Michael Thorwald "Thor" Larson
Berkeley, CA
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(505) 249-5033

February 3, 2025

To whom it may concern:

Thank you for the opportunity to apply to NBER's 2025 Innovation Research Bootcamp. Given my longstanding research interest in innovation, my strong academic and professional background, and my prior research record, I believe I will be an excellent addition to the camp. I am a third-year PhD in UC Berkeley's Agricultural and Resource Economics program, a U.S Citizen, and will be able to attend all days of camp.

Professor James Sallee has graciously agreed to write a letter of recommendation for me. Please look forward to receiving it in the near future.

Warmly,



Thor Larson

Attending the NBER Innovation Research Boot Camp will enable me to meet, learn from, and collaborate with the top minds in the field of innovation economics. My research interests, background, and training prepare me to get the most out of camp, and my status as a rising fourth-year PhD makes the summer of 2025 an ideal time for me to participate.

Current and Future Research: A Focus on Innovation and Energy

My research centers on **the economics of scientific innovation, especially in the context of the clean energy transition**. This focus is policy-relevant: not only in terms of environmental outcomes but also as a component of national energy security and as a source of domestic jobs. Existing literature (e.g. Ghosh and Nanda, 2010) argues that the high capital requirements and hard-scientific barriers of the energy sector discourage venture capitalists from investing in clean energy startups in favor of other sectors. This suggests a potential role for policy intervention.

In collaboration with the European Innovation Council (EIC), I am studying whether policy makers should fund innovation based on the idea or the topic areas. My preliminary results show that topic-focusing leads to a higher quantity of short-run academic research, and I look forward to further study changes in quality and researcher focus.

I am also studying the long-run rate of technological innovation to understand whether technologies get cleaner faster or slower than they get cheaper. This enables me to estimate the additional emissions reductions from technological improvements in the counterfactual had externalities been taxed at social marginal cost over a longer time horizon.

Personal, Academic, and Professional Background

My academic background uniquely equips me to tackle this area. I am a PhD student in Berkeley's Agricultural and Resource Economics department – one of the top programs for energy and environmental economics – with **success taking and teaching innovation-focused economics coursework** both as a Harvard undergraduate and within Berkeley's industrial organization sequence. As a Graduate Student Instructor for Entrepreneurial Strategy in Fall 2024, I was commended by multiple students as "the most organized/helpful TA I ever had".

My **broad academic and professional training** complement my research goals. At Berkeley, I have attained a Designated Emphasis in Energy Science and Technology. As the first economist accepted into a program traditionally for engineers, I am learning the hard-scientific context essential to understanding the energy sector. Similarly, my prior work experience as a strategy consultant in the energy sector helps me understand R&D investment decision-making at top firms and has equipped me with tremendous presentation skills.

I hope to further discuss how I can contribute to and benefit from Innovation Camp. I look forward to your response.

Michael Thorwald "Thor" Larson

thor_larson@berkeley.edu • Personal Site • LinkedIn

EDUCATION

University of California, Berkeley — Berkeley, CA
PhD Candidate, Agricultural and Resource Economics (focus: energy) — August 2022 – Present
M.S. Agricultural and Resource Economics, 2024
Designated Emphasis in Energy Science and Technology. GPA: 3.93 out of 4.0.
Fields: Industrial Organization, Energy and Environment
Activities: Energy Institute, Berkeley Energy & Resources Collective

Harvard University — Cambridge, MA
A.B. Applied Mathematics/Economics with High Honors. — May 2021
Secondary in Chemistry. GPA: 3.94 out of 4.0, *magna cum laude*.
Activities: Undergraduate Council (Vice Chair of Finance), Venture Capital Group (Vice President)

University of Cambridge — Cambridge, UK
At King's College and Pembroke College. — Summer 2019
Coursework in economics and materials science. Received Firsts in all 3 classes.

EXPERIENCE

Energy Institute at Haas — Berkeley, CA
Graduate Student Affiliate — March 2023 – Present
- Conduct independent research on design and linking of cap-and-trade markets.
- Develop research design and prepare charts as a research assistant for ongoing "Paying for Electricity" project.
- Attend conferences, seminars and lunches with EI affiliates, visiting scholars, and industry leaders.

European Innovation Council (EIC) + Nesta's Innovation Growth Lab (IGL) — Berkeley, CA
Academic Researcher — March 2024 – Present
- Assess the value of innovation funding schemes (ideas vs. topic areas) using novel ML and LLM models.
- Selected as one of 7 researchers to participate in the EIC Datathon; only non-faculty researcher selected.
- Present findings to senior EIC leadership.

EWMBA/XMBA 295: Entrepreneurial Strategy — Berkeley, CA
Graduate Student Instructor — August 2024 – Present
- Design curriculum alongside Professor Abhishek Nagaraj, PhD.
- Handle identification, outreach and logistics for 10+ guest speakers.
- Oversee course logistics and grading.

Simon-Kucher & Partners — Houston, TX
Strategy Consultant — Summer 2020; June 2021 – July 2022
- Developed pricing and packaging models for Fortune 500 companies. Corroborated results through quantitative surveys and statistical analysis (Stata, SPSS). Industry experience in energy, manufacturing, software, B2B.
- Distilled and presented insights to executive leadership via easily intelligible slides and charts.
- Built out firm's North American energy practice.

New Mexico COVID-19 Incident Management Team — Albuquerque, NM
Member — March 2020 – August 2020
- Modeled spread of COVID-19 in New Mexico. This work was published in *Clinical Chemistry*.
- Sent research to senior health administrators and policy makers daily.

PEER-REVIEWED PUBLICATIONS

- Larson, T. et al. "Modeling SARS-CoV-2 positivity using laboratory data: timing is everything." *Clinical Chemistry*. April 30, 2020.
- Larson, Thor. "Risk-Weighted Expected Utility as a Basis for Investment Decision and Insurance Models," *Journal of Risk and Uncertainty*, submitted February 2020.

SELECTED OTHER PUBLICATIONS

- Larson, Thor. "Moral Licensing and Ineffective Environmental Protection" April 2024
- Larson, Thor. "Quantifying trade-offs between economic activity and lived saved during the COVID-19 pandemic."
- Ganesh, M., Larson, T. and Urbina, F. "What's the Value of a Virtual Education?" *Harvard Crimson*, June 23, 2020
- Script Editor: Grant, D. (Director) & Ory, A (Director). (2025). *Death Do Us Part* [Feature length film]

AWARDS AND NOTABLES

- ARE Departmental Research Grant, Fall 2023. $2,000
- Phi Beta Kappa, Senior Year, May 2021
- Kelleher Prize, Lowell House, Harvard College, May 2021
- Coffey-Rollert Award, Harvard Undergraduate Council, May 2021.
- Harvard College Research Program, September 2019 – May 2020. Total funding: $5,000
- 8-week Non-Harvard Summer Study Abroad Program, July 2020 – August 2020. Total funding: $1,500
- 7th place, Men's 18-25 200 IM, US Masters Swimming Nationals, April 2019
- Guinness World Record, Human Formation of Pascal's Triangle.
- Best Satirical Lecture, ARE "Silly Seminar", May 2024

CONFERENCES

2024: POWER Conference (Berkeley), Berkeley/Sloan Summer School in Environmental and Energy Economics, Energy and Economics Festival (Berkeley), Industrial Organization Festival (Berkeley)
2023: POWER Conference (Berkeley), Energy Summer Camp (Berkeley)

PROFESSIONAL ACTIVITES

Referee for Politicka Ekonomie

SKILLS & INTERESTS

Technical: Stata, R, Python, MATLAB, Mathematica, SPSS. Financial Accounting. Excel/PowerPoint.
Language: Fluent in Spanish and conversational in Chinese.
Interests: Social dance, music collecting, logging sports, video game development.

Office of the Registrar
128 Sproul Hall #5404
Berkeley, CA 94720-5404

University of California, Berkeley

Sarah Reed, University Registrar

Name: **Larson,Thor**
Birthdate: **July 06**

Beginning of Graduate Coursework

2022 Fall

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics

Course		Title	Att	Earned	Grade	Points
ARESEC	201	INDUSTRIAL ORGANZ'N	4.0	4.0	A+	16.00
ARESEC	210	PROB AND STAT	4.0	4.0	A	16.00
ARESEC	375	TEACHING EXPERIENCE	1.0	1.0	S	0.00
ECON	201A	ECONOMIC THEORY	4.0	4.0	A	16.00
ECON	202A	MACRO	4.0	4.0	A-	14.80

			Att	Earned	Gr Units	Points
Term GPA	3.925	Term Totals	17.00	17.00	16.00	62.80
Cum GPA	3.925	Cum Totals	17.00	17.00	16.00	62.80

2023 Spring

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics

Course		Title	Att	Earned	Grade	Points
AMERSTD	98	DIRECTED GROUP STDY	1.0	0.0	S	0.00
ARESEC	202	ISSUES IN AGRI ECON	4.0	4.0	A+	16.00
ARESEC	212	ECONOMETRICS 2	4.0	4.0	A-	14.80
ECON	201B	ECONOMIC THEORY	4.0	4.0	A+	16.00
ENERES	254	ELEC POWER SYSTEMS	4.0	4.0	A	16.00
PHYSED	1	PE ACTIVITIES Yoga-Vinyasa 1	0.5	0.0	A	0.00

			Att	Earned	Gr Units	Points
Term GPA	3.925	Term Totals	17.50	16.00	16.00	62.80
Cum GPA	3.925	Cum Totals	34.50	33.00	32.00	125.60

2023 Fall

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics

Course		Title	Att	Earned	Grade	Points
ARESEC	213	APPLIED ECONOMETRIC	4.0	4.0	A	16.00
ARESEC	219A	ECONOMETRIC PROJ	2.0	2.0	A	8.00
ARESEC	261	ENVIRON & RES ECON	3.0	3.0	A-	11.10
ECON	220A	INDUSTRIAL ORG	3.0	3.0	A	12.00
PHYSED	1	PE ACTIVITIES 5K/10K/Half Marathon 1	0.5	0.0	S	0.00

			Att	Earned	Gr Units	Points
Term GPA	3.925	Term Totals	12.50	12.00	12.00	47.10
Cum GPA	3.925	Cum Totals	47.00	45.00	44.00	172.70

2024 Spring

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics

Course		Title	Att	Earned	Grade	Points
ARESEC	219B	ECONOMETRIC PROJ	2.0	2.0	A-	7.40
ARESEC	264	EMP ENERGY ENV ECON	3.0	3.0	A	12.00
ARESEC	602	IND STUDY, DOCTORAT	1.0	1.0	S	0.00
ECON	220B	INDUSTRIAL ORG	3.0	3.0	A+	12.00
ECON	220C	SPEC TOPS IND ORG	3.0	3.0	A	12.00
MECENG	292E	ADV SP TOPICS EST	2.0	2.0	A	8.00
PHYSED	1	PE ACTIVITIES Boxing Fitness (non-contact) 1	0.5	0.0	S	0.00

			Att	Earned	Gr Units	Points
Term GPA	3.953	Term Totals	14.50	14.00	13.00	51.40
Cum GPA	3.931	Cum Totals	61.50	59.00	57.00	224.10

Print Date: **2/3/2025**

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Office of the Registrar
128 Sproul Hall #5404
Berkeley, CA 94720-5404

University of California, Berkeley

Sarah Reed, University Registrar

Name: **Larson,Thor**
Birthdate: **July 06**

End of UC Berkeley Graduate Coursework

2024 Fall

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics
Concentration: Concentration in Environmental and Resource Economics

Course		Title	Att	Earned	Grade	Points
ARESEC	269	RESOURCES WORKSHOP	1.0	1.0	S	0.00
ARESEC	602	IND STUDY, DOCTORAT	12.0	12.0	S	0.00
PHYSED	1	PE ACTIVITIES Tap Dance 1	0.5	0.5	S	0.00

			Att	Earned	Gr Units	Points
Term GPA	0.000	Term Totals	13.50	13.50	0.00	0.00
Cum GPA	3.931	Cum Totals	75.00	72.50	57.00	224.10

2025 Spring

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics

Program: Graduate Academic Programs
Major: Agricultural and Resource Economics
Concentration: Concentration in Environmental and Resource Economics

Course		Title	Att	Earned	Grade	Points
ARESEC	269	RESOURCES WORKSHOP	1.0	0.0		0.00
ARESEC	602	IND STUDY, DOCTORAT	12.0	0.0		0.00
ESPM	290	SPECIAL TOPICS ESPM	1.0	0.0		0.00
PHYSED	1	PE ACTIVITIES K-Pop Dance 1	0.5	0.0		0.00

			Att	Earned	Gr Units	Points
Term GPA	0.000	Term Totals	14.50	0.00	0.00	0.00
Cum GPA	3.931	Cum Totals	89.50	72.50	57.00	224.10

Graduate Career Totals			Att	Earned	Gr Units	Points
Cum GPA	3.931	Cum Totals	89.50	72.50	57.00	224.10

Print Date: **2/3/2025**

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Transcript Information

Office of the Registrar
University of California
Berkeley, California 94720-5404

History

The University of California was created by an Act of the State Legislature in 1868, and classes have been given at Berkeley since 1873.

Units of Credit

Until September 1966, credits were recorded as semester units (hours). From September 1966 through summer 1983 credits were recorded as quarter units (hours). Beginning with the fall term, 1983, credits are recorded as semester units (hours). Quarter system requires 180 units for bachelor's degree. Semester system, 120.

Transfer Credit

Only credit that is accepted by the University is indicated on the transcripts of Berkeley students. Individual courses are not shown. Examinations and credits accepted are indicated on the transcript in the same manner as transfer credit.

Course Numbering System

1 - 99 - Lower division courses
100 - 199 - Upper division courses
200 - 299 - Graduate courses
300 - 499 - Professional courses for teachers or prospective teachers
600 - 602 - Special Study

COVID-19 Spring 2020 – Spring 2021

Undergraduate: The COVID-19 global pandemic required changes to enrollment deadlines and grading policy. Each college developed its own policy to allow students increased flexibility in converting graded classes to passed/not passed.

Graduate: The COVID-19 global health pandemic resulted in academic policy changes in respect to milestone completion, and grading.

Grades of Scholarship

Grades

The work of all students on the Berkeley campus is reported in terms of the following grades:

A - Excellent
B - Good
C - Fair
D - Barely Passed
F - Failure
P - Passed at minimum level of C-
NP - Not Passed
S - Satisfactory or passed at a minimum level of B-
U - Unsatisfactory
I - Work incomplete, due to circumstances beyond the student's control, but of passing quality
IP - Work in progress; final grade to be assigned upon completion of entire course sequence
M - Temporary administrative grade; not included in grade point computation

The grades A, B, C, and D may be modified by plus (+) or minus (-) suffixes.

Grade Points

Grade points per unit are assigned as follows:
A=4, B=3, C=2, D=1, and F=none. When attached to the grades A, B, C, and D, plus (+) grades carry three-tenths of a grade point more per unit, and minus (-) grades carry three-tenths of a grade point less per unit than unsuffixed grades, except for A+, which carries 4.0 grade points per unit as does an A.

Courses graded P, NP, S, U, I, IP, or M are not used in computing the grade point average.

Academic Standing

Good Standing

Undergraduate: C average
Graduate: B average or better on all work attempted at any UC campus after a bachelor's degree.

Academic Probation

Undergraduate students are placed on academic probation if at the end of any term their cumulative grade point average is less than 2.0 (C average) computed on the total of all courses undertaken in the University. However, in the Colleges of Chemistry and Engineering, probation is determined on a term basis.

Credit Codes

Credit codes may determine the calculation of credit or annotate a course entry as follows:

Current Records System

Fall 1995 to Present

Note: An "I" assigned as of Fall 1973 to present is not included in grade point computation.

Pass/Fail Courses

PN - Course offered only on Pass/Not Pass basis
EPN - Undergraduate grading option Passed/Not Passed
ESU - Graduate grading option Satisfactory/Unsatisfactory
SUS - Graduate courses offered only on Satisfactory/Unsatisfactory basis

PN, EPN, ESU, SUS courses are not included in units ATTM (attempted) or units PSSD (passed), but are included in CREDITS COMPLETED.

Prefixes

C - Cross-listed
H - Honors
N - Summer course
R - Reading & Composition
W - On-line

Previous Record Systems

Prior to Fall 1975

Note: An "I" assigned prior to Fall 1973 is included in grade point computation as an F grade.

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BERKELEY, CALIFORNIA 94720-3310

February 3, 2025

NBER Innovation Boot Camp

RE: Thor Larson

To Whom It May Concern:

I write to enthusiastically recommend Thor Larson for the NBER Innovation Boot Camp. Thor is a promising PhD student here at Berkeley in our Agricultural and Resource Economics program. He has abundant research potential and a specific interest in understanding innovation in the context of energy.

Thor is in his third year here at Berkeley. He has worked for me as an RA and taken my PhD course, and I'm advising his third year qualifying project. So, I know him well.

In terms of potential and ability, Thor has all the skills he needs to be a highly successful researcher. Most importantly, over the last year, he has demonstrated the ability to generate several novel research ideas and to progress a portfolio of research possibilities. One project, which is his current focus for his third-year qualifying project, is a highly original analysis of how trading ratios could be efficient in the integration of multiple cap and trade systems. He has both a theoretical point and a promising empirical implementation. At this stage (which is still early), I'd rate this as one of the most promising third-year projects I've seen from our students over the last decade.

Thor is also making progress on two projects more closely related to innovation—one incorporates externalities into an analysis of long-run trends in costs and externalities for of technological innovation for goods that create externalities. I think this will become a cool project. The other is an early stage project that seeks to leverage variation in science funding models implemented by the European Union. He has a pretty solid idea for empirically identifying how different funding models yielded differences in scientific effort. The success of the project mostly hinges on getting the right data access, but he seems to have recently cleared some key hurdles in this respect, so it looks like this project may bear fruit as well. In the EU project, he has impressed me with his entrepreneurial skills by forming collaborations on his own. He has done the same in exploratory work on energy pricing by forming collaborations with several state energy regulators via contacts he has forged completely on his own through sheer effort.

In terms of fit, he seems perfect for the Innovation Boot Camp. As you will know from his own materials, he has a long-running interest in innovation and energy, having done coursework both as an undergrad and here in his PhD, while also pursuing a special concentration in science and technology here.

Given all this, I recommend him strongly and hope you will give him full consideration. Thor loves to learn. He is constantly looking for opportunities to dive deep on new topics, to broaden his exposure, and to make contacts. I know he will throw himself into the bootcamp if given the opportunity.

Sincerely,



James Sallee
Professor