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Inextricable ties between chemical complexity and dynamics of embedded protostellar regions

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BIOGRAPHICAL SKETCH

I was born on September 14th, 1989 in Moscow, U.S.S.R. My parents, Liudmila Mikhaylovna Drozdovskaya and Nikolay Valeriyevich Drozdovskiy, were both engineers by profession with PhD degrees from the Moscow Power Engineering Institute. I will never know whether my interest for sciences is a result of genetics, the scientific at-home environment or a combination of the two. Nevertheless, I was intrigued by astronomy from a very young age. When I was a little girl, my dad would take me to look at the moon at night with the simplest binoculars and point out the various dark craters. A future astronomer was created.

Throughout my childhood, my parents and I moved countries several times. After completing advanced pre-school and 1st grade at UVK Phoenix, N1666, in Moscow; we moved to Sagamihara, Japan when I was 7 years old. We spent one year in Japan, during which I attended the 3rd grade at a regular Japanese school, Kyowa Elementary School in Sagamihara, and additionally once a week (as an extern) the 2nd grade at the School at the Russian Embassy in Tokyo. I have the fondest memories of our life in Japan and I am very grateful to all the kind people that my family met there. This is also where I was exposed to an environment that was even richer in astronomy, as my dad worked at the Institute of Space and Astronautical Science (ISAS) and we lived on campus of the institute, which means that I was able to enjoy the rockets displayed on the grounds daily. Thereafter, my family returned to Moscow for another year where I completed 3rd grade at the same school in my neighborhood that I attended previously.

At the age of 10, my parents and I moved to Rosemont, Pennsylvania in the U.S. First, I attended 5th grade at the Ithan Elementary School in Wayne and subsequently the 6th grade at the Radnor Middle School in Radnor. My dad was employed at Villanova University for the duration of our stay in the U.S., and my mom had also worked at the same place for a period of the time. Thanks to the one and a half years that we spent in the area of Philadelphia, I am now able to speak English on equal footing with Russian. After this, my family spent another year in Russia where I completed 7th grade at the same school as before. On the 2nd of August, 2002, we moved to the Netherlands. My dad has since been working at the European Space Research and Technology Centre (ESTEC); yet again, exposing me to astronomy.

For the first few years, my family lived in Oegstgeest and then in 2007 we moved to Leiden. I attended the international school Het Rijnlands Lyceum Oegstgeest for 5 years in total (8th through 12th grade), where I first obtained the International Baccalaureate (IB) Middle Years Programme (MYP) diploma, and subsequently graduated with the IB Diploma Programme (DP) diploma and a 7th IB subject certificate. During my high school years, I tailored my track towards sciences by taking higher level Physics, Chemistry, Mathematics and English. Furthermore, I participated in numerous Model United Nations (MUN) conferences in the Netherlands in the 2004-2007 period. At my final conference in January 2007, the largest in the world - The Hague International Model United Nations (THIMUN), I was chosen to hold the position of the Deputy Secretary General. MUN has taught me what it is like to attend large international meetings, how to approach new people and most importantly, how to speak in public.

The first time I got involved with Leiden University was through the Pre-University College, a selection-based 2-year program during the final years of high-school, from which I graduated with honors. In pursuit of a scientific career, I embarked on a double bachelor of astronomy and mathematics at Leiden University. Having always been interested in many things, I diversified the scientific courses by additionally following Painting (Schilderen; part-time fall 2007-spring 2008) and Painting 1 and 2 (Schilderen 1 and 2; part-time fall 2008 and spring 2009) at the Royal Academy of Art (Koninklijke Academie van Beeldende Kunsten; The Hague, The Netherlands; supervisor Michel Snoep) and Introduction to Psychology (fall 2007 at Leiden University). For my dual Bachelor thesis, I carried out a combined astronomy and mathematics research project entitled "Voronoi Diagrams and Their Application in the DTFE Reconstructions of the Cosmic Web" under the supervision of Prof. Dr. Vincent Icke and Dr. Dion Gijswijt, which involved computing Voronoi diagrams with Brown's algorithm and assessing the quality of the Delaunay Tessellation Field Estimator (DTFE) reconstructions of the Cosmic Web. I was awarded two BSc diplomas - one in astronomy and one in mathematics. As a result of an accident, my mom passed away in 2010. I will always continue to miss her, but also cherish and appreciate all the guidance and support that she provided me with.

Having always been enticed by astronomy, I decided on my specialization and continued with a masters program in astronomy. At Leiden, an astronomy master student on the research track needs to carry out two research projects. My minor research project (with a duration of 8 months) was entitled "CO Emission in C-Type Shocks", which I carried out under the supervision of Dr. Lars Kristensen, Dr. Ruud Visser and Prof. Dr. Ewine van Dishoeck. This was my first introduction to star formation and astrochemistry. After the project was complete, I knew I wanted more. My major research project (with a duration of 12 months) carried the title of "*Spitzer* and *Herschel* Study of RCW 49" and was supervised by Prof. Dr. Xander Tielens and Dr. Olivier Berné. During this time, I was taught several valuable lessons about the drive it takes to be independent researcher. In 2012, I was awarded the MSc diploma in astronomy. From September 2011 to September 2012, I have additionally worked as a Student Assistant at Leiden University, which included various administrative jobs and tasks at public outreach events.

For the past four years, as of September 2012, I have been working in the group of Prof. Dr. Ewine van Dishoeck as a PhD student under the Huygens Fellowship on the topic of synthesizing complex organic molecules in star-forming regions. The research is relevant to the hunt for answers to the questions dealing with the emergence of life on Earth and is presented in this thesis. During this time I have also held three teaching assistant assignments for MSc-level courses: Stellar Structure and Evolution in spring 2013 with Prof. Dr. Joop Schaye and in spring 2014 with Prof. Dr. Xander Tielens; and Star Formation in spring 2014 with Prof. Dr. Ewine van Dishoeck. I have also become acquainted with public outreach in relation to astronomy by giving a public lecture (two talks of 45 min) at the Christiaan Huygens Astronomy Club in Papendrecht, the Netherlands. I have given 9 contributed talks, 9 seminars and presented 7 posters at national and international meetings, other institutes and universities, and my home university. I have had the opportunity to obtain hands-on observational experience at the JCMT and have also been submitting proposals for ALMA during the last two cycles (cycles 3 and 4), both as the principal investigator (PI) and co-investigator (co-I).

As of November 1st, 2016, I will start working at the Center for Space and Habitability (CSH) at the University of Bern, Switzerland, as a combined CSH and International

Astronomical Union (IAU) The Gruber Foundation (TGF) Fellow. My PhD research was focused on complex organic chemistry at the earliest phases of star and planet formation. My research as a postdoc fellow will extend the study towards the later phases once larger bodies, such as comets and planetary embryos, have formed.

