

## ***CURRICULUM VITAE***

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### **SUMMARY**

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- Strong background in oncology, metabolism and auto-immune diabetes.
- Good scientific communication ability, knowledge, and networking.
- Skilled in independent clinical project management and valorisation of the results.
- Understand the scientific rationale and clinical issues related with the project targeted.
- Research and analysis of scientific literature.
- Excellent organizational and time management skills.
- Writing scientific reports, clinical research protocols.
- Demonstrate ability to work within tight and strict deadline.
- Develop scientific partnerships (public and private).
- Organize and lead scientific meetings.

### **TECHNICAL SKILLS**

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- Cell culture, infection, cloning, transfection, pharmacokinetics, drug candidates, biobanking.
- RT-qPCR, nucleic acid extraction, western/southern/northern-blot, CRISPR technology.
- Single-cell sequencing, FACS, epifluorescence microscopy, HPLC, metabolites extraction.
- Blood/lymph extraction, glycosuria/glycemia tests, IP/IV injection, hepatocytes isolation.
- Informatic skills: Pack Office, Endnote, Prism GraphPad, Zotero, FlowJo, Fiji, Ingenuity Pathway Analysis (QIAGEN, IPA).

### **EDUCATION**

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2010 – 2012	Bachelor's degree health sciences, universit�� Evry, France.
2012 – 2013	Master 1 health biology, Immunology/Infection specialty, universit�� Paris 7 Diderot, Paris, France.
2013 – 2014	Master 2 Advanced Immunology, Institut Pasteur, Paris, France.
2014 – 2018	Junior research fellow/PhD candidate, Biomedical Sciences, universit�� de Montr��al, Canada. <i>Glucose metabolism of Hepatocellular Carcinoma cells</i> , CRCHUM.

## TRAINING

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- 06/2011 – 08/2012 Breast cancer molecular basis in the laboratory of Dr. **Hugues de Thé**, CNRS, Paris, France.
- 06/2012 – 07/2012 Role of IL-2 in autoimmune diabete in the laboratory of Dr. **David Klatzmann**, INSERM, Paris, France.
- 06/2013 – 07/2013 Study of degenerative retinal diseases in the laboratory of Dr. **Marc Peschanski**, I-Stem, Genopole d'Evry, France.
- 08/2013 – 08/2013 Student visitor in the laboratory of Dr. **Dhanjay Jhurry**, Polymers in Medicine and Polymer Therapeutics, MSIRI, Mauritius.
- 09/2013 – 06/2014 Role of FAM65b in T cell migration in the laboratory of Dr. **Alain Trautmann** and Dr. **Georges Bismuth**, INSERM, Paris, France.
- 09/2014 – 10/2018 Role of glucose metabolism in the tumorigenicity of Hepatocellular Carcinoma cells in the laboratory of Dr. **Marc Bilodeau**, CRCHUM, Montreal, Canada.
- 01/2019 – 03/2019 Visiting Scientist - Understanding how host metabolism regulates Toxoplasma infection in the laboratory of Dr. **Lena Pernas**, Max Planck Institute for Biology of Ageing, Cologne, Germany.
- 04/2019 – to date Junior project manager in Oncology - Elucidating metabolic adaptations and redox biology of Pancreatic Cancer in the laboratory of Dr. **Jacques Pouyssegur**, Centre Scientifique de Monaco, Principauté de Monaco.

## SEMINAR PRESENTATIONS

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- 10/2016 Mitochondrial metabolism is combined with the Warburg Effect in HCC cells, 7th World Congress on Targeting Mitochondria, Berlin, Germany.
- 11/2016 From in vivo to in vitro: Primary hepatocytes display major metabolic alterations during the isolation procedure, The Liver Meeting 2016®, American Association for the Study of Liver Diseases, Boston, USA.
- 03/2017 Targeting the Warburg Effect in Hepatocellular Carcinoma Cells, Canadian Digestive Diseases Week, Banff, Canada.
- 10/2017 Establishment of Hepatocellular Carcinoma derived from a cancer stem cell line is characterized by significant metabolic reprogramming, The Liver Meeting 2017®, American Association for the Study of Liver Diseases, Washington, USA.
- 10/2017 Targeting the Warburg effect prevents cancer metabolic reprogramming in hepatocellular carcinoma cells and promotes cell death, The Liver Meeting 2017®, American Association for the Study of Liver Diseases, Washington, USA.
- 10/2017 Cancer metabolic reprogramming allows hepatocarcinoma cells to efficiently adapt to their microenvironment, The Liver Meeting 2017®, American Association for the Study of Liver Diseases, Washington, USA.

- 02/2018 Establishment of Hepatocellular Carcinoma in vivo is associated with major metabolic reprogramming, The Canadian Liver Meeting 2018®, Toronto, Canada.
- 02/2018 Metabolic reprogramming of hepatocellular carcinoma cells is mediated by a rearrangement in glucose transporters, The Canadian Liver Meeting 2018®, Toronto, Canada.
- 10/2018 Targeting the Warburg effect in Hepatocellular Carcinoma: An efficient way to potentiate cisplatin-induced anti-tumor effects, The Liver Meeting 2018®, American Association for the Study of Liver Diseases, San Francisco, USA.
- 03/2019 Seminar about the role of glucose metabolism in the tumorigenicity of Hepatocellular Carcinoma - Invited by Dr. Jacques Pouyssegur, Centre Scientifique de Monaco, Principauté de Monaco.

### **AWARDS & HONORS**

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- 10/2016 Poster of distinction From in vivo to in vitro: Primary hepatocytes display major metabolic alterations during the isolation procedure, The Liver Meeting 2016®, American Association for the Study of Liver Diseases, Boston, USA.
- 03/2017 Poster of distinction Targeting the Warburg Effect in Hepatocellular Carcinoma Cells, Canadian Digestive Diseases Week, Banff, Canada.
- 05/2017 Travel scholarship, CRCHUM, Université de Montréal.
- 02/2018 Poster of distinction Metabolic reprogramming of hepatocellular carcinoma cells is mediated by a rearrangement in glucose transporters, The Canadian Liver Meeting 2018®, Toronto, Canada.
- 05/2018 Scholarships from Université de Montréal to support the dissemination of research results.

### **AD HOC REVIEWER**

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<i>Cell cycle</i>	(2018-Today)
<i>Oncotarget</i>	(2018-Today)
<i>International Journal of Cancer</i>	(2018-Today)
<i>Aging</i>	(2018-Today)
<i>Frontiers in Oncology</i>	(2020-Today)
<i>Cancers</i>	(2020-Today)
<i>International Journal of Molecular Sciences</i>	(2020-Today)
<i>Vaccines</i>	(2020-Today)
<i>Tumor Biology</i>	(2020-Today)

### **REFEREED PAPERS**

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1: Vucetic M, Daher B, **Cassim S**, Meira W, Pouyssegur J. Together we stand, apart we fall: how cell-to-cell contact/interplay provides resistance to ferroptosis. *Cell Death Dis.* 2020 Sep 23;11(9):789. doi: 10.1038/s41419-020-02994-w. PMID: 32968052.

- 2: Mazzi E, Badisa R, Mack N, **Cassim S**, Ždravlević M, Pouyssegur J, Soliman K.F.A. Whole-transcriptome analysis of fully viable ergogenic glycolytic-null cancer cells established by genetic ablation of G6P Isomerase or LDHA/B. *Cancer Genomics Proteomics*. 2020;17(5):469-497. doi:10.21873/cgp.20205.
- 3: Vučetić M, Daher B, **Cassim S**, Parks SK, Pouyssegur J. xCT-Based Inducers of Ferroptosis & Overcoming Therapeutic Challenges for Pancreatic Ductal Adenocarcinoma. *Exp Med Biol*. 2020 May. Book Chapter, *In press*.
- 4: Montemagno C, **Cassim S**, Pouyssegur J, Broisat A, Pagès G. From Malignant Progression to Therapeutic Targeting: Current Insights of Mesothelin in Pancreatic Ductal Adenocarcinoma. *Int. J. Mol. Sci*. 2020, 21(11), 4067; <https://doi.org/10.3390/ijms21114067>.
- 5: **Cassim S**, Vučetić M, Ždravlević M, Pouyssegur J. Warburg and Beyond: The Power of Mitochondrial Metabolism to Collaborate or Replace Fermentative Glycolysis in Cancer. *Cancers (Basel)*. 2020 Apr 30;12(5):E1119. doi: 10.3390/cancers12051119. PMID: 32365833.
- 6: **Cassim S**, Pouyssegur J. Tumor Microenvironment: A Metabolic Player that Shapes the Immune Response. *Int J Mol Sci*. 2019 Dec 25;21(1):157. doi: 10.3390/ijms21010157. PMID: 31881671; PMCID: PMC6982275.
- 7: Montemagno C, **Cassim S**, Trichanh D, Savary C, Pouyssegur J, Pagès G, Fagret D, Broisat A, Ghezzi C. <sup>99m</sup>Tc-A1 as a Novel Imaging Agent Targeting Mesothelin-Expressing Pancreatic Ductal Adenocarcinoma. *Cancers (Basel)*. 2019 Oct 10;11(10):1531. doi: 10.3390/cancers11101531. PMID: 31658755; PMCID: PMC6827014.
- 8: Merlen G, Raymond VA, **Cassim S**, Lapierre P, Bilodeau M. Oxaloacetate Protects Rat Liver From Experimental Warm Ischemia/Reperfusion Injury by Improving Cellular Energy Metabolism. *Liver Transpl*. 2019 Apr;25(4):627-639. doi: 10.1002/lt.25415. Epub 2019 Mar 1. PMID: 30663275.
- 9: Megrelis L, El Ghouli E, Moalli F, Versapuech M, **Cassim S**, Ruef N, Stein JV, Mangeney M, Delon J. Fam65b Phosphorylation Relieves Tonic RhoA Inhibition During T Cell Migration. *Front Immunol*. 2018 Sep 11;9:2001. doi: 10.3389/fimmu.2018.02001. PMID: 30254631; PMCID: PMC6141708.
- 10: Chan TS, **Cassim S**, Raymond VA, Gottschalk S, Merlen G, Zwingmann C, Lapierre P, Darby P, Mazer CD, Bilodeau M. Upregulation of Krebs cycle and anaerobic glycolysis activity early after onset of liver ischemia. *PLoS One*. 2018 Jun 14;13(6):e0199177. doi: 10.1371/journal.pone.0199177. PMID: 29902244; PMCID: PMC6002017.
- 11: **Cassim S**, Raymond VA, Lacoste B, Lapierre P, Bilodeau M. Metabolite profiling identifies a signature of tumorigenicity in hepatocellular carcinoma. *Oncotarget*. 2018 Jun 1;9(42):26868-26883. doi: 10.18632/oncotarget.25525. PMID: 29928490; PMCID: PMC6003570.
- 12: **Cassim S**, Raymond VA, Dehbidi-Assadzadeh L, Lapierre P, Bilodeau M. Metabolic reprogramming enables hepatocarcinoma cells to efficiently adapt and survive to a nutrient-

restricted microenvironment. *Cell Cycle*. 2018;17(7):903-916. doi: 10.1080/15384101.2018.1460023. Epub 2018 May 21. PMID: 29633904; PMCID: PMC6056217.

13: **Cassim S**, Raymond VA, Lapierre P, Bilodeau M. From in vivo to in vitro: Major metabolic alterations take place in hepatocytes during and following isolation. *PLoS One*. 2017 Dec 28;12(12):e0190366. doi: 10.1371/journal.pone.0190366. PMID: 29284039; PMCID: PMC5746264.

14: Lacoste B, Raymond VA, **Cassim S**, Lapierre P, Bilodeau M. Highly tumorigenic hepatocellular carcinoma cell line with cancer stem cell-like properties. *PLoS One*. 2017 Feb 2;12(2):e0171215. doi: 10.1371/journal.pone.0171215. PMID: 28152020; PMCID: PMC5289561.

15: **Cassim S**, Bilodeau M, Vincent C, Lapierre P. Novel Immunotherapies for Autoimmune Hepatitis. *Front Pediatr*. 2017 Jan 26;5:8. doi: 10.3389/fped.2017.00008. PMID: 28184367; PMCID: PMC5266689.