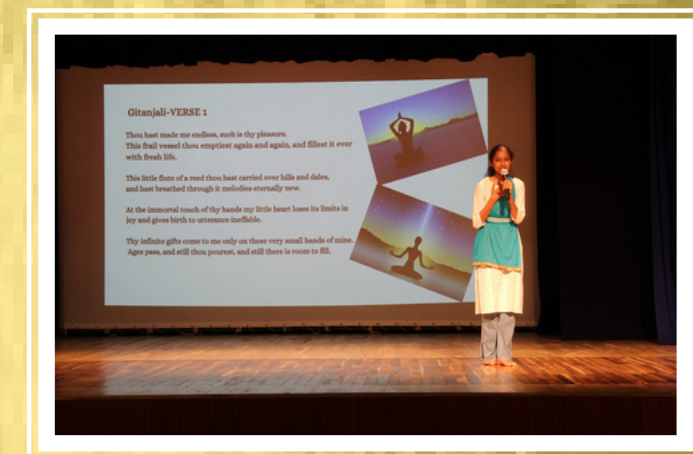
Grade 6C



A TRIBUTE TO THE GREAT SENTINEL- RABINDRANATH TAGORE

On the 16th of February, NPS Koramangala celebrated the life and works of Gurudev Rabindranath Tagore, the great sentinel, as he was called by Mahatma Gandhi. The celebration focussed on the great poet's warning to young Indians against the approach of enemies such as 'Bigotry, Lethargy, Intolerance, Ignorance, Inertia' and transforming their dreams into action.

Presented exclusively by the students of Grades 7-8, the programme encapsulated the essence of Tagore's precious legacy. Beautifully interwoven with his life's stories -- through the much-acclaimed Satyajit Ray documentary on Tagore -- the Sunlight-themed Bengali song, the dance recital on his rain poem, and mesmerizing recitation of the immortal verses from his Song Offerings- Gitanjali, transported the audience to the idyllic world of Shanti Niketan, soaking them into the sunshine, and showers of profoundly sensitive melodies.



A TRIBUTE TO THE GREAT SENTINEL- RABINDRANATH TAGORE

As the listeners glided on the boat of undiluted joy of Gurudev's story, recreated by the young storytellers, they lost themselves in the aura of the golden period when the great Bard of Bengal walked on Indian soil. And when the stentorian, yet lyrical and lilting, iconic - Ekla Cholo Re... reverberated through the auditorium, none could stop drifting along its inviting beats.

The presentation proved a great lesson in history as well, to the young audience. They were delighted to listen to, hitherto unheard, additional 4 stanzas, of our national anthem, penned by the 'Biswokobi'.

The students left inspired to live Kobiguru's dream and cherish his memory by following the path shown by the legend.



The Art Hub - Art Exhibition

The Art Hub, our annual art exhibition was held on the 25th of February 2023, it showcased a variety of artworks done by our students from Grades 1 to Grade 10. Among the works displayed were crafts made with ice cream sticks and wool. Creative hanging birds, snowflakes, wall hangings, and honeycomb balls showcased the talent of tiny tots. Other art objects included instillation with paper flowers, frogs, and lotuses, stiff life, white on black paintings mandala, Kalighat painting, macrame feather art, paintings by Jamini Roy, and book binding with old recycled papers. Apart from that, the exhibition was adorned with various large paintings created by students of Grades 6 and above.

Grade 8: Starry Haze



Grade 9: Twilight hues



Grade 8: Yan mandala



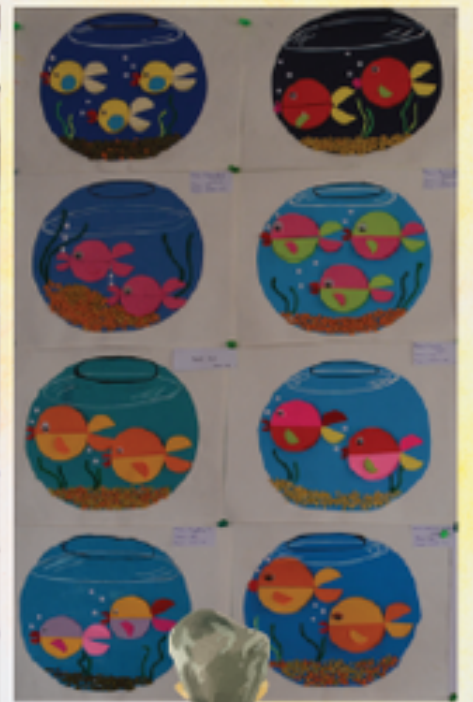
Grade 7: Still Life



Grade 6: Illustrations



Grade 2: Fish bowl craft



Grade 8: White pen drawing on black paper



Grade 8: Escapism



Grade 10: Jamini Roy Paintings



Grade 6: Soap Basket



Grade 5: Installation



Grade 1: Bird in the nest





NPS Kconnect

Career decisions play a pivotal role in shaping the future growth and development of students. Knowing the possibilities accessible to them in today's environment with many options aids children in making the right decisions.

A renowned space scientist, Ms. Vijayasree MK from the ISRO Satellite Centre was the parent speaker for the NPS Kconnect session on 9th February, 2023. In the highly interactive and engaging session, the scientist shared her valuable experiences about the numerous space missions she has participated in, like Chandrayaan 2, Mangalyaan, as well as the ongoing Gaganyaan mission. Ms. Vijayasree guided the students on the academic subjects/streams that prove useful in pursuing a space course. The students got their queries skillfully answered by the speaker. She urged space enthusiasts to tour space centres and launch pads to gain first-hand experience. She also exhorted the students to be aware of the happenings around them through the news. Students and teachers found the session extremely educational and enlightening.



Eye check-up by Narayana

A basic eye check-up was conducted by Narayan Nethralaya on 2nd Feb for Grade 6 students. It was a preliminary test to identify vision clarity and related issues. Students were made aware of the result through a prescription and were advised to do a detailed evaluation in an eye clinic as per the need.



Uniform Donation Drive

The students of NPS KRM enthusiastically resumed the uniform and shoes donation drive, after the Covid hiatus. 15 boxes of clean and ironed uniforms and clean shoes were collected in order to reach out to the needy. Attempts like this drive help children develop empathy and compassion for the other sections of society.



INTERHOUSE DANCE COMPETITION

On 1st February 2023, the Performing Arts Club hosted its much-awaited Interhouse Dance Event for Grades 6-8. The event was categorized as - The Classical Dance Competition and the Western Dance.

The classical dance competition, where each of the House representatives creatively incorporated a classical dance choreography to western music, showcased brilliant talent and techniques and attracted a keen audience. The Voyagers emerged winners, followed by the Pioneers in second place, the Challengers in third, and the Explorers in fourth place.

The energy was high and atmosphere excited when each House presented their finest performance in the Western Dance Competition. For this event, representatives of each House were given a decade to choose song/s from and then choreograph a dance piece to it. The audience went wild watching the medley of many iconic songs with modern dance moves.



INTERHOUSE DANCE COMPETITION

Each House set a high benchmark, making it difficult to shortlist a winner. Ultimately, the Voyagers came first, with Pioneers second, Challengers third, and Explorers fourth.

The event was a great success in providing a platform to showcase the outburst of talent and skills in the present Grades 6-8 and will be a cherished memory for everyone.

In the Western dance category, Kashvi B of 6C, Viya Vivek of 6C and Prachi Nagar of 8A bagged the first place.

Saanvi L of 7A, Sreyoshi of 7C, Reyansika of 7C and Sohani C of 8A came a close second.

Deshna M of 7B, Ritisha B of 6C, Rithika S of 8B and Swasti M of 6A came third.

In the Classical dance category, Aditi N of 6B, Sohani C of 8A and Ananya of 7B were placed first

Trisha C of 8A, Avni M of 8B and Chitrangada B of 8B along with Sreeja V R of 6A, Ahana A of 8A and Sara Chhabra of 7B came second.

Dhanvi A of 8B, Adya M of 8C and Ivanna C L of 6B came third.



Udaan — Career Counselling

A journey into the unknown



Aniket Sanghi

NPS KRM class of 2019

*B.S. Astronomy and Physics, The University of
Texas at Austin (Graduating Senior; Class of 2023)*

I want to begin with a bird's eye view of my academic journey so far.

Star Struck by the Universe

Growing up in the city of Bangalore, I found myself fascinated by astronomy and motivated by the question of what lies beyond our home world, Earth. It was incredibly fascinating to me how we as humans see the Earth as an expansive world, but in comparison to the universe, our home is just a speck of light in the vast blackness of space. Despite this, we can apply our ingenuity and creativity to design experiments and observations to learn about celestial objects such as stars, planets, and galaxies out of our physical reach as well as those types of objects that we cannot see, such as dark matter and dark energy. At its heart, by pursuing astronomy, I would have the privilege of advancing humanity's knowledge about the universe and our place in it. However, pursuing research as a career is generally considered a non-traditional path in our country because of

a relative lack of funding for the fundamental sciences. Drawn by the need to have an answer to the above question, I could not ignore my curiosity. The challenge I faced was the lack of a role model in my family or community who could represent what the career path of a researcher looked like. This could have discouraged me, but to achieve my dreams I would have to set out to forge my own path.

Carving My Own Path

Every few weeks in high school, I would visit the Indian Institute of Astrophysics (IIA), conveniently located in Koramangala 10-15 min away from NPS KRM. I attended seminars to learn about questions at the forefront of astrophysics research and talked to speakers about their journey in the field to understand the different paths available to me. My motivation convinced IIA's Director to allow me access to telescopes at the Vainu Bappu Observatory where I learned about observing techniques with the staff. Directly engaging with the field I was interested in showed me that astronomy was the path I wanted to follow. These were some of my most impactful experiences and defined my ambition of being a leader in this STEM field. Most importantly, throughout this process, I had the unyielding support and guidance of my parents, which served to further motivate me and strengthen my commitment. To accomplish my goals, I would have to build a strong research background in astronomy at the undergraduate level. I saw the possibility of doing so in the US, where universities offered a Bachelor of Science in Astronomy and undergraduate research was actively encouraged beginning the first year of studies. Now, 4 years later, I have led cutting-edge research projects, published my work in peer-reviewed journals, presented my research at international conferences, and won prestigious nationally competitive awards and scholarships. Despite having no role model when I began this journey, I persevered and found my successful path to the stars. This has propelled me to take the natural next step in my journey as an astronomer — completing a Ph.D. in astronomy.

My Objective for This Article

My goal in this article is to draw on my undergraduate experiences to paint a picture of what working as a professional astronomer looks like and through that, more broadly, convey to you why it can be rewarding to pursue a direction you are genuinely excited about but that is considered a less traditional career path. I will also mention that it is not my goal to sell you on becoming an astronomer. Let's get right to it!

Road to Become an Astronomer

The typical educational path to becoming an astronomer first involves undergraduate education in one or more physical sciences (3-4 years). This may seem surprising but an undergraduate degree in astronomy or physics is not a requirement. This is because of two reasons. The first is that astronomy is an incredibly interdisciplinary field. Since astronomers attempt to make interpretations from limited amount of data, teasing out the information necessitates creative thinking and application of ideas across STEM fields. This is apparent in the emergence of the fields of astrobiology and planetary habitability science, which attempt to bridge the boundaries between biology, chemistry, geology, computer science, physics, and astronomy to understand the conditions under which life may form and evolve in other planets and how we might detect those signatures. The second reason is that many of the skills needed to be an astronomer are acquired from research experiences in the field rather than classes. It is true that undergraduate classes can help build a solid foundation for research, but I often find myself using ideas and techniques that I learned just by reading papers on the topic of my research than something I learned in one of my lectures.

Following undergraduate education, one pursues a Ph.D. in astronomy/physics (5-6 years). The purpose of earning a Ph.D. is to learn how to become an independent scientist and to develop your reputation and identity in the field as an expert in a specific area of research. Given the specialized nature of the field, almost all full-time professional roles in astronomy, at minimum, require a Ph.D.

Following a Ph.D., there are several different paths one could take. Traditionally, the next step is to spend 2-3 years as a postdoctoral fellow (abbrev. postdoc) at a research institution or university conducting research. This is the stage when you get to take the skills learned during your Ph.D. and put them to use by independently formulating research questions that can be answered within a 1–2-year timescale (doing this is not easy! But is something you learn along the way) and then securing funding and required observational time to pursue the same. One may also decide to transition from academia to industry and secure a permanent job. The great part about having a Ph.D. in astronomy is that it involves rigorous training in creative problem-solving, data analysis, communication, and collaboration in large teams: skills highly prized in the industry.

Finally, after the postdoc stage, one generally finds a permanent position as either a research scientist, staff astronomer at an observatory, or a faculty position as a professor at a university. It is worth highlighting that astronomy graduates have a near-zero unemployment rate.

Are You Ready for The Challenges?

It is important to be transparent about the challenges of pursuing astronomy, or more generally, a research career in STEM (other academic fields broadly follow a similar track). As you might have observed above, the journey to a permanent position in research is long. At every career transition, you will likely move to a different location/institution so as to build your network, collaborations, and breadth of experiences. It will be harder to find stability early on. The field is highly competitive in terms of securing research opportunities and funding. This is because the number of available positions/funds is less than the number of people seeking/requesting them (termed as “oversubscription”). Additionally, the work can be demanding, sometimes requiring long hours as well as perseverance and belief when results are not immediately available and the pressure to publish papers is high.

Despite these challenges, I have found astronomy to be incredibly rewarding. It allows me to pursue my passion for the universe and contribute to our understanding of it. It's a field that requires a love for exploration, a desire to push boundaries, and a commitment to collaboration. The thrill of discovery and that “Eureka!” moment is not just something you hear about, but actually experience — in my case, it was discovering a new baby planet in images taken by the Hubble Space Telescope.

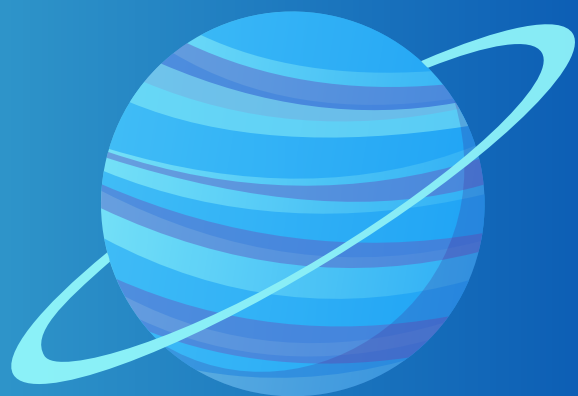
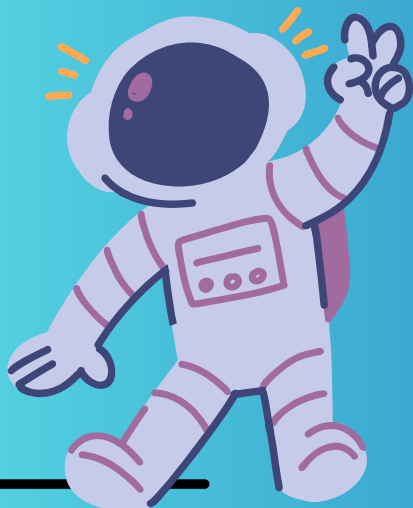


Beyond this, in my mind, the biggest benefit of a research career is creative freedom. You have the agency to work on projects you are interested in, shape the direction it takes, try out your ideas, and ultimately have ownership over them. I don't realize I have this privilege until I talk to some of my friends who took up jobs in the industry after graduation. They regularly mention how their roles are exactly defined and that they must work on projects or carry out tasks that have been pre-determined by their managers or companies, with little leeway in implementing their own ideas.

It is my personal opinion that in the long term, this creative freedom contributes to significant satisfaction and happiness in the research job that one may not immediately find in traditional industry jobs. Having said that, you might be wondering what an astronomer's day-to-day work looks like. What are their responsibilities?

A Slice of an Astronomer's Life

The day-to-day work of an astronomer can vary depending on (1) their specific type of study: observational, theoretical, instrumentation; (2) their place of employment: most commonly national and international observatories, organized research centers like NASA and Space Telescope Science Institute, or university departments; and (3) their official role: e.g., staff astronomer, research scientist, professor, etc. To give you a sense of the variance based on roles, in addition to conducting their own research, a staff astronomer at an observatory may spend time helping other researchers use the telescope for their research, a research scientist at Space Telescope Science Institute may spend time contributing to the development and maintenance of new and existing space telescopes, and a university professor may spend time teaching and serving on university committees to help with administrative aspects of running the undergraduate and graduate programs in the department. However, there are some common tasks and activities that many astronomers engage in on a regular basis.



A Peek into an Astronomer's Job

One of the primary tasks of an astronomer is to collect and analyze data to make progress towards answering a well-defined research question. This can involve observing astronomical targets using ground- and space-based telescopes, analyzing data from archival observations, developing simulations, or even designing and executing lab experiments.

One of my favorite example science questions in planet formation that encompasses all of the above is — “Are giant planets (Jupiter-size or bigger) more commonly found around higher mass stars or lower mass stars?” This seemingly simple question can provide incredible insights into how giant planets form. Specifically, learning about the distribution of giant planets as a function of the mass of the stars they orbit can tell us about the conditions under which planet formation processes operate.

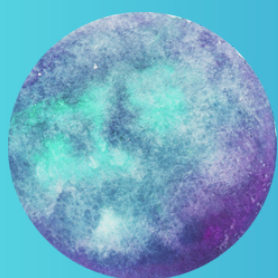
To answer this question, an observer would launch a large survey with ground- or space-based telescopes to search for giant planets around a sample of stars selected in an unbiased manner. Based on the number of giant planets detected in the survey and the known masses of stars around which they are found, the observer can report a distribution that answers the above question. Researchers did exactly this and found that giant planets are more commonly found around higher-mass stars.

A theorist's approach, on the other hand, maybe to create simulations of the disks in which these planets are born and by defining the physics of particle and gas interactions, study how giant planets form their cores and then accumulate gas from their surroundings. By performing this calculation, theorists found that giant planets must form a solid core of a certain size before gravity is strong enough to rapidly accumulate gas from the surrounding. The implication is that there must be enough solids in the disk to reach the critical core mass needed to form a giant planet. Since there are more solids around higher-mass stars than lower-mass stars, giant planets should be more common around higher-mass stars!

Finally, using the theorist's and observer's results as constraints, the lab experimentalists may take some solid particles in a vacuum environment and study the conditions under which the collisions between those particles could lead to the growth of a core.



All this is to say that research builds upon itself in fascinating ways to reveal the workings of nature. It is a slow but satisfying progress towards discovery. This description also highlights the types of tasks astronomers perform to reach their goals — read published papers to synthesize the existing body of knowledge and push towards something new, write observing proposals to make their science case, and win time on telescopes to carry out their research, make use of specialized software and computer programs (most commonly Python) to work with the data and design simulations, and collaborate with other researchers to make use of different perspectives and expertise in interpreting results.



Skills That Make You Sharper

In addition to data collection and research, astronomers also spend time communicating their findings to others. This can involve publishing research papers in scientific journals, presenting their work at conferences or meetings, or speaking to the public about their research through talks or interviews. Effective communication is crucial in astronomy, as it helps to share knowledge and inspire others to engage with the field. Astronomy is largely a taxpayer-funded endeavor and it is an astronomer's responsibility and duty to make sure that their research is accessible to the public. Finally, many astronomers also spend time teaching or mentoring others. This can involve teaching undergraduate or graduate courses in astronomy, mentoring students or postdoctoral researchers, or working with local schools and outreach programs to promote science education.

Know The Unknown — Yourself first

Overall, the day-to-day work of an astronomer is diverse, challenging, and rewarding. It involves a combination of data collection and analysis, research, communication, collaboration, and teaching. By engaging in these activities, astronomers can make new discoveries, contribute to our understanding of the universe, and inspire future generations of scientists. These are the core reasons I value this profession and continue to pursue it. No matter what path you take, making sure you know the reasons you are investing your valuable time and energy in the endeavor is crucial. This article inevitably will not answer all your questions and so, I am happy to serve as a resource if you are interested in learning more about what it is like to embark on a journey to investigate the unknown. Shoot me an email at asanghi01@utexas.edu if so!

Teacher Speak

What if your body could be recycled?

In a flash, it happens. Not really sure what or why but... Am I dead? Is this the afterlife? Where's my body?

We all know we're not going to live forever. Many cultures have strong beliefs about death, and rituals that they practice. But in some places, we have more choices about what happens to our bodies after we die.

Why is there so much demand for body parts? What options are there for recycling our healthy, useable parts? And how could it help Earth if we recycle our bodies?

For many years, people have been able to choose to donate their organs after they die. This choice may be listed on a driver's license. After death, people can donate many body parts, including their lungs, heart, pancreas, intestines, corneas, heart valves, and since 2014, hands and faces. " Sometimes, healthy people donate organs while they're alive, often to family members. Living donors can spare one kidney, one lung, a piece of liver, pancreas, intestine, or stem cells.

Unfortunately, older organs can cause a more powerful immune response, increasing the risk of rejection. But that could change. A new class of drugs called senolytics targets and eliminates old cells. Recent studies in mice show that they may help rejuvenate older organs. This could greatly increase the supply of organs available for transplants. And those organs are badly needed.

In September 2020, there were more than 109,000 people on the U.S. national transplant waiting list. But only about 14,000 organs are donated each year. So, what does the future of body recycling look like? There are some really cool ways that you can currently and legally recycle your body after death.

IA company in the state of Washington, called Recompose, has developed a recomposition method to compost bodies in only one month. It uses the beneficial microbes that naturally occur in the environment, and on our bodies. The body is put into a cradle with wood chips, alfalfa, and straw. The cradle is placed into a Recompose vessel and covered with more plant material. For the next 30 days, the body and plant material stay in the vessel. The microbes break everything down on the molecular level. This produces 0.76 m³ (one cubic yard) of healthy, nutrient-dense soil.

It uses 87% less energy than cremation, and prevents one ton of carbon dioxide from being released into Earth's atmosphere. There's no need for a casket, embalming fluids, or more graveyards. In one month, a body is turned into healthy, nutrient-rich soil. Maybe instead of cemeteries, we could have composting facilities with beautiful gardens planted with loved ones' soil. These plants would undergo photosynthesis, producing oxygen and consuming carbon dioxide, a greenhouse gas that's raising the Earth's temperature. So reducing the amount of carbon dioxide would help the environment.

And there are other ways we could recycle bodies. Do you know that a few ounces of cremated remains can be used to make human diamonds? This process uses heat, pressure, and carbon to create a diamond in six to nine months. Human ashes can also be used in an environmentally safe cement mixture designed to create artificial reef formations in the sea. This can create new habitats for fish, turtles, and other life forms in the oceans.

Or, if you'd prefer to become a work of art, some companies can even mix human ashes with tattoo ink and use it to create tattoos. How we dispose of the dead has a long history, and it may take people a long time to get use to the idea of their loved ones becoming soil, a precious stone, or a tattoo. And with the advances in technology, who knows what the future may hold. Maybe we could rule out dying altogether and become cyborgs.
Courtesy- What If series



Ms. KN Poornima
Department of Science

Expressions

An Ode to Uttarakhand

A land beyond reach

Ethereal prospects,

Bejewelled.

Snow-capped mountain peaks,

Cascading slopes of emerald,

A land forgotten

Amongst the chaos of the modern uproar

But a trove

Of something better.

An escape from an unappealing urban existence

Beauty of the highest class,

An eternal gateway,

Sapphire skies,

An endless chasm of eternal hope.

The ocean brings a flash of blue in the amber light,

Untouched beauty,

In all its splendour.

The snow rimmed peaks,

A reminder of the very soul

Of the land kept safe,

With serenity supreme.

The canopies ablaze

With saffron,

Warm hues of reds

As maple forms a mosaic,

While the fauna tread

-Ananya Sukruta Mysore- 9B



Meghna Puthal- 9C

Wish you all a very happy and fulfilling Summer Holidays with this summer haiku poem!



afternoon to rest
listening to lapping waves
solitude ashore



Compiled by - Ms. Geeta Kathait with inputs from students and teachers.

Designed by - Aryaroop Bose(11 B), Devarati Mukherjee(10 B), Ananya Sukruta Mysore(9 B)

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