

Nathan Levinzon

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EDUCATION

| Degree | Institute | GPA | Year |
|------------------------------------|--|----------------|--------------------|
| B.Sc. Biochemistry (Transferred) | The University of Utah | 3.95 (Current) | 2021 - (Exp. 2024) |
| B.Sc. Biochemistry | The University of California, Davis | 3.72 | 2019 - 2021 |
| NREMT Emergency Medical Technician | The University of Utah | 4.0 | 2018 - 2019 |

CORE COMPETENCIES

- **Computational Chemistry:** AMBER, GROMACs, CHARMM, AutoDock, UCSF DOCK, PyRx, Gaussian and Schrödinger Maestro Suite
- **Programming:** Python, R, PERL, BASH, HTML, CSS, JavaScript, Git, L^AT_EX
- **Languages:** English (Native Proficiency), Russian (Professional Working Proficiency), Spanish (Professional Working Proficiency)
- **Writing:** Academic/Technical Writing, Content Development/Search Engine Optimization, Copywriting/Editing

RESEARCH EXPERIENCE

- **Research Assistant (Cheatham Group)** *Dec. 2020 - Present*
Computational Pharmaceutical Chemistry, The University of Utah Salt Lake City, UT, USA
 - Collaborated with natural-product and medicinal chemists for ligand lead optimization that couples high-throughput virtual screening using docking (Python/AutoDock4) and molecular dynamics simulations (AMBER) to derive free energies for phosphohistidine phosphatase inhibitors.
 - Developed biomolecular simulation protocols to investigate ion channel gating mechanisms and perform virtual electrophysiology.
- **Visiting Summer Researcher (Shoichet Group)** *May 2023 - Aug. 2023*
Computational Pharmaceutical Chemistry, UC San Francisco San Francisco, CA, USA
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- **DAAD-RISE Scholar (Gmeiner Group)** *May 2022 - Aug. 2022*
Computational Pharmaceutical Chemistry, Friedrich–Alexander University Erlangen, BY, DE
 - Supported a team of organic synthetic chemists by using computational chemistry to virtually screen over 1 million compounds using docking (AutoDock4) and molecular dynamics (GROMACs and AMBER) methodologies for optimized potency and specificity to tachykinin, serotonin, adrenergic, neurotensin, and chemokine G Protein-Coupled Receptors.
 - Developed and deployed MetaPrep: A graphical user interface (Python) that automates G Protein-Coupled Receptor metadynamics simulation scripting (PERL), production (GROMACs), and analysis (AMBER).
- **Research Assistant (Fairclough Group)** *Oct. 2019 - June 2021*
Biophysical Chemistry, UC Davis Davis, CA, USA
 - Developed and validated novel biochemical assays to quantify levels of traumatic brain injury in rodent models. [21]
 - Presented lectures on in silico biomolecular simulation methods to the UC Davis Biophysics Graduate Group. [14]

SERVICE EXPERIENCE

- **Hardware Donor and Developer, Folding@Home, Distributed Computing Project** *2021 - Present*
 - Top 1% of all donors in completed work units.
 - Currently developing containerized images (Kubernetes/Docker) for the automatic deployment, scaling, and management of Folding@Home instances on clustered computing infrastructures.
- **Lab Technician and Medical Translator, Nadezhda Clinic, Sacramento, CA, USA** *2019 - 2021*
 - Collected, processed, and delivered patient laboratory samples to the UC Davis Department of Pathology for 500 hours.
 - Counseled Russian-speaking patients and newly arrived immigrants on social, religious, and medical services available to them and their families in the Sacramento area.
- **Patient Technician and Medical Translator, Maliheh Clinic, Salt Lake City, UT, USA** *2018 - 2019*
 - Conducted patient triage, collection of patient vitals, development of public health brochures, and medical interpretation between physicians and patients for over 1500 hours in English, Spanish, and Russian.
 - Trained new patient care staff in clinic procedures and best practices for triage, vitals collection, and collecting patient history.

LEADERSHIP EXPERIENCE

- **Co-President**, Blockchain Club, Salt Lake City, UT, USA *2023 - Present*
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- **Editor and Content Manager**, The Utah Daily Chronicle, Salt Lake City, UT, USA *2021 - 2022*
 - Instructed new authors on how to perform research, background, and interviews in preparation for their publications.
 - Edited articles and customized the SEO of over thirty news articles for five authors on the news desk.
- **Research Committee Chair**, Nadezhda Clinic, Sacramento, CA, USA *2020 - 2021*
 - Lead a longitudinal study with UC Davis undergraduate and medical students under the supervision of the UC Davis Institutional Review Board.
 - Developed key performance indicators for presentations and publications under the supervision of UC Davis Medical School.
- **High School Student Mentor**, The University of Utah, Salt Lake City, UT, USA *Summers 2020 and 2021*
 - Developed and taught introductory seminars in computational chemistry, quantum mechanics, and medicinal chemistry to selected high school students in the Salt Lake City school district who showed interest in related fields.
 - Mentored three high school students in computational chemistry with developing a research question, writing a research proposal, performing and analyzing biomolecular simulation experiments, and creating a summary poster presentation.

ACHIEVEMENTS

- **Visiting Student Researcher**, UC San Francisco *2023*
 - Awarded for Medicinal Chemistry in the Department of Pharmaceutical Chemistry at UC San Francisco. The UCSF Visiting Researcher Programs provide undergraduate students with the opportunity to conduct research in the basic sciences with an emphasis on health-related research. As a graduate-only university that is home to one of the most vibrant biomedical communities in the nation, UCSF offers a unique environment for students to work collegially alongside graduate students, postdoctoral scholars, and faculty.
- **Undergraduate Travel Award**, University of Utah Office of Undergraduate Research *2022*
 - Received funding to attend the International Society of Quantum Biology and Pharmacology (ISQBP) President's Meeting 2022 in Innsbruck, Austria.
- **DAAD-RISE Scholarship**, German Academic Exchange Service and Friedrich–Alexander University (FAU) *2022*
 - Awarded for Medicinal Chemistry at the Department of Chemistry and Pharmacy at Friedrich–Alexander University Erlangen–Nürnberg.
RISE Germany offers undergraduate students from North American, British and Irish universities the opportunity to complete a summer research internship at top German universities and research institutions. RISE Germany is funded by the German Federal Foreign Office, and about 300 scholarships are available each year. DAAD provides students with a monthly stipend for three months to help cover living expenses.
- **EPICs Award**, University of Utah Department of Communications *2022*
 - Awarded For: Best General News Writing [10]
University of Utah Student Media focuses on creating content that engages, provokes, inspires, and connects the campus community. Those four focuses – Engage, Provoke, Inspire, Connect – provide the inspiration for the annual EPICs awards to celebrate the best of the content produced by Student Media.
- **REU Catalyst Research Development and Molecular Dynamics - Declined**, The University of Pennsylvania *2022*
 - Declined an award to study under the CatResDev REU program in The University of Pennsylvania Department of Chemistry in the areas of catalysis and molecular dynamics with cross-over into the methods associated with high-throughput experimentation.
- **News Media Scholarship**, University of Utah Department of Communications *2022*
 - Awarded For Popular Science and Public Health Writing
The News Media Scholarship is awarded to passionate and dedicated students on the basis of overall performance, commitment, enrollment, and fiscal budget. Students awarded scholarships will have funding for one semester to pursue news writing in the focus of their choice.
- **Featured Author**, The Aggie Transcript *2021*
 - Awarded For Best Scientific Communication of the Year [16]
- **Undergraduate Travel Award**, UC Davis Office of Undergraduate Research *2020*
 - Received funding to attend the online German Conference on Chemoinformatics and SAMPL Satellite Workshop 2020.

CERTIFICATIONS

- **Emergency Medical Technician (EMT)**
State of California-Emergency Medical Services Authority
– Credential ID E158101
 - **Emergency Medical Technician (EMT)**
Utah Bureau of EMS and Preparedness
– Credential ID 2019032410
 - **Utah Seal of Biliteracy**
Utah State Board of Education
– Awarded for: Spanish, Russian
 - **RYS 200 Yoga Teacher Trainer**
Yoga Alliance
– Credential ID 235294
 - **Taekwondo 2nd Dan Black Belt (Instructor)**
Kukkiwon
– Credential ID 09250743
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UNDERGRADUATE PUBLICATIONS

- [2] Kauffman K. Levinzon, ND. “The Don Effect: What, if any, long-term effects did President Donald Trump’s tweets have on individual companies’ stock prices?” In: *The Hinkley Journal of Politics* 23 (2022), pp. 29–37. URL: <https://static1.squarespace.com/static/53714acce4bobb13e3c90e93/t/631bb39f43b76c112c8270e8/1662759843287/Hinckley+Journal+2022.pdf>.
- [3] Levinzon, ND. “‘Science ‘Influencers’ Find a New Way to Share their Passion and Knowledge”. In: *The Utah Daily Chronicle* (2022). URL: <https://dailyutahchronicle.com/2022/04/03/science-influencers-neil-degrasse-tyson-astronomy-bizarre-eccles-theater/>.
- [4] Levinzon, ND. “Martell Teasley Begins as Senior Vice President for Academic Affairs”. In: *The Utah Daily Chronicle* (2022). URL: <https://dailyutahchronicle.com/2022/02/25/martell-teasley-senior-vice-president-academic-affairs/>.
- [5] Levinzon, ND. “Optimizing Campus Parking Amid Increasing Student Demand and New Construction”. In: *The Utah Daily Chronicle* (2022). URL: <https://dailyutahchronicle.com/2022/01/26/university-of-utah-campus-parking-construction/>.
- [6] Levinzon, ND. “Professional Schools See Competitive 2021-22 Admissions Cycle”. In: *The Utah Daily Chronicle* (2022). URL: <https://dailyutahchronicle.com/2022/04/02/professional-schools-law-admissions/>.
- [8] Levinzon, ND. “2007 Nobel Prize Recipient Mario Capecchi on 2021 Award in Same Field”. In: *The Utah Daily Chronicle* (2021). URL: <https://dailyutahchronicle.com/2021/11/17/2007-nobel-prize-recipient-mario-capecchi-on-2021-award-in-same-field/>.
- [9] Levinzon, ND. “COVID-19 Alters Pre-Med Experience, Increases Stress”. In: *The Utah Daily Chronicle* (2021). URL: <https://dailyutahchronicle.com/2021/10/22/covid-19-pre-med-stress/>.
- [10] Levinzon, ND. “U Students Experiencing Homelessness Find Temporary Shelter”. In: *The Utah Daily Chronicle* (2021). URL: <https://dailyutahchronicle.com/2021/10/31/u-students-homelessness-temporary-shelter/>.
- [11] Levinzon, ND. “University Neighborhood Partners Engaging Salt Lake City’s West Side”. In: *The Utah Daily Chronicle* (2021). URL: <https://dailyutahchronicle.com/2021/12/14/university-neighborhood-partners-salt-lake-city-west-side/>.
- [12] Levinzon, ND. “University System of Georgia Threatens Tenure, Leaves Academia Uncertain”. In: *The Utah Daily Chronicle* (2021). URL: <https://dailyutahchronicle.com/2021/12/16/university-system-of-georgia-tenure-academia/>.
- [16] Levinzon, ND. “Cryogenic Electron Microscopy: A Leap Forward for UC Davis”. In: *The Aggie Transcript* (2020). URL: <https://aggietranscript.ucdavis.edu/cryogenic-electron-microscopy-a-leap-forward-for-uc-davis/>.

- [17] Levinzon, ND. "Finding My Empathy". In: *The Narrative Pre-Health Journal* 3 (2020), pp. 41–43. URL: <https://nphj.files.wordpress.com/2020/08/nphj-volume-3.pdf>.
- [18] Levinzon, ND. "Folding@Home: Aid in COVID Research from Home". In: *The Aggie Transcript* (2020). URL: <https://aggietranscript.ucdavis.edu/foldhome-aid-in-covid-19-research-from-home/>.

ABSTRACT SUBMISSIONS AND PRESENTATIONS

- [1] Rueb, NJ. Gaston, R. Ahmed, KT. Hansen, D. Fulo, H. Levinzon, ND. Batsomboon, P. Cox, J. Osburn-Staker, S. Cheatham, TE. Barrios, AM. Dudley, GB. "Developing the Natural Product Illudalic Acid and Analogs as Inhibitors of Protein Tyrosine Phosphatase Activity". Poster Presented at: 22nd Tetrahedron Symposium Catalysis for a Sustainable World, Lisbon, Portugal AND Chemical Biology of Natural Products Symposium, Salt Lake City, UT. 2022, 2023.
- [7] Euzbeik, O. Karashchuk, I. Levinzon, ND. Shi, L. "Student-Run Clinic Aiding Under-Served Russian-Speaking Population in Establishing Health Care Independence through a Global Pandemic". Poster Presented at: American Medical Student Association Poster Session (Virtual). 2021.
- [13] Levinzon, ND. "Dorzolamide: Computational Methods in Computer-Aided Small Molecule Drug Design". Poster Presented at: University of Utah Department of Medicinal Chemistry Research in Progress, Salt Lake City, UT, USA. 2021.
- [14] Levinzon, ND. Fairclough, RH. "Lipid-Cation Interactions within the NACHR-PA Complex". Poster Presented at: UC Davis Biophysics Colloquium (Virtual). 2021.
- [15] Levinzon, ND. Wang, H. Cheatham, TE. "Molecular Dynamics of Covalently Modified Protein Tyrosine Phosphatase". Poster Presented at: University of Utah College of Pharmacy Summer Poster Session, Salt Lake City, UT, USA. 2021.
- [19] Levinzon, ND. Galindo-Murillo, R. Fairclough, RH. "Anomalous Divalent Cation Binding in the Nicotinic Acetylcholine Receptor". Poster Presented at: LatinXChem (Virtual). 2020.
- [20] Levinzon, ND. Klimkiv, N. Kirillova, A. Shi, L. "The Impact of a New Student-Run Clinic on the Russian-Speaking Population of Sacramento". Poster Presented at: UC Davis Undergraduate Decision Day, Davis, CA. And UC Davis Medical School Poster Day, Sacramento, CA. And UC Davis Undergraduate Research Conference, Davis, CA. 2020.
- [21] Fairclough, RH. Tran, V. Levinzon, ND. "Increased Extracellular Glutathione Concentration Resulting from Endothelial Cell Trauma as a Predictor of TBI Outcomes". Poster Presented at: UC Davis Center for Neuroscience, Davis, CA, USA. 2019.