

Applicant: Nicholas Hoeffner (74128281)

Program: Ph.D. in Genome Science and Technology (VGDPHD-LE)

Entry period: September 2024

Application comments:

No comments available

Order of content:

Application form
Resume
Statement of Interest/Intent
Transcripts & Diplomas – Unofficial
eReference (eRef) Responses
Reference Letter

HOEFFNER, NICHOLAS ()

74128281

Degree Selection

Submission Date: 29/Nov/2023

Campus	Program (VGDPHD-LE)	Academic Year	Term	Term Start
Vancouver	Ph.D. in Genome Science and Technology	2024-2025	W1	Sep 2024

Source of Interest

How did you find out about UBC?
Web Search

Personal and Contact Details

Student Number		Family Name (Surname)		Preferred Name
74128281		HOEFFNER		
Title	Given Name	Middle Name	Former Family Name (Surname)	
MR	NICHOLAS			

Date of Birth	Gender	Country of Birth	Country of Current Citizenship
21/Jun/1995	Male	United States of America	United States of America
Dual Citizenship	Primary Spoken Language	Other Spoken Language	Visa Type
	English		International Student

Address Line (1 & 2)			
1F NO. 43, ALY. 3, LN. 540, SONGSHAN RD. XINYI,			
City	Province, State or Region	Postal or Zip Code	Country
TAIPEI		110	Taiwan

Day Telephone Number	Evening Telephone Number	Email Address
886971698791		nick_hoeffner@aol.com

Do you identify yourself as an Aboriginal person of Canada?
Do you identify yourself as a Racialized person?
No

Academic History

- Applicant indicates that they have only attended post-secondary institution(s) other than UBC.

National Taiwan University

Institution Country:	Taiwan
Start Date:	01/Sep/2021
End Date (or Expected End):	01/Jun/2023
Program of Study:	Genome and Systems Biology
Credential Status	Conferred / Complete
Date Conferred:	01/Jun/2023
Credential Received:	Master's
Awards & Honours received with this degree:	
Required to withdraw:	No
Self Reported GPA:	
Used for Basis of Admission to UBC:	Yes

GPA Calculations Summary

Calculation Name	Purpose	Date of Calculation	Minimum GPA Req'd	GPA Calculation	GPA Rank	Meets Progm Requirements	Meets UBC Requirements	First Class Standing?
Genome and Systems Biology	Admissions	29/11/2023		4.17		Yes	Yes	Yes

SUNY at Stony Brook

Institution Country:	United States of America
Start Date:	01/Aug/2013
End Date (or Expected End):	01/May/2017
Program of Study:	Biochemistry
Credential Status	Conferred / Complete
Date Conferred:	01/May/2017
Credential Received:	Bachelor's
Awards & Honours received with this degree:	Graduated Cum Laude Achieved Dean's List for four semesters
Required to withdraw:	No
Self Reported GPA:	
Used for Basis of Admission to UBC:	No

[University of Auckland](#)

Institution Country:	New Zealand
Start Date:	01/Feb/2016
End Date (or Expected End):	01/Jun/2016
Program of Study:	Biochemistry
Credential Status	Courses Only
Awards & Honours received with this degree:	
Required to withdraw:	No
Self Reported GPA:	
Used for Basis of Admission to UBC:	No

- No **UBC** academic history found for this student number (74128281)

Funding

Standard Questions

Primary Funding

SOURCE of the support	
DOLLAR amount	
Includes TUITION fees?	
WHEN the support will commence	
WHEN the support will end	

SOURCE of the support	Self funding
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Experience & Interests

Standard Questions

Areas of Interest

Faculty Members

Tokuriki, Nobuhiko

Please provide a brief statement of your academic and/or professional goals and how these align with this graduate program.

Please describe any research and/or work experience (including publications, etc.) you've undertaken that is relevant to your proposed field of study.

From March 2020 to August 2021, I worked as a technician at Albany Medical College in the lab of Antonio Paul and Young-Hwa Goo who jointly work on atherosclerosis using both mouse models and human cell lines. As my work there coincided with the beginning of the COVID-19 pandemic and my bosses sought to minimize their time in the lab, I became responsible for a great portion of the experiments in the lab at that time and I developed my capacity to work independently. My main project involved conducting a screen of FDA-approved drugs to identify those which might impact the formation of foam cells: lipid droplet-laden macrophages which comprise much of the volume of atherosclerotic plaques. This screen was performed using fluorescence microscopy to quantify a lipid-staining dye and was followed up with mechanistic studies of individual drugs using western blotting, qPCR and ELISAs. This work was recently published in Scientific Reports with the title "Drug screen identifies verteporfin as a regulator of lipid metabolism in macrophage foam cells" and me as the first author.

For my master's degree, I conducted my thesis work in Jun-Yi Leu's lab where I got the opportunity to work directly on questions of evolution and specifically, the structure of the genotype-phenotype map. For my thesis project, I investigated the ability of the chaperone protein Hsp90 to buffer the effects of nucleotide substitutions in yeast essential genes. This involved creating mutant libraries, transforming them into yeast and phenotyping the mutants under conditions with and without reduced Hsp90 levels. Although Dr. Leu's initial conception of this project involved replica plating and estimating colony size by eye, my familiarity with systems biology approaches led me to pursue two additional strategies. One of these was developing a tool in Python which used images of replica plates to identify promising mutants by comparing the brightnesses of their pixels between plates. The second adjustment to the methodology I proposed was to perform the screen using a deep-mutational scanning approach to leverage the power of next-generation sequencing to phenotype the entire library in bulk. I am currently working as a research assistant in Dr. Leu's lab to lay the groundwork for this experiment which will be the first of its kind in our lab.

Program-Specific Questions

Briefly discuss your background in life sciences, including academic, work or other experiences that may assist the admissions committee. Please limit your response to one page.

As an undergraduate, I majored in biochemistry and took highly memorable courses in evolution, microbiology, biochemistry and molecular genetics. Beyond my coursework, I have had extensive research experience in the life sciences. At Albany Medical College, I worked on characterizing the mechanisms of lipid droplet metabolism and conducted a drug screen. At Academia Sinica, I have worked extensively with yeast to screen mutants with phenotypes which are dependent on the chaperone protein Hsp90. Additionally, I have created and manage a small reading and discussion group in my department which focuses on the recent book *Evolvability: A Unifying Concept in Evolution?* and includes two principle investigators. My understanding of evolution and evolutionary quantitative genetics has been greatly enriched by discussing the content of this book with a quantitative biology researcher in the group.

Briefly discuss your background in quantitative sciences (math, statistics, computer science, engineering, physics) including academic, work or other experiences that may assist the admissions committee. Please limit your response to one page.

During my undergraduate career, I took several courses dealing with quantitative sciences. Although I struggled with the calculus classes at the beginning of my studies, I taught myself to develop a stronger intuition for quantitative thinking. This is evidenced by my having earned 'A's in all of the quantitative classes since then including two physics classes

and "Mathematical Biology". In that class, I was introduced to programming in R and MATLAB and we used dynamical systems analysis to model biological systems. I was so inspired by these techniques that I enrolled in a Master's level systems biology class which dealt with the same subject matter on a deeper level. I then went on to enroll in a systems biology program at National Taiwan University for my master's studies. In this program I was also introduced to python which I have used for all of my data analysis for my research since then.

Referee 1

Name	Jun-Yi Leu
Job Title / Occupation	Distinguished Research Fellow
Institution / Company / Organization	INSTITUTE OF MOLECULAR BIOLOGY, ACADEMIA SINICA
Type of Reference	Academic
Address	128 SECTION 2, ACADEMIA RD., NANKANG TAIPEI TAIPEI Taiwan 110
Referee Email / Website	jleu@imb.sinica.edu.tw https://www.imb.sinica.edu.tw/~jleu/
Telephone #	+886-2-2651-9574
Notes to Referees	Thanks again for your help!

Referee 2

Name	Young-Hwa Goo
Job Title / Occupation	Associate Professor
Institution / Company / Organization	ALBANY MEDICAL COLLEGE
Type of Reference	Professional
Address	43 NEW SCOTLAND AVE. ALBANY NEW YORK United States of America 12208
Referee Email / Website	gooy@amc.edu https://www.amc.edu/researcher/young-hwa-goo-phd/
Telephone #	+1-518-262-6296
Notes to Referees	Thanks so much for your help!

Referee 3

Name	Ka-Lai Pang
Job Title / Occupation	Professor
Institution / Company / Organization	NATIONAL TAIWAN OCEAN UNIVERSITY
Type of Reference	Professional
Address	2 BEINING RD., ZHONGZHENG DIST. KEELUNG KEELUNG Taiwan 202
Referee Email / Website	klpang@ntou.edu.tw
Telephone #	+886-2-2462 2192
Notes to Referees	Thanks so much for your help!

Nicholas F. Hoeffner
319 Beaver Rd., Nassau, NY, 12123, USA
hoeffnernicholas@gmail.com +886-0971-698-791

Education

Master's of Science in Genome and Systems Biology

9/2021 - 6/2023

- National Taiwan University, Taipei, Taiwan
 - Coursework included molecular evolution, systems biology, and bioinformatics
 - Participation in several poster competitions
 - Thesis research performed in the lab of Jun-Yi Leu
 - Thesis title: A genetic screen for Hsp90-bufferable mutants in yeast essential genes
 - Created conditional knockdown strains for essential genes in *S. cerevisiae*, transformed with error-prone PCR libraries and screened mutants for Hsp90-bufferability

Bachelor's of Science in Biochemistry

8/2013 - 5/2017

- Stony Brook University, Stony Brook, NY, USA
 - Graduated Cum Laude
 - Dean's List for four semesters
 - Coursework included mathematical biology, molecular genetics, and biochemistry
 - Exchange semester at the University of Auckland in New Zealand in Spring, 2016

Work Experience

Research assistant, Lab of Jun-Yi Leu, Academia Sinica, Taiwan

7/2023 -

- Currently establishing a protocol to conduct a deep-mutational scanning experiment on the cell cycle regulator CDC28 to investigate several phenotypes of all single amino acid change mutants

Research technician, Lab of Antonio Paul and Young-Hwa Goo, Albany Medical College, USA

3/2020 - 9/2021

- Performed a screen for drugs that could reduce foam cell formation

Volunteer Positions

Discussion group leader, Institute of Molecular Biology, Academia Sinica, Taiwan

9/2023 -

- Founded and coordinated a group in my institute focused on reading and discussing the recent book: *Evolvability: A Unifying Concept in Evolution?*
- Lead biweekly discussions on each chapter among a small group of interested members including two PIs

Research volunteer, Lab of Ka-Lai Pang, National Taiwan Ocean University, Taiwan

6/2018 - 12/2018

- Investigated various species of thraustochytrids for potential in commercial production of fucoxanthin
- Performed during my free time while working in Taiwan as an English teacher

Research volunteer, Lab of Jackie Collier, Stony Brook University, USA

1/2015 - 5/2015

- Assisted with DNA extraction for a metagenomics study of algae affected by hurricanes

Publications

- Hoeffner, N., Paul, A. & Goo, YH. Drug screen identifies verteporfin as a regulator of lipid metabolism in macrophage foam cells. *Sci Rep* 13, 19588 (2023).

Relevant Skills

Molecular biology

- Phenol chloroform extractions, cloning, PCR, qPCR, western blots, ELISA, fluorescence microscopy

Microbiology

- Culturing *E. coli* and *S. cerevisiae*, transformation of bacteria and yeast, growth rate measurements, spot assays, tetrad spore dissection

Programming

- Extensive experience with Python and R
- Some experience with MATLAB and Wolfram Mathematica

My greatest interest is in understanding how the key parameters that dictate the efficacy of evolution such as mutation rate, robustness, and genetic architecture are determined by molecular factors. Among these factors on which evolution depends are the intrinsic chemical properties of proteins which influence how well proteins tolerate mutations, thus determining their evolvability. I am interested in characterizing these properties as well as understanding how they themselves have been the targets of evolution. My goal as a PhD student in the Genome Science and Technology program is to address these questions using both wet and dry lab methods in Dr. Tokuriki's lab. I believe that having a strong understanding of the computational means with which data are analyzed allows experimentalists to design their experiments in ways that allow them to maximize the amount of information they can obtain. The GSAT program's emphasis on analysis of high-throughput data will nicely supplement my previous training which has been primarily in wet lab molecular biology techniques. I hope to take full advantage of the rotation system at GSAT to work with some pure dry labs to develop my computational skills further. Beyond my PhD, I hope to one day set up my own lab where I can leverage the tools of systems biology and quantitative biology to address questions of evolution and evolvability.

Nicholas Hoeffner
109374923 - USB ID
1995-06-21



Stony Brook University

The State University of New York
Stony Brook, NY 11794
631-632-6000

Print Date : 2018-11-19
Send To NICHOLAS HOFFNER
319 BEAVER RD
NASSAU, NY 12123-3503

Program : Arts and Sciences
Plan : Biochemistry Major

Session : Full Spring Semester Session (2014-01-27 to 2014-05-21)

Study Abroad Supplement Included

----- Degrees Awarded -----

Degree : Bachelor of Science
Confer Date : 2017-05-19
Degree Honors : Cum Laude
Plan : Biochemistry

BIO 201 Organisms to Ecosystems 3.0 A
REQ DESIGNATION : DEC E. Required grade: A through D
BIO 202 Molecular & Cellular Biology 3.0 C+
REQ DESIGNATION : DEC E. Required grade: A through D
HDV 102 Human Development 1.0 A
Course Topic(s): Health Literacy
MAT 132 Calculus II 4.0 C+
REQ DESIGNATION : DEC C & Skill 1. Required grade: A through C
MUS 301 Music of the Baroque 3.0 A
REQ DESIGNATION : DEC I. Required grade: A through D
WRT 102 Intermed Writing Workshop A 3.0 B+
REQ DESIGNATION : D.E.C. A2 & Skill 2. Required grade: A through C

Transfer Credit from SUNY Oswego, College at
Applied Toward Arts and Sciences Program
Course Trans GPA: 0.00 Transfer Totals : 3.0

TERM GPA : 3.19 Units Earned : 17.0
CUM GPA : 3.47 Units Earned : 48.0

Test/Transfer Applied Toward Requirements
Test Trans GPA: 0.00 Transfer Totals : 13.0

Fall 2014

----- Beginning of Undergraduate Record -----

Fall 2013

Course	Description	Units	Grade
Program	Arts and Sciences		
Plan	Biochemistry Major		

Session : Full Fall Semester Session (2013-08-26 to 2013-12-18)

CHE 132	General Chemistry II	4.0	A
REQ DESIGNATION : DEC E. Required grade: A through D			
CLS 113	Greek and Latin Literature	3.0	A
REQ DESIGNATION : DEC B. Required grade: A through D			
HDV 101	Introduction to Stony Brook	1.0	S
MAT 131	Calculus I	4.0	B+
REQ DESIGNATION : DEC C & Skill 1. Required grade: A through C			
MUS 101	Introduction to Music	3.0	A
REQ DESIGNATION : DEC D. Required grade: A through D			

TERM GPA : 3.81 Units Earned : 15.0
CUM GPA : 3.81 Units Earned : 31.0
Dean's List

Spring 2014

Course	Description	Units	Grade
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Course	Description	Units	Grade
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Program : Arts and Sciences
Plan : Biochemistry Major

Session : Full Fall Semester Session (2014-08-25 to 2014-12-17)

BIO 203	Cellular and Organ Physiology	3.0	B
REQ DESIGNATION : DEC E. Required grade: A through D			
BIO 204	Intro Biology Lab I	2.0	C
CHE 321	Organic Chemistry I	4.0	B
CHE 475	Undergrad Teaching Practicum I	3.0	S
MVL 241	Heroes and Warriors	3.0	A
REQ DESIGNATION : DEC G. Required grade: A through D			

TERM GPA : 3.08 Units Earned : 15.0
CUM GPA : 3.36 Units Earned : 63.0

Spring 2015

Course	Description	Units	Grade
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Program : Arts and Sciences
Plan : Biochemistry Major

Session : Full Spring Semester Session (2015-01-26 to 2015-05-20)

AST 248	Search for Life in the Univers	3.0	A-
REQ DESIGNATION : DEC H. Required grade: A through D			
BIO 205	Intro Biology Lab IIA	2.0	B
BIO 310	Cell Biology	3.0	C+

(Continued on next page)

Diane Bello
Diane Bello, University Registrar



Nicholas Hoeffner
109374923 - USB ID
1995-06-21



Stony Brook University

The State University of New York
Stony Brook, NY 11794
631-632-6000

(continued from previous page)

CHE 134	General Chemistry Lab II	1.0	C
CHE 322	Organic Chemistry IIA	4.0	B
PHI 277	Political Philosophy	3.0	A

REQ DESIGNATION : DEC G. Required grade: A through D

AMS 333	Mathematical Biology	3.0	A
BIO 365	Biochemistry Laboratory	2.0	B
CHE 301	Physical Chemistry I	4.0	A
CHE 327	Organic Chemistry Laboratory	2.0	B
PHY 133	Classical Physics Laboratory I	1.0	A

TERM GPA : 3.13 Units Earned : 16.0
CUM GPA : 3.30 Units Earned : 79.0

TERM GPA : 3.67 Units Earned : 12.0
CUM GPA : 3.45 Units Earned : 122.0
Dean's List

Fall 2015

Course	Description	Units	Grade
Program : Arts and Sciences			
Plan : Biochemistry Major			

Session : Full Fall Semester Session (2015-08-24 to 2015-12-16)

ANP 200	Evolution of human behavior	3.0	A
REQ DESIGNATION : DEC F. Required grade: A through D			
ARR 209	Arts of the United States	3.0	A
REQ DESIGNATION : DEC K. Required grade: A through D			
BIO 354	Evolution	3.0	A
BIO 361	Biochemistry I	3.0	B+
PHY 131	Classical Physics I	3.0	A
REQ DESIGNATION : DEC E. Required grade: A through D			

TERM GPA : 3.87 Units Earned : 15.0
CUM GPA : 3.41 Units Earned : 94.0
Dean's List

Spring 2016

Course	Description	Units	Grade
Program : Arts and Sciences			
Plan : Biochemistry Major			

Session : Full Spring Semester Session (2016-01-25 to 2016-05-18)

FSY 249	Study Abroad	8.0	S
FSY 302	SUNY FOREIGN STUDY	8.0	S

TERM GPA : 0.00 Units Earned : 16.0
CUM GPA : 3.41 Units Earned : 110.0

Fall 2016

Course	Description	Units	Grade
Program : Arts and Sciences			
Plan : Biochemistry Major			

Session : Full Fall Semester Session (2016-08-29 to 2016-12-21)

Spring 2017

Course	Description	Units	Grade
Program : Arts and Sciences			
Plan : Biochemistry Major			

Session : Full Spring Semester Session (2017-01-23 to 2017-05-17)

AAS 334	English in Asia	3.0	A
REQ DESIGNATION : DEC J. Required grade: A through D			
AMS 534	Introduction to Systems Biolog	3.0	A
BIO 362	Biochemistry II	3.0	A
PHY 132	Classical Physics II	3.0	A
REQ DESIGNATION : DEC E. Required grade: A through D			
PHY 134	Classical Physics Lab II	1.0	B+

TERM GPA : 3.95 Units Earned : 13.0
CUM GPA : 3.51 Units Earned : 135.0
Dean's List

Undergraduate Career Totals

CUM GPA : 3.51 Units Earned : 135.0

End Of Transcript

Diane J. Bello

Diane Bello, University Registrar



STONY BROOK UNIVERSITY
TRANSCRIPT GUIDE
Office of the Registrar
www.stonybrook.edu/registrar

ACCREDITATION

As part of the State University of New York, Stony Brook University is accredited by the Middle States Association of Colleges and Schools; 3624 Market Street; Philadelphia, PA 19104-2680. For specific information about the accreditation of University Schools and Programs refer to the appropriate University Bulletin.

GRADING SYSTEM

A Superior; B Good; C Satisfactory; D Minimum Passing Grade; F Failure; Plus / Minus grading in effect from Fall 1981.

Grade point equivalents: A = 4.00, A- = 3.67, B+ = 3.33, B = 3.00, B- = 2.67, C+ = 2.33, C = 2.00, C- = 1.67, D+ = 1.33, D = 1.00, F = 0.00.

Other grades are W – Withdrawn, I – Incomplete, NR – No Record (a temporary mark to be used only for students who never participated in the course); I/F, N/F, N/U (Fall 1982 and later)

Grade originally reported as Incomplete or No Record, converted to failure after following makeup deadline; T – Transfer credit. WVR – Waiver of course work; WP – Withdrew Passing and WF – Withdrew Failing (used prior to Fall 1976); R – Attended first term of a course in which a grade is assigned only after completion of both terms; P/NC – Pass/No Credit, student-elected grade conversion option (Fall 1970-Spring 1978, W and F grades converted to NC; Fall 1978 and later, F grades alone converted to NC). Effective Fall 2012, G/P/NC – Grade/Pass/No Credit, student-elected grade conversion option*. S/U – Used in courses in which the only evaluations are Satisfactory or Unsatisfactory; S/F – Satisfactory/Failure – designated courses where finer grading distinctions are impractical; H Honors (Health Sciences courses only); Q indicates academic dishonesty and is computed as an F.

*Refer to the appropriate University Bulletin for additional information.

COURSE NUMBERS

Beginning in Fall 1978 an extensive renumbering of undergraduate courses took place to reflect lower- or upper-division levels.

100 – 299 Lower-Division Undergraduate Courses

300 – 499 Upper-Division Undergraduate Courses

500 – 899 Graduate Courses

The symbol # before a course title indicates a topics course whose title may change from term to term.

UNIVERSITY HONORS & DEAN'S LIST

Criteria for graduation with University Honors or for the awarding of Dean's List, refer to the appropriate University Bulletin.

CLASS RANK

Stony Brook University does not calculate rank in class.

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COLLEGES, SCHOOLS AND DEGREES OF THE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science, Master of Music, Master of Fine Arts, Master of Philosophy, Doctor of Arts, Doctor of Musical Arts, Doctor of Philosophy

COLLEGE OF ENGINEERING AND APPLIED SCIENCES

Bachelor of Engineering, Master of Science, Master of Science.

Doctor of Philosophy

COLLEGE OF BUSINESS

Bachelor of Science, Bachelor of Business Administration

SCHOOL OF JOURNALISM

Bachelor of Arts, Master of Science

SCHOOL OF MARINE AND ATMOSPHERIC SCIENCES

Bachelor of Science, Bachelor of Arts, Master of Science, Master of Arts, Doctor of Philosophy

SCHOOL OF PROFESSIONAL DEVELOPMENT

Master of Arts in Liberal Studies, Master in Professional Studies, Master of Arts in Teaching, Master of Higher Education Administration, Master of Science Human Resource Management

Please note: The Secondary Education option on an undergraduate degree recipient's academic record indicates completion of a provisional teacher certification program approved and registered by the New York State Education Department.

HEALTH SCIENCES

SCHOOL OF HEALTH TECHNOLOGY AND MANAGEMENT

Bachelor of Science, Master of Science, Doctor of Physical Therapy

SCHOOL OF DENTAL MEDICINE

Doctor of Dental Surgery, Doctor of Philosophy

SCHOOL OF MEDICINE

Doctor of Medicine, Doctor of Philosophy

SCHOOL OF NURSING

Bachelor of Science, Master of Science, Doctor of Nursing Practice

FAMILY MEDICINE

Master of Science

GRADUATE PROGRAM IN PUBLIC HEALTH

Master of Public Health

HEALTH SCIENCE CALENDAR

Many of the programs in the Health Sciences divides the academic year into five-week sessions and combinations of sessions rather than a 15 week semester. The sessions term are designated on students' academic record.



國立臺灣大學
National Taiwan University

National Taiwan University Official Transcript Statement of Authenticity

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The transcript key and guide to transcript evaluation is the last page of this document.

The current version of Adobe® Reader is free of charge, and available for immediate download at <http://www.adobe.com>.

If you require further information regarding the authenticity of this transcript, email the Office of Academic Affairs at National Taiwan University at registry@ntu.edu.tw

Graduate Academic Affairs Division

No. 1, Sec. 4, Roosevelt Rd., Taipei 10617, Taiwan (R.O.C.)

Phone : +886-2-3366-2388#403~416 Fax : +886-2-2363-4383

NATIONAL TAIWAN UNIVERSITY TRANSCRIPT OF ACADEMIC RECORD

Name: NICHOLAS HOFFNER (林克文)

Student ID Number: R10B48009

Date of Birth: June 21, 1995

Date Enrolled: September 2021

College: Life Science

Graduate Institute: Genome and Systems Biology Degree Program

Degree Conferred: Master of Science

Date Conferred: June 2023

The following transcript is hereby certified as correct according to the record of the university.

Page : 1 of 1

Course No.	Course Title	Credit	Grade	Course No.	Course Title	Credit	Grade
<u>1st Semester 2021/2022</u>							
PTCSL 7908	General Chinese Language Course (I)	3	A+				
EEB 5045	☆Population Genetics	3	A+				
GenSys 5004	☆Genome and Systems Biology	4	A-				
Prog 5170	☆Molecular and Cell Biology	2	A+				
Total Credits Earned: 12.00 Grade Point Average: 4.10							
<u>2nd Semester 2021/2022</u>							
EEB 5087	☆Molecular Evolution: Principles and Practice	3	A				
GenSys 5005	☆Topics and Seminars in Genome and Systems Biology	2	A+				
GenSys 5024	☆Next Generation Sequencing Analysis	3	A+				
Total Credits Earned: 8.00 Grade Point Average: 4.19							
<u>1st Semester 2022/2023</u>							
GenSys 7002	☆Research Training	1	A+				
GenSys 7003	☆SEMINAR (M.S)	1	A+				
GenSys 5005	☆Topics and Seminars in Genome and Systems Biology	2	A				
GenSys 5020	☆Bioinformatics	3	A+				
Total Credits Earned: 7.00 Grade Point Average: 4.21							
<u>2nd Semester 2022/2023</u>							
GenSys 7004	Thesis (M.S.)	-	A+				
GenSys 7002	☆Research Training	1	A+				
GenSys 7003	☆SEMINAR (M.S)	1	A+				
Total Credits Earned: 2.00 Grade Point Average: 4.30							
Thesis: A+							
Credits Earned: 29							
Transfer Credits: 0							
Summer Session Credits: 0							
Total Credits: 29							
Overall Grade Point Average: 4.17							
Cumulative EMI credits: 26							
(End of Record)							
The student has passed the academic ethics courses offered by the center for Taiwan Academic Research Ethics Education.							

The overall grade point average does not include the thesis grade.

Date Issued November 01, 2023

Seq. No.: 202311328

Mei Chen

MEI CHEN

DIRECTOR OF GRADUATE ACADEMIC AFFAIRS

NATIONAL TAIWAN UNIVERSITY TRANSCRIPT GUIDE

1、The numerical grading system was effective PRIOR TO SEPTEMBER 2010：

Undergraduate Programs	Letter Grades	Graduate Programs
80 AND ABOVE	A	80 AND ABOVE
70-79	B	70-79*
60-69**	C	69 AND BELOW
50-59	D	
49 AND BELOW	E	

* For the graduate students, the passing grade is 70.
 ** For the undergraduate students, the passing grade is 60.

2、The following letter grading system is effective AS OF SEPTEMBER 2010：

Grade	Definition	Grade Points	Conversion Scale
A+	All goals achieved beyond expectation	4.3	90-100
A	All goals achieved	4.0	85-89
A-	All goals achieved, but need some polish	3.7	80-84
B+	Some goals well achieved	3.3	77-79
B	Some goals adequately achieved	3.0	73-76
B-*	Some goals achieved with minor flaws	2.7	70-72
C+	Minimum goals achieved	2.3	67-69
C	Minimum goals achieved with minor flaws	2.0	63-66
C-**	Minimum goals achieved with major flaws	1.7	60-62
F	Minimum goals not achieved	0	59 AND BELOW
X	Not graded due to unexcused absences or other reasons	0	0
W	Withdrawal		
EX	Exempted		
TR	Transfer credit		
NG	No grade reported		
IP	In progress		

* For the graduate students, the passing grade is B-.
 ** For the undergraduate students, the passing grade is C-.

3、Course Numbering System and Symbol

- (1) Course numbers are 4-digit basic numbers prefixed with abbreviated department names.
- (2) For the department abbreviation, please refer to the university website at <https://nol2.aca.ntu.edu.tw/nol/guest/Department%20Abbreviation%20List.pdf>
- (3) The symbol “☆” is used to indicate that the course is an English Medium Instruction (EMI) course and effective in 2022-23 academic year.

4、Credit Certification Standards for English Medium Instruction (EMI) courses

EMI Level	Standard
E1	At least 16 undergraduate credits are earned from EMI courses.
E2	At least 32 undergraduate credits are earned from EMI courses.
E3	At least 64 undergraduate credits are earned from EMI courses.
E4	At least 98 undergraduate credits are earned from EMI courses.
E5	At least 128 undergraduate credits are earned from EMI courses.

Name: Nicholas Francis Hoeffner
Student ID: 498614932
Entrance Qualification: 2015 OS AE Admission

Academic Programme History

Programme: Certificate of Proficiency for Exchange
Specialisation in Certificate of Proficiency
20/11/2015 Active in Programme
03/11/2017 Discontinued

Beginning of Formal Award Record

<u>Programme</u>	<u>Course</u>		<u>Description</u>	<u>Attempted</u>	<u>Earned</u>	<u>Grade</u>
2016 Semester One (29 February 2016 - 27 June 2016)						
Enrolled Full-Time						
COPEX	BIOSCI	204	Principles of Microbiology	15.00	15.00	Pass B+
COPEX	BIOSCI	351	Molecular Genetics	15.00	15.00	Pass B+
COPEX	PACIFIC	100	Introduction to Pacific Studies	15.00	15.00	Pass B+
COPEX	SOCIOL	101	Understanding Aotearoa New Zealand	15.00	15.00	Pass A-

End of Formal Award Record

The University of Auckland

ACADEMIC RECORD

Key to Status Column:

Pass Grades:

A+	High first
A	Clear first
A-	Bare first
B+	High second
B	Clear second
B-	Bare second
C+	Sound pass
C	Pass
C-	Marginal pass
Pass	Ungraded pass

Fail Grades

1987 onwards –	
D+	Marginal fail
D	Clear fail
D-	Poor fail
Fail	Ungraded fail
Prior to 1987 –	
D	Marginal fail
E	Poor fail

Status & Abbreviations

Enrolled	No grade awarded yet – course continuing.
PASS Conceded	Ungraded conceded pass awarded only whereby the student would complete a degree or diploma, or a part in its entirety.
PASS Restricted	Restricted pass which does not permit the student to proceed to a further stage in the subject. (Not awarded from 1996.)
PASS Aegrotat	Aegrotat consideration in respect of illness or injury.
PASS Compassionate	Compassionate consideration for unavoidable circumstances.
PASS Special	Special pass for examination missed through oversight.
*	Course passed or failed on basis of overall result.

Academic Programme Changes

The value allocated to each course is standardized and is given as a number of points. From 2006, course values range from 10 to 20 points with most courses being 10, 15, 20 and 30 points.

General Education

From 2006, a General Education programme is included in undergraduate degrees. Most undergraduate degrees and diplomas include two General Education courses which are denoted by a “G” suffix added to the course.

Auckland College of Education (ACE)

On 1 September 2004, Auckland College of Education was disestablished and amalgamated with The University of Auckland. Courses taught at the former Auckland College of Education are recorded with the prefix “ACE” and, in addition to the grade key above, may contain the following grades:

CT	Credit transfer awarded following the assessment of previous learning.
RPL	Recognition of Prior Learning awarded following the assessment process for granting appropriate credit for relevant skills and knowledge.
T	Termination of programme of study; student withdrawn from a programme by the Principal.
PM	Pass with merit; in Postgraduate programmes prior to 2000.
PD	Pass with distinction; in Postgraduate programmes prior to 2000.
LA	Learning outcomes achieved; for Practicum modules.
LN	Learning outcomes not achieved; for Practicum modules.

Language of Instruction

All courses at The University of Auckland are taught in the English language, except for foreign and Māori language courses.



Albany Medical College

Department of Molecular and Cellular Physiology

MC8, 47 New Scotland Avenue, Albany, NY 12208-3479

Phone: (518) 262-8102

Fax: (518) 262-8101

To Whom It May Concern:

I would like to provide my strongest support for Nicholas F. Hoeffner's application to the Ph.D Genome Science and Technology program at University of British Columbia. I am a researcher at Albany Medical College (AMC), NY and currently working on the molecular mechanism of metabolic diseases such as atherosclerosis using molecular biology techniques as well as genetically engineered mouse models. I have been teaching medical and graduate students in classes at AMC almost for 14 years now. Outside of classes, I am actively pursuing my research projects in the lab and have mentored multiple levels of trainees including postdocs, technicians, Ph.D., Master students, undergraduate, and high school students. I am a co-organizer of the Journal Club in our department for graduate students and am involved in the evaluation process of the research proposal and products conducted by students and postdoctoral associates inside and outside of Albany Medical College. Recently I was honored to accept the duty as the director of graduate studies in the department of Molecular and Cellular Physiology at Albany Medical College. Based on my experiences with Nick and other trainees through all my activities mentioned above, I would put Nick in the top two trainees among all trainees I have met in the past 14 years, with the reasons described below.

I would like to pinpoint what makes Nick the best candidate for your program. When I interviewed Nick as a full-time technician in Paul and Goo lab, Nick told me he wanted to pursue a career in academia. Nick planned to go back to Taiwan where he worked as an English teacher and volunteered in a lab. Right after Nick accepted a technician position in our lab in March 2020, the governor of NY state declared the COVID-19 pandemic, and we were forced to shut down the lab like everywhere else. It took quite a long time even to find personal protection tools such as a disposable mask. In-person instruction was critical for Nick who did not have much experience in research. We worked in different time frames so as not to overlap in the lab, and I instructed Nick on all experiments using Facetime and emails. Because of Nick's desire to stay in academia for his career, I supported him like a graduate student. Nick was given a project and asked to present his data in weekly virtual lab meetings. During his 18 months of staying in our lab, he was not a typical technician. In addition to his great work ethic, he was already a Ph.D. student quality technician at that time, which was shown in his recent publication as a first author. Under the hardship of the COVID pandemic and considering short 18 months of staying in the lab, it is exceptional that he published a first-author paper in a peer-reviewed journal. I still talked about my experience with Nick to everyone who comes to our lab. I am so glad to hear that he is applying to the graduate program because I believe that someone like Nick should pursue his career as a researcher.

As a director of graduate studies in our department at Albany Medical College, I have met many graduate students. Based on my direct interaction with Nick, I absolutely believe that Nick should continue his career in academics. Not only does Nick understand and have a critical view of the articles he reads but also Nick is very good at scientific writing. Nick was involved in the manuscript and grant writings during his stay in our lab. When it comes to his project, he understands the principle of the work and found articles that help him troubleshoot in his experiments. He established analytical methods that I never worked on and explained them well in a way everybody understood. The protocol he left was flawless and we still use it in the lab to train people. Yes, like most people, his pipetting skill was not the best when he started. But he improved it immediately and produced very consistent data. I have so many episodes I could attest to his scientific talent and academic fitness. In conclusion, he is an intelligent and independent thinker. He is very responsible and

resilient. He has been persistent in pursuing science in his career. He has all that I would like to see from graduate students. Based on my experiences with Nick and other trainees, I would put Nick in the top three trainees among all trainees I have met in the past 14 years. I believe that Nick's joining the Ph.D program of Genome Science and Technology program at UBC not only help Nick grow as a great scientist but also be a great addition to the program. Please do not hesitate to contact me, if there is any question. I would love to provide further support on behalf of Nick's application. Sincerely!

Sincerely,



December 4, 2023

Young-Hwa Goo, Ph.D
Associate Professor and Director of Graduate Studies
Department of Molecular and Cellular Physiology
Albany Medical College
47 New Scotland Avenue
Albany, NY 12208
Office) 518-262-6296
Email) gooy@amc.edu

28 November 2023

To Whom It May Concern

I am writing in support of the application of the Genome Science and Technology program at University of British Columbia by Mr. Nicholas Hoeffner. I know Mr. Hoeffner for roughly one year and he worked with me from June to December 2018. Mr. Hoeffner lived in Taiwan for 14 months and earned a living as a native English teacher in a private school.

Mr. Hoeffner contacted me in June 2018 and explained to me that he wanted to involve in my research projects while he worked here in Taiwan. I was impressed by his enthusiasm in biological sciences and also was happy with his grades in his undergraduate study at Stony Brook University. He had a GPA of 3.51 and was in the Dean's list for four terms. He also had some laboratory experience as he worked as a research assistant in Jackie Collier's laboratory on microbial diversity. Coincidentally, I know Jackie Collier as she was one of the contributors in a special issue of marine mycology I edited in a SCI journal. I, therefore, had no hesitation in accepting Mr. Hoeffner to work as a volunteer in my laboratory.

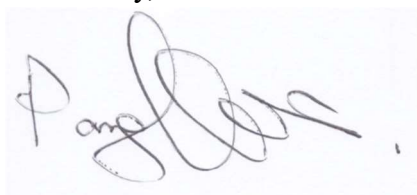
Mr. Hoeffner was involved in two of my projects in marine mycology, one on the fucoxanthin production by some fungus-like organisms and the other on the diversity of fungi associated with deep-sea crustaceans. Mr. Hoeffner was a very dedicated person as he tried to come to the laboratory as much as he could although he had a heavy teaching load in his school. He collected some red algal samples for the isolation of the Labyrinthulomycetes for fucoxanthin screening and identified these organisms based on sequencing of the 18S rRNA genes. The Labyrinthulomycetes is a group of fastidious organisms which are very difficult to isolate and he managed to isolate over 20 cultures of this group. He also isolated over 100 cultures of fungi

from several species of marine crustaceans and he worked on DNA extraction of pure cultures, PCR and sequencing of these fungi for identification.

Mr. Hoeffner came to my laboratory with a good knowledge of basic biological sciences and had learnt some new techniques in marine mycology and molecular biology. He is now able to isolate fungi and the Labyrinthulomycetes from environmental samples and identify these organisms. While he is fully capable of running project on diversity studies of marine fungi, I know he is interested in evolution of organisms through our casual conversations. His interests in biological evolution had prompted him to spend a term as an exchange student at the University of Auckland, New Zealand to focus on the study of genetics.

All in all, Mr. Hoeffner is a focused, dedicated and hardworking scientist and therefore, I have no hesitation in recommending his application of the Genome Science and Technology program at University of British Columbia.

Yours truly,

A handwritten signature in black ink, appearing to read 'Pang', followed by a stylized flourish and a comma.

Ka-Lai Pang, PhD
Professor



中央研究院分子生物研究所

INSTITUTE OF MOLECULAR BIOLOGY
ACADEMIA SINICA

November 28, 2023

Dear Committee Members,

I am writing to enthusiastically support Nicholas Hoeffner's application for your graduate student program this year. Nick has been working in my lab for the past two years. He was initially a master's degree student at National Taiwan University. After graduating this summer, Nick worked as a technician in my lab to continue his thesis project. In my opinion, Nick is one of the best students I have mentored so far, and he definitely belongs to the category of exceptional students that I have seen during my scientific career, including those that I met at Yale, UCSF, and Harvard.

Nick had little experience in molecular and evolutionary biology before joining my lab, but I was immediately impressed by his intellectual ability during our first meeting. He was able to understand those complicated evolutionary concepts mentioned in our conversation and raised interesting questions.

After Nick joined my lab, I convinced him to work on a challenging project related to genetic buffering. Although the phenomenon of genetic buffering was first observed in the 1940s, its underlying molecular mechanism remained a mystery until Susan Lindquist's work on Hsp90 started to shed light on it about 20 years ago. In the past two decades, more evidence has been provided to show that Hsp90 really works as a buffering reagent in different organisms. However, our knowledge about the physiological impact of Hsp90-buffered genetic variation is still limited.

Nick's thesis is to search for Hsp90-buffered mutations that have no or mild phenotypes when the buffering system is on, but exhibit strong growth defects or lethality when the buffering system is compromised. Since some genetic diseases only reveal strong phenotypes in stressed or aged individuals, in which the buffering system is likely compromised, it is likely that some disease-causing mutations are the targets of the buffering system. Nick was fully aware of the difficulty of the project, so he approached the question from two different angles. He first examined all essential genes to select those who are the known targets of Hsp90 and share human orthologs. He then performed random mutagenesis in some of them and compared the cell growth rate with or without knocking down Hsp90. Once he found the

candidate mutants, he reconstructed individual mutations in the wild-type gene to confirm the phenotype. In this screen, Nick has identified several mutations that show severe phenotypes only in low Hsp90 conditions. Currently, he is trying to find the underlying mechanisms why these mutations behave differently from the others in the same genes.

In Nick's second approach, he chose the gene encoding a cyclin-depend kinase (CDK) from the pervious essential gene pool to design a deep mutational scan. CDK interacts with several cyclins to regulate different cell cycle stages in both mitosis and meiosis, providing an interesting target for the fitness landscape study. Using the CDK mutant library carrying all possible single amino acid changes, Nick has performed a few pilot experiments for mitosis and meiosis. He will also compare cells with or without compromised Hsp90. From this project, we expect to obtain a complete fitness landscape of CDK in buffered and unbuffered conditions.

Nick is a quick learner in wet lab experiments. Moreover, I was impressed by Nick's ability (and mindset) to use computational simulations or automatic analysis programs to facilitate his experiments. For example, he run a simulation to determine the best mutation rate for his mutagenesis experiment. Also, he wrote an image-based program for the growth rate measurement of mutant clones, which really sped up his mutant screen.

Other than his own projects, Nick is also actively involved in other lab activities. He often asked good questions and gave helpful suggestions to other lab members in our group meetings. He organizes and runs an "evolvability" reading club in the lab because he wants to understand how the concept of evolvability was developed and defined. Among all my mentees, only Nick and two other students have achieved such a level of intellectual maturity.

I think you can sense how enthusiastic I am in writing this letter. Although Nick is still at an early stage of his scientific pursuit, he has already demonstrated his independence and talent in many aspects. A student with Nick's quality is rare, even in top-ranking universities. I sincerely recommend Nick without any reservations.

Sincerely,

A handwritten signature in black ink, appearing to read "Jun-Yi Leu". The signature is fluid and cursive, with the first name "Jun-Yi" and the last name "Leu" clearly distinguishable.

Jun-Yi Leu, Ph.D.

Distinguished Research Fellow
Institute of Molecular Biology

Academia Sinica, Taiwan

Lab website: <http://www.imb.sinica.edu.tw/~jleu/>