Thomas Bearrood

Professional Address
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Education and Professional Experience

Eckerd College, Chemistry and Biochemistry Discipline — St. Petersburg, FL
Assistant Professor of Chemistry — 2025 – present
Teaching and research in organic chemistry and chemical biology.

Stanford University, Department of Chemical and Systems Biology — Stanford, CA
American Cancer Society, Roaring Fork Valley Postdoctoral Fellow — 2021 – 2025
Advisor: Prof. James Chen
Developing ALDH1B1 selective inhibitors and investigating the underlying role of ALDH1B1 in colorectal and pancreatic cancer stem cells.

University of Illinois at Urbana-Champaign, Department of Chemistry — Urbana, IL
Ph.D., Chemistry. — 2015 – 2020
Advisor: Prof. Jeff Chan
Designing, synthesizing, and applying analyte-responsive small molecule probes for studying cancer stem cells *in vivo*.

University of Washington, Department of Chemistry — Seattle, WA
Amgen Scholar — 2014
Advisor: Prof. AJ Boydston
Synthesizing a mechanophore for the triggering of self-immolative polymer depolymerization.

Universität Münster, Institut für Pharm. und Med. Chemie — Münster, Germany
DAAD-RISE Scholar — 2013
Advisor: Prof. Bernhard Wünsch
Working on the synthesis of potential GluN2B-selective NMDA receptor antagonists.

St. Olaf College — Northfield, MN
B.A., Chemistry and Mathematics. — 2011 – 2015
Magna Cum Laude. Graduated with distinction in chemistry.

Mentoring Experience

Eckerd College, Chemistry and Biochemistry Discipline — St. Petersburg, FL

22. Leah Chapman	E-STEM Scholar	Jun – Jul 2025
21. Jay Rafferty	Undergraduate researcher	Feb 2026 – present
20. Michael Arocha	Undergraduate researcher	Feb 2026 – present
19. Finn Topham	Undergraduate researcher	Feb 2026 – present
18. Makayla Berquist	Undergraduate researcher	Sept 2025 – present

Stanford University, Department of Chemical and Systems Biology — Stanford, CA

17. Adrianne Kinsey	Graduate Student	2025
16. Elizabeth Karas	Graduate Student	2024
15. Michelle Tang	Graduate student	2023
14. Kaan Tarhan	Graduate student	2023
13. Riley Togashi	Graduate student	2023
12. Audrey Kim	Undergraduate researcher	Jan 2023 – Jun 2025
11. Jason Guo	Bio-X Undergraduate fellow (REU student)	Jun – Aug 2021

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Mentoring Experience

Stanford University, Department of Chemical and Systems Biology		Stanford, CA
10. Nicholas White	LSRA (post-bacc)	Jun 2021 – Jul 2023
9. Cody Marshall	LSRA (post-bacc)	Jan – Jun 2021
University of Illinois, Department of Chemistry		Urbana, IL
8. Arnab Dutta	SN Bose scholar (visiting M.Sc. student)	May – Aug 2019
7. Jamila Hedhli	Postdoctoral fellow	2018
6. Guadalupe Aguirre	Undergraduate researcher	Jan 2018 – Dec 2019
5. Lindsay Chatkewitz	Graduate student	2017
4. Sara Dibrell	CB scholar (REU student)	May – Aug 2017
3. Nicholas Pino	Graduate student	2016
2. Samantha Steach	Undergraduate researcher	Feb 2016 – Oct 2017
1. Daven Feng	Undergraduate researcher	Jan 2016 – May 2018

Teaching Experience

Eckerd College, Chemistry and Biochemistry Discipline	St. Petersburg, FL
Organic Chemistry I (CH221)	2025 – present
Organic Chemistry II (CH222)	2026 – present
Advanced Organic Chemistry (CH422)	2025 – present
Stanford University, Department of Chemical and Systems Biology	Stanford, CA
Concepts and Applications in Chemical Biology, TA	2024
San Jose State University, Department of Biological Sciences	San Jose, CA
Integrative Physiology, Guest Lecture	2022
University of Illinois, Department of Chemistry	Urbana, IL
Structure and Spectroscopy, TA	2017
Organic Chemistry 2, Head TA	2016
Organic Chemistry 1, TA	2015
St Olaf College, Chemistry and MSCS Departments	Northfield, MN
Inorganic and Physical Chemistry, Tutor and Grader	2014 – 2015
Math of Biology, Grader	2014
Introduction to Computer Science, TA	2013
Linear Algebra, Tutor	2012 – 2013

Publications

Feng Z, Hom ME, Bearrood TE, Rosenthal ZC, Fernández D, Ondrus AE, McCormick AK, Tomaske MG, Gu Y, Marshall CR, Kline T, Chen C, Mochly-Rosen D, Kuo CJ, Chen JK. "Targeting colorectal cancer with small-molecule inhibitors of aldehyde dehydrogenase 1B1" Nature Chemical Biology. **2022**. *18*. 1065-1075.

Bearrood TE, Aguirre-Figueroa G, Chan J. "Rational Design of a Red Fluorescent Sensor for ALDH1A1 Displaying Enhanced Cellular Uptake and Reactivity" Molecular Imaging Special Edition (invited). Bioconjugate Chemistry. **2020**. *31*. 224-228.

Anorma C,† Hedhli J,† Bearrood TE,† Pino NW, Gardner SH, Inaba H, Zhang P, Li Y, Feng D, Dibrell SE, Kilian KA, Dobrucki LW, Fan TM, Chan J. "Surveillance of Cancer Stem Cell Plasticity Using an Isoform-Selective Fluorescent Probe for Aldehyde Dehydrogenase 1A1" ACS Central Science. **2018**. *4*. 1045-1055. († denotes equal contribution)

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Publications

Bearrood TE, Chan J. “Disproportionate Impact of Named Reactions on Chemical Biology” Aldrichimica Acta. **2017**. *50*. 31-42.

Patents

Bearrood, TE, Anorma CD, Chan J. “Selective Fluorescent Probe for Aldehyde Dehydrogenase” **2020**. U. S. Patent Number US20200199092A1

Awards

18. American Cancer Society, Roaring Fork Valley Postdoctoral Research Fellowship	2024 – 2025
17. Bio-X Mentorship Award	2021
16. WMIC Highlight Lecture Finalist	2018
15. WMIC Travel Award	2018
14. Fuson Travel Award	2018
13. Lester E. and Kathleen A. Coleman Fellowship	2017
12. NSF Honorable Mention	2017
11. Teaching Excellence Fellowship	2016
10. Marvel Fellowship	2016
9. Du Pont Science and Engineering Fellowship	2016
8. Hannum Fellowship	2015
7. Roger Adams Fellowship	2015
6. Phi Lambda Upsilon	2015
5. Phi Beta Kappa	2015
4. Amgen Scholarship	2014
3. DAAD-RISE Scholarship	2013
2. Dean’s List	2011 – 2014
1. Buntrock Scholarship	2011

Presentations

Bearrood TE, Feng Z, White N, Chen J. “Probing ALDH1B1 loss of function in pancreatic cancer” Stanford Cancer Institute Members Retreat in Stanford, CA (Poster – Sep 2022) and CSB Retreat in Pacific Grove, CA (Poster – Oct 2022)

Bearrood TE, Feng Z, White N, Chen J. “Exploring the role of ALDH1B1 in gastrointestinal cancers” CSB Retreat in Santa Cruz, CA (Poster – Sep 2021)

Bearrood TE, Chan J. “New tools for imaging ALDH1A1 activity in cancer stem cells” Volcano Conference in Eatonville, WA. (Oral – Mar 2020)

Bearrood TE, Chan J. “Design of new tools for imaging ALDH1A1 activity in cancer stem cells” Novartis Mini-Talks in Urbana, IL. (Oral – Nov 2019)

Bearrood TE, Chan J. “Development and application of an ALDH1A1-selective fluorescent probe for visualizing cancer stem-like cells” World Molecular Imaging Congress 2018 in Seattle, WA. (Oral – Sept 2018)

Bearrood TE, Chan J. “AlDeSense: an ALDH1A1-selective fluorescent probe for visualizing cancer stem-like cells” Fuson Student Talks in Urbana, IL. (Oral – Aug 2018)

Bearrood TE, Anorma C, Pino NW, Dibrell SE, Chan J. “Targeting cancer stem cells with molecular imaging probes” 255th ACS National Meeting & Exposition in New Orleans, LA.
(Oral – Mar 2018)

Bearrood TE, Chan J. “Exploring the Cancer Stem Cell Hypothesis Using a Probe for ALDH1A1” Beak-Pines Organic Area Allerton Conference in Monticello, IL. (Poster – Nov 2017)

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Presentations

Bearrood TE, Chan J. “Development of Light-responsive Metal Chelators and Fluorescent Indicators to Probe Calcium Oscillation” Beak-Pines Organic Area Allerton Conference in Monticello, IL. (Oral – Nov 2016)

Bearrood TE, Peterson G, Boydston AJ. “Synthesis of a Mechanophore for Triggering Self-immolative Polymer Depolymerization.” UW Summer Undergraduate Research Presentations in Seattle, WA. (Oral and Poster – Aug 2014) and St Olaf Distinction Seminars in Northfield, MN. (Oral and Poster – May 2015)