

Ecaterina (Cathy) Cozma

ecoзма@bccrc.ca | cathy.cozma@gmail.com

Education

University of British Columbia, Vancouver, BC

Sept 2022 - Aug 2027

PhD, Specialization in Interdisciplinary Oncology (IOP)

GPA: 3.9/4.0

Western University, London, ON

Sept 2018 – Apr 2022

Bachelor of Medical Sciences (BMSc), Honours Specialization in Biochemistry and Cancer Biology

Dean's Honour List 2019, 2020, 2021, 2022; GPA: 3.8/4.0

Publications

- Davey-Young J, Hasan F, Tennakoon R, Rozik P, Moore H, Hall P, **Cozma E**, Genereaux J, Hoffman K, Chan P, Lowe T, Brandl C, O'Donoghue P. (2024). Mistranslating the genetic code with leucine in yeast and mammalian cells. RNA Biology. <https://doi/full/10.1080/15476286.2024.2340297>
- Amitzi L, **Cozma E**, Tong AHY, Chan K, Ross C, O'Neil N, Moffat J, Stirling P & Hieter P. (2024) Mapping of DDX11 genetic interactions defines sister chromatid cohesion as the major dependency. G3. <https://doi.org/10.1093/g3journal/jkae052>
- **Cozma E**, Rao M, Dusick M, Genereaux J, Rodriguez-Mias RA, Villén J, Brandl CJ, & Berg MD (2023) Anticodon sequence determines the impact of mistranslating tRNA^{Ala} variants, RNA Biology, 20:1, 791-804, <https://doi.org/10.1080/15476286.2023.2257471>
- Berg MD, Isaacson JR, **Cozma E**, Genereaux J, Lajoie P, Villén J, & Brandl CJ (2021). Regulating Expression of Mistranslating tRNAs by Readthrough RNA Polymerase II Transcription. ACS Synthetic Biology. <https://doi.org/10.1021/acssynbio.1c00461>

Laboratory and Research Experience

PhD Thesis

Sept 2022 – Aug 2027

Supervisor: Dr. Peter Stirling

Project: Engineering trapping DNA damage repair protein variants as novel synthetic lethal cancer therapeutics

Skills: DNA cloning of mutagenic libraries, PCR, CRISPR, transient transfection, western blotting, fluorescence microscopy

Model systems: Mammalian cells, *S. cerevisiae*, *E. coli*

Terry Fox Laboratory, BC Cancer Agency, Vancouver, BC, Canada

Advanced Independent Research in Biochemistry (4499E) - Grade achieved: 96%

Sept 2021 – Apr 2022

Supervisor: Dr. Christopher Brandl

Project: Assessing factors impacting mistranslation potential of alanine tRNA anticodon variants

Skills: PCR, DNA cloning, yeast/bacterial transformation, growth curve analysis, RNA extraction, cDNA synthesis

Model systems: *S. cerevisiae*, *E. coli*

Department of Biochemistry, Western University, London, ON, Canada

Health Canada/ Translation of Cancer Research (4455G) – Grade achieved: 89%

Jan 2022 – Apr 2022

Supervisor: Dr. Alysha Croker and Dr. Alison Allen

Project: Barriers to diversity and inclusion across Canadian cancer drug clinical trials

Skills: Literature review, data collection, aggregation and presentation

Department of Biochemistry, Western University, London, ON, Canada

Health Canada | Santé Canada

Undergraduate Honours Thesis (4483G) - Grade achieved: 92%

May 2021 – Aug 2021

Supervisor: Dr. Christopher Brandl

Project: Engineering and evaluating the impact of mistranslating alanine tRNA anticodon variants

Skills: PCR, DNA cloning, yeast/bacterial transformation, growth curve analysis, RNA extraction, cDNA synthesis

Model systems: *S. cerevisiae*, *E. coli*

Department of Biochemistry, Western University, London, ON, Canada

Awards

- Best Oral Presentation Award 2024 (\$100 CAD) | Canadian Symposium for Telomere and Genome Stability
- Faculty of Medicine Graduate Award 2023 (\$4000 CAD) | University of British Columbia
- Canadian Graduate Student Master's Award 2022/23 (\$17,500 CAD/year) | Canadian Institutes of Health Research (CIHR)
- Faculty of Medicine Graduate Award 2022 (\$1500 CAD) | University of British Columbia
- Genetics Society of America Travel Award 2022 (\$300 USD) | International Yeast Genetics Conference
- Best Poster Prize Winner 2022 (\$50 CAD) | TREN D Conference, University of Toronto
- Advanced Biochemistry Research Course Award 2022 (\$50 CAD) | Schulich School of Medicine, Western University
- Scholarship of Excellence 2018 (\$2000 CAD) | Schulich School of Medicine, Western University
- Toronto Science Fair Silver Medalist 2018 | University of Toronto
- Canadian Rhythmic Gymnastics Champion and Athlete of the Year 2015, 2012 | Gymnastics Canada

Community Involvement

IUBMB Trainee Initiative Chair

Jan 2024 - Jan 2025

International Union of Biochemistry and Molecular Biology

- *I lead a team of 20 graduate students from around the world to facilitate programming for fellow trainees and enthusiasts of biochemistry and molecular biology. We cover a wide range of topics including, personal and professional growth, bench and bioinformatics skill building workshops and access to leadership opportunities. Our programming and events reach hundreds of young scientists each year and provide them with opportunities to network and build their skillsets.*

IUBMB Trainee Representative and Event Coordinator

Jan 2023 - Jan 2024

International Union of Biochemistry and Molecular Biology, Pan American Region

- *In collaboration with 3 other graduate students, I facilitate the organization of events aimed at improving the experience of trainees in science in the Pan American Region and world-wide. In June 2023, we organized a "Marketing yourself for academia and industry" workshop connecting academic and industry professionals with graduate students discussing practical tips for employment post-graduation. This event reached 65 synchronous and close to 200 asynchronous attendees from 8 different countries including, South Africa, Switzerland, France, Canada, Germany, Denmark and Nigeria, USA.*

Interdisciplinary Oncology Program (IOP) Caucus

June 2023 - Aug 2024

Interdisciplinary Oncology Program, University of British Columbia

- *I organize oncology themed workshops, contribute to the organization of program social events and help run the program website.*

BIG23 Conference Organizing Committee

Sept 2022- March 2023

University of British Columbia

- *Together with a team of 10 graduate students, we organized a local conference for ~400 graduate students focused on sharing the latest developments in the post-transcriptional and translational modifications field. This included industry leading experts, local speakers and student flash talks.*

CSMB Seminar Coordinator and Trainee Representative

Aug 2022 - Aug 2024

Canadian Society for Molecular Biosciences

- *I organize a monthly seminar series to promote the academic research of professors and trainees across Canada along with the diverse topics they study. Additionally, I advocate for graduate student inclusion and diversity in Canada.*

Conferences and Presentations

- Canadian Symposium for Telomere and Genome Stability | Oral Presenter | May 2024 | Niagara, ON, CAN
- The Allied Genetics Conference | Poster Presenter | March 2024 | Washington, DC, USA
- Pacific Northwest Yeast Genetics Conference | Oral Presenter | July 2023 | Bellingham, WA, USA
- International Yeast Genetics Conference | Oral Presenter | August 2022 | Los Angeles, CA, USA
- Toronto RNA Enthusiast's Day (TREN D) | Poster Presenter | July 2022 | Toronto, ON, CAN
- Western Student Research Expo (WSRC) | Oral Presenter | November 2021 | London, ON, CAN
- Toronto RNA Enthusiast's Day (TREN D) | Poster Presenter | July 2021 | Toronto, ON, CAN
- Western Student Research Conference (WSRC) | Oral Presenter | March 2021 | London, ON, CAN

Synthetic lethal (SL) therapies exploit genomic instability present in rapidly dividing cancer cells by targeting DNA damage repair pathways. Clinically successful SL therapies, such as PARP inhibitors, act by ‘trapping’ the PARP protein at DNA damage sites, creating persistent cytotoxic protein-DNA lesions and restricting redundant repair mechanisms^{1,2}. While trapping is an effective SL therapeutic approach, it is difficult to find inhibitors with trapping properties. Our collaborators showed that missense mutations in proteins interacting with DNA can mimic cytotoxic trapping³. Promising trapping targets include the translesion synthesis (TLS) polymerases, which are a family of low-fidelity polymerases involved in error-prone bypass of DNA lesions during replication⁴. Cancer cells come to rely on error-prone mechanisms like TLS for chemoresistance, making TLS polymerases a high-value cancer therapeutic target⁵. I hypothesize that TLS polymerase missense variants have the potential to be trapped onto DNA and model a synthetic lethal strategy in genomically unstable cancer cells. Therefore, I will engineer and characterize missense mutations in yeast TLS polymerases, to uncover variants resulting in dominant synthetic lethal or cytotoxic phenotypes which can inform future design of small molecule inhibitors. I will achieve this by (1) leveraging high-throughput mutagenesis to engineer missense mutant libraries and screen for variants with dominant negative growth phenotypes and (2) characterize the consequences of variants in trapping or TLS function.

Aim 1: Identification of dominant cytotoxic alleles of yeast TLS polymerases. To generate a missense variant library, random mutagenesis of Rev3 (the catalytic subunit of TLS Pol ζ) will be performed using error-prone PCR, producing ~15,000 unique missense variants. Initially, the variant library will be transformed into a DNA damage sensitive reporter strain developed by our lab, where only colonies containing a DNA damage inducing variant will grow. Promising variants will be isolated for sequencing and cytotoxicity will be validated via liquid growth curve assay. This primary screen will highlight functionally important regions of Rev3. A site-saturation variant (SSV) library, in which candidate residues are changed to all other amino acids, will be ordered based on the defined regions of interest. These SSV libraries will be transformed and screened as described above, to identify the mutational tolerance of specific residues and the most potent missense mutations exhibiting dominant negative growth phenotypes. Potent missense variants will be used for *in silico* mapping of drug binding pockets and to inform small molecule drug design. In addition to identifying dominant gain of function mutations, the preliminary variant library will be transformed in a *rev3Δ* background to screen for loss of function variants and further define the structure-function relationships in TLS’s, whose DNA binding and catalytic sites are highly conserved between yeast and humans. The remaining yeast TLS’s, Rad30 and Rev1 will also be mutagenized and screened as described above.

Aim 2: Characterizing cytotoxic TLS variants. TLS variants exhibiting dominant or LOF slow growth phenotypes will be characterized to determine whether cytotoxicity arises from dysregulation of (1) DNA-protein or (2) protein-protein interactions, (3) altered by-pass of DNA lesions or importantly, (4) trapping. Chromatin-immunoprecipitation (ChIP) will be used to probe alterations in DNA binding affinity and specificity of TLS variants. Protein-protein interactions will be assessed using pull-down experiments with TLS mutations in known protein binding domains. Importantly, dominant TLS alleles will be assessed for trapping potential using *in vitro* DNA binding assays at DNA damage lesions. Overall, my project will identify the most mutationally intolerant residues of TLS’s and describe their functional importance. This data will highlight potential trapping variants which can inform future design of small molecule inhibitors targeting highly conserved human TLS’s as a synthetic lethal cancer therapy.

1. Murai, J. *et al*; *Cancer Res.* **72**, 5588–5599 (2012).
2. Murai, J. *et al*; *J. Pharmacol. Exp. Ther.* **349**, 408–416 (2014).
3. Hamza, A. *et al*; *Proc. Natl. Acad. Sci.* **118**, e2100240118 (2021).
4. Waters, L. S. *et al*; *Microbiol. Mol. Biol. Rev. MMBR* **73**, 134–154 (2009).

Surname:

Cozma

Given Names:

Ecaterina

Student Number:

15894454

Date:

June 10, 2024

UBC Credentials

None to date

Transfer Credits

None to date

Winter Session 2022 - 2023

Master of Science (UBC Vancouver) - In Interdisciplinary Oncology

Term	Course	Credit Value	Course Title	% Grade	Letter Grade	Credit Rec'd	Stdg	Withdraw Date	Complete Date	Class Size	Avg
1	INDS 501	(0.0)	Instructional Skills Workshop				P				
1	MEDI 501	(3.0)	Molecular and Cellular Biology of Experimental Medicine	89	A	3.0				19	88
1	ONCO 502	(3.0)	Concepts in Oncology	91	A+	3.0				23	87
1-2	ONCO 510	(3.0)	Seminars in Oncology				T				
1-2	ONCO 549	(12.0)	Master of Science Thesis				T				
2	MEDG 505	(3.0)	Genome Analysis	94	A+	3.0				18	92
2	MEDG 521	(3.0)	Molecular and Cell Biology of Cancer	94	A+	3.0				20	88
2	ONCO 548B	(3.0)	Oncology Rotation	100	A+	3.0					

Sessional Average for MSC: 93.6%

Credits Attempted	=	Passed	Failed	Withdrawn	Audited	Incomplete
30.0	=	15.0	0.0	0.0	0.0	15.0

UBC Academic Awards

Faculty of Medicine Graduate Award

Summer Session 2023

Master of Science (UBC Vancouver) - In Interdisciplinary Oncology

Term	Course	Credit Value	Course Title	% Grade	Letter Grade	Credit Rec'd	Stdg	Withdraw Date	Complete Date	Class Size	Avg
1-2	ONCO 549	(12.0)	Master of Science Thesis				T				

Sessional Average for MSC:

Credits Attempted	=	Passed	Failed	Withdrawn	Audited	Incomplete
12.0	=	0.0	0.0	0.0	0.0	12.0

UBC Academic Awards

CIHR Canada Graduate Scholarship Master's Award

Winter Session 2023 - 2024

Master of Science (UBC Vancouver) - In Interdisciplinary Oncology

Term	Course	Credit Value	Course Title	% Grade	Letter Grade	Credit Rec'd	Stdg	Withdraw Date	Complete Date	Class Size	Avg
1-2	ONCO 510	(3.0)	Seminars in Oncology				T				
1-2	ONCO 549	(12.0)	Master of Science Thesis				T				

Sessional Average for MSC:

Credits Attempted	=	Passed	Failed	Withdrawn	Audited	Incomplete
15.0	=	0.0	0.0	0.0	0.0	15.0

Transferred to PhD

UBC Academic Awards

CIHR Canada Graduate Scholarship Master's Award

Faculty of Medicine Graduate Award

Summer Session 2024

Doctor of Philosophy (UBC Vancouver) - In Interdisciplinary Oncology

Term	Course	Credit Value	Course Title	% Grade	Letter Grade	Credit Rec'd	Stdg	Withdraw Date	Complete Date	Class Size	Avg
1-2	ONCO 649	(0.0)	Doctoral Dissertation				CIP				

Sessional Average for PHD:

Surname:
Cozma

Given Names:
Ecaterina

Student Number:
15894454

Date:
June 10, 2024

Summer Session 2024 continued...

Credits Attempted	=	Passed	Failed	Withdrawn	Audited	Incomplete
0.0	=	0.0	0.0	0.0	0.0	0.0

***** End of Record *****

The University of Western Ontario

OFFICE OF THE REGISTRAR
LONDON, ONTARIO, CANADA N6A 3K7

Student ID: 251028654
Student : Cozma, Ecaterina
Birthdate : Jul-31
OEN : 459723896

Send To: ECATERINA COZMA

ON
CANADA



Western
UNIVERSITY - CANADA

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The University of Western Ontario - Degrees Awarded				The University of Western Ontario - 2019 Fall/Winter			
Degree:	Bachelor of Medical Sciences (4 Year)			Course	Description	Units	Grd
Plan:	Honours Specialization in Biochemistry and Cancer Biology			BIOCHEM	2280A BIOCHEM & MOLEC BIOL	0.5	085
Awarded:	2022-Jun			BIOLOGY	2244A ANALYSIS & INTERPRETATION	0.5	085
				BIOLOGY	2290G SCIENTIFIC METHOD BIOLOGY	0.5	091
				BIOLOGY	2382B CELL BIOLOGY	0.5	PAS
				BIOLOGY	2581B GENETICS	0.5	PAS
				CHEM	2213A ORGANIC CHEMISTRY	0.5	087
				CHEM	2223B ORGANIC CHEM BIOLGCL MOLECULES	0.5	080
				MEDBIO	2582B IMAGING IN BIOLOGY	0.5	090
				MICROIMM	2500A BIOLOGY OF INFECTION/IMMU	0.5	083
				PSYCHOL	2040A CHILD DEVELOPMENT	0.5	083
[Note: Non-graduate scholarships are listed from May 1, 2000. Graduate scholarships are listed from September 1, 2008.]				Dean's Honor List			
2018 The Western Scholarship of Excellence				The University of Western Ontario - 2020 Summer			
Academic Program History				Course	Description	Units	Grd
Program:	Schulich Sch of Med and Dent			PHYSIOL	2130 HUMAN PHYSIOLOGY	1.0	089
Plan:	Bachelor of Medical Sciences (4 Year)						
Status:	Completed Program			The University of Western Ontario - 2020 Fall/Winter			
Basis of Admission				Course	Description	Units	Grd
W 2018 Ontario Secondary School Diploma 2018				BIOCHEM	3380G BIOCHEMISTRY LABORATORY	0.5	079
Academic Record				BIOCHEM	3381A BIOLOGICAL MACROMOLECULES	0.5	090
The University of Western Ontario - 2018 Fall/Winter				BIOCHEM	3382A BIOCHEMICAL REGULATION	0.5	079
Course	Description	Units	Grd	BIOCHEM	3383G INTRO TO BIOCHEMICAL RESEARCH	0.5	094
BIOLOGY	1001A BIOLOGY FOR SCIENCE I	0.5	084	BIOCHEM	3390B ADVANCED METHODS FOR BIOCHEM	0.5	073
BIOLOGY	1002B BIOLOGY FOR SCIENCE II	0.5	090	COMPSCI	2120A CODING ESSENTIALS	0.5	096
CALCULUS	1000A CALCULUS I	0.5	098	PATHOL	3500 HUMAN PATHOLOGY	1.0	082
CALCULUS	1301B CALCULUS II	0.5	087	PHARM	3620 HUMAN PHARM & THERAPEUTIC PRNC	1.0	083
CHEM	1301A DISCOVERING CHEMICAL STRUCTURE	0.5	090	Dean's Honor List			
CHEM	1302B DISCOVERING CHEMICAL ENERGETIC	0.5	091	The University of Western Ontario - 2021 Summer			
PHYSICS	1028A PHYSICS FOR BIOLOGICAL SCI I	0.5	083	Course	Description	Units	Grd
PHYSICS	1029B PHYSICS FOR BIOLOGICAL SCI II	0.5	078	BIOCHEM	4483E RESEARCH PROJECT & SEMINAR	1.5	092
PSYCHOL	1000 INTRODUCTION TO PSYCHOLOGY	1.0	082				
Dean's Honor List				The University of Western Ontario - 2021 Fall/Winter			
The University of Western Ontario - 2020 Fall/Winter				Course	Description	Units	Grd
The University of Western Ontario - 2020 Fall/Winter				ANATCELL	4461B TRANSLATIONAL MODELS OF CANCER	0.5	083
The University of Western Ontario - 2020 Fall/Winter				BIOCHEM	4410A MOLECULAR BIO DNA & RNA	0.5	082
The University of Western Ontario - 2020 Fall/Winter				BIOCHEM	4420A MOLECULAR BIO OF PROTEINS	0.5	067
The University of Western Ontario - 2020 Fall/Winter				BIOCHEM	4450A MOLECULAR GENETICS HUMAN CANCER	0.5	091
The University of Western Ontario - 2020 Fall/Winter				BIOCHEM	4456G TRANSLATION IN CANCER BIOLOGY	0.5	089
The University of Western Ontario - 2020 Fall/Winter				BIOCHEM	4999E ADVANCED RESEARCH IN BIOCHEM	1.0	096
The University of Western Ontario - 2020 Fall/Winter				CLASSICS	2200 CLASSICAL MYTHOLOGY	1.0	080

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Student ID: 251028654
Student : Cozma, Ecaterina
Birthdate : Jul-31
OEN : 459723896
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REGISTRAR - RESO 01/20

TRANSCRIPT VALID ONLY IF BEARING OFFICIAL SEAL/SIGNATURE IN TOP RIGHT CORNER

THE UNIVERSITY OF WESTERN ONTARIO

AFFILIATED COLLEGES: BRESCIA UNIVERSITY COLLEGE, HURON UNIVERSITY COLLEGE, KING'S UNIVERSITY COLLEGE

The University is a member of the Association of Universities and Colleges of Canada, the Association of Universities of the Commonwealth, and the International Association of Universities.
www.uwo.ca

LANGUAGE OF THE UNIVERSITY – Aside from language courses, all courses at The University of Western Ontario are taught in English.

COURSE UNITS & EQUIVALENCIES

A full course (1.0 units) normally consists of three lecture hours each week for the full year, September to April. Each full course is equivalent to six semester hours or nine quarter hours. Courses with suffixes A, B, F, G, Y, Z denote 0.5 units. Courses with 0.5 units denote half courses. Courses with 0.25 units denote quarter courses. Courses with 1.0 units denote full courses. A full course load consists of 3.5 or more courses.

GRADE POINT AVERAGE – The University of Western Ontario does not issue a grade point average for students.

COURSE TITLES appear on transcripts for all courses recorded after September 1984.

COURSE NUMBERS - Effective May 01, 2008 course numbers are 4 digits in length.

UNDERGRADUATE SCHOLARSHIPS, AWARDS, PRIZES, FELLOWSHIPS AND MEDALS awarded by the University to the student during the student's academic career at the University are available from May 01, 2000.

UNDERGRADUATE CLASS AVERAGES and SIZES - Available from September 01, 2000.

COURSE NUMBER SUFFIXES

A 0.5 course in first term	Q 0.25 course in the first half of first term
B 0.5 course in second term	R 0.25 course in the second half of first term
C January courses in the Faculty of Law (4.0 credit weight)	S 0.25 course in the first half of second term
D Feb/March/April (FMA) courses in the Faculty of Law	T 0.25 course in the second half of second term
E 1.0 essay course	U 0.25 course in other than a regular session
F 0.5 essay course in first term	V 0.375 course offered by the Faculty of Education
G 0.5 essay course in second term	W 1.0 accelerated course in first term
H 1.0 accelerated course (8 weeks) in the School of Nursing	X 1.0 accelerated course in second term
J 1.0 accelerated course (6 weeks) in the School of Nursing	Y 0.5 course in other than a regular session
K 0.75 course at the School of Business	Z 0.5 essay course in other than a regular session
L 0.5 graduate course offered in summer term (May-August)	No Suffix 1.0 course not designated as an essay course

ACADEMIC TERMS

Undergraduate, Education, Professional, Preliminary Year Careers

Fall/Winter Term:	September to April
Summer Term:	May to August

Note: the Summer Term is comprised of several sessions within the term: Intercession, Summer Evening, and Summer Day, etc.

Graduate Studies

Winter Term:	January to April
Summer Term:	May to August
Fall Term:	September to December
MBA Spring Term:	March to March

EXPLANATION OF ABBREVIATIONS

AEG Aegrotat	FTW Failed Term Work*	SAT Satisfactory*
AUD Audit*	GRD Grade	SIZ Class Size*
AVG Class Average	INC Incomplete*	SPC Special Exam*
COM Complete*	IPR In Progress*	SRP Supplemental Examination/Remedial Work passed*
CR Credit*	NC No Credit	SUP Supplemental Exam*
DEF Deferred Exam*	NGR No Grade Recorded*	UNTS Units*
DNW Did Not Write*	OEN Ontario Education Number*	WDN Withdrew (no penalty)*
DRP Dropped (penalty)*	PAS Pass*	
FAI Fail*	PWD Passed With Distinction*	

*No numeric mark recorded

GRADING SCALES (For historical grading scales, visit <http://registrar.uwo.ca/transcriptscales>)

Undergraduate Faculties and Affiliated University Colleges

Effective September 2000

A+ 90 – 100%	One could scarcely expect better from a student at this level
A 80 – 89%	Superior work which is clearly above average
B 70 – 79%	Good work, meeting all requirements, and eminently satisfactory
C 60 – 69%	Competent work, meeting requirements
D 50 – 59%	Fair work, minimally acceptable
F below 50	Fail

In some Faculties, failing grades are distinguished as follows: E 40–49% Fail with supplemental examination privileges.

Note: Grades assigned for courses taken on a letter of permission at another institution follow the grading scale of The University of Western Ontario.

Effective May 01, 2010, grades for undergraduate courses taken on exchange will be recorded as PAS+ (pass with distinction), PAS or FAI.

Faculty of Education

Effective September 2020

PAS Equivalent of 76%
FAI

The B.Ed. program is a two-year program consisting of 9.0 credits, 2.0 of which are practicum/in field components. In the course component, one credit is normally equivalent to 72 hours of classroom contact time. The practicum/in field components include 29-30 weeks of block practice teaching plus 7 weeks of alternative field experience. Prior to 2015, the one-year program was comprised of 6.0 credits, with practicum comprising 10-12 weeks. Enquiries concerning practicum days, or program requirements in place prior to September 1979, should be directed to the Faculty of Education. Before September 1999, additional qualifications half course weights are 2.0, and full course weights are 4.0. Effective September 1999, half course weights are 0.5, and full course weights are 1.0.

The School of Graduate and Postdoctoral Studies

Effective September 2002

A 80 – 100%	Note: Failure to achieve 60% (C) or higher in any undergraduate course taken as credit towards a graduate degree is interpreted as a failure.
B 70 – 79%	
C 60 – 69%	Effective November 01, 1998 Thesis courses are replaced by non-course milestones.
F 00 – 59%	

Effective Fall 1998 the appearance of "Continuous Graduate Enrollment" on the transcript indicates that all program requirements have not yet been met (e.g. if the student is pursuing research towards a thesis at this time). If the student is in a program requiring completion of a thesis, "thesis completed" will appear on the transcript following successful completion of the thesis requirements.

Schulich School of Medicine & Dentistry

Dentistry (DDS)

Effective September 1987

A 80 – 100%	C 60 – 69%
B 70 – 79%	F 00 – 59%

Medicine (MD)

Effective September 2019 (Class of 2023) and beyond

PAS Clear competency with regard to all criteria considered essential for the completion of that specific course, including a minimum of 70% on summative assessments in the course as outlined in the course syllabus.
FAI An inability to meet the minimal acceptable standards and/or competency for a specific course including a minimum of 70% on summative assessments in the course as outlined in the course syllabus.

Effective September 2004 (For students who entered the MD Program prior to September 2019)

PAS Clear competency with regard to all criteria considered essential for the completion of that specific course. On any evaluation, this will be determined by achieving a minimum of 60%.
FAI An inability to meet the minimal acceptable standards for a specific course. Less than 60%.

Faculty of Law

Effective September 2020

A+, A, A-	Excellent
B+, B, B-	Good
C+, C	Competent
C-	Barely Competent
D	Marginal Pass
F	Fail



Dear UBC 4YF competition selection committee,

It is my pleasure to relay my strongest possible endorsement for Ms. Ecaterina Cozma (Cathy), who has applied to the 4YF competition. Cathy entered my lab as a student in the Integrative Oncology Program in the summer of 2022. Since this time, she has rapidly distinguished herself as one of the most hard working, proactive, and engaged students I have had the pleasure of supervising.

Cathy came to my lab following a highly successful BSc from Western University where she received outstanding grades, but also did highly productive research in the lab of Dr. Chris Brandl. Cathy's research focused on understanding the rules by which tRNAs can lead to mis-translation (i.e. the incorporation of the wrong amino acid for a specific codon). This led to her contributing to two publication as a middle author. Importantly, the bulk of Cathy's prior work is now published with her as a 1st author in the journal RNA Biology. During this time Cathy gained a massive amount of experience in molecular biology (e.g. cloning more than 60 mis-translating tRNA genes). Her work establishes important new rules and insights to the types of tRNA mis-translation that are permitted in cells. She also gave a platform oral presentation at the Genetics Society of America meeting on Yeast Genetics and Molecular Biology at UCLA last summer. To my knowledge she was the only undergraduate to give such a talk and it was widely received as an outstanding talk. Indeed, she was recently selected to give a talk at the Canadian Symposium on Telomeres and Genome Integrity in Ontario where she won a prize for 'best talk' by a graduate student.

Since joining my lab Cathy immediately became an innovative contributor to our work and she routinely designs and executes interesting side projects. She was immediately independent and creative as a graduate student. She is curious and able to juggle many projects. She picked up and completed a stale project that needed input and this is now published in the journal G3 with her as a 2nd author. Her zeal and inquisitiveness make her really stand out and demonstrate a truly outstanding potential to make an impact with her research. Her current research project relates to deep mutational mapping of candidate anti-cancer target genes in the DNA repair pathway. Her goal is to identify dominant mutations that we can use to model small-molecule inhibition of these DNA repair proteins and use them as drug-protein avatars to define new synthetic lethal relationships and to guide smart drug discovery screen development. Cathy has brought a remarkable maturity and innovative spirit to this project and I am certain she will be successful in producing a high quality thesis with a potentially significant contribution to anti-cancer therapeutic development in the DNA repair space. She has already made significant progress on two projects, both of which will see Cathy publish as a first author in the coming year. Her work has established dominant mutational maps of two translesion synthesis polymerases that we are using to probe mechanisms of action and suggest therapeutic strategies. Cathy has learned to work in multiple model systems for this work and is a demonstrable leader in my laboratory.



At supervisory committee meetings Cathy has been applauded for the volume and quality of work she has accomplished in our time together. Cathy also brings out the best in her colleagues by being an expert troubleshooter and helping with a variety of collaborative projects. Indeed, her hard work and excitement are infectious and I think rub off positively on other students in my lab.

As Cathy is such a rare student, I was highly motivated to have her transfer to a PhD in my lab. Fortunately she has chosen to stay and pursue doctoral work with me at BC Cancer. She is technically, academically, and scientifically outstanding and improves our research environment through her energy and competence. Moreover, this recognition with a 4YF would help encourage her to pursue research with even more enthusiasm, which would benefit all of us. In short, I have no reservations at all about providing my highest recommendation for Cathy and I hope you will view her application favourably. I would be happy to answer any additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter Stirling', with a long, sweeping horizontal stroke at the end.

Peter Stirling
Distinguished Scientist, Terry Fox Laboratory, BCCRI
Professor (partner), Dept. of Medical Genetics, UBC
Email: pstirling@bccrc.ca
Tel: 778-938-7647

May 26, 2024

Re: Ecaterina (Cathy) Cozma

Dear Committee:

I met Cathy Cozma at a local research day in the fall of 2019 where I presented our ideas on tRNA variants and mistranslation. Afterward Cathy, approached me to discuss the work. I was extremely impressed by the amount Cathy had grasped, her enthusiasm for research and how well she communicated. I mentioned to her about the opportunities for summer research and she approached me about this shortly thereafter. We planned for her to do a summer studentship in the lab until covid made it impossible. I stayed in contact with Cathy and through the summer and fall she worked remotely as a volunteer with a PhD student to learn the bioinformatic skills required to do comparative analyses of genome sequences. As part of her third year program, Cathy completed a third year research course project under my supervision. Cathy then did her Honors thesis research project in my lab over the summer term (about 30 hours per week) and followed that up with an advanced research course (approximately 15 hours per week, although Cathy spent more time). Cathy then worked as a summer student in my lab for May-June and started graduate school at the University of British Columbia in the fall of 2022.

The project Cathy worked on centered on the construction and analysis of all 60 tRNA-Ala anticodon variants. Many of these mistranslate because the anticodon is not an identity element for charging of tRNA-Ala. The goal was to classify mutations that may lead to disease and generate tools for synthetic biology. Cathy's work was the biology component of a collaborative project with the Villén lab (U. Washington/ mass spectrometry) that was published in *RNA Biology* in 2023. Cathy is first author. Cathy also contributed a figure to a manuscript we published in *ACS Synthetic Biology* and helped another undergraduate student in analyzing tRNA-Leu variants, for which she appears as a co-author on a second *RNA Biology* paper.

What impressed me about Cathy from the beginning is her enthusiasm for science. This was very evident in the time she spent to independently develop bioinformatics skills, investigate avenues for new experiments and help other students in the lab. She enjoys reading and learning science and on more than one occasion directed me to a paper relevant to our work. Cathy is a tremendously committed individual. I was not surprised by this since up to the time she entered university Cathy was a world class gymnast. In my experience to have that level of success at any endeavour requires focus, commitment, passion and poise that are rarely seen. Cathy has the same level of passion and commitment for science. In addition, given Cathy's involvement in school activities, her solid grades firmly support her academic potential.

Cathy showed very strong technical skills. She has an excellent understanding of yeast molecular genetics and recombinant DNA technology in general. Strong organizational skills were required for her research project and Cathy was outstanding in this area. Cathy is an excellent communicator both in formal and informal settings. She presented her work in departmental settings and obtained very strong reviews and subsequently has won multiple

awards for her presentations . Her writing is well above average. Cathy is very willing to ask questions and is an excellent team player.

Cathy displayed tremendous ability and as an undergraduate student was working at the level of an experienced graduate student. I speak to Cathy regularly and her trajectory in her MSc project is similarly as impressive. Undoubtedly, Cathy has the potential to have an outstanding career as a research scientist.

Sincerely,

A handwritten signature in black ink that reads "Chris Brandl". The script is fluid and cursive, with the first name "Chris" and last name "Brandl" clearly distinguishable.

Dr. Chris Brandl
Professor Emeritus and Adjunct Professor
Department of Biochemistry