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Professional experience

2024 – Present	GRA Eminent Scholar, Center for Molecular Medicine Complex Carbohydrate Research Center Professor, Dept. of Biochemistry and Molecular Biology <i>University of Georgia</i>
2024 – Present	Adjunct Professor, Dept. of Biotechnology and Biomedicine <i>Technical University of Denmark</i>
2024 – Present	Adjunct Professor, Depts. of Pediatrics <i>University of California, San Diego</i>
2023 –2024	Professor, Depts. of Pediatrics and Bioengineering <i>University of California, San Diego</i>
2021 – Present	Co-Founder, Augment Biologics, Inc.
2021 – Present	Co-Founder, NeuImmune, Inc.
2021 – 2023	Co-Founder, Alaticell, Inc.
2018 – 2023	Associate professor, Depts. of Pediatrics and Bioengineering <i>University of California, San Diego</i>
2017 – Present	Co-Director, Center for CHO Systems Biology <i>University of California, San Diego</i>
2014 – 2018	Assistant professor, Depts. of Pediatrics and Bioengineering <i>University of California, San Diego</i>
2013	Assistant professor, Department of Biology <i>Brigham Young University – Provo, UT</i>
2012-2013	Postdoctoral fellow, Department of Genetics and Wyss Institute for Biologically Inspired Engineering (advisor: Prof. George Church) <i>Harvard Medical School – Boston, MA</i>
2008-2009	Visiting scientist, Department of Computer Science and Mathematics (advisor: Prof. Eran Segal) <i>Weizmann Institute of Science – Rehovot, Israel</i>
2006-2012	Ph.D. Candidate, Department of Bioengineering (advisor: Prof. Bernhard Palsson) <i>University of California, San Diego</i>
2005	Research intern, Lee Hood Lab, Stem Cell Group <i>Institute for Systems Biology – Seattle, WA</i>
2004	Research intern, NCI-FDA Clinical Proteomics Program <i>National Institutes of Health – Bethesda, MD</i>
2003-2006	Research assistant, Center for Proteomics and Mass Spectrometry <i>Brigham Young University – Provo, UT</i>

Education

2012	Ph.D., Bioengineering, University of California, San Diego
2008	M.S., Bioengineering, University of California, San Diego
2006	B.S., Biochemistry, Brigham Young University

Publications

* equal contribution, ‡ corresponding/last author, ** N.E. Lewis as first, corresponding, and/or senior author

- **188. Hefzi, H., Noh, S.M., Martínez Monge, I., Decker, M., Arnsdorf, J., Kol, S., Pristovsek, N., Hansen, A.H., Sukhova, Z., Brondum, K.K., Javidi, M., Jensen, K., Kallehauge, T., Ley, D., Ménard, P., Bjorn, S.P., Petersen, H., Nielsen, L.K., Lee, G.M., Kildegaard, H.F., Voldborg, B.G., **Lewis, N.E.** Complete elimination of Warburg metabolism in Chinese hamster ovary cells. *Nature Metabolism*, in press.
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185. Rawson R., Duong L., Tkachenko E., Chiang A.W.T., Okamoto K., Dohil R., **Lewis N.E.**, Kurten R., Abud E.M., Aceves S.S. Mechanotransduction Induced Interplay between Phospholamban and Yes Activated Protein Induces Smooth Muscle Cell Hypertrophy. *Mucosal Immunology*, in press (2024).
- ** 184. **Lewis N.E.**, Aceves S.S. Eosinophilic Esophagitis: Shifting Immune Complexity Beyond the Eosinophil. *J Allergy Clin Immunol*, in press (2024).
183. Park S., Choi D., Song J., Lakshmanan M., Richelle A., Yoon S., Kontoravdi C., **Lewis N.E.**, Lee D. Driving towards digital biomanufacturing by CHO genome-scale models. *Trends in Biotechnology*, in press (2024)
- ** 182. Rocamora F., Schoffelen S., Arnsdorf J., Toth E.A., Abdul Y., Cleveland T.E., Bjorn S.P., Ying M., Wu M., McElvaney N.G., Voldborg B.G.R., Fuerst T.R., **Lewis N.E.**‡ Glycoengineered recombinant alpha1-antitrypsin results in comparable in vitro and in vivo activities to human plasma-derived protein, *bioRxiv* (2024). Under review at *Biotechnology and Bioengineering*.
- ** 181. Li H., Peralta A.G., Schoffelen S., Hansen A.H., Arnsdorf J., Schinn S.M., Skidmore J., Choudhury B., Paulchakrabarti M., Voldborg B.G., Chiang A.W.T., Lewis N.E. LeGenD: determining glycoprofiles using an explainable AI-leveraged model with lectin profiling. *bioRxiv*, Submitted (2024).
- ** 180. Pong, A., Mah C.K., Yeo G.W., **Lewis N.E.** Computational cell-cell interaction technologies drive mechanistic and biomarker discovery in the tumor microenvironment. *Current Opinion in Biotechnology*, 85:103048 (2024).
- ** 179. Armingol E., Baghdassarian H., **Lewis N.E.** The diversification of methods for studying cell-cell interactions and communication. *Nature Reviews Genetics*, in press (2024).
178. Toledo A.G., Bratanis E., Velásquez E., Chowdhury S., Sorrentino J.T., Karlsson C., **Lewis N.E.**, Esko J.D., Collin M., Shannon O., Malmström J. Pathogen-driven degradation of endogenous and therapeutic antibodies in vivo during streptococcal infections. *Nature Communications*, 14(1):6693 (2023).
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- ** 175. Liang C., Murray S., Li Y., Lee R., Low A., Sasaki S., Chiang A.W.T., Lin W.J., Mathews J., Barnes W. **Lewis N.E.** LipidSIM: inferring mechanistic lipid biosynthesis perturbations from lipidomics with a flexible, low-parameter, systematic Markov Modeling framework. *Metabolic Engineering*, in press (2024).
- ** 174. Yom A., Chiang A.W.T., **Lewis N.E.**‡. A Boltzmann model predicts glycan structures from lectin binding. *Analytical Chemistry* (2024).

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- ** 172. Shamie I., Bliss-Moreau M., Lee J.C., Mathieu R., **Lewis N.E.‡**, Zhu Y.P.‡, Croker B.‡ Comparative single-cell lineage bias in human and murine hematopoietic stem cells. *bioRxiv* (2024).
- ** 171. Kellman B.P., Mariethoz J., Zhang Y., Shaul S., Alteri M., Sandoval D., Jeffris M., Armingol E., Bao B., Lisacek F., Bojar D.‡, **Lewis N.E.‡** Decoding glycosylation potential from protein structure across human glycoproteins with a multi-view recurrent neural network. *bioRxiv* (2024). Under review at **Nature**.
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- ** 169. Masson H.O., Samoudi M., Robinson C.M., Kuo C.C., Weiss L., Shams Ud Doha K., Campos A., Tejwani V., Dahodwala H., Menard P., Voldborg B.G., Sharfstein S.T., **Lewis N.E.‡** Inferring secretory and metabolic pathway activity from omic data with secCellFie. **Metabolic Engineering** 81, 273-285 (2024).
- ** 168. Baghdassarian H.M., **Lewis N.E.** Resource Allocation in Mammalian Systems. **Biotechnology Advances** 71, 108305 (2024).
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- ** 162. Masson H.O., la Cour Karottki K.J., Tat J., Hefzi H.‡, **Lewis N.E.‡** From Observational to Actionable: Rethinking Omics in Biologics Production. **Trends in Biotechnology** 41(9), 1127-1138 (2023). preprint doi: 10.1016/j.tibtech.2023.03.009.
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- ** 159. Azadiana A.*, Khodarahmid M., Arab S.S., Sajedic R.H., Yazdanifarg M., Zahiri J.*‡, **Lewis N.E.‡** Reconstructing the Cell-Cell Interaction Network Among Mouse Immune Cells. **Biotechnology & Bioengineering** 120(9), 2756-2764 (2023).
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- ** 157. Armingol E., Larsen R.O., Cequeira M., Baghdassarian H., **Lewis N.E.** Unraveling the coordinated dynamics of protein- and metabolite-mediated cell-cell communication. *bioRxiv* (2022)
- ** 156. Masson H.O., Kuo C.C., Malm M., Lundqvist M., Sievertsson Å, Berling A., Tegel H., Hober S., Uhlén M., Grassi L., Hatton D., Rockberg J.‡, **Lewis N.E.‡** Deciphering the determinants of recombinant protein yield across the human secretome, *bioRxiv* (2022). Revising after positive review at **PNAS**.
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- ** 150. Zhang Y., Krishnan S., Bao B., Chiang A.W.T., Sorrentino J.T., Schinn S.M., Kellman B.P.‡, **Lewis N.E.**‡ Preparing glycomics data for robust statistical analysis with GlyCompareCT, *STAR Protocols*, 4 (2), 102162 (2023). doi: 10.1016/j.xpro.2023.102162.
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- ** 147. Armingol E.*, Baghdassarian H.*, Martino C., Perez-Lopez A., Aamodt C., Knight R., **Lewis N.E.** Context-aware deconvolution of cell-cell communication with Tensor-cell2cell. *Nature Communications*, 13, 3665 (2022). doi: 10.1038/s41467-022-31369-2. Nature Portfolio Bioengineering (see <https://lewislab.ucsd.edu/cell2cell/> for more info)
146. Thacker B.E., Thorne K.J., Cartwright C., Park J., Glass K., Chea A., Kellman B.P., **Lewis N.E.**, Wang Z., Di Nardo A., Sharfstein S.T., Jeske W., Walenga J., Hogwood J., Gray E., Mulloy B., Esko J.D., Glass C.A. Multiplex genome editing of mammalian cells for producing recombinant heparin. *Metabolic Engineering*, 70, 155-165 (2022). DOI: 10.1016/j.ymben.2022.01.002.
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142. Manresa M.C., Wu A., Nhu Q., Chiang A.W.T., Okamoto K., Miki H., Kurten R., Pham E., Duong L.D., **Lewis N.E.**, Akuthota P., Croft M. Aceves S.S. LIGHT controls distinct homeostatic and inflammatory gene expression profiles in esophageal fibroblasts via differential HVEM and LTβR-mediated mechanisms. *Mucosal Immunology*, 15, 327–337 (2022).
- **141. Siddharth T., **Lewis N.E.** Predicting pathways for old and new metabolites through clustering. *Journal of Theoretical Biology*, 578, 111684 (2024).
- **140. Malm*, M., Kuo, C.C., * Barzadd, M.M., Mebrahtu, A., Wistbacka, N., Razavi, R., Volk, A.L., Lundqvist, M., Kotol, D., Edfors, F., Gräslund, T., Chotteau, V., Field, R., Varley, P., Roth, R.G., **Lewis, N.E.**‡, Hatton, D., Rockberg, J.‡ Harnessing secretory pathway differences between HEK293 and CHO to rescue production of difficult to express proteins. *Metabolic Engineering*, 72, 171-187 (2022). DOI: 10.1016/j.ymben.2022.03.009, PMID: PMC9189052.
- **139. Bao B.*, Zahiri J.*, Gazestani V.H.*, Lopez L., Xiao Y., Kim R., Wen T., Chiang A.W.T., Nalabolu S., Pierce K., Robasky K., Wang T., Hoekzema T., Eichler E.E., **Lewis N.E.**‡, Courchesne, E.‡. A Predictive Ensemble Classifier for the Molecular Diagnosis of ASD at Ages 1 to 4 Years. *Molecular Psychiatry*, (2022). doi: 10.1038/s41380-022-01826-x.
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- **131. Kellman B.P.*, Richelle A.*, Yang J.Y.E., Chapla D.G., Chiang A.W.T., Najera J., Liang C, Fürst A, Bao B., Koga N., Mohammad M.A., Bruntse A.B., Haymond M.W., Moremen K.W., Bode L., **Lewis N.E.** Elucidating Human Milk Oligosaccharide biosynthetic genes through network-based multi-omics integration. *Nature Communications*, 13, 2455 (2022). DOI: 10.1038/s41467-022-29867-4.
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Patents

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Extramural funding

R01DK114457 **Aceves (PI), Croft (PI), Lewis (Co- I)** **04/01/18-08/31/28**

TWEAK/TNFSF 12 and LIGHT/TNFSF14 interactions in allergic esophagitis remodeling.

This study will use bulk and single-cell transcriptomics to study the function of key signaling pathways in fibroblast function and with tissue rigidity and inflammation in eosinophilic esophagitis.

CBET-2335957 **Lewis (PI)** **06/01/24-05/30/27**

Multiplex Next Generation Sequencing of Glycans and Nucleic Acids for Accelerating the Development of Cell Factories and Bioprocesses for Glycoprotein Biomanufacturing

To develop a next-generation sequencing method for glycans on candidate biologics.

1 R35 GM119850 **Lewis (PI)** **07/01/16-06/30/26**

Unraveling the mammalian secretory pathway through systems biology and algorithm development

This grant aims to reconstruct the mammalian secretory pathway and develop algorithms to use the pathway to simulate its functions and discover novel components.

Industry partner **Lewis (PI)** **06/01/23-05/30/26**

Establishment Of A Genome-Scale Metabolic Network Modeling Of The Synthorin Platform Strain To Improve Productivity And Non- Natural Amino Acid Incorporation

This grant aims to build metabolic models for optimizing protein production in a synthetic microbe.

R01AI179098 **Liu (PI), Lewis (Co- Investigator)** **04/01/24-03/31/26**

Mechanisms of vaccine interference by S. aureus-induced imprints.

This study will use next generation sequencing technologies to study the issues with prior efforts to develop a S. aureus vaccine.

Industry partner **Lewis (PI)** **05/01/22-04/30/25**

Elucidating metabolic and transcriptional drivers of AAV production through systems biology

This grant aims to develop a model of metabolism for cells producing AAV for gene therapy. It further studies the transcriptional processes limiting production.

Industry partner **Lewis (PI)** **07/01/22-12/30/24**

Towards a whole cell network reconstruction for CHO cells

This grant aims to build a public knowledgebase of CHO cell metabolism and protein synthesis.

Industry partner **Lewis (PI)** **01/01/23-12/30/24**

Mapping out the protein interaction network of a production cell line

This grant aims to use proteomic and systems biology methods to understand how a company's cell line produces their drug of interest.

R41 HL164260

Lewis (PI)

10/01/22-09/30/24

Glycoengineering of CHO cells to express recombinant alpha-1 antitrypsin.

This STTR grant with NeuImmune, Inc. funds research to study protein engineering and glycoengineering of recombinant A1AT in an effort to improve its efficacy, safety and half-life, yielding a safe and reliable drug source.

COMPLETED:

NNF16CC0021858

Palsson (PI), Lewis (Co-PI)

01/01/13-12/31/16

Network Reconstruction and *in Silico* Biology for CHO – Chinese Hamster Ovary

The goal of this grant is to build genome-scale models of Chinese hamster ovary metabolism and glycosylation, and use these models to interpret of genomic, transcriptomic, proteomic, metabolomic, and glycomic data.

R21 HD080682

Bode (PI), Lewis (Co-Investigator)

04/01/15 – 03/31/17

Exploring Oligosaccharide Synthesis in Human Mammary Gland Epithelial Cells

This grant will use RNA sequencing and glycan profiling data from primary cell culture models, with systems biology analysis to elucidate the enzymes responsible for human milk oligosaccharide synthesis.

R21 CA199292

Esko (PI), Lewis (Co-Investigator)

07/01/15 – 06/31/17

Genome-wide Analysis of Heparan Sulfate using CRISPR/Cas9

This grant will use genome-wide CRISPR/Cas9 knockout screens to identify genes that modulate the transcription/translation of the enzymes or orchestrate their action to achieve the final composition of heparan sulfate observed in different cell types.

Genentech

Lewis (PI)

10/01/18-02/28/19

Elucidation of RVLP identities in CHO cells

In this grant we studied RVLPs in CHO cells.

R21 HD088953

Bode (PI), Lewis (Co- Investigator)

07/01/17-06/30/19

Exploring Associations between Human Milk Oligosaccharides and Growth, Body Composition and Obesity Risk in Infancy and Early Childhood.

This grant uses glycan profiling data from human subjects, with complex statistical models to elucidate the association of human milk oligosaccharides with infant growth and childhood obesity.

Pfizer

Lewis (PI)

01/01/18-12/31/19

Enhancing CHO 2.0 Performance through Systems and Synthetic biology

The goal of this grant is to enhance Pfizer platform cells using computational models.

Keck Foundation

O'Rourke (PI), Lewis (Co-PI), Church (Co-PI)

07/01/16-06/31/20

Predictive modeling of animal metabolism: The *C. elegans* MetaboFlux Project

This grant will develop technologies for sequencing, genetically perturbing, and modeling at a single cell level to study the metabolism in a whole-organism.

NNF10CC1016517

Lewis (PI)

01/01/17-12/31/20

CHO *in Silico* Engineering of Glycosylation and Protein Quality

The goal of this grant is to build computational models of glycosylation and protein secretion, and to use these to control heterologous protein expression.

NIMH (R01)

Lewis (PI), Courchesne (Co-Investigator)

Developmental Functional Genomics in ASD Toddlers

This grant aims to develop gene expression biomarker networks for autism diagnosis and prognosis.

R01 AI090141-05

Winzeler (PI), Lewis (Co-Investigator)

08/01/16-07/31/21

Discovery of chemically validated malaria liver stage targets

My role involves the transcriptomic analysis of host-parasite interactions following drug interventions.

Industry partner	Lewis (PI)	01/01/21-08/31/21
Lipid analysis with a biosynthetic Markov Network		
In this grant we developed a computational model of lipid metabolism to aid in the analysis of murine lipid profiles in a NASH model with and without a drug treatment		
R21AI154353	Aceves (PI), Lewis (Co-I)	05/22/20-04/30/22
Probing the Mechanisms of Fibroblast-Extracellular Matrix Interactions to Assess Disease Severity in Allergic Eosinophilic Esophagitis		
In this grant we will study the how changes in the ECM in Eosinophilic Esophagitis impact healthy cell function and show that ECM swapping can be used for screening potential therapeutics		
UH2AI153029	Lewis (PI), Robasky (Co-PI)	06/02/20-05/31/22
ImmCellFIE: producing high-resolution snapshots of the functions of immune cells		
This grant funds the development of an RNA-Seq data analysis webtool for ImmPort.org.		
Industry partner	Lewis (PI)	12/01/18-04/01/23
Modeling cell scale metabolism in reactor scale bioprocesses		
This grant aims to build cell-scale metabolic models relevant to bioreactor scale phenotypes.		
R01MH121595	Pierce (PI), Lewis (Co- Investigator)	09/01/19-08/31/23
Testing the impact of early screening on the long-term outcomes of children with ASD.		
This grant examines the school age outcomes of children with ASD initially detected and referred for early treatment via our early detection program, “Get SET Early.”		
NNF20SA0066621	Lewis (PI)	01/01/21-12/31/23
National Biologics Facility		
The goal of this grant is to build computational models of glycosylation and protein secretion, and to use these to control heterologous expression of cytokines and biotherapeutics, in collaboration with the National Biologics Facility at the Technical University of Denmark		
CBET-2030039	Lewis (PI)	04/01/21-03/30/24
Elucidating essential factors for production of recombinant secreted proteins through proteomics.		
This grant aims to develop a method for measuring essential machinery for synthesizing mAbs and Fc-fusion proteins in CHO cells and identifying bottlenecks in the cells.		
R56 DC016385-06A1	Courchesne (PI), Lewis (PI), Pierce (PI)	07/01/23-06/30/24
Discovering Molecular and Neural Biomarkers of Social and Language Development in ASD Toddlers.		
To study the connection between transcriptomic/genetic markers in ASD and fMRI features, and social/language development in ASD.		
Industry partner	Geng (PI), Croker (PI), Lewis (PI), Aceves (PI)	07/15/22-07/15/24
Genomic, Epigenomic, and High-Dimensional Cellular analysis of Type 2 Inflammation modulation by Dupilumab in Patients with Tissue Specific Atopy		
This grant aims to study the effect of Dupilumab on the immune system of children with inflammatory diseases through the use in single cell omics.		

External advisory roles

2023 – present	Scientific Advisory Board <i>CHO+Plus</i>
2016 – 2017	Scientific Advisory Board <i>Cipla BioTec</i> Advisory Committee Member, P41 Technology Development Grant <i>Complex Carbohydrate Research Center, University of Georgia</i>

Honors & awards

Academic Awards, Scholarships, and Honor Societies:

- **ESACT Innovation Award** (shared with three others) 2024
- **Web of Science Highly Cited Researcher**, 3X: 2020, 2022, 2023
- **Otto Mønsted Foundation Gæsteprofessorater fellow**, 2020-2023
- **Siebel Scholar 2012** (academic/leadership award given to 85 students annually from top graduate programs in business, computer science, and bioengineering)
- The BYU Department of Chemistry **Outstanding Biochemistry Student Award** for the 2004-2005 school year (faculty-selected award given to the top student in the department each year)
- **Dean's list** for the BYU College of Physical and Mathematical Sciences
- **Phi Kappa Phi** National Honor Society
- National Chancellor's List
- National Dean's List (2x)
- Golden Key National Honor Society

Recipient of various academic scholarships at BYU, including the Snyder Academic Scholarship, the Department of Chemistry and Biochemistry Scholarship, and Dean's Choice Scholarship in the Department of Agronomy and Horticulture (2002-2005)

Graduate and Post-doctoral Fellowships:

- Selected as **Whitaker Scholar** (full support for postdoctoral work) (2011; declined)
- Selected as **NSF Plant Systems Biology IGERT fellow** (full support) (Dec 2007 – Dec 2010)
- Selected as an **HHMI Med-Into-Grad fellow**, providing short-term clinical training in neurology and neurometabolic disorders (Fall 2009 - Winter 2010)
- Selected for the **Whitaker Fellowship** (2009; declined)
- **Fulbright Fellow** for 2008 -2009 (9 months, full support for research at Weizmann Institute, Israel)
- **NSF graduate fellowship honorable mention** (2x: 2007 & 2008)
- **Lawrence Fellowship short list** (2008; declined)

Research and Conference Awards:

- **Winning talk** at the 2008 HHMI Interfaces conference
- **Semi-finalist in the 2006 ABRF conference poster contest**
- Recipient of the **ORCA research fellowship**, and research was one of only a few chosen from hundreds of awardees to be spotlighted on the fellowship website (2005 - 2006)
- Recipient of the **Undergraduate Research Award** for the BYU Department of Chemistry and Biochemistry (2x: Winter and Fall 2004)

Teaching Awards:

- 2007-2008 **UCSD Bioengineering departmental award** for excellence in teaching (two chosen annually from more than 50 teaching assistants)
- **Garth Lee Teaching Award** for teaching excellence, given to the top teaching assistants in the BYU Department of Chemistry (3x: Spring & Fall 2003, Spring 2006)

Conference presentations and significant seminars

Lewis, N.E. Upcoming Invited Talk, World Biosimilars Congress, San Diego, San Diego, Apr 2025.

Lewis, N.E. Upcoming Invited Talk, Glycobiology Gordon Research Conference, March 2025, Barga, Italy.

Lewis, N.E. Upcoming Invited Talk, BPI west: cell line development and engineering, San Diego, Mar 2025.

Lewis, N.E. Upcoming Invited Talk, Peptalk Protein Science Week, Jan 2025.

Lewis, N.E. Upcoming Invited Talk, Bioprocessing India 2024 - Sustainable Biomanufacturing, Chennai, India, Dec 2025.

Lewis, N.E. Invited Talk, MIT BioMan Summit, Cambridge, MA, Nov 2024

Lewis, N.E. Invited Talk, Society for Glycobiology Annual Meeting, Amelia Island, Florida, Nov 2024

Lewis, N.E. Invited Keynote Talk, EMBL-EBI Industry Programme workshop on Multi-omics concepts and applications in biotechnology, Cambridge, UK, Nov 2024

Lewis, N.E. Invited Keynote Talk, AIChE Annual Meeting, San Diego, Oct 2024

Lewis, N.E. Invited Keynote Talk, Cell Therapeutic Engineering: From Signaling to Manufacturing, Lyngby, DK, Sept 2024

Lewis, N.E. Invited Keynote Talk, EMBL-EBI Industry Programme workshop on 'Cell-cell communication analysis', Cambridge, MA, June 2024

Lewis, N.E. Invited Talk, 2024 KMB Conference, Busan, South Korea, June 2024

Lewis, N.E. Invited Keynote Talk, 2024 BIO International Convention, San Diego, May 2024

Lewis, N.E. Seminar, Sartorius Corporate Research seminar, Virtual, Apr 2024

Lewis, N.E. Invited Seminar, University of Georgia, Apr 2024.

Lewis, N.E. Invited Keynote Talk, Regeneron 'Omics Summit, Virtual, Apr 2024

Lewis, N.E. Invited Talk, World Biosimilars Congress, San Diego, San Diego, Apr 2024

Lewis, N.E. Invited Talk, 2024 San Diego Glycobiology Symposium, San Diego, Apr 2024

Lewis, N.E. Invited Talk, BPI west: cell culture and upstream processing, San Diego, Mar 2024.

Lewis, N.E. Invited Keynote Talk, BPI west: cell line development and engineering, San Diego, Mar 2024.

Lewis, N.E. Invited Seminar, DTU Lifelong learning series #3, Denmark, Mar 2024.

Lewis, N.E. Invited Talk, Peptalk Protein Science Week, San Diego, Jan 2024.

Lewis, N.E. Invited Seminar, DTU Lifelong learning series #2, Denmark, Dec 2023.

Lewis, N.E. Invited Seminar, DTU Lifelong learning series #1, Denmark, Nov 2023.

Lewis, N.E. Talk, Protein expression in animal cells, Sitges, Spain, Sept 2023.

Lewis, N.E. Invited Seminar, FujiFilm, Hillerod, Denmark, Sept 2023.

Lewis, N.E. Invited Keynote Talk, BPI: cell line development and engineering, Boston, Sept 2023.

Lewis, N.E. Four Invited Seminars, Technical University of Denmark life-long learning, Lyngby, DK, Nov 2023-Mar 2024.

Lewis, N.E. Invited Talk, Metabolic Pathway Analysis, Seoul, South Korea, Jul 2023.

Lewis, N.E. Invited Talk, S2M2 Summer School in Metabolic Modeling, Braga, Portugal (virtual talk), July 2023.

Lewis, N.E. Invited Seminar, FujiFilm, Irvine, CA, May 2023.

Lewis, N.E. Invited Seminar, AbbVie, Lakeshore, IL, Apr 2023.

Lewis, N.E. Chair and organizer, Actionable Omics workshop at Cell Culture Engineering, Cancun, Mx, Apr 2023.

Lewis, N.E. Discussion co-leader, iBIONe Omics workshop at Cell Culture Engineering, Cancun, Mx, Apr 2023.

Lewis, N.E. Talk, Cell Culture Engineering, Cancun, Mx, Apr 2023.

Lewis, N.E. Invited Talk, Biopharma Focus on the Future, Dublin, Ireland, Apr 2023.

Lewis, N.E. Keynote speaker, Tercer Simposio sobre la producción y regulación de Biofármacos, Cuernavaca, MX, Mar 2023.

Lewis, N.E. Invited Talk, Americas Antibody Congress, San Diego, Mar 2023.

Lewis, N.E. Invited Talk, World Biosimilars Congress, San Diego, Mar 2023.

Lewis, N.E. Keynote speaker, Bioprocess international west: cell line development and engineering, San Diego, Mar 2023.

Lewis, N.E. Invited workshop speaker, Bioprocess international west premeeting workshops, San Diego, Mar 2023.

Lewis, N.E. Invited Talk, GlycoBioTec, Berlin, Germany, Jan 2023

Lewis, N.E. Special International Speaker, 19th Annual Symposium of Japan Consortium for Glycobiology & Glycotechnology, Gifu, Japan, Nov 2022.

Lewis, N.E. Talk, Born in California Meeting, Irvine, CA, Nov 2022.

Lewis, N.E. Invited Talk, Animal Cell Technology Industrial Platform conference, Madrid, Sept 2022.

Lewis, N.E. Invited Seminar, Vanderbilt, Sept 2022.

Lewis, N.E. Talk, Intelligent Systems in Molecular Biology, Madison, WI, July 2022.

Lewis, N.E. Invited Talk, S2M2 Summer School in Metabolic Modeling, Braga, Portugal, Virtual, July 2022.

Lewis, N.E. Talk, Conference of the European Society of Animal Cell Technology, Lisbon, Portugal, June 2022.

Lewis, N.E. Invited Talk, Synthetic Biology: Engineering, Evolution & Design (SEED), Arlington, VA, May 2022.

Lewis, N.E. Invited Talk, 2022 San Diego Glycobiology Symposium, San Diego, Apr 2022

Lewis, N.E. Invited Talk, Gordon Research Conference on Patient-Centric, Modality-Independent, Data-Driven Biotherapeutic and Vaccine Development, Ventura, CA, March 2022.

Lewis, N.E. Invited Talk, Bioprocess international cell line development and engineering, San Diego, Mar 2022.

Lewis, N.E. Invited Talk, Americas Antibody Congress, San Diego, Mar 2022.

Lewis, N.E. Invited Talk, World Biosimilars Congress, San Diego, Mar 2022.

Lewis, N.E. Invited Seminar, Lonza, virtual, Mar 2022.

Lewis, N.E. Invited Seminar, AbbVie GRC Seminar series, virtual, Feb 2022.

Lewis, N.E. Invited Talk, Peptalk Protein Science Week, virtual, Jan 2022.

Lewis, N.E. Invited Talk, Annual meeting for the society for glycobiology, San Diego, CA, Nov 2021.

Lewis, N.E. Invited Seminar, Center for Proteomics and Metabolomics, Leiden University Medical Center, Virtual, Oct 2021.

Lewis, N.E. Invited Talk, Immpart external advisory board meeting, virtual, Sept 2021

Lewis, N.E. Invited Seminar, Miracosta College, Virtual, Sept 2021.

Lewis, N.E. Invited Seminar, Amgen, virtual, Aug 2021.

Lewis, N.E. Invited Talk, Critical Capabilities for Biologic Production, Aug 2021.

Lewis, N.E. Invited Talk, Bioprocess Summit, Virtual, Aug 2021.

Lewis, N.E. Invited Talk, PEGS conference, Virtual, July 2021.

Lewis, N.E. Invited Talk, Beilstein Glyco-Bioinformatics Symposium, Virtual, June 2021.

Lewis, N.E. Keynote Speaker, BPI West Cell Line Development & Engineering, virtual, May 2021.

Lewis, N.E. Invited talk, Human Cell Atlas Latin America Single-Cell RNA-seq Data Analysis Workshop, Virtual, Apr 2021

Lewis, N.E. Invited talk, 2021 San Diego Glycobiology Symposium, Virtual, Apr 2021

Lewis, N.E. Seminar, Sanford Burnham Prebys Institute, Virtual, Apr 2021.

Lewis, N.E. Invited Talk, World Biosimilars Congress, Virtual, Mar 2021.

Lewis, N.E. Invited Seminar, AbbVie, Virtual, Feb 2021.

Lewis, N.E. Invited Talk, Peptalk Protein Science Week, Virtual, Jan 2021.

Lewis, N.E. Invited Talk, NextGen Omics, Virtual Dec 2020

Lewis, N.E. Invited Talk, Immpart external advisory board meeting, Virtual, Nov 2020,

Lewis, N.E. Invited Talk, PEGS conference, Virtual, MA, Sept 2020.

Lewis, N.E. Invited Talk, BPI West Cell Line Development & Engineering, Virtual, Sept 2020.

Lewis, N.E. Invited Seminar, Sanofi, Virtual, Aug 2020.

Lewis, N.E. Keynote Speaker, BPI Europe, Virtual, July 2020.

Lewis, N.E. Talk, ASBMB, Virtual, July 2020.

Lewis, N.E. Invited Seminar, University College London, London, UK, Feb 2020.

Lewis, N.E. Invited Talk, World Biosimilars Congress, Coronado, CA, Mar 2020.

Lewis, N.E. Invited Talk, Peptalk Protein Science Week, San Diego, CA, Jan 2020.

Lewis, N.E. Invited Seminar, KTH Royal Institute of Technology, Stockholm, Sweden, Nov 2019.

Lewis, N.E. Invited Talk, Annual Meeting for the Society for Glycobiology. Phoenix, AZ, Nov, 2019.

Lewis, N.E. Invited Seminar, Brigham Young University, Provo, UT, Oct 2019.

Lewis, N.E. Invited Seminar, University of Maryland, Rockville, MD, Sept 2019.

Lewis, N.E. Talk, Protein expression in animal cells, Newport, RI, Sept 2019.

Lewis, N.E. Invited Workshop Talk, Fundamentals of Mammalian Cell Bioprocessing, Oceanside, CA Sept 2019.

Lewis, N.E. Keynote Speaker, UNAM CRISPR workshop, Cuernavaca, Aug 2019.

Lewis, N.E. Talk, Biochemical and Molecular Engineering XXI, Quebec, July 2019.

Lewis, N.E. Invited Seminar, KAIST, South Korea, June 2019

Lewis, N.E. Invited Seminar, Samsung Biologics, Seoul, South Korea, CA, June 2019

Lewis, N.E. Invited Talk, 46th annual meeting & international symposium hosted by the Korean Society for Microbiology and Biotechnology, June 2019

Lewis, N.E. Keynote Speaker, Cell line development and engineering, San Francisco, CA, June 2019

Lewis, N.E. Invited Seminar, Thermo Fisher Scientific, Carlsbad, CA, June 2019

Lewis, N.E. Invited Seminar, Norwegian University of Life Sciences (NMBU), Department of Chemistry, Biotechnology and Food Science (IKBM), May 2019

Lewis, N.E. Invited Talk, CHO genome workshop at the Conference of the European Society of Animal Cell Technology, Copenhagen, DK, May 2019

Lewis, N.E. Keynote Speaker, Recombinant Protein Production 10, Herklion, Greece, Apr 2019

Lewis, N.E. Keynote Speaker, BPI Europe: Cell line development and engineering, Vienna, Austria, Apr 2019

Lewis, N.E. Invited Seminar, Center for Computational Biology, La Jolla, CA, Mar 2019

Lewis, N.E. Keynote Speaker, Systems Biology, Bioinformatics, and Big Data in Medicine and Drug Development, Tokyo, Japan, Feb 2019

Lewis, N.E. Invited Seminar, Fujifilm Advanced Research Laboratory, Tokyo, Japan, Feb 2019

Lewis, N.E. Invited Seminar, UC San Diego – Kobe University – FBRI Joint Seminar on Systems Biology, Kobe, Japan, Feb 2019

Lewis, N.E. Invited talk at the 2019 San Diego Glycobiology Symposium, San Diego, CA, Feb 2019

Lewis, N.E. Selected Talk, GlycoBioTec, Berlin, Germany, Jan 2019

Lewis, N.E. Invited Talk, 18th annual PepTalk Protein Science Week, San Diego, CA, Jan 2019

Lewis, N.E. Invited Seminar, Department of Cellular and Molecular Medicine, La Jolla, CA, Jan 2019

Lewis, N.E. Invited Seminar, Irvine Scientific, Irvine, CA, Jan 2019

Lewis, N.E. Selected Talk, International Conference on Biomolecular Engineering, Newport Beach, CA, Jan 2019

Lewis, N.E. Invited Seminar, Bristol Myers Squibb, NJ, December 2018

Lewis, N.E. Poster Annual Meeting for the Society for Glycobiology. New Orleans, LA, Nov, 2018.

Lewis, N.E. Keynote Speaker, the 8th SLATCC - Latin-American Symposium on Animal Cell Technology, Rio de Janeiro, Brazil, October 2018.

Lewis, N.E. Invited Talk, the 5th Conference on Constraint-Based Reconstruction and Analysis, October 2018

Lewis, N.E. Invited Seminar, University of Kent, UK, October 2018
Lewis, N.E. Invited Talk, Annual BioProNet meeting, London, UK, October 2018
Lewis, N.E. Invited Talk, Annual meeting of the Center for Biosustainability, Helsingor, Denmark, September 2018
Lewis, N.E. Talk, CHO Systems Biology Summit, San Diego, CA, Aug 2018
Lewis, N.E. Invited Talk, CHO core, Technical University of Denmark, June 2018
Lewis, N.E. Invited Seminar, Center for Biosustainability, Technical University of Denmark, June 2018
Lewis, N.E. Invited Talk, Cell line development and Engineering, San Francisco, CA, June 2018
Lewis, N.E. Invited Seminar, Genentech, South San Francisco, CA, June 2018.
Lewis, N.E. Poster, Multifaceted mitochondria, San Diego, CA, June 2018.
Lewis, N.E. Talk, Omics workshop at Cell Culture Engineering, Tampa, FL, May 2018.
Lewis, N.E. Talk, Cell Culture Engineering, Tampa, FL, May 2018.
Lewis, N.E. Invited Talk, PEGS conference, Boston, MA, May 2018.
Lewis, N.E. Invited Seminar, Pfizer, Boston, MA, May 2018
Lewis, N.E. Invited Talk, Bioengineering platforms workshop, Heron Island, Australia, April 2018.
Lewis, N.E. Invited Seminar, University of Queensland, Brisbane, Australia, Apr 2018
Lewis, N.E. Invited Talk, 2018 San Diego Glycobiology Symposium, San Diego, CA, Mar 2018.
Lewis, N.E. Invited Talk, SLAS conference, San Diego, CA, Feb 2018.
Lewis, N.E. Invited Talk, 17th annual PepTalk Protein Science Week, San Diego, CA, Jan 2018
Lewis, N.E. Invited Seminar, Morgridge Institute at UW-Madison, Dec 2017
Lewis, N.E. Invited Talk, International Symposium for Trans-Omics, Tokyo, Japan, Nov 2017
Lewis, N.E. Invited Talk, Multi-scale systems biology methods for studying biomedical processes in patients under stress or with several chronic diseases, Riverside, CA, Nov 2017
Lewis, N.E. Invited Seminar Lecture, UNAM Frontiers in Genomics, Cuernavaca, Mexico, Oct 2017.
Lewis, N.E. Invited Talk, NGS, RNA-Seq, Single Cell Analysis & Single Molecule Analysis, San Diego, CA, Oct 2017.
Lewis, N.E. Invited Talk, Protein expression in animal cell culture conference, Valencia, Spain, Sept 2017.
Lewis, N.E. Invited Talk, Annual meeting of the Center for Biosustainability, Helsingor, Denmark, September 2017
Lewis, N.E. Talk, Biochemical and Molecular Engineering XX, Newport Beach, CA, July 2017.
Lewis, N.E. Invited Talk, Beatson International Cancer Conference, Glasgow, UK, July 2017.
Lewis, N.E. Invited Seminar lecture, Center for Biosustainability, Technical University of Denmark, June 2017
Lewis, N.E. Invited Talk, Beilstein Glyco-Bioinformatics Symposium, Berlin, Germany, June 2017.
Lewis, N.E. Invited Talk, Cell line development and Engineering, San Diego, CA, June 2017
Lewis, N.E. Invited Talk, Cell Culture World Congress, San Diego, CA, May 2017.
Lewis, N.E., Hefzi, H., Joshi, C. Invited Talk, GENiE Workshop, Cambridge, UK, April 2017
Lewis, N.E. Invited Talk, Data-driven Biotechnology conference, Copenhagen, Denmark, May 2017
Lewis, N.E. Invited Talk, Conference of the European Society of Animal Cell Technology, Lausanne, Sw, May 2017
Lewis, N.E. Talk, CHO Systems Biology Summit, San Diego, CA, Feb 2017
Lewis, N.E. Talk, GlycoBioTec, Berlin, Germany, Feb 2017
Lewis, N.E. Invited talk at the 2017 San Diego Glycobiology Symposium, San Diego, CA, Feb 2017.
Lewis, N.E. Invited Talk, Annual Pediatrics Research Symposium, San Diego, CA, Jan 2017
Lewis, N.E. Invited Talk, 16th annual PepTalk Protein Science Week, San Diego, CA, Jan 2017
Lewis, N.E. Talk, International Conference on Biomolecular Engineering, San Diego, CA, Jan 2017
Lewis, N.E. Invited Seminar Lecture, University of California, San Diego Department of Pathology, Oct 2016.
Lewis, N.E. Invited Talk, Annual meeting of the Center for Biosustainability, Copenhagen, Denmark, September 2016
Lewis, N.E. Invited Talk/lecture, Biochemical Pathways and Large Scale Metabolic Networks, Lausanne, Sw, Aug 2016
Lewis, N.E. Invited Talk, Bioprocessing Summit, Boston, MA, Aug 2016
Lewis, N.E. Invited Seminar Lecture, Bristol Myers Squibb, Boston, MA, August 2016.
Lewis, N.E. Invited Talk, Mammalian Systems Biotechnology, Singapore, August 2016.
Lewis, N.E. Invited Lecture, Cipla Biotec SAB, London, UK, July 2016.
Lewis, N.E. Invited Talk, IBC Cell Line Development and Engineering, San Francisco, CA, June 2016.
Lewis, N.E. Invited Talk, Cell Culture World Congress, San Diego, CA, May 2016.
Lewis, N.E. Selected Talk, Cell Culture Engineering, Palm Springs, CA, May 2016.
Lewis, N.E. Invited Seminar Lecture, Novo Nordisk, Denmark, April 2016.
Lewis, N.E. Invited Seminar Lecture, GNF, San Diego, CA, April 2016.
Lewis, N.E. Invited Seminar Lecture, Amgen, Thousand Oaks, CA, April 2016.
Lewis, N.E. Invited talk at the 2016 San Diego Glycobiology Symposium, San Diego, CA, March 2016.
Lewis, N.E. Selected Talk (Bioproduction), National meeting of the American Chemical Society, San Diego, Mar 2016.

Lewis, N.E. Selected Talk (Systems Biology Technology), National meeting of the American Chemical Society, San Diego, Mar 2016.

Lewis, N.E. Invited talk, 15th annual PepTalk Protein Science Week, San Diego, CA, Jan 2016.

Lewis, N.E. Keynote Talk, Bioproduction Summit, San Francisco, CA, Nov 2015

Lewis, N.E. Invited Seminar Lecture, University of Maryland, Oct 2015.

Lewis, N.E. Invited Seminar Lecture, San Diego State University, Oct 2015.

Lewis, N.E. Selected Talk, Protein expression in animal cell culture conference, San Diego, Sept 2015.

Lewis, N.E. Invited Talk, Bioprocessing Summit, Boston, MA, Aug 2015

Lewis, N.E. Poster, Biochemical and Molecular Engineering, Puerto Vallarta, Mexico, July 2015.

Lewis, N.E. Invited Talk, Metabolic Pathway Analysis Conference, Braga, Portugal, June 2015

Lewis, N.E. Poster, Conference of the European Society of Animal Cell Technology, Barcelona, Spain, June 2015.

Lewis, N.E. Invited Talk, Cell Culture World Congress, San Diego, May 2015

Lewis, N.E. Invited Seminar Lecture, The Genetics, Bioinformatics and Systems Biology Colloquium, UCSD, May 2015.

Lewis, N.E. Invited Seminar lecture, Center for Biosustainability, Technical University of Denmark, April 2015

Lewis, N.E. Invited Seminar Lecture, Pediatric Faculty Research Seminars(PFRS), UCSD, March 2015.

Lewis, N.E. Poster, Glycobiology Gordon Research Conference, Barga, Italy, March 2015.

Lewis, N.E. Invited Seminar Lecture, Pediatrics Grand Rounds, Scripps Mercy Hospital, San Diego, CA, January 2015.

Lewis, N.E. Invited talk at the 14th annual PepTalk Protein Science Week, San Diego, CA, January 2015.

Lewis, N.E. Invited talk at the 2015 San Diego Glycobiology Symposium, San Diego, CA, January 2015.

Lewis, N.E. Poster at Annual Meeting for the Society for Glycobiology. Honolulu, HI, November, 2014.

Lewis, N.E. Poster at Systems Approaches to Metabolic Diseases, Chicago, IL, October 2014.

Lewis, N.E. Invited talk and "Featured Presentation". The 10th Annual IBC Cell Line Development and Engineering conference, Berkeley, CA, September 2014

Lewis, N.E. Invited young investigator talk, The 28th annual Protein Society Meeting, San Diego, CA, July 2014

Lewis, N.E. Invited talk, FACILIS 2014, Milan, Italy, July 2014

Lewis, N.E. Talk at the 3rd Conference on Constraint-Based Reconstruction and Analysis, May 2014

Lewis, N.E. Invited Seminar lecture, University of Copenhagen, March 10, 2014

Lewis, N.E. Invited Seminar lecture, Center for Biosustainability, Technical University of Denmark (DTU), March 11, 2014

Lewis, N.E. Invited talk, CHO genome workshop (international conference), Vienna, Austria, March 13, 2014

Lewis, N.E., et al. Poster at the Cell Factories and Biosustainability Conference, May 2013, Copenhagen, Denmark.

Lewis, N.E. Invited Seminar lecture, MRC Cancer Cell Unit, Cambridge, UK, March 2014

Lewis, N.E. Invited Seminar lecture, Georgia Institute of Technology, Department of Biomedical Engineering, Atlanta, GA, March 2014

Lewis, N.E., et al. Talk at the Q-Bio Winter Conference, February 2013, Honolulu, HI.

Lewis, N.E., et al. Poster at the Conference on Constraint-based Reconstruction and Analysis, October 2012, Copenhagen, Denmark.

Lewis, N.E., et al. Talk at SynBERC, September 2012, Cambridge, MA.

Lewis, N.E., et al. Talk at the International Conference on Systems Biology, August 2012, Toronto, Canada.

Lewis, N.E. Invited Talk at the IOMPA session of the International Conference on Systems Biology, August 2011, Heidelberg, Germany.

Lewis, N.E., et al. Poster at the International Conference on Systems Biology 2011, Heidelberg, Germany.

Lewis, N.E. Invited talk at the IBC Conference on Cell Line Development and Engineering 2011, Boston, MA.

Lewis, N.E., et al. Poster at the International Conference on Systems Biology 2009, Stanford, CA.

Lewis, N.E., Palsson, B.Ø., Segal, E. Poster at ISMB/ECCB 2009, Stockholm, Sweden.

Lewis, N.E., et al. Talk at the German Symposium on Systems Biology 2009, Heidelberg, Germany.

Lewis, N.E., et al. Poster at the IGERT 2008 meeting, Washington, D.C.

Lewis, N.E., et al. Talk and poster at the FASEB Experimental Biology 2008 meeting, San Diego, CA.

Lewis, N.E., et al. Poster at the Conference for the Association of Biomolecular Resource Facilities 2006, Long Beach, CA. Semi-finalist in the poster contest.

Teaching experience

Bioinformatics Bootcamp (effective fundraising and fellowship acquisition as a PhD student), Fall 2021, 2022, 2023

Biochemical engineering 1: Bioreactor engineering (BENG 161A) (Course on bioprocess engineering)
University of California, San Diego, Fall 2021, Fall 2023.

Fundamentals of Mammalian Cell Bioprocessing (BENG 207) (Course on mammalian cell culture, bioprocessing, separations of biological products, and regulatory concerns in the biotechnology industry)

University of California, San Diego, Fall 2019.

Biochemical engineering 2: Bioseparations (BENG 161B) (Course on separations of biological products)

University of California, San Diego, Winter 2018, 2019, 2020.

Bioinformatics Student Research Talks (BNFO 283) (Course on effective research presentation and feedback for student work)

University of California, San Diego, Spring/Fall 2014, Winter/Spring/Fall 2015, Fall 2016, Winter/Spring/Fall 2017, Winter/Spring/Fall 2018, Winter/Spring 2019, Winter 2020, 2021, 2022, 2023, Fall 2023.

High throughput data and systems biology (Measurement and statistical analysis of –omic data types, biological network construction and comparison, pathway simulation, nonlinear dynamics, constraint-based modeling, regulatory network modeling)

Brigham Young University, Winter 2013.

Developed and taught entire course.

Systems Biology and Bioengineering with *Bernhard Palsson, Ph.D.* (Constraint-based Modeling, Reaction Kinetics, Dynamic

Analyses of Metabolic Network Functions, Linearization, Jacobian, Singular Value Decomposition)

Graduate Teaching Assistant, University of California, San Diego, Winter 2007/2008.

Was awarded the **2007-2008 departmental award** for excellence in teaching.

Modeling and Computation in Bioengineering with *Jeff Hasty, Ph.D.* (Modeling Non-linear Systems, Linearization, Jacobian)

Graduate Teaching Assistant, University of California, San Diego, Spring 2008.

Human Anatomy with *Professor David Busath, M.D.*

Undergraduate Teaching Assistant, Brigham Young University, Summer 2003.

General Chemistry with *Professors John Cannon, Delbert Eatough, Lee Hansen, and Paul Farnsworth*

Recitation Leader, Brigham Young University, 5x: Fall 2002 – Fall 2003 & Spring 2006.

Was awarded the **Garth Lee Award** three times for excellence in teaching.

Doctoral committees and trainees

Chair:

Alex Thoms (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Oct 2015)

Hooman Hefzi (Ph.D., UCSD, Bioengineering, Graduated Feb 2018)

Jahir Gutierrez (Ph.D., UCSD, Bioengineering, Graduated July 2018)

Shangzhong Li (Ph.D., UCSD, Bioengineering, Graduated Mar 2019)

Benjamin Kellman (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Sept 2020)

Chi-Chung Kuo (Ph.D., UCSD, Bioengineering, Graduated July 2021)

Isaac Shamie (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Dec 2022)

Bokan Bao (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Dec 2022)

James Sorrentino (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Feb 2023)

Erick Armingol (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated May 2023)

Helen Masson (Ph.D., UCSD, Bioengineering, Graduated June 2023)

Hratch Baghdassarian (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated August 2023)

Albert Liang (Ph.D., UC San Diego, Bioengineering, Graduated Feb 2024)

Jasmine Tat (Ph.D., UC San Diego, Bioengineering)

Aria Yom (Ph.D., UC San Diego, Physics)

Haining Li (Ph.D., UC San Diego, Bioengineering)

Ying Min Wu (Ph.D., UC San Diego, Bioengineering)

Eunil Im (UCSD, Ph.D. Bioengineering, Sept 2022 – present)

Lia Gale (UCSD, Ph.D. Bioinformatics and Systems Biology)

Avery Pong (UCSD, Ph.D. Bioinformatics and Systems Biology)

Samuel Nkrumah (UCSD, Ph.D. Bioinformatics and Systems Biology)

Krysten Jones (UCSD, Ph.D. Biomedical Sciences)

Co-chair:

Joanna Liu (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Aug 2017)

Committee Member:

Kimberly Robasky (Ph.D., Boston University, Bioinformatics, Graduated Aug. 2012)

Perry Ridge (Ph.D., Brigham Young University, Biology, Graduated Dec. 2012)

Victoria Catherine Corey (Ph.D., UCSD, Biomedical Sciences, Graduated Apr 2016)

Hoang Dinh (Masters, UCSD Bioengineering, Graduated 2017)

Chuankai Cheng (Masters, UCSD Bioengineering, Graduated 2017)

James Jensen (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Dec 2018)

James Yurkovich (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated Apr 2018)
Nassim Ajami (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated June 2018)
Brian Yik Tak Tsui (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2018)
Yilan Shi (Ph.D., UCSD, Biomedical Sciences)
Daniel Sandoval (Ph.D., UCSD, Biomedical Sciences, Graduated 2019)
John Sauls (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated 2019)
Rob Foreman (Ph.D., UCSD, Bioinformatics and Systems Biology, Graduated 2019)
Shamim Ara Mollah (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2019)
Margaret Donovan (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2019)
Argus Jerome Athanas-Crannell (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2020)
Gregoire Thouvenin (Ph.D. UCSD, Bioengineering, Graduated 2020)
Bijie Ren (Ph.D. UCSD, Biology, Graduated 2021)
Patrick Fiaux (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2021)
Patrick Phaneuf (Ph.D., Bioinformatics and Systems Biology, Graduated 2021)
Avi Kumar (Ph.D. UCSD, Bioengineering, Graduated 2021)
Kevin Glass (Masters, UCSD Bioengineering, Graduated 2021)
CJ Norsigian (Ph.D. UCSD, Bioengineering, Graduated 2021)
Kanishk Asthana (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2022)
Cameron Martino (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2022)
Madeline Luth (Ph.D. UCSD, Biomedical sciences, Graduated 2022)
Rick Zhenzhi Li (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2023)
Kivilcim Ozturk (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2023)
Gibraan Rahman (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2023)
Jeffrey Granados (Ph.D. UCSD, Bioengineering, Graduated 2023)
Samson Fong (Ph.D. UCSD, Bioengineering, Graduated 2023)
Edward Catoiu (Ph.D. UCSD, Bioengineering, Graduated 2023)
Clarence Ma (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2023)
Jivani Manovathy Gengatharan (Ph.D. UCSD, Bioengineering, Graduated 2023)
Griffith Collwyn Hesketh Hughes (M.S. UCSD, Bioengineering, Graduated 2024)
Archana Balasubramanian (M.S. UCSD, Bioengineering, Graduated 2024)
Zachary Haiman (Ph.D. UCSD, Bioengineering, Graduated 2024)
Juan Tibocha-Bonilla (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2024)
Ruth Elgamal (Ph.D. UCSD, Biomedical sciences, Graduated 2024)
Daniela Vo (Ph.D. UCSD, Bioinformatics and Systems Biology, Graduated 2024)
Anna Trimble (Ph.D. UCSD, Bioengineering)
Andrew Portell (Ph.D. UCSD, Bioengineering)
Yi Fu (Ph.D. UCSD, Bioinformatics and Systems Biology)
Karla Godinez (Ph.D. UCSD, Biomedical sciences)
Maria Karkanitsa (Ph.D. UCSD, Bioengineering)
Vicente Fajardo (Ph.D. UCSD, Bioinformatics and Systems Biology)

Chair/advisor (Masters Committees):

Tyler Paul Huelsman (M.S., UC Bioengineering, Graduated 2015)
Anders Bech Bruntse (M.S., Technical University of Denmark, Graduated 2015)
Hoang Dinh (Masters, UCSD Bioengineering, Graduated 2017)
Chuankai Cheng (Masters, UCSD Bioengineering, Graduated 2017)
Caressa Robinson (M.S., UC San Diego, Bioengineering, Graduated 2020)
Jamie Lee (M.S., UC San Diego, Bioengineering, Graduated 2020)
Erick Joplin (M.S., UC San Diego, Bioengineering, Jan 2020 – Jun 2020)
Mia Altieri (M.S. UC San Diego, Computer Science and Engineering, Graduated 2021)
Yurim Lee (M.S., UC San Diego, Bioengineering, Sept 2022 – 2024)
Seongwon "Steve" Jung (M.S., UC San Diego, Bioengineering, Sept 2023 – 2024)
Wan-Lin "Christine" Chen (M.S., UC San Diego, Bioengineering, Sept 2023 – 2024)

External Committee member or thesis opponent:

Christian Kaas (Ph.D., Technical University of Denmark, 2015)
Namil Lee (Ph.D., KAUST, 2015)
Niccolo Totis (Ph.D., University of Torino, 2018)
Alyaa Mahmoud (Ph.D., KAUST 2019)

Erika Hagrot (Ph.D., KTH Sweden, 2019)
Maximilian Lularevic (Ph.D., UCL, 2020)
Giuseppe Magazzu (M.S., University of Catania, 2020)
Peter Eisenhut (Ph.D., BOKU, 2020)
Elli Makrydaki (Ph.D., Imperial College London, 2020)
Leo Alexander Dworkin (Ph.D., University of Copenhagen, 2022)
WenJen Lin (Ph.D., China Medical University, 2022)
José Vítor de Castro Vieira (Ph.D., Universidade do Minho, 2022)
Yves Grandjean (M.S., EPFL, 2022)
Giulia Scapin (Ph.D., Technical University of Denmark, 2024)
Pol Pérez (Ph.D., Universitat Autònoma de Barcelona, 2024)
Benjamin Strain (Ph.D., Imperial College London, 2024)
Ece Çagdas (Ph.D., Technical University of Denmark, 2025)

Postdoctoral fellows:

Philipp Spahn, Ph.D. (April 2014-2019, Project Scientist 2019-2021)
Austin Chiang, Ph.D. (June 2015-2019, Project Scientist 2019-2023)
Anne Richelle, Ph.D. (Sept 2015- Sept 2018)
Mojtaba Samoudi, Ph.D. (Dec 2015-Mar 2021)
Chintan Joshi, Ph.D. (Oct 2016-present)
Vahid Gazestani, Ph.D. (Dec 2016-Apr 2020)
Matt Schien, Ph.D. (Aug 2017-Mar 2022)
Hooman Hefzi, Ph.D. (Mar 2018-Aug 2019)
Saratram Gopalakrishnan, Ph.D. (Apr 2019-Apr 2024, Project Scientist 2024-2025)
Javad Zahiri, Ph.D. (w/ Prof Courchesne; 2020-2022)
Julie La Cour Karottki, Ph.D. (July 2021-2024)
Caitlin Aamodt, Ph.D. (Feb 2021-present)
Frances Rocamora, Ph.D. (Jan 2022-Apr 2023, Project Scientist 2023-2025)
Seunghyeon Shin, Ph.D. (Jun 2022- Dec 2024)
Angelo Peralta, Ph.D. (Jun 2022-Dec 2024)
Pablo Di Giusto, Ph.D. (Dec 2022-present)
Leo Dworkin, Ph.D. (Jan 2023- present)
Shahriar Arab, Ph.D. (July 2023- Dec 2024)

University service

University of California, San Diego:

Limited Submissions Biomedical Sciences Early Career (2023 - present)
Jr. Faculty Summer Institute Panel (2022)
Chair of Bioinformatics student fellowship committee (2019 - present)
Bioinformatics student fellowship committee (2015 - 2019)
Bioinformatics brochure committee (2016)
Bioinformatics PhD program recruitment committee (2016-present)
Bioengineering PhD program application reviewer (2014-present)
Reviewer of PhD applicants for Bioinformatics programs (2014-present)

Brigham Young University:

Bioinformatics faculty search committee (2012 - 2013)
College Computer Users' Council – represented the Department of Biology (2013)

Outreach activities

Teaching science in a Seattle middle school (2005)

In conjunction with the Institute for Systems Biology, I participated in a middle school science education outreach program, teaching science to students from less advantaged backgrounds.

Assisting in science teaching in San Diego charter school (2007)

Aided in teaching an 8th grade science course at a local charter school that focuses on teaching students from less advantaged backgrounds.

Faculty advisor for UCSD iGEM team (2014)

Team developed tool for cataloging genetic circuits (Gold medal at iGEM conference)

Founder and faculty advisor for Highschool Data Science program (2019)

Developed a biomedical data science summer program introducing high school students to the field.

Conference administration

Conference administration

Conference organizing committee, PEACE, 2025, Montreal, Canada
Conference organizing committee, Cell culture engineering 2025
Conference organizing committee, PEACE, 2023, Sitges, Spain
Workshop organizer, Cell culture engineering 2023, Cancun, MX
Session chair, Peptalk protein science week, 2021, San Diego, CA
Conference organizing committee, PEACE, 2021, Virtual
Workshop organizer, Cell culture engineering 2020, Tucson, AZ
Session chair, Peptalk protein science week, 2020, San Diego, CA
Conference organizing committee, PEACE, 2019, Newport, RI
Session organizer and chair, Biochemical and molecular engineering 2019, Mont Tremblant, Quebec
Session organizer, National meeting of the American Chemical Society 2019
Meeting organizer and chair, CHO systems biology center research summit, 2018, San Diego, CA
Session chair, Cell line development and Engineering 2018, San Diego, CA
Workshop organizer, Cell culture engineering 2018, Tampa, FL
Session organizer and chair, Biochemical and molecular engineering 2017, Newport Beach, CA
Session chair, Cell line development and Engineering 2017, San Diego, CA
Session organizer, National meeting of the American Chemical Society 2017, San Francisco, CA
Meeting organizer and chair, CHO systems biology center research summit, 2017, San Diego, CA
Conference organizing committee, Mammalian systems biotechnology, 2016, Singapore
Session chair, Cell line development and Engineering 2016, San Francisco, CA
Poster session chair, Cell Culture Engineering, 2016, Palm Springs, CA
Session chair, National meeting of the American Chemical Society 2016, San Diego, CA
Program committee for the 11th Biotechnology and Bioinformatics Symposium, 2015, Provo, UT
Meeting organizer and chair, Microbial systems biology symposium, San Diego, CA
Program committee for the 10th Biotechnology and Bioinformatics Symposium, 2014, Provo, UT
Program committee for the 9th Biotechnology and Bioinformatics Symposium, 2013, Provo, UT