

SingHealth CV

Updated as at 23.08.2020



(1) Personal Particulars

Full Name : Leong Sum

Last Name: Leong

(2) Brief Biography

Dr Leong Sum is currently a Consultant Radiologist in the Department of Vascular and Interventional Radiology (DVIR), Singapore General Hospital. He received his undergraduate medical training in the Trinity College, University of Dublin where he was also awarded the prestigious Foundation Scholarship. Following this he completed his Radiology training in Ireland and obtained his Certificate of Completion of Specialist Training in 2013. He obtained a Masters of Medical Science in Medical Education with distinction from the Queen's University of Belfast.

He regularly performs a wide range of hepatobiliary, gastrointestinal and endovascular procedures. His interests are in diagnosis and treatment of peripheral arterial disease, management of dysfunctional dialysis access, loco-regional therapies for liver, kidney and pulmonary tumors. He also has a keen interest in research and education. He is currently the fellowship director for DVIR, co-investigator in multiple clinical trials and is teaching faculty for Singhealth Radiology residency program.

(3) Current Appointment Details

Employer: Singapore Health Services

Title / Department / Institution of Appointment	From	To
Consultant / Dept of Vasc & Interventional Radiology / Singapore General Hospital	Aug 2017	Current

(4) Academic & Professional Qualifications

Qualification	Country	Major/ Specialization	Name of School/ Institute/ University	Date of Attainment	Highest Qualification
PostGrad Med	Spain	Radiology	European Board of Radiology	2013	
PostGrad Med	Ireland	Radiology	Royal College of Surgeons in Ireland	2011	X
Masters Degree	United Kingdom	Medical Science	The Queen's University of	2010	

			Belfast		
PostGrad Med	Ireland	Surgery	Royal College of Surgeons in Ireland	2007	
Degree	Ireland	Medicine and Surgery (Obstetrics)	University of Dublin	2005	

(5) Professional Licensure

(A) Professional License

Licensing Board	Licensing Number	From	To	Country
SMC	M19412C	28/10/2016	current	Singapore
SMC	M19412C	09/01/2014	27/10/2016	Singapore

(B) Specialty Certificate

Certifying Board	Certificate Number	Name of Medical Specialty	Year	Country
Singapore Medical Council		Diagnostic Radiology	2014	Singapore

(6) Membership in Professional & Academic Societies

Organisation / Professional Body	Rank/ Title/ Position	From	To
Singapore Radiological Society	Member	March 2017	Current

(7) Appointments & Employment History

Employer	Title / Department / Institution of Appointment	From	To
Singapore Health Services	Consultant / Dept of Diagnostic Radiology / Singapore General Hospital	Nov 2015	Current
Singapore Health Services	Associate Consultant / Dept of Diagnostic Radiology / Singapore General Hospital	Jan 2014	Oct 2015

(8) Publications

(A) Refereed Journals

1. Leong S, Cahill RA, Stephens RB, Mehigan BJ. Evaluating the learning curve of Laparoscopic Colectomy: A view from below. *International Journal Of Colorectal Diseases* 2007 Sep;22(9):1109-1115. JIF 1.8
2. Keeling A, Leong S, Logan PM, Lee MJ. Empyema or effusion: Outcome of image-guided Small-bore catheter drainage. *Cardiovasc Intervent Radiol.* 2007 Oct 18; [Epub ahead of print] JIF 2.77
3. Leong S, Abbas S, Galvin L, Moroney J, Brennan P, Thornton J. Emergency stenting of an acute internal carotid artery occlusion from spontaneous dissection. *Interv Neuroradiol.* 2008 Mar 30;14(1):69-72. Epub 2008 May 12. JIF 2.64
4. Keeling AN, Khalidi K, Leong S et al. Subintimal angioplasty: predictors of long-term success. *J Vasc Interv Radiol.* 2009 Aug;20(8):1013-22. JIF 2.20
5. Leong S, Keeling AN, Lee MJ. A survey of interventional radiology awareness among final-year medical students in a European country. *Cardiovasc Intervent Radiol.* 2009 Jul;32(4):623-9. Epub 2009 May 16. JIF 2.77
6. Leong S, Keeling AN, McGrath FP, Lee MJ. Transcatheter embolisation of renal angiomyolipoma. *Ir J Med Sci.* 2010 Jun;179(2):211-6. Epub 2009 Jul 18. JIF 0.66
7. Keeling AN, Khalidi K, Leong S et al. Below knee angioplasty in elderly patients: Predictors of major adverse clinical outcomes. *Eur J Radiol.* 2009 Sep 16. [Epub ahead of print] JIF 2.94
8. Malik V, Goh KS, Leong S et al. Risk and outcome analysis of 1832 consecutively excised basal Cell carcinoma's in a tertiary referral plastic surgery unit. *J Plast Reconstr Aesthet Surg.* 2010 Mar 10. [Epub ahead of print] JIF 1.66
9. Keeling AN, Slattery MM, Leong S, McCarthy E et al. Limited-preparation CT colonography in frail elderly patients: a feasibility study. *AJR Am J Roentgenol.* 2010 May;194(5):1279-87. JIF 3.22
10. Leong S, Oisin F, Barry JE, Maher MM, Bogue CO. Bilateral inferior vena cava filter insertion in a patient with duplication of the infrarenal vena cava. *Ir J Med Sci.* 2010 Jun 19. JIF 0.661
11. Al-azawi D, Leong S, Wong L, Kay E, Hill AD, Young L. HER-2 positive and p53 negative breast cancers are associated with poor prognosis. *Cancer Invest.* 2011 Jun;29(5):365-9. JIF 2.06
12. Leong S, O'Connor OJ, Doyle D, Murphy DM, Maher MM. Increased FDG uptake on PET-CT post-bronchoalveolar lavage: A potential cause of radiological misinterpretation. *J Thorac Imaging.* 2011 Aug;26(3):W89-91. JIF 1.207
13. Leong S, Fanning NF. Persistent neurological deficit from iodinated contrast encephalopathy following intracranial aneurysm coiling: Case report and review of the literature. *Interv Neuroradiol.* 2012 Mar;18(1):33-41. Epub 2012 Mar 16. JIF 2.64
14. Kok HK, Leong S, Govender P, Browne R, Torreggiani WC. Percutaneous renal artery angioplasty and stenting: indications, technique and results. *Ir J Med Sci.* 2012 Dec 4. [Epub ahead of print] JIF 0.573
15. Leong S, McLaughlin P, O'Connor OJ, O'Flynn S, MM Maher. An Assessment of feasibility and effectiveness of an e-Learning module in delivering a curriculum in Radiation Protection to Undergraduate Medical Students. *J Am Coll Radiol.* 2012 Mar;9(3):203-9. JIF 1.12
16. Kok HK, Leong S, Salati U, Torreggiani WC, Govender P. Left atrial and systemic air embolism after lung biopsy: importance of treatment positioning. *J Vasc Interv Radiol.* 2013 Oct;24(10):1587-8. doi: 10.1016/j.jvir.2013.07.007. JIF 2.20
17. Kok HK, Govender P, Leong S, Browne RF, Torreggiani WC. Percutaneous computed tomography-guided oesophageal needle biopsy. *Ir Med J.* 2014 Feb;107(2):34. JIF 0.661

18. Salati U, Leong S, Donnellan J, Kok HK, Buckley O, Torreggiani W. Out of Hours Emergency Computed Tomography Brain Studies: Comparison of Standard 3 Megapixel Diagnostic Workstation Monitors With the iPad 2. *Can Assoc Radiol J.* 2015 Nov;66(4):363-7. doi: 10.1016/j.carj.2015.03.006. Epub 2015 Sep 18.
19. Leong S, Kok HK, Delaney H, Feeney J, Lyburn I, Munk P, Torreggiani W. The Radiologic Diagnosis and Treatment of Typical and Atypical Bone Hemangiomas: Current Status. *Can Assoc Radiol J.* 2016 Feb;67(1):2-11. doi: 10.1016/j.carj.2014.07.002. Epub 2015 Oct 26.
20. Too CW, Sayani R, Lim EY, Leong S, Gogna A, Teo TK. REcanalisation and Balloon-Oriented Puncture for Re-Insertion of Dialysis Catheter in Nonpatent Central Veins (REBORN). *Cardiovasc Intervent Radiol.* 2016 Aug;39(8):1193-8.
21. Damodharan K, Patel A, Irani FG, Burgmans MC, Gogna A, Tay KH, Lo RH, Too CW, Leong S, Venkatanarasimha N, Chan S, Win HH, Sivanathan C, Tan BS. Drug Eluting Stents in Infrapopliteal Arterial Disease: A Pilot Safety Study in an Asian Population. *Ann Acad Med Singapore.* 2017 Apr;46(4):155-159.
22. Venkatanarasimha N, Damodharan K, Gogna A, Leong S, Too CW, Patel A, Tay KH, Tan BS, Lo R, Irani F. Diagnosis and Management of Complications from Percutaneous Biliary Tract Interventions- Erratum. *Radiographics.* 2017 May-Jun;37(3):1004.
23. Wenwen N, Leong S, Chng JK, Tay KH. Extrinsic compression of the ovation stent graft following glue embolization for type II endoleak: An unusual complication. *J Endovasc Ther.* 2018 Apr;25(2):252-254. doi: 10.1177/1526602818757013. Epub 2018 Feb 6.
24. Goh WXT, Leong S, Too CW, Cheng LT, Saffari SE, Lee RZ, Ng STS, Lo RHG, Tay KH, Chan SXJM, Gogna A, Irani FG, Venkatanarasimha N, Loke KSH, Chow PKH, Ng DCE, Urlings TAJ, Patel A, Damodharan K, Toh LHW, Tan BS. Catheter-Directed Computed Tomography Hepatic Angiography for Yttrium-90 Selective Internal Radiotherapy of Hepatocellular Carcinoma Reduces Prophylactic Embolization of Extrahepatic Vessels. *Cardiovasc Intervent Radiol.* 2020 Mar;43(3):478-487. doi: 10.1007/s00270-019-02362-y. Epub 2019 Nov 8.
25. Wenwen N, Leong S, Irani F et al. "Angioplasty first" approach for limb salvage in Asian patients with critical limb ischemia: outcomes from 3303 angioplasties on 2402 limbs in a single tertiary hospital. (accepted by JVIR 7th August 2020)

(ii) Review Articles

1. Kok HK, Leong S, Torreggiani W. Is MRI comparable to CT in the diagnosis of retroperitoneal metastasis in patients with testicular cancer? *Can Assoc Radiol J.* 2014 Aug;65(3):196-8. doi: 10.1016/j.carj.2013.05.005. JIF 0.43
2. Tsang JS, Naughton PA, Leong S et al. Virtual reality simulation in endovascular surgical training. *Surgeon* 2008, 6(4): 214-21. JIF 1.13

(iii) Letters (e.g. to Editor) & Editorials

1. Chin ZY, Chandramohan S, Kumar KKP, Lo HG, Gogna A, Chua ME, Irani F, Damodharan K, Venkatanarasimha N, Zhuang KD, Teo EHC, Leong S. Iatrogenic pseudoaneurysm from fine needle aspiration of thyroid nodule - a rare but potentially life-threatening complication. *Journal of Vascular and Interventional Radiology.* 2019 May, 30(5):774-776

2. Aung TH, Too CW, Kumar N, Damodharan K, Urlings TA, Patel A, Chan S, Toh L, Gogna A, Irani F, Lo R, Tan BS, Tay KH, Leong S. Severe Bleeding after Percutaneous Transhepatic Drainage of the Biliary System. *Radiology*. 2016 Mar;278(3):957-9. doi: 10.1148/radiol.2016151954.
3. Leong S, Coffey JC, Hill ADK. Re: Hepatic resection for colorectal metastases. Value for risk scoring systems? *Ann Surg*. 2008 Apr;247(4):720. JIF 7.4
4. Leong S, Kok HK, Govender P, Torreggiani WC. Ultrasound guided single puncture for TIPS. *World J Gastroenterol*. 2013 Jun 14;19(22):3528-30. doi: 10.3748/wjg.v19.i22.3528. JIF 2.41
5. Chow PKH, Choo SP, Ng DCE, Lo RHG, Wang MLC, Toh HC, Tai DWM, Goh BKP, Wong JS, Tay KH, Goh ASW, Yan SX, Loke KSH, Thang SP, Gogna A, Too CW, Irani FG, Leong S, Lim KH, Thng CH. National Cancer Centre Singapore Consensus Guidelines for Hepatocellular Carcinoma Liver Cancer 2016;5:97-106 (DOI:10.1159/000367759)

(B) Non-refereed publications

(i) Review Articles

(ii) Books & Chapters

Interventional Radiology in Palliative Care (Chapter 13 – Non spinal nerve root blocks co-author) – awaiting publication

(iii) Abstracts

(C) Top 10 Publications

Ranking	Publication Category	Article / Publication Title	Publication Name	Edition No.	Publication Year
1	Scientific article	A survey of interventional radiology awareness among final-year medical students in a European country.	Cardiovascular and Interventional Radiology	Jul;32(4):623-9. Epub 2009 May 16	2009
2	Scientific article	Limited-preparation CT colonography in frail elderly patients: a feasibility study.	American Journal of Roentgenology	May;194(5):1279-87	2010
3	Scientific article	Below knee angioplasty in elderly patients: Predictors of major adverse clinical outcomes.	European Journal of Radiology	Mar;77(3):483-9	2009
4	Scientific article	The Radiologic Diagnosis and Treatment of Typical and Atypical Bone Hemangiomas: Current Status	Canadian Association of Radiologist Journal	Feb;67(1):2-11	2015
5	Scientific article	Empyema or effusion: Outcome of image-guided Small-bore catheter drainage.	Cardiovascular and Interventional Radiology	Jan-Feb;31(1):135-41	2007
6	Scientific article	Catheter-Directed Computed	Cardiovascular	Mar;43(3)	2020

		Tomography Hepatic Angiography for Yttrium-90 Selective Internal Radiotherapy of Hepatocellular Carcinoma Reduces Prophylactic Embolization of Extrahepatic Vessels.	and Interventional Radiology):478-487	
7	Scientific article	Diagnosis and Management of Complications from Percutaneous Biliary Tract Interventions	Radiographics.	May-Jun;37(3):1004.	2017
8	Scientific article	"Angioplasty first" approach for limb salvage in Asian patients with critical limb ischemia: outcomes from 3303 angioplasties on 2402 limbs in a single tertiary hospital.	Journal of Vascular and Interventional Radiology	Accepted August 2020	2020
9	Scientific article	An Assessment of feasibility and effectiveness of an e-Learning module in delivering a curriculum in Radiation Protection to Undergraduate Medical Students.	Journal of the American College of Radiology	Mar;9(3):203-9	2012
10	Scientific article	Out of Hours Emergency Computed Tomography Brain Studies: Comparison of Standard 3 Megapixel Diagnostic Workstation Monitors With the iPad 2.	Canadian Association of Radiologist Journal	Nov;66(4):363-7	2015

(D) h-index

(9) Intellectual Property

(A) Invention Disclosures

Title	Inventor(s)	Publication/Registration date	Status	Patent Office	Country	Affiliated Organisation

(B) Copyrights and Trademarks

Title	Inventor(s)	Registration date	Status	Patent Office	Country	Affiliated Organisation

(C) Patents

Title	Inventor(s)	Filed date	Publication/	Status	Patent	Country	Affiliated

			Registration date		Office		Organisation

(10) Editorship

Journals

Reviewer for CVIR 2017-2019

Books

(11) Education Activities (Teaching Portfolio)

(A) Educational Philosophy:

- To allow each student to develop to own potential
- Guided learning process, focused on lifelong continuous education
- Continuous feedback and assessment between mentor and mentee
- Formal and informal education
- Individualised training program to meet needs of program and learner

(B) Seminars / Lectureships / Conferences with Presentations:

(i) Local:

Conference Name / Presentation Title	Organiser	Date
Transarterial chemoembolization (Boston Scientific Representatives SGH course)	SGH	May 2014
Interventional Radiology Society of Australasia / Retrospective review of balloon assisted puncture technique to recanalize partially or completely occluded central veins with balloon angioplasty for dialysis catheter placement.	IRSA	August 2015
Singapore Congress of Radiology / Bleeding after Percutaneous Biliary Drainage.	Singapore Congress of Radiology	February 2016
Radioembolisation and newer therapies (Terumo Representatives SGH course)	SGH	October 2017
Sirtex masterclass – Interesting Y90 cases	SGH	November 2017, 2018
Awake Real-time monitoring during Cryoablation for Tumours Involving the Central Canal (ARCTIC).	SGCR	August 2019

(ii) International:

Conference Name / Presentation Title	Country	Organiser	Date
Radiology Asia/ Retrospective Review Of Balloon Cholangioplasty For Benign Biliary Stricture: Risk	Singapore	Radiology Asia	May 2017

Factors Including Sarcopenia For Recurrent Strictures.			
Does subsequent treatment after Y90 for locally advanced HCC impact survival?	Austria	ECIO	April 2018
Linc AP Hong Kong - Supera vs Pulsar-18 stents in patients with critical limb ischemia	HKSAR, China	Linc	March 2018
Radiology Asia 2018 - Hepatic venous-portal gradient (HVPG) measurement: A pictorial review	Singapore	Radiology Asia	September 2018
Novel use of guiding device for CT-guided transoral biopsies of challenging retropharyngeal lesions.	Barcelona	CIRSE	September 2019
IR in pain management	Vietnam	VSIR	April 2021

(C) Teaching Activities

(i) Undergraduate Education:

Role	Program Title	Audience	Institution / Country	Date	Evaluation
Lecturer	Acute abdominal imaging	Medical students	NUS YLL SoM	2016 - current	

(ii) Postgraduate Education:

Role	Program Title	Audience	Institution / Country	Date	Evaluation
Lecturer	Interventional Radiology	Medical students	Duke NUS	2017 - current	

(D) Roles in Education:

Title	Date	Audience	Frequency
Director of CME and Fellowships	June 2019 – current	Radiological Sciences ACP	Ongoing
Fellowship Director DVIR	July 2017 - current	Fellows	Ongoing
DVIR Education (Medical Officer, Medical students)	July 2017 – current	Medical Officers	Ongoing
Adjunct Assistant Professor, Duke-NUS Graduate Medical School	October 2017 - current	Duke NUS medical students	Ongoing
Physician Faculty Singhealth Diagnostic Radiology Residency Program	July 2014- current	Singhealth Radiology Residency Program	Ongoing
Brief Description	Oversee and manage DVIR fellowship program, medical officer training, teaching of NUS YLL and Duke NUS medical students, radiology residents and medical officers		

(E) Advisory / Mentoring Role:

Student Name	Program	Title Of Program	From	To	Current Position
Rebekah Lee Zhuyi	NUS YLL	Elective student	22-3-2016	15-4-2016	Radiology resident
Qiqi Lu	Duke NUS	Elective student	6-2-2017	3-3-2017	Radiology resident
Samuel Lee	NUS YLL	Elective student	1-7-2017	30-7-2017	Medical officer

(F) Continuing Professional Education (e.g. CME):

Title	Year	Certificate
DVIR interprofessional weekly meeting	2014 -	
DVIR Biopsy monthly meeting	2014 -	
DVIR Morbidity and Mortality monthly meeting	2014 -	
Brief Description		

(12) Clinical Activities

Type Of Practice	Commitments %	From	To
Procedural	60%	2014	current
Diagnostic radiology	20%	2014	current
Clinic / Ward	20%	2014	current

(13) Training Programmes / Conferences Attended

Conference / Course Name	Country	Date
European Conference on Interventional Radiology	Netherlands	8-11/4/2019
Linc Asia Pacific	Hong Kong	13-15/3/2018
European Conference on Interventional Radiology	Spain	23-26/4/2017
Linc Asia Pacific	Hong Kong	14-16/3/2017
Malaysian Society of Interventional Radiology Meeting	Malaysia	25-27/8/2017
Conference of the Interventional Radiology Society of Australasia	Indonesia	6-9/3/2015

(14) Research Activities

(A) Research Funding Support

Project Title	Role	Origin	Name Of Grant	Funding Agency	Funding Amount (\$)	Project Date
Effect of RADPAD on scatter dose to non-target organs in patients undergoing uterine artery embolization (Tallaght Hospital Dublin)	PI	BSIR	BSIR Research grant	BSIR (British Society of Interventional Radiology)	£3024	Sept 2012 - 2017

(B) Collaboration with Local and Overseas Institution

Name of Collaboration	From	To	Name of Collaborator(s)	Institution/ Organisation

(C) Research Interests

1. Vascular and Non vascular interventional radiology
2. Medical Devices
3. Imaging – Ultrasound, Computed Tomography, Magnetic Resonance Imaging, Plain Radiography

(15) Committee Work

(A) Hospital

From	To	Committee Name	Role	Organisation / Country
2014	2016	Workgroup on specimen Management electronic ordering	Member	

(B) Ministry of Health

From	To	Committee Name	Role	Organisation / Country

(C) University / Medical School

From	To	Committee Name	Role	Organisation / Country
2003	2005	Table tennis club	Secretary	Trinity College Dublin / Ireland

(D) Professional Bodies

From	To	Committee Name	Role	Organisation / Country

(E) Others

From	To	Committee Name	Role	Organisation / Country
1997	1998	Library board	Head	Sri Hartamas Secondary School, Malaysia

(16) Awards & Honours

Honors/ Awards/ Distinctions	Program Title	Awarding Institution	Country of Award Entity	Year Awarded
Scholarship of Trinity College Dublin (Schols')	Bachelor of Medicine	Trinity College Dublin	Ireland	2003
Distinction in Anatomy	Bachelor of Medicine	Trinity College Dublin	Ireland	2003
Scholarship of BSIR Annual Meeting	Interventional Radiology	British Society of Interventional Radiology	UK	2009
Audit Prize	Annual Scientific Meeting	Faculty of Radiology, RCSI	Ireland	2009
Recommended Poster Award	European Society of Gastrointestinal and Abdominal Imaging Meeting	ESGAR	Germany	2010
Invest in the Youth Award	European College of Radiology Meeting	ECR	Austria	2011
Visiting Scholarship	Cardiovascular and Interventional Radiology Society visiting scholarship award	CIRSE	UK	2012
Best Education Article	Journal of the American College of Radiology	JACR	USA	2013
Best Poster Award	Malaysian Society of Interventional Radiology	MYSIR	Malaysia	2014

	meeting			
Best Oral Presentation Award	Malaysian Society of Interventional Radiology meeting	MYSIR	Malaysia	2016
Service with a Heart Silver Award	Service Quality	Singhealth	Singapore	2017

(17) Top 10 Contributions

Rank (From most satisfied onwards)	Describe the Contribution	Year of Contribution
1	Medical Overseas Volunteer Elective (Donation collection for Developing World hospitals)	2003
2	Trinity Med Day (Donation collection for local hospital)	2000
3	Development of e-module in Radiation protection for undergraduate medical students	2009-2010
4	Organisation of VIR Interprofessional Education (IPE) meetings	2015-current
5	Electronic ordering of Microbiology Specimens for DDR	2015
6	Service with a Heart Award (January 2017 and December 2017)	2017

(18) Hobbies / Special Interests

Table tennis:

- 2018: Men singles Champion, Mixed Doubles 1st runners up, Men's Doubles 2nd runners up
- 2015: Men singles Champion, Mixed Doubles 1st runners up
- 2014: Men singles Champion, Men's Doubles Champion, Mixed Doubles Champion
- 2003-2014: Irish Universities Intervarsities Team Event Runner Up

Chess:

- 2002: Trinity College Dublin - Chess League Division 2 Runner Up