ANDREW J BASALLA

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EDUCATION

M.S. Pharmaceutical Sciences August 2021 - May 2023
University of Colorado Anschutz, GPA: 3.91/4.0
Thesis: A Novel Approach For the Correction of Absorbance Measurements for Light Scattering

B.S. Chemical and Biological Engineering August 2015 - May 2019
University of Colorado Boulder, Major GPA: 3.7/4.0
Biomedical Engineering Minor

TECHNICAL EXPERIENCE

KBI Biopharma, Louisville, CO August 2019 - Present
Senior Research Associate, Analytical and Formulation Sciences

- Leader of the formulation development team at Louisville; which includes designing and executing iterative statistical based formulation development projects for adeno-associated viruses (AAVs), high concentration monoclonal antibodies (mAbs), oligonucleotides, bacteriophages, and antibody drug conjugates (ADCs) that are in the drug development process and seeking FDA approval.
- Independently designing and executing analytical characterization studies of protein biopharmaceuticals using on biophysical techniques, chromatographic, and mass spectrometry techniques to characterize pharmaceuticals for FDA approval.
- Light scattering and chromatography subject-matter expert and mass spectrometry lead; leading projects in these techniques, training new staff, and existing as a resource for troubleshooting.
- Giving oral presentations demonstrating project results and providing guidance to external client representatives based upon data and knowledge of FDA guidelines.
- Development python applications to optimize processes and ease in data analysis. Collaborating with scientists company-wide to determine critical bottle necks in analytical workflows and design tools to resolve issues.
- Developed a data processing tool which deciphers and deconvolutes large proteomic mass spectrometry datasets and exports as human readable file to greatly save scientists time.
- Developed a data processing tool for HPLC chromatographic files, enabling multi-dimensional data deciphering, deconvolution, light scattering correction and file reassembly.
- Developed data processing tools which can correct for light scattering interference in absorbance measurements, deconvolute absorbance spectra for nucleic acid quantitation, and deconvolute CD spectra for nucleic acid base composition.
- Design and implementation of a tool which can determine biophysical properties of a protein, DNA, or oligonucleotide and perform theoretical proteolytic cleavages and ion fragmentation patterns for mass spec analysis.

TECHNICAL SKILLS

- Characterization techniques including peptide maps, N-glycan analysis, intact mass, sequence coverage, size exclusion chromatography, ion exchange chromatography, reverse phase chromatography, hydrophilic phase chromatography, forced degradation studies, and protein purification techniques using UFDF filters and column chromatography.
- Chromatographic techniques including HPLC, UPLC, and mass spectrometry using Agilent Q-TOF, TOF, and Thermo Orbitrap and LTQ.
- Biophysical techniques including AUC, CD, FTIR, DSC, XRD, SEM, UV-vis, light scattering (DLS and MALS),DSF, fluorescence, osmolality, MST, ITC, NMR, SPR, and TGA
- Experience writing IND/BLA application documents, research publications, technical reports, and standard operating procedures.
- Software: Python, Dash, Pandas, Scipy, Numpy, Plotly, Git, Docker, Juypter, VSCode, VBA, Microsoft Suite, Empower, Chemstation, ASTRA, Graphpad prism, Sedfit, JMP, Micro-Capillary PEAQ DSC, Biopharma Finder, Agilent Mass Hunter

RESEARCH AND PUBLICATIONS

- **Basalla, A.J.**, Kendrick, B.S. 2023, Correcting Ultraviolet-Visible Spectra for Baseline Artifacts. Journal of Pharmaceutical Sciences.
- McGrath, M. J., Hardy, S. H., **Basalla, A. J.**, Dwulet, G. E., Manubay, B. C., Malecha, J. J., Shi, Z., Funke, H. H., Gin, D. L., & Noble, R. D. 2019 Polymerization of Counteranions in the Cationic Nanopores of a Cross-linked Lyotropic Liquid Crystal Network to Modify Ion Transport Properties. ACS Materials Letters, 1(4), 452–458.
- Dwulet, G. E., Dischinger, S. M., McGrath, M. J., **Basalla, A. J.**, Malecha, J. J., Noble, R. D., & Gin, D. L. 2019. Breathable, Polydopamine-Coated Nanoporous Membranes That Selectively Reject Nerve and Blister Agent Simulant Vapors. Industrial & Engineering Chemistry Research, 58(47), 21890–21893.