

Nicholas McDonald



Personal Information

Name: Nicholas Michael McDonald
Year of Birth: March, 1998
Place of Birth: Pennsylvania, USA
Nationality: USA & Germany

Contact

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Higher Education

Sept. 2015 - Bachelor's Degree in Chemical and Bioengineering,
Aug. 2018: Department of Chemical and Applied Biosciences at ETH Zurich
Sept. 2018 - Master's Degree in Process Engineering
Nov. 2020: Department of Mechanical and Process Engineering at ETH Zurich

Research Projects

Sept. 2019 - Design, construction and testing of an intelligent dilution system for monitoring
Dec. 2019: continuous cooling crystallization processes using imaging. Performed under the supervision of Prof. Marco Mazzotti and Dr. Ashwin Kumar Rajagopalan. Process and control design and implementation, testing and statistical analysis.
Mar. 2020 - Master thesis project "Modeling of Electrochemically Mediated Gas-Gating Membranes
Sept. 2020: and their Application in Novel Carbon-Capture Processes" at Massachusetts Institute of Technology in the group of Prof. T. Alan Hatton and supervised by Dr. Yayuan Liu. Detailed multi-scale modeling study of highly coupled electrochemical systems and design and scaling of novel gas-gas separation-interfaces and separation units.

Work Experience and Internships

Sept. 2018 - R&D Trainee for Mass-Transfer components at Sulzer Chemtech in Winterthur
Dec. 2018: Laboratory analytics, data analysis, support in pilot plant construction, independent performing of customer experiments and customer support in technical issues.
Jan. 2019 - IT Manager (part time) for the ETH Zurich "Student Project House" initiative. Website
Sept. 2019: administration, internal software development, technical support for board members.

Other Activities

Oct. 2016 - Board member for the Chemistry Student Association at ETH Zurich.
March 2017: Responsibilities in the area of website administration, programming of internal tools (PHP) and general team IT support.
March 2017 - President of the Chemistry Student Association at ETH Zurich. Responsibilities in the
March 2018: areas of team administration, contact and negotiations with ETH Zurich and event planning (among others) for an association with over 800 members.
Oct. 2017 - Chairman of the Student Association Council, an organ of the Student Union at ETH
Oct. 2018: Zurich. Session preparation and administration, other administrative responsibilities.
April 2018: Student representative in the selection committee for a chemical systems engineering professorship at the Department of Chemical and Applied Biosciences, ETH Zurich.

Language, Computer and other Skills

Language: English (native), German (native)

Computer: Proficient in MS Office, GIMP, LaTeX, C++, C, OpenGL

Web: Proficient in CSS, HTML, JS, PHP, SQL

Lab Experience: Synthetic organic and inorganic chemistry, physical chemistry

Other: Good team capabilities, time management, organisation and independence.

Hobbies and Personal Interests

Blog: Programming of personal projects in the area of game design, procedural systems, computer Graphics and geometry processing. Website: nickmcd.me

Music: Many years of playing guitar, great enjoyment of live music from all areas

Design: Chemistry Student Association magazine cover design (all issues for over two years, 12 issues).