

Application for the ESO Astronomy Camp 2013 – The Process of Developing a Passion

It seems to me that most people are able to pinpoint the exact occasion when their interest in astronomy started. Whether it was the time they first set their eye to the eyepiece of a telescope or the day an astronomer visited their school and held a lecture in front of their class, most astronomers I have spoken to, whether professional or amateur, seem to be able to say that *that was the moment* when a passion for astronomy awoke in their minds, hearts and souls; a passion that has been with them ever since.

I do not recall such a moment in my own brief lifetime. It would seem rather that this flame of passion has always been with me, sometimes flaring and sometimes retreating – hiding in the midst of the countless interests and passions with which I have been gifted – but there all the same.

When I was seven or eight years old there was a poster outside the door to my classroom in school with pictures and short descriptions of each student in the class. I distinctly recall my description saying “I am very interested in space”. There then, is the proof that my passion was there already, but I have little recollection of it besides this particular sentence on a poster beside the door to a classroom. My interest in the universe was not something I dwelled much on. It was as natural to me as the colour of my hair or my impaired sight, a part of me that, to my young mind, never needed considering.

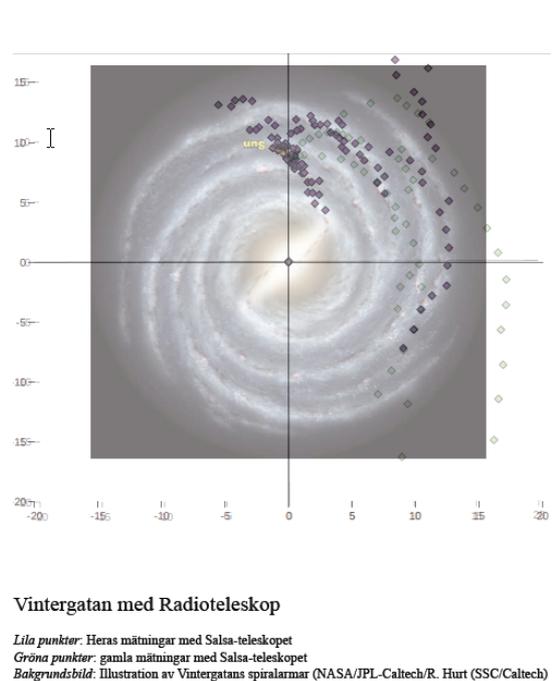
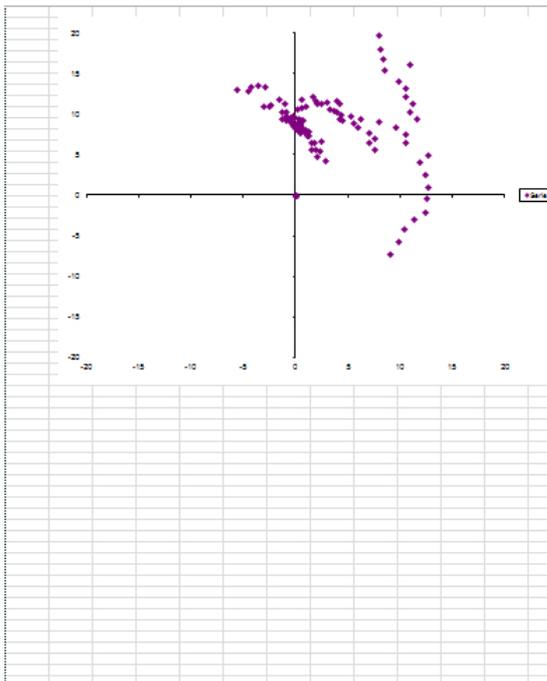
As I grew slightly older, my interest in astronomy was shoved aside as other passions, some fleeting and some more permanent, clamoured to make themselves known. They ranged between everything from other branches of natural science to politics, but it was towards the artistic field that I was most inclined. My new school had a choir profile, I started taking piano lessons and I discovered my natural talents for writing even as my love of reading fiction grew. I dreamed of becoming an actress, which seemed at the time a more glamorous profession than any scientific career I might have cared for. This dream lasted for a few years until, at twelve or thirteen years of age, I realized that a life consisting of continually acquiring the right contacts, being seen with the right people and attending the right parties was not a life I could possibly appreciate. Meanwhile, my scientific interests had flared once more and the idea of an academic career had regained its appeal. Astronomy seemed like the natural field of choice, and a short essay on the subject written as a physics project reminded me of the natural, all-consuming joy astronomy gave me whenever I encountered it. For the past few years, that joy had been lying forgotten somewhere in the back of my mind. Now it resurfaced, stronger than ever. So, astronomy it was, then.

I spent a year as a reporter for the youth section of the Gothenburg Newspaper, and during that time I wrote an article upon the subject “life in the universe”, interviewing astrophysicist Maria Sundin. Well do I recall that interview. It was supposed to take half an hour but it took me an hour and a half, and I am sure I behaved in a very unprofessional manner throughout the interview, leaning forward in my chair, wide-eyed and, as likely as not, open-mouthed while hanging on to my object’s every word with a childlike eagerness.

Not quite a year after that I did a week’s work experience for school, spending two days at the Gothenburg University with the astronomer I had previously interviewed and the remaining three days at Onsala Space Observatory with astronomer Daniel Dahlin. Oh, how I loved those days. They stand out in my memory as the very best days of my life. I spent hours

before the little SALSA telescope at Onsala (a radio telescope about one metre in diameter which is usually used by astronomy students in various projects), observing the spiral arms of the Milky Way. I have included the results of my observations below.

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9:	0:	0:	76,155	21:	35,772	2899,36	45:	7,4890322	1,5426735	10,478137	SANT	FALSKT	1,54:	1,0899444	7,41055596
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Vintergatan med Radioteleskop

Lila punkter: Heras mätningar med Salsa-teleskopet

Gröna punkter: gamla mätningar med Salsa-teleskopet

BakgrundsBild: Illustration av Vintergatans spiralarmar (NASA/JPL-Caltech/R. Hurt (SSC/Caltech))

In a letter to my school, Daniel Dahlin of Onsala Space Observatory stated that “*Hera is able to understand and keep up with advanced astronomical theories and ways of thinking in a better way than most 18 year olds who do their exam projects in the field of astronomy.*” I was not quite 15 at the time, and I admit without qualms that the comment still makes me glow with pride. Whenever I feel that I am too young and inexperienced for the astronomy-related duties I have undertaken in the past year, whenever I fear that I will never make a good astronomer (surely all of us have moments like that from time to time) those words are what keeps me going.

The Swedish Astronomical Youth League was officially formed on October 13 2012, and the first thing I did on that Saturday morning was to visit their webpage and become a member. A few months later I decided to stand for election to the board. The youngest board member was three years older than I, but I was determined not to let that stop me, and indeed I was elected and have since been a board member of what is rapidly becoming the third biggest astronomy association in Sweden (not to mention the youngest and the most gender equal one).

About a year ago I wrote a science fiction short story and entered it in the “Humans in Space Youth Art Competition 2012”, arranged by NASA, DLR and USRA. The story, titled “A Planet of Ice” ended up on second place in its category and was besides awarded the *Space Explorers Technical Excellence Award*. As a result it is to be published in audio format by Audible Books this November. Needless to say, I’m looking forward to it enormously.

Last spring, during my final term in the Swedish secondary school, we received another astronomy assignment for physics class. We were to have a presentation in front of the class on an astronomy-related subject of our choice. I spent far too much time working on that assignment, neglecting all my other schoolwork. It was worth it. I delivered a mini-lecture with the title “Exoplanets and How to Discover Them”. Before that lesson, none of my classmates knew what an exoplanet was, nor were they particularly interested in finding out. At the end of ten minutes each and every one of them, if questioned, could have explained not only the meaning of the term but also the principles of both the transit and the radial velocity methods, as well as the concept of the habitable zone. How can I describe the joy of seeing every face in that classroom, even the ones who had never before displayed any inclination whatsoever towards physics or astronomy, light up with interest and understanding? It is a wonderful feeling to succeed in engaging the interest of others in a passion of your own; a triumph and elation which can only be understood by those who have experienced it.

Sweden has a single high school with an astronomy profile. It is located above the Arctic Circle in the small town of Kiruna, close to the Esrange Rocket Range. From the moment I heard about it I knew that was the school I wanted to attend, and yet for a long time it seemed as if this would not be possible. My parents simply did not have the money to fund the extra costs that my moving would imply. I applied for a grant but did not expect to get it: out of 700 applicants, most of them studying at university level, only ten per cent were chosen to receive the grant. Incredibly however, one of them turned out to be me, and so eight weeks ago I left my family in Gothenburg and moved 1600 kilometres, farther away than Paris, to little Kiruna in the middle of nowhere, all for the sake of this mad passion of mine. I have not come to regret that decision. The school has its own little observatory and offers specialized courses in

astrobiology, astronomy and astronaut science. I am already on the board of the school's own astronomy association, with fair chances of being elected chairman when the current one steps down. Meanwhile, I am also responsible for and in the midst of arranging the Swedish Astronomical Youth League's next camp, which is scheduled to take place in January here in Kiruna. On behalf of the League I recently wrote a short article for *Poulär Astronomi*, the biggest astronomy-related popular scientific magazine in Sweden.

After finishing school I would like to apply for the Physics and Astrophysics program at Trinity College, Dublin, but that is an ambition that may change over the next couple of years. My time at Onsala has left me particularly interested in radio astronomy, and an ESO career at ALMA is my dream at the moment, though once again, that may change. However, there can be no doubt that astronomy lies in my future even as it does in my present. I write this application in the hope that my passion will be recognized and encouraged to develop. I am unable to afford the camp fee and the travel costs; my going to Italy in December depends entirely on this competition. It is a tiny chance, and yet if I have learned anything in the past few years it is that everything is always worth a try.

Hera Protopapas Wettergren