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Honors Capstone Portfolios

Honors Program at Minnesota State University,  
Mankato

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## Tatiana Soboleva Honors Portfolio

Tatiana Soboleva

*Minnesota State University - Mankato*

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# Tatiana Soboleva

"assiduus usus uni rei deditus et ingenium et artem saepe vincit" (M. Tullius Cicero)

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## Welcome-Bien Venu-Bine Ati Venit-Добро пожаловать to my eFolio!

Thank you for taking your time and surfing my page!

I am currently pursuing Bachelors of Science degree in Biochemistry at Minnesota State University, Mankato. Upon completion of my undergraduate education, I intend to apply to Ph.D. programs in inorganic chemistry. My goal is to synthesize, characterize, and analyze various organometallic complexes' behavior as potential pharmacophores.

**Mission Statement:** This electronic portfolio is the first page in the book of excellence that I intend to write page-by-page. Through passion and hard work I aim to learn and transmit my knowledge to the scientific society that I will become part of.

**Motto I Follow:** "Genius is one percent inspiration, ninety-nine percent perspiration." (Thomas Edison)



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# Tatiana Soboleva

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## The Honors Program at Minnesota State University, Mankato



The Honors Program at Minnesota State University, Mankato, creates propitious environment for outstanding students that come from all academic areas. Its mission is oriented towards a balanced development of leadership skills, research proficiency, and global citizenship in the student-members. Providing exceptional learning opportunities, master classes, and developing strong mentoring connections, the Honors Program fosters the development of future leaders, researchers, and global citizens that impact our community.

When I first joined the program, I was doubtful that I would be able to fulfill all the requirements and remain interested in the classes that are not part of my major. All my doubts vanished shortly after my first Honors class started. I realized how important is to develop a synergetic combination of the three competencies enumerated earlier, which was possible solely by joining the Honors Program.

This unit of my portfolio will present insights in the experiences gathered from various coursework, attended conferences, internships, teaching assistance, and executive-board positions in on-campus associations. The array of involvements will reflect the development of leadership, research, and global citizenship features in the context of the Honors Program.

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## Leadership

Chemistry 475 Instrumental Analysis

Biochemical Techniques class

Teaching Assistant experience

Application of Game Theory

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## Leadership

"When you cannot make them see the light, make them feel the heat"  
(Ronald Reagan)

When I ask myself who a leader is, many ideas appear in my mind but they cannot coalesce in a single image of someone that would be a summation. This is not surprising as there is no unique psychographic profile of a leader. Nonetheless, there exists a collection of features that we identify in people, categorizing them as leaders. According to my personal dictionary, the leadership phenomenon is associated with high levels of *intelligence*, applied *strategy*, *passion*, social and situational *conscientiousness*, perpetual work *dynamics*, and a unique *vision*. Many believe that leaders are born to be leaders; others claim that leaders become leaders in time, with experience. I believe that leaders are born with seeds of leadership but they develop their stems and blossom subsequently to experience based on successes, and most importantly, on debacles that in fact, induced the tuning of their abilities or identification of gaps to be filled.

My path towards leadership reminds me of a tool-box and its content. Some skills were present in the box from the very beginning, which I call a "standard set"; for example, the ability to have and express personal opinion. Other skills, which constitute the majority of the tools in my tool-box, were acquired and stored along the way of my academic and extracurricular progress. The realization of the complexity of leadership stroke me almost instantaneously. There were so many subtleties, styles, and personality involved in this realm! I did not have a chance to jointly think about these aspects until I was directly involved in classmate groups, research teams, internships in industry as well as academic settings, in instructional situations as a teaching assistant, on-campus organizational boards, all of which work with people, on common goals, and toward meaningful outcomes. In these settings, I encountered leaders, learning from them, and I also was a leader guiding the participants of any of the enumerated environments.

In order to consult and guide either my course mates or coworkers, I needed personal leadership values that I gathered and continue on developing from my class experiences. This is what I call a "micro-scale leadership development", the tool that allows one to master specialized tasks that can potentially be transmitted to others. My [Instrumental Analysis class](#) and, [Biochemical Techniques class](#) along with their final projects held in teams, offered me the opportunity to master skills that I utilized during my [assisting teaching position](#) working with students in general chemistry and biochemistry laboratory-division courses. My approach to leading in these contexts might appear to be a unidirectional energy system, where I am the only person in control of everything. In fact, my approach is more of a flexible matrix in which I learned to adapt and adjust new strategies of group management in order to achieve efficient teaching. Every group of students has variation in personalities, level and set of abilities, motivation, all of which taken into account led to a unique strategic plan from my part that followed a path-goal theory in combination with Hersy-Blachard situational theory application that focus on the importance of every member rather than averaging them to exhibit group behavior. In essence, that means that the situation and the establishment of communication in the group defined sustainability in the educational



system I was trying to maintain; the two theories were reinforced by the developed analysis on the moose sustainability project in the [Application of Game Theory class](#). In effect, I understood that leader is someone that besides being rational and open-minded to the new group of people and their skills, is able to direct successfully this collective energy towards the accomplishment of a particular goal(s).

Besides visual leadership models that I was observing and analyzing, I frequently attempted to institute my personal style. Existing in a system that has already been established such as for example the University, is not sufficient to delineate individual leadership signature. What about establishing a new system? That question illuminated a new path towards my leadership tool-box replenishment. Soon after the idea to establish a *system* was born, I became the Vice-President of a neophyte on-campus organization [International Leadership Platform](#), at Minnesota State University, Mankato. It was always easy to judge an association that was created *antequam factum*. It became obvious that planning, collaborating, setting up goals, being open to suggestions were crucial elements to grow the organization and make it popular among students interested in personal leadership development. Post this experience, I recognized that I, as a leader, became eyes and ears directed towards the board and the student community; compromising the existing leadership style with the interests and the needs of the group that were attending our meetings. Hence, passion and compromise guided me through this involvement.

When I ask myself what qualities a leader might possess, many ideas appear in my mind... Even after the experiences I encountered in my path until now do not allow me to fully consider myself a circular-vision leader. My tool-box will always be open for new tools used in various circumstances; and I hope to have a sufficiently bright candle in my hands to inspire and illuminate the path for others that would like to follow me as leader.

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## Research: the opportunity to discover the density of your quantum states...

**Reliable, ethical synthesis, effectively approaching results and contributing harmoniously** to the existing pool of knowledge - summarized in a word, *research*. I would need an extensive amount of time to define what *research* is, and what it means to me, elaborating on its subtleties. I believe that research goes beyond laboratory experiments, and reading literature, it is a life-style in itself. As a biochemist, I thrive towards applying theory into practice, contributing to the scientific pool of knowledge. The connecting element in this context is the *research*. Why do we research? How do we research? And where do we have a chance to share our findings? These are the questions that occupy the mind of novice investigators.

Since my freshman year until today, I have discovered that my passion for research and the ardent interest to participate in numerous projects, has occurred due to its versatility. In particular, I would like to emphasize four of study manifestations I have encountered: **undergraduate research projects, development of new laboratory procedures for an upper-division class, internship in Research and Development (R&D) division of a company,** and one of the culminating experiences, the **summer internship at a research institution.** Even though, these items on the list contribute to an umbrella set of skills, they are all unique pieces in my tool-box collection.

Where an essay starts with the first word, by analogy, research starts from reading primary literature and learning simple laboratory techniques. These two elements require gradually developed critical thinking and lots of hands-on laboratory exposure. By having practiced those skills, I have become proficient in the identification and interpretation of relevant peer-reviewed articles, reviews, and patent documents. Subsequently, this insight has equipped me with thorough adaptation and development of procedures for the research projects I have been conducting. Acquiring the experience to work with primary literature and becoming skilled at basic laboratory techniques have enabled me to transition to the execution of more intricate techniques, as in my **latest research project.**

I consider an active involvement in the undergraduate individual study projects a wonderful possibility to not only understand the domain of academia that attracts you the most; it is also a reservoir of knowledge that is needed for initiation in the research field. When the foundation of skills is present, the next step is to polish these skills. The fine-tuning of my research abilities occurred for the first time when taking part in the development of a new laboratory procedure for an upper-division biochemistry class. This experience helped me identify my strengths and weaknesses in conducting absolutely novice experiments, learning from situational trouble-shooting.

The inquisitive mind of a researcher is not only eager to collect and analyze data, discovering new features in a system; it is also motivated to share the findings with the scientific community. The art of flaming the interest in an audience, combined with the ability to communicate intricate procedures with ease and clarity, is what distinguishes a skillful researcher from the bulk. In order to learn methods of a rigorous research process, and also trying my own initiation in this domain, I have taken part in **regional and national conferences,** as well as attended **regional scientific networking.** Perpetually amazed by the fine-art of scientific story-telling, I visualize researchers as historians that write the history here and now by their discoveries and works that are tirelessly added to the pages in the book of science.

What could be more important for a biochemist than to develop expertise in research habits? From understanding the basics in literature and lab techniques use, to the presentations of research findings at conferences, we try to communicate about research by researching. It is the field that will never be conquered by our minds and by the number of embraced skills. It is expanding with us and due to our contribution.

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French youth of eighteenth-century

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## I am the cosmopolites - the citizen of the World

It is true that I represent the community I come from. However, I would like that one day, in response to the question about the place of origin, I would proudly reply: "I am a cosmopolitan," which translated from Greek means - *the citizen of the World*. The longer I live, the more evident is, the importance of Mondialization to me. In my understanding, global citizenship is all about *sharing*. The concept of *sharing* can be deciphered in numerous manners, starting from sustainability and equilibrium, and ending with the acceptance of fundamental interconnectedness of all the things.



The 'global lenses' for my eyes cannot be found and bought from a regular store, with the only task in mind - to find a suitable frame. They have to be created from melting the right amount of sand and silica at the appropriate temperature, polished, and only then, framed. This process takes time, experience, and more importantly, the desire to look into the holistic understanding of *being global*.

I started my journey in building personal 'global glasses' while studying foreign languages at school and at home. The synchronic acquisition of four languages, gave me insights into a better understanding of other cultures through their dialects. I should confess that, by learning a new language, you clone yourself in your mind. The new clone, however, is never identical to the personality you already have; it has the flavor of the native-speakers. From the spectrum of spoken languages, I would emphasize the French language in combination with the French culture. The study of *la langue Française*, went beyond receiving and attested **DALE-C1** level of competence (diplôme approfondi de langue française); I decided to dip myself in the analysis of French history and culture, literature and art. Consequently, I enthusiastically took part in the **journalistic discourse** on the issues of immigration in Europe in the frame of the competition **Coign D'Or**. Moreover, participating in the individual study course, led by Dr. C. Corley, I penetrated the cushions of time and observed the **French youth of the eighteenth-century**. All of these involvements allowed a better understanding of the people, their thought-process, and more importantly, the acquisition of an alternative perception of the World; visualizing it through the eyes of the French people.

Besides an indirect interaction with other cultures by learning languages and reading history books, it is crucial to experience a face-to-face networking. This type of exposure is almost always the most efficient and the most accurate in the process of understanding a new culture, to clarify stereotypes, or simply be able to ask the meaning of a custom, behavior, etc. I myself come from a minority group in my country of origin, and being currently in my fourth year of **studying abroad** in the United States, I can undoubtedly state that I learned about diversity mostly here on-campus, as well as, outside of its boundaries. The class of **World Dance in Cultural Perspective**, offered by the Honors Program, facilitated my initiation into cultural diversity; showing the persistent, unique signature of a culture in all the aspects of life the natives have practiced.

Being a non-native speaker, I struggled periodically from the lack of subtleties of the language that I am practicing, aside from the cultural discrepancies that I encountered with regard to the situational behavior. One of the fascinating opportunities in the process of becoming a *global citizen* was to participate in the International Student Association (**ISA**) as a board member. Interaction with hundreds of students from all over the world not only fostered my knowledge about places but also helped understand the mindset of various societies. As a culturally heterogeneous canvas, we experienced productive brainstorming, creative ideas, and out-of-the-box problem solving strategies - all of which were due to the presence of a multicultural union. This experience translated into skills in an efficient teaching of students in my laboratory classes. Knowing some particularities about a culture, I could easily adapt my examples, techniques of explanation so that the student would easily absorb the presented information.

The establishment of a *global village* with a well-designed infrastructure, is one of the most important



and challenging projects the humanity is currently working on. While aspiring to incontestably consider myself a *global citizen*, I constantly seek for opportunities to meet new people, and form connections, learn about cultures, 'clone' myself through the study of foreign languages, and join culturally heterogeneous teams (which is very common for laboratory collaboration). We might be coming from various places on the planet; nonetheless, we all *share* the desire for a sustainable society, a *global village* of our dream.

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## Career Portfolio

Welcome to my career portfolio! This section contains a spectrum of informative details concerning my long term goals, capabilities, and experiences.

## Career Intention

As a short-term goal, I intend to pursue Ph.D. in inorganic chemistry. The ultimate long-term goal is focused on the partitioning between research and teaching in academic settings.

## Skills and Abilities

Lab skills:

- Proficient in the use and data analysis of: pH-meter, UV-Vis and fluorescence spectrophotometers, AAS, Graphite furnace, GCMS, FTIR, Liquid Chromatography, conventional EPR.
- Extensive experience in protein purification techniques, and enzymatic assays.
- Competent in using the following biochemical and molecular biology software: PyMOL, AutodockVina 4.0, ChemSketch, ChemDraw.
- Knowledge of molecular cloning, breeding, selection of fruit fly strand mutations.
- Strong information literacy and synthesis skills.
- Ability to troubleshoot experimental and/or mechanical problems within the laboratory settings.

Functional and Adaptive Skills:

- Innovative problem-solving approach along with multi-tasking abilities.
- Strong leadership and goal driven ability with positive mental attitude.
- Ability to work in diverse work environment.
- Excellent oral and written communication skills.

*Thank you for getting interest in my professional portfolio. Please feel free to contact me with any additional questions. I can be reached at [tatiana.soboleva@mnsu.edu](mailto:tatiana.soboleva@mnsu.edu).*

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