

# SHIREEN JOZI MSc, MRSC

## Chemist

shireenhannoon@yahoo.com | Tel: +1 (604) 375 2402 | 14975 – 104A Ave, Surrey, BC, Canada

### PROFILE

Experienced chemist working in biotechnology research and development. Skilled in antibody-drug conjugation, chemical synthesis, cell culture, and spectroscopy. Strong research professional with a Master of Science focused on Medicinal Inorganic Chemistry and Spectroscopy.

### Education

#### University of British Columbia

Jan. 2024 – Present  
Vancouver, BC, Canada

#### Simon Fraser University

Jan. 2016 – Aug. 2018  
Burnaby, BC, Canada  
M.Sc.– Medicinal Inorganic Chemistry & Spectroscopy

#### Simon Fraser University

Sep. 2011 – Dec. 2015  
Burnaby, BC, Canada  
B.Sc. (with distinction) – Chemistry, Molecular Biology and Biochemistry Joint Major

### Professional Skills

- Organic & inorganic synthesis
- Chromatography & recrystallization
- Protein purification & quantification
- Cell culture

### Work Experience

#### Doctoral Researcher in Prof. Lin Group | Department of Molecular Oncology

BC Cancer Research Center | Vancouver, BC, Canada | Jan. 2024 – Present

- Synthesized small molecules that act as Fibroblast Activation Protein (FAP) inhibitors to be used as anticancer agents
- Performed radiolabeling of molecules
- Trained graduate students on using HPLC and peptide synthesizer

#### Research Assistant Chemist | Department of Molecular Oncology

BC Cancer Research Center | Vancouver, BC, Canada | Aug. 2023 – Dec. 2024

- Performed solid-phase peptide synthesis
- Purified peptides using Prep and Semi-prep HPLC-C18
- Performed radiolabeling of peptides

#### Research Associate Chemist | Bioconjugation Team Lead

iProgen Biotech Inc. | Burnaby, BC, Canada | Sep. 2019 – Jul. 2023

- Conjugated natural products, toxins, and drugs to antibodies to develop new therapeutic candidates for cancer and other diseases
- Designed new toxins with linkers to be conjugated to proteins
- Performed conjugation reactions on recombinant proteins for COVID-19
- Performed size exclusion, Ni-NTA, ion exchange, and affinity chromatography to purify proteins
- Analyzed reaction progress using polyacrylamide gel electrophoresis (PAGE) and HPLC-SEC
- Presented research outcomes in biweekly meetings
- Team management

#### Research & Development Chemist

Aurora Biomed Inc. | Vancouver, BC, Canada | Apr. 2019 – Sep. 2019

- Performed mammalian cell culture to develop ion channel flux assays
- Performed high throughput screening of drugs using Aurora's Ion Channel Readers (ICR) to determine the inhibitory concentration (IC<sub>50</sub>) of these therapeutics in mammalian cells, such as CHO and HEK293



## Publications

- Mu, C.; **Jozi, S.**; Galdkikh, M.; Leung, A.; Clarke, R.; Bally, M.; Walsby, C. Asymmetric Dinuclear Ruthenium(III) Metallointercalation Anticancer Agents. *In Progress*.
- Miller, J.; Orvain, C.; **Jozi, S.**; Clarke, R.; Smith, J.; Blanchet, A.; Gaidon, C.; Warren, J.; Storr, T. *Chem. Eur. J.* (2018). doi:10.1002/chem.201802677

## Scholarly Contributions

- International Chemical Biology Society (ICBS) Conference| poster presentation (Vancouver, 2018)
- Canadian Society for Chemistry Conference| oral presentation (Alberta, 2018)
- 2018 Oral Presentation Competition (SFU, 2018)
- 18th Annual Poster Competition (SFU, 2017)
- BC Inorganic Discussion Weekend (Squamish, 2016)

## Hobbies & Interests



- Laboratory management
- Assisted with conference organization (Precision Medicine & Ion Channel Retreat 2019)
- performed solid phase peptide synthesis using VERSA Spotter 110

### Volunteer (Climate Change Project)

Chemists Without Borders| Global | Apr. 2019 – Sep. 2019

- Encourage the use and production of biochar as a way of keeping carbon out of the atmosphere to reduce global warming
- Connect biochar producers in Canada with biochar and climate experts at Washington State University

### Graduate Research | Medicinal Inorganic Chemistry and Spectroscopy

Simon Fraser University| Burnaby, BC, Canada | Feb. 2016 – Aug. 2018

- Synthesized seven new furoxan derivatives and their corresponding organometallic ruthenium (II) complexes to be used as anticancer and/ or antibacterial agents
- Performed bacteria cell culture (*Bacillus subtilis* and *Escherichia coli*)
- Performed Electron Paramagnetic Resonance (EPR) spectroscopy
- Used Olex2 to solve the crystal structure of two novel complexes
- Performed gel electrophoresis assays to determine the mode of interaction of organometallic compounds with DNA
- Trained and supervised undergraduate students

### Teaching Assistant

Simon Fraser University| Burnaby, BC, Canada | Sep. 2015 – Aug. 2018

- Explained fundamental concepts in organic chemistry
- Supervised and trained students in chemistry laboratories

## Awards and Certificates

- President's Academic Excellence Initiative PhD Award – UBC (2024)
- President's Academic Excellence Initiative PhD Award – UBC (2023)
- Faculty of Medicine Graduate Award – UBC (2023)
- UBC Science Co-op Supervisor Recognition Award (2020)
- Chemistry Oral Presentation Award Certificate (SFU) – Travel and Minor Research Award (Spring 2018)
- Chemistry Alumni Graduate Scholarship (Fall 2017)
- Graduate Fellowship (Spring 2017)
- Dean's Honour Roll – SFU (Spring 2015)
- Dean's Honour Roll – SFU (Spring 2013)



## Research Proposal

### Synthesis and Evaluation of Novel Fibroblast Activation Protein-targeted Radiopharmaceuticals for Detection and Radioligand Therapy of Cancer

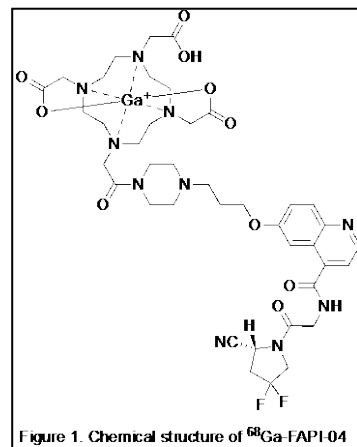
Fibroblast Activation Protein (FAP) is a serine protease that selectively cleaves peptides after proline. FAP is highly expressed in cancer-associated fibroblasts of over 90% of epithelial tumors but has minimal expression in healthy tissue.<sup>1</sup> Due to its selective expression pattern, FAP is a promising cancer imaging marker and therapeutic target. Recent studies have found that molecules with *N*-4-quinolinoyl-Gly-(2*S*)-cyanoPro scaffold, can act as potent FAP inhibitors.<sup>1,2</sup> Some of these reported FAP inhibitors have been modified and radiolabeled with gallium-68 (<sup>68</sup>Ga) for imaging with positron emission tomography (PET). The most popular FAP-targeted tracer is <sup>68</sup>Ga-FAPI-04 (Figure 1), which has been successfully used to detect 28 different kinds of cancer.<sup>3</sup> However, the short half-life of <sup>68</sup>Ga (68 min) limits its widespread application. In addition, <sup>68</sup>Ga-FAPI-04 has high uptake in muscle and bone, leading to suboptimal imaging contrast. Moreover, it is cleared quickly from tumors, hampering its application as a radiotherapeutic agent when replacing <sup>68</sup>Ga with a therapeutic isotope.

The overall goals of my PhD project are: (1) development of novel FAP-targeted tracers radiolabeled with fluorine-18 (half-life 110 min) and technetium-99m (half-life 6 h) for widespread imaging application with PET and single photon emission tomography (SPECT), respectively; and (2) development of novel FAP-targeted ligands labeled with lutetium-177, a  $\beta$ -emitter, for radiotherapeutic application. Instead of the bicyclic quinolone-based pharmacophore of <sup>68</sup>Ga-FAPI-4, Dr. Lin's group has recently developed FAP-targeted <sup>68</sup>Ga-labeled tracers based on novel monocyclic pyridine- and tricyclic benzo[*h*]quinolone-based pharmacophores.<sup>3,4</sup> These tracers exhibited improved imaging contrast and/or enhanced tumor uptake/retention compared to the current gold standard, <sup>68</sup>Ga-FAPI-4. Therefore, both monocyclic pyridine- and tricyclic benzo[*h*]quinolone-based pharmacophores discovered by Dr. Lin's group are promising candidates for the design of next-generation FAP-targeted radiopharmaceuticals for the diagnosis and therapy of cancer. I will further optimize the design of both monocyclic pyridine- and tricyclic benzo[*h*]quinolone-based pharmacophores and radiolabel them with fluorine-18, technetium-99m and lutetium-177 for detection or radioligand therapy of cancer. In addition, I will perform cell-based assays to determine the binding affinity of new radioligands to FAP, and select top candidates with high FAP binding affinity to further evaluate their detection sensitivity (for imaging tracers) and treatment efficacy (for therapeutic agents) in mice bearing FAP-expressing tumor xenografts.

There is an urgent need for more effective cancer diagnostic and therapeutic agents. FAP is a pan-cancer imaging marker and therapeutic target, and effective FAP-targeted radiopharmaceuticals are expected to benefit many cancer patients and have a huge impact on the management of cancer. The success of my PhD project will lead to promising radiopharmaceuticals for cancer diagnosis and treatment, greatly reducing cancer mortality and improving quality of life for cancer patients.

#### References

1. Jansen, K. *et al.* Extended structure–activity relationship and pharmacokinetic investigation of (4-quinolinoyl)glycyl-2-cyanopyrrolidine inhibitors of fibroblast activation protein (FAP). *J Med Chem* **2014**, 57, 3053–3074.
2. Jansen, K. *et al.* Selective inhibitors of fibroblast activation protein (FAP) with a (4-quinolinoyl)-glycyl-2-cyanopyrrolidine scaffold. *ACS Med Chem Lett* **2013**, 4, 491–496.
3. Kratochwil C. *et al.* <sup>68</sup>Ga-FAPI PET/CT: tracers uptake in 28 different kinds of cancer. *J Nucl Med* **2019**, 60, 801-805.
4. Verena, A. *et al.* Novel <sup>68</sup>Ga-labeled pyridine-based fibroblast activation protein-targeted tracers with high tumor-to-background contrast. *Pharmaceuticals* **2023**, 16, 449.
5. Bendre, S. *et al.* Development, preclinical evaluation and preliminary dosimetry





**Surname:**  
JOZI

**Given Names:**  
SHIREEN HASHIM

**Student Number:**  
45993730

**Date:**  
June 10, 2024

UBC Credentials										
None to date										
Transfer Credits										
Simon Fraser University 2011 - 2015 Simon Fraser University 2011 - 2015										
Winter Session 2023 - 2024										
<b>Doctor of Philosophy (UBC Vancouver) - In Interdisciplinary Oncology</b>										
Term	Course	Credit Value	Course Title	% Grade	Letter Grade	Credit Rec'd	Stdg	Withdraw Date	Complete Date	Class Size Avg
2	ONCO 510	(3.0)	Seminars in Oncology				T			
2	ONCO 649	(0.0)	Doctoral Dissertation				T			
2	PHYS 555B	(3.0)	Directed Studies in Physics	Mark	Missing					
<b>Sessional Average for PHD:</b>										
Credits Attempted = Passed Failed Withdrawn Audited Incomplete										
6.0 = 0.0 0.0 0.0 0.0 6.0										
<b>UBC Academic Awards</b>										
Faculty of Medicine Graduate Award										
Summer Session 2024										
<b>Doctor of Philosophy (UBC Vancouver) - In Interdisciplinary Oncology</b>										
Term	Course	Credit Value	Course Title	% Grade	Letter Grade	Credit Rec'd	Stdg	Withdraw Date	Complete Date	Class Size Avg
1	PHAR 518	(4.0)	Diagnostic Imaging and Radiopharmaceuticals			0.0	CIP			
1-2	ONCO 649	(0.0)	Doctoral Dissertation				CIP			
<b>Sessional Average for PHD:</b>										
Credits Attempted = Passed Failed Withdrawn Audited Incomplete										
4.0 = 0.0 0.0 0.0 0.0 4.0										

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






OFFICIAL TRANSCRIPT

Student Name: Jozi, Shireen Hashim  
ID Number: 301164253  
Birthdate: Apr 18

Date of Issue:

June 16 2023  
SFU-003360304-1-1

  
Tom Nault  
Registrar

Send To: University of British Columbia (UBC)  
Graduate and Postdoctoral Studies  
170-6371 Crescent Road  
Vancouver, BC V6T 1Z2  
Canada



**Credentials Awarded**

Credential Awarded: Bachelor of Science (with Distinction)  
Joint Major in Molecular Biology and Biochemistry  
Joint Major in Chemistry  
Faculty: Faculty of Science  
Credential GPA: 3.56  
Credential Awarded Date: Feb 1, 2016  
Credential Confer Date: Jun 7, 2016

Credential Awarded: Master of Science  
Faculty: Faculty of Science  
Credential GPA: 4.00  
Credential Awarded Date: Sep 11, 2018  
Credential Confer Date: Oct 4, 2018

**Beginning of Undergraduate Record**

**2011 Fall**

Science Year One Program, Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
BISC 101	General Biology		4.00	4.00	A	16.00	B-	124
CHEM 121	General Chem/Lab I		4.00	4.00	B-	10.68	B-	115
HUM 130	Intro to Religious Studies		3.00	3.00	A	12.00	B+	32
MATH 154	Calculus I for Biological Sci.		3.00	3.00	A-	11.01	C+	111
Term Totals:			14.00	14.00		49.69		
Cumulative Totals:			14.00	14.00		49.69		
Term GPA:		3.55	Cumulative GPA:		3.55			
Academic Standing:		Good Academic Standing						







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**2012 Spring**

Science Year One Program, Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
BISC 102	General Biology		4.00	4.00	A-	14.68	B-	94
CHEM 122	General Chemistry II		2.00	2.00	A-	7.34	B	98
CHEM 126	General Chem Lab II		2.00	2.00	B+	6.66	B	58
HSCI 140	Complementary/Alternative Med.		3.00	3.00	B+	9.99	B-	38
MATH 155	Calculus II for Biological Sci		3.00	3.00	A	12.00	B-	96

Term Totals:		14.00	14.00		50.67
Cumulative Totals:		28.00	28.00		100.36
Term GPA:	3.62	Cumulative GPA:		3.58	
Academic Standing:	Good Academic Standing				

**2012 Summer**

Science Year One Program, Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
ENGL 101W	Introduction to Fiction		3.00	3.00	B+	9.99	B-	100
PHYS 101	Physics for Life Sciences I		3.00	3.00	A-	11.01	B-	135

Term Totals:		6.00	6.00		21.00
Cumulative Totals:		34.00	34.00		121.36
Term GPA:	3.50	Cumulative GPA:		3.57	
Academic Standing:	Good Academic Standing				

**2012 Fall**

Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
BISC 202	Genetics		3.00	3.00	B+	9.99	B-	265
CHEM 281	Organic Chemistry I		4.00	4.00	A-	14.68	B	388
PSYC 102	Intro. Psychology II		3.00	3.00	B+	9.99	B-	101
STAT 201	Statistics for Life Sciences		3.00	3.00	B+	9.99	B-	231

Term Totals:		13.00	13.00		44.65
Cumulative Totals:		47.00	47.00		166.01
Term GPA:	3.43	Cumulative GPA:		3.53	
Academic Standing:	Good Academic Standing				








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**2013 Spring**  
Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 282	Organic Chemistry II		2.00	2.00	B	6.00	C+	302
KIN 140	Contemporary Health		3.00	3.00	A	12.00	B+	56
MBB 222	Molecular Biology and Biochem.		3.00	3.00	A-	11.01	B-	283
PHYS 102	Physics for Life Sciences II		3.00	3.00	B+	9.99	B	242
PHYS 130	Physics for Life Sciences Lab		2.00	2.00	B+	6.66	B+	23

Term Totals: 13.00 13.00 45.66  
Cumulative Totals: 60.00 60.00 211.67  
Term GPA: 3.51 Cumulative GPA: 3.53  
Academic Standing: Good Academic Standing  
Term Honour: Dean's Honour Roll

**2013 Summer**  
Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 286	Organic Chem Lab II		2.00	2.00	A	8.00	B	17
MBB 231	Cellular Biology and Biochem.		3.00	3.00	A-	11.01	B	143

Term Totals: 5.00 5.00 19.01  
Cumulative Totals: 65.00 65.00 230.68  
Term GPA: 3.80 Cumulative GPA: 3.55  
Academic Standing: Good Academic Standing

**2013 Fall**  
Bachelor of Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 215	Analytical Chemistry		4.00	4.00	B+	13.32	B	76
CHEM 230	Inorganic Chemistry		3.00	3.00	B+	9.99	B-	60
MBB 321	Intermediary Metabolism		3.00	3.00	A-	11.01	B	168
MBB 331	Molecular Biology		3.00	3.00	B	9.00	B-	164

Term Totals: 13.00 13.00 43.32  
Cumulative Totals: 78.00 78.00 274.00  
Term GPA: 3.33 Cumulative GPA: 3.51  
Academic Standing: Good Academic Standing







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**2014 Spring**

Bachelor of Science- Co-Operative Education Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 260	Atoms,Molecules,Spec		4.00	4.00	B	12.00	B-	43
CHEM 360	Thermodynamics-Chem. Kinetics		3.00	3.00	A-	11.01	B-	59
MBB 309W	Biochemistry Laboratory		4.00	4.00	B+	13.32	B	87
Term Totals:			11.00	11.00		36.33		
Cumulative Totals:			89.00	89.00		310.33		
Term GPA:			3.30		Cumulative GPA:		3.49	
Academic Standing:			Good Academic Standing					

**2014 Summer**

Joint Major in Molecular Biology and Biochemistry, Joint Major in Chemistry, Bachelor of Science- Co-Operative Education Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 236W	Inorganic Chemistry Laboratory		3.00	3.00	A	12.00	B	19
CHEM 380	Id Organic Compounds		4.00	4.00	A	16.00	B+	21
Term Totals:			7.00	7.00		28.00		
Cumulative Totals:			96.00	96.00		338.33		
Term GPA:			4.00	Cumulative GPA:		3.52		
Academic Standing:			Good Academic Standing					

**2014 Fall**

Joint Major in Molecular Biology and Biochemistry, Joint Major in Chemistry, Bachelor of Science- Co-Operative Education Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 306	Practicum I		0.00	3.00	P	0.00	-	5
Term Totals:			0.00	0.00		0.00		
Cumulative Totals:			96.00	96.00		338.33		
Term GPA:			0.00	Cumulative GPA:		3.52		







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**2015 Spring**

Joint Major in Molecular Biology and Biochemistry, Joint Major in Chemistry, Bachelor of Science- Co-Operative Education Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 316	Instrumental Anal.		4.00	4.00	A-	14.68	B	22
CHEM 444	Organic Materials		3.00	3.00	A	12.00	B	31
HUM 385	Select.Topics European Studies		4.00	4.00	B+	13.32	B	29
MBB 423	Protein Structure and Function		3.00	3.00	B+	9.99	B-	14
MBB 440	Sel.Topics/Cont.Mol.Biol.		3.00	3.00	B+	9.99	A-	11
Course Topic: ST-Epithelial Biology								

Term Totals: 17.00 17.00 59.98  
Cumulative Totals: 113.00 113.00 398.31

Term GPA: 3.53 Cumulative GPA: 3.52  
Academic Standing: Good Academic Standing  
Term Honour: Dean's Honour Roll

**2015 Summer**

Joint Major in Molecular Biology and Biochemistry, Joint Major in Chemistry, Bachelor of Science- Co-Operative Education Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 332	Transition Metals		3.00	3.00	A	12.00	B-	33
CHEM 336	Advn.Inorgan.Chem Lb		2.00	2.00	A	8.00	B	15

Term Totals: 5.00 5.00 20.00  
Cumulative Totals: 118.00 118.00 418.31

Term GPA: 4.00 Cumulative GPA: 3.55  
Academic Standing: Good Academic Standing

**2015 Fall**

Joint Major in Molecular Biology and Biochemistry, Joint Major in Chemistry, Bachelor of Science- Co-Operative Education Science

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 481	Undergrad. Research		5.00	5.00	A	20.00	-	6

Term Totals: 5.00 5.00 20.00  
Cumulative Totals: 123.00 123.00 438.31

Term GPA: 4.00 Cumulative GPA: 3.56  
Academic Standing: Good Academic Standing

**End of Undergraduate Record**







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### Beginning of Graduate Record

#### 2016 Spring

Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 839	Special Topics Inorganic Chem		3.00	3.00	A	12.00	-	4
	Course Topic: ST-Inorganic Spectroscopy							
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	37
Term Totals:				3.00		12.00		
Cumulative Totals:				3.00		12.00		
Term GPA:		4.00	Cumulative GPA:			4.00		

#### 2016 Summer

Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	34
Term Totals:				0.00		0.00		
Cumulative Totals:				3.00		12.00		
Term GPA:		0.00	Cumulative GPA:			4.00		

#### 2016 Fall

Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 801	Student Seminar		3.00	3.00	A	12.00	A	19
CHEM 839	Special Topics Inorganic Chem		3.00	3.00	A	12.00	-	6
	Course Topic: ST-Spectroscopy & Magnetism							
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	36
Term Totals:				6.00		24.00		
Cumulative Totals:				9.00		36.00		
Term GPA:		4.00	Cumulative GPA:			4.00		

#### 2017 Spring

Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 802	M.Sc. Research Proposal		3.00	3.00	A	12.00	A	17
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	34
Term Totals:				3.00		12.00		
Cumulative Totals:				12.00		48.00		
Term GPA:		4.00	Cumulative GPA:			4.00		







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### 2017 Summer

#### Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	32
Term Totals:				0.00		0.00		
Cumulative Totals:				12.00		48.00		
Term GPA:		0.00	Cumulative GPA:			4.00		

### 2017 Fall

#### Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	45
Term Totals:				0.00		0.00		
Cumulative Totals:				12.00		48.00		
Term GPA:		0.00	Cumulative GPA:			4.00		

### 2018 Spring

#### Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 898	M.Sc. Thesis		18.00	0.00	IP	0.00	-	47
Term Totals:				0.00		0.00		
Cumulative Totals:				12.00		48.00		
Term GPA:		0.00	Cumulative GPA:			4.00		

### 2018 Summer

#### Master of Science in Chemistry

Course	Description	Repeated	Units Attempted	Units Completed	Grade	Grade Points	Class Average	Class Enrollment
CHEM 898	M.Sc. Thesis		18.00	18.00	CO	0.00	-	46
Term Totals:				18.00		0.00		
Cumulative Totals:				30.00		48.00		
Term GPA:		0.00	Cumulative GPA:			4.00		

### Milestones

#### Thesis

Title: Nitric Oxide donating Furoxan derivatives and Ruthenium(II) complexes as anticancer and antibacterial agents  
Date Completed: Aug 27, 2018

### End of Graduate Record








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## Scholarships, Medals and Prizes

### Undergraduate

**2011 Fall**  
The B.C. Secondary School Summit Entrance Scholarship

### Graduate

**2017 Spring**  
Graduate Fellowship

**2017 Fall**  
Chemistry Alumni Graduate Scholarship

**2018 Spring**  
Travel & Minor Research Award

--- End of Transcript ---





Transcript Key

Simon Fraser University  
8888 University Drive  
Burnaby, BC  
Canada V5A 1S6  
www.sfu.ca

Simon Fraser University was established by the Universities Act (British Columbia) in 1963. The University is a member of the Association of Universities and Colleges of Canada (AUCC), and is accredited by the Northwest Commission on Colleges and Universities (NWCCU).

English is the language of instruction and communication at the University.

Academic Sessions

The University operates under the **trimester** system consisting of three regular terms within the twelve month calendar year.

Student Record and Transcript Notations

Notations are placed on a student’s record to indicate a status or standing and provide additional information to the student and the University. Notations do not impact a student’s grade point average. Class average is calculated when a class enrollment has 10 or more students.

Grading System

Graduate Grade & Definition		Undergraduate Grade & Definition		Numerical Equivalent
A+		A+	Excellent performance	4.33
A		A		4.00
A-		A-		3.67
B+		B+	Good performance	3.33
B		B		3.00
B-		B-		2.67
C+		C+	Satisfactory performance	2.33
C		C		2.00
		C-D		1.67
		D	Marginal performance	1.00
		P	Satisfactory performance or better (pass, ungraded)	No equivalent
		CR	Credit without grade	No equivalent
		NC	No credit	No equivalent
F		F	Fail (unsatisfactory performance)	0.00
FD	Fail (academic discipline)	FD	Fail (academic discipline)	0.00
N	Did not write final exam or otherwise complete course	N	Did not write final exam or otherwise complete course	0.00
S	Satisfactory			No equivalent
U	Unsatisfactory			No equivalent
UD	Unsatisfactory (academic discipline)			No equivalent

Temporary Grades			
Graduate Grade	Undergraduate Grade	Definition	Numerical Equivalent
DE	DE	Deferred grade	No equivalent
GN	GN	Grade not reported	No equivalent

Transcript Notations			
Graduate Notations	Undergraduate Notations	Definition	Numerical Equivalent
AE	AE	Aegrotat standing, compassionate pass	No equivalent
AN		Did not complete Audit	No equivalent
AU	AU	Audit	No equivalent
	CC	Course challenge	No equivalent
	CF	Course challenge fail	No equivalent
	CN	Did not complete course challenge	No equivalent
CO		Course complete	No equivalent
	FX	Formal exchange/double degree	No equivalent
IP	IP	In progress	No equivalent
	W	Withdrawn (competency and practicum)	No equivalent
WD	WD	Withdrawal	No equivalent
WE	WE	Withdrawal under extenuating circumstances	No equivalent

For more information about the university’s grading system, refer to the Grading Systems and Policies section of the University Calendar ([www.sfu.ca/calendar](http://www.sfu.ca/calendar)).

- Prior to Fall 1970, the A grade was defined as ‘First class’, the B grade was defined as ‘Second class’, the P grade was defined as ‘Pass’, and the F grade was defined as ‘Fail’ in the graduate grading system.
- Effective Fall 1970, the numerical value was added to the graduate grading system.
- Effective Fall 1986, the A-, B+, and B- grades were added to the graduate grading system.
- Effective Fall 1986, the P grade was replaced with a C grade in the graduate grading system.
- Effective Fall 1991, the definition of the grade C- was changed to ‘Marginal performance’ in the undergraduate grading system.
- Effective Fall 2002, the A+ and C+ grades were added to the graduate grading system.
- Effective Summer 2009, the FD grade was added to the undergraduate and graduate grading system.
- Effective Spring 2021, a pilot Elective Grade System including the P, CR, NC grades, was created.

Grade Point Averages

The grade point average (GPA) is a method of expressing the student’s performance as a numerical average. The GPA is computed by dividing the total grade points earned by the total units completed in the term to the second decimal place. Grades without a numerical equivalent are not included in the calculation of the grade point average. The cumulative grade point average (CGPA) expresses performance as a numerical average for all terms completed and is closed in the term in which a degree or diploma is awarded by Senate. A new CGPA begins when a student returns for further studies following the awarding of a degree or diploma. The CGPA is calculated by dividing the total grade points earned to date by the total units undertaken to date to the second decimal place. Units earned in FAL X99 & FAN X99 are additive, and do not count towards the total units required for a degree. The grades received in FAL X99 & FAN X99 are included in calculation of the cumulative grade point average.

- Undergraduate Grading System: The CGPA calculated for terms completed prior to the Fall 1979 includes repeated courses.
- Graduate Grading System: Effective April 1986, the CGPA is the cumulative average of the grade points earned in the SFU graduate courses taken toward a master’s or doctoral degree, or a graduate diploma or certificate.

Academic Awards

Merit based awards (fellowships, scholarships, prizes, and medals) administered and/or adjudicated by the University after Fall 2003 are noted on the transcript of academic record. Graduate scholarships paid through payroll before 2010 may not be noted on the transcript. Monetary values and the duration of the listed awards are not included.

Academic and Degree Standing

Undergraduate Degree

Academic Honours and Distinction Criteria			
Prior to Fall 2010		Effective Fall 2010	
Degree & Designation	Cumulative GPA	Degree & Designation	Cumulative GPA
Honours Degree with first class honours	3.50 or greater	Honours Degree first class with distinction	4.00 or greater
Honours Degree	3.00 or greater	Honours Degree with distinction	3.50 or greater
Degree	2.00 or greater	Honours Degree	3.00 or greater
		Degree first class with distinction	4.00 or greater
		Degree with distinction	3.50 or greater
		Degree	2.00 or greater

Undergraduate degree or Honours undergraduate degree: minimum 120 units.

Honour Roll Criteria

- Prior to Spring 2021, University Honour Roll: Completion of a minimum of 30 units at SFU; completion of a minimum of 12 units in the term being evaluated; minimum term GPA of 4.00.
- Effective Spring 2021, President’s Honour Roll: Completion of a minimum of 30 units at SFU; completion of a minimum of 12 units counted toward the GPA in the term being evaluated; minimum term GPA of 4.00; no grade of FD in any course in the term being evaluated; not enrolled in EDUC 404 in the Professional Development Program (PDP) or the Professional Linking Program (PLP).
- Dean’s Honour Roll: Completion of a minimum of 30 units at SFU; completion of a minimum of 12 units counted toward the GPA in the term being evaluated; minimum term GPA of 3.50; no grade of FD in any course in the term being evaluated; not enrolled in EDUC 404 in the Professional Development Program (PDP) or the Professional Linking Program (PLP).

Graduate Degree

- The minimum CGPA for continuation and graduation is 3.00 for master’s and doctoral programs, unless specifically exempted by the Senate Graduate Studies Committee.
- The minimum CGPA for continuation and graduation is 2.50 for graduate diploma & certificate programs.
- An S/U (Satisfactory/Unsatisfactory) grade may be used for a designated course.

Definitions

EXCM - course repeated and is excluded from credential and GPA.  
ILGL - course repeated with no permission and is excluded from credential and GPA.  
Milestones - a requirement necessary for a degree, but not associated with a class.  
NONE - course repeated and is included in credential and GPA.  
PETM - course repeated with permission and is included in credential and GPA.  
REIG - course repeated and is included in credential and GPA.





May 21, 2024

Re: Reference letter for Ms. Shireen Jozi's Four Year Doctoral Fellowship application

To whom it may concern,

It is my great pleasure to support Ms. Shireen Jozi's Four Year Doctoral Fellowship application. Shireen joined my lab in August 2023, first as a Research Assistant, and then converted to a PhD student in the Interdisciplinary Oncology Program (IOP) in January 2024.

Shireen obtained both of her BSc (with Distinction, 2016) and MSc (2018) degrees from the Chemistry Department of Simon Fraser University. Her Master of Science training was in medicinal inorganic chemistry and spectroscopy, and her research was focused on developing novel nitric oxide donating furoxan derivatives and ruthenium-based organometallic complexes as anticancer and/or antibacterial therapeutics. As documented in her CV, Shireen has demonstrated academic excellence and research potential with high accumulated GPAs (BSc: 3.56/4.0; MSc: 4.0/4.0), standings on Dean's Honour Roll, various scholarships and research awards. Her MSc research work also led to one peer-reviewed publication and several internal and external oral/poster presentations.

Before joining my lab, Shireen was working for iProgen Biotech Inc. (2019-2023) as a Research Associate Chemist and the Bioconjugation Team Lead. Her research was focused on the development of novel toxins and toxin-conjugated antibodies as therapeutic agents for cancer and other diseases. Her trainings from both graduate study at Simon Fraser University and industry at iProgen Biotech Inc. confer her the great skills in the design and synthesis of drug candidates, especially for application for cancer therapy.

Shireen is extremely hard working and very productive. She lives in Surrey and it takes > 1 h commute from her home to BC Cancer Research Centre (2 bus rides and one skytrain ride each way). However, Shireen still shows up at work at 8 o'clock in the morning everyday. When working as a Research Assistant, she was responsible for the progress of my two Collaborative Research Agreements (CRAs) with a pharmaceutical company. In just five months (August – December, 2023), Shireen successfully synthesized and purified 21 G protein-coupled receptor-targeted peptides, measured their binding affinities, characterized their agonist/agonist characteristics, radiolabeled potential candidates and evaluated them by imaging and biodistribution studies in tumor-bearing mice. She is much more productive than most graduate students and even postdoctoral fellows, and can easily complete up to 3-fold work load of others in the same given time period. She is currently summarizing her data obtained while working as a Research Assistant, and a manuscript would be written and submitted for publication in the next few months.

Shireen's PhD project is focused on the development of fibroblast activation protein (FAP)-targeted radiopharmaceuticals for detection and radioligand therapy of cancer. FAP is overexpressed on cancer-associated fibroblasts and is a well-established tumor marker. Several FAP-targeted radioligands have been developed in the past 5 years and evaluated in the clinic. Despite showing high sensitivity for cancer detection, their application as radiotherapeutic agents is hampered by the low tumor uptake and fast




clearance from tumors, leading to suboptimal radiation absorbed dose and treatment efficacy. Shireen's project is focused on exploiting novel pharmacophores to enhance tumor uptake and retention of FAP-targeted radiopharmaceuticals to improve treatment efficacy. Despite being a new project to her, Shireen went through the related literature quickly and came up with her own ideas of novel pharmacophores as well as novel synthetic strategies for their preparation. This demonstrates her solid trainings in drug design and synthesis, as well as her creativity and thinking on the design of next-generation drug candidates. Based on her hard working, solid training and creativity, I can expect that she would be very productive in the next 4-5 years as a PhD student.

Shireen gets along very well with all other lab members and always offers help when needed. In addition to Shireen, there are two more IOP PhD students (Sheetal pathania and Fatemeh Radnia) joining my lab at the same time in January 2024. Since Shireen has been in my lab for 5 months before converting to a PhD student, she helps mentor and train Sheetal and Fatemeh. In a very short time, both Sheetal and Fatemeh quickly learned the needed laboratory techniques from Shireen including solid phase peptide synthesis using a peptide synthesizer, peptide purification using HPLC, and peptide identity confirmation using an LC-MS system. This demonstrates Shireen's excellent personal characteristics and interpersonal skills.

Traditionally, our research field of radiopharmaceutical Sciences is dominated by male scientists, and I am very excited to see a such talented female trainee joining my lab. I believe that based on her talents, solid training and hard working, Shireen will thrive in the next 4-5 years as a PhD student, and therefore, I strongly recommend Shireen as a receipt of the Four Year Doctoral Fellowship.

Please let me know if you have any questions or require further information regarding Shireen's qualification as an award candidate.

Sincerely,

Kuo-Shyan Lin, PhD   
Professor, Department of Radiology, University of British Columbia  
Distinguished Scientist, Department of Molecular Oncology, BC Cancer Research Centre  
675 West 10<sup>th</sup> Ave, Rm 4-123, Vancouver, BC V5Z 1L3  
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June 12<sup>th</sup>, 2023

**RE: Reference letter for Shireen Jozi**

Dear Sir or Madam,

I am happy to prepare this reference letter for Shireen Jozi to support her Ph.D. application. I have known Shireen for nearly 3 years since her employment at iProgen Biotech Inc beginning on 16th/September/2019, and Shireen has always worked under my supervision.

Shireen has been maintaining communications with me regarding her researches and works in biotechnology.

**\*Role within the company\***

Prior to joining iProgen, Shireen practiced her specialization in chemistry briefly at Aurora Biomedical Inc. (Vancouver, BC). Because of her expertise in chemistry, we recruited her to lead the drug conjugation team at iProgen. Within the team, Shireen is in charge of 1) researching methods of chemical reactions to derivatize the current anti-cancer drugs, 2) producing the therapeutic leads in small scale quantity for pilot test in-vitro as well as in-vivo internally at iProgen, 3) scaling up the synthesis quantity and improve the drug purity for validation and/or animal testing externally, and 4) training and managing junior-level staff members in the team to streamline the drug production activities (i.e., high-throughput screening of various reaction methods, and deliver the final products before deadlines).

**\*Suitability, motivation, and intellectual capacity \***

**A) Excellent academic ability and initiative**

Shireen is smart and is a quick learner. Shireen is able to work independently, and is proficient at producing high quality chemical products at iProgen. In addition, Shireen excels in protein-drug conjugation and purification (i.e., ion-exchange chromatography, affinity purification, and quick size-exclusion chromatographic isolation of proteins). Combined with her excellent school grades, Shireen has the academic ability to learn, and she has the talent and initiatives to apply what she has learned to actual hands-on applications.



B) Excellent quantitative, analytical, reasoning, critical thinking, complex problem-solving, and management skills

Beside her talents, the scientific skill set that Shireen acquired from working at iProgen includes the abilities to perform quantitative and analytical tasks. Shireen has demonstrated to me her good reasoning and critical thinking and complex problem-solving skills for working independently and troubleshooting the tasks that we assigned to her. Shireen has the quantitative and analytical skills to determine the precise amount of sample materials needed for each individual steps involved in completing the chemical synthesis, and she did critical thinking on a daily basis to decide which tasks to carry out next to allow her to multitask and to troubleshoot to recover from problems (i.e., design and perform optimization to increase sample yield for analysis). Shireen has all these skills because she can work independently, and can troubleshoot and resolve the technical challenges on her own. At iProgen, Shireen is also able to orchestrate the team to streamline high-throughput production of multiple chemical products demonstrating her good management skills and leadership quality.

C) Ability to interpret and communicate data clearly and effectively

During her training under my supervision, we worked interactively and spent time on troubleshooting and improving the technical challenges involved in protein-drug conjugation. Shireen has used her ability to interpret results and communicate to me clearly and effectively on acquiring specific and additional work knowledge at iProgen, and these have allowed Shireen to learn quickly to become proficient in our team. Besides successfully completing her assigned tasks at iProgen, Shireen has done excellent PowerPoint slide presentations for all our research meetings at iProgen. Her oral presentation and her PowerPoint slides were all delivered excellently, and the information presented were interpreted and communicated clearly and effectively to everyone at iProgen.

D) Demonstrated compassion, professionalism, integrity, and sense of social justice

Most importantly, Shireen has produced good results, and reproduced consistent and quality products. Shireen also demonstrated good leadership quality as she trained the newly hired employees in our team at iProgen. She has been awarded the UBC Science Co-op Supervisor Award in 2020. Beside her good technical skills and performance, Shireen has excellent attendance record (i.e., no absence). Shireen came to the company on time, and finished the jobs assigned to her at the end of the day. I sensed Shireen's compassion, professionalism, integrity, and sense of social justice at the end of every working day at iProgen as Shireen cleaned up her workspace and processed the wastes (i.e., organic solvent by-products) in a responsible manner. Shireen is definitely conscious about keeping the environment sustainable.





**iProgen Biotech Inc.**  
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Shireen is highly interested in learning and contributing to sciences that benefit human health, and she has been constantly exposed to human health sciences academically in the form of school educations and professionally in the form of work experiences. I believe that Shireen has the talent and aptitude to become Ph.D. student because she has a very good academic achievements (i.e., well above the class average, and highly competitive for many professional and post-graduate schools applications). Combined with her good knowledge and hand-on work experiences and backgrounds, I write this letter to support her Ph.D. application.

Sincerely,

Leo Lin, Ph.D.  
Lead Scientist,  
iProgen Biotech Inc.,  
604-720-6649  
[leolin@iprogen.com](mailto:leolin@iprogen.com)

June 12<sup>th</sup>, 2023