1. Name: Haydn Kissick

2. Office Address: 1462 Clifton Rd, Room 412

3. E-mail Address: haydn.kissick@emory.edu

4. Citizenship: Australian, J1 visa

5. Current Titles and Affiliations: Senior Research Associate, Department of Urology, Emory School of Medicine

6. Education:

2006 Bachelor of Science (Honors), Microbiology and Immunology, University of Western Australia.

7. Postgraduate Training

2007-2011 Doctor of Philosophy, Microbiology and Immunology, University of Western Australia.

2011-2014 Postdoctoral fellowship, Beth Israel Deaconess Medical Center, Harvard Medical School.

8. Organization of Conferences

National

2014 - **PCF Holden-Coffey Conference: Beyond Immune Checkpoint Blockade for Prostate Cancer**. - Chair, Organizing Committee, Chair of session "Beyond immune checkpoint blockade for prostate cancer"

9. Lectureships

Institutional

2014 **Targeting mutations in vaccines for prostate cancer**
Emory Prostate Cancer Research Council, September 2014

2014 **Targeting mutations in vaccines for prostate cancer**
Emory Immunotherapy working group, April 2014

2013 **Modulating the T-cell Response to Prostate Cancer**
Emory Vaccine Center and Emory Department of Urology, November 2013

2012 **Preclinical Development of a Prostate Cancer Vaccine Targeting the Transcription Factor ERG.** Beth Israel Deaconess Medical Center GU oncology meeting, Boston, October 2012

10. Invitations to presentations

National

2012 – Preclinical Development of a Prostate Cancer Vaccine Targeting the Transcription Factor ERG. Rising Stars of Immunotherapy Session, Prostate Cancer Foundation Scientific Meeting. Carlsbad, California. October 2012. Abstract published: Cancer Research, March 27, 2013; doi: 10.1158/0008-5472.CAN-12-4576

Abstract Presentations

Metabolic profiling of T-cell differentiation and tolerance. Haydn Kissick, Jorge Finke, Laura Dunn, John Asara, Martin Sanda, M.Simo Arredouani. The Journal of Immunology, 2012, 188, 115.5

Androgens modulate anti-tumor immunity through interference with the T lymphocyte differentiation program. M. Simo Arredouani, Haydn Kissick, Laura Dunn, Martin Sanda. The Journal of Immunology, 2013, 190, 50.27

Immunogenic Peptides Derived from the Transcription Factor ERG as a Vaccine for Prostate Cancer. Haydn Kissick, Laura Dunn, Bin Lu, Martin Sanda, M. Simo Arredouani. The Journal of Immunology, 2012, 188, 162.17

Research Focus

My research focuses on understanding the immune response to cancer and developing therapies to manipulate this interaction. This includes using high-throughput methods to develop of vaccines, and treatments targeting T-cell exhaustion.

Grant Support

Title: Peptide Immunization against ERG and immunogenic mutations to treat prostate cancer

Role: P.I.
Time commitment: 9 calendar months/year
Supporting Agency: Department of Defense, US Army Medical Research and Matrial Command, 820 Chandler Street, Fort Detrick, MD 21702
Performance Period: 10/01/2013-09/31/2015.
Level of Funding: $55,750 direct costs/year.

The goal of this post-doctoral fellowship was to identify vaccine targets for prostate cancer.

Title: Vaccination Against Patient Specific Coding Mutations to Treat Prostate Cancer

Role: P.I.
Time commitment: 3 calendar months/year
Supporting Agency: Prostate Cancer Foundation, 1250 Fourth Street, Santa Monica, CA, 90401
Performance Period: 06/09/2014-06/09/2017.
Level of Funding: $75,000 direct costs/year

The goal of this project is to determine if patients possess T-cells that recognize mutations in their cancer and if these cells undergo exhaustion.

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Tullius, SG, Biefer HR, Li S, Trachtenberg AJ, Edtinger K, Quante M, Krenzien F, Uehara H, Yang X, **Kissick HT**, Kuo WP, Ghiran I, de la Fuente MA, Aredouani MS, Camacho V, Tigges JC, Toxividis V, El Fatimy R, Smith BD, Vasudevan A, ElKhal A. NAD+ protects against EAE by regulating CD4+ T-cell differentiation. Nature Communications, 2014 October 7, 5:5101, doi:10.1038/ncomms6101

Krishnan S, Bakker E, Lee C, **Kissick HT**, Ireland DJ, Beilharz MW. Successful Combined Intratumoral Immunotherapy of Established Murine Mesotheliomas Requires B-Cell Involvement. J Interferon Cytokine Res. 2014 Sep 26

Kissick HT, Dunn LK, Ghosh S, Nechama M, Kobzik L, Arredouani MS. The scavenger receptor MARCO modulates TLR-induced responses in dendritic cells. PLoS One. 2014 Aug 4;9(8):e104148. doi: 10.1371/journal.pone.0104148.

Kissick HT, Sanda MG, Dunn LK, Pellegrini KL, On ST, Noel JK, Arredouani MS. Androgens alter T-cell immunity by inhibiting T-helper 1 differentiation. Proc Natl Acad Sci U S A. 2014 Jul 8;111(27):9887-92. doi: 10.1073/pnas.1402468111

Kissick HT, Sanda MG, Dunn LK, Arredouani MS. Immunization with a Peptide Containing MHC Class I and II Epitopes Derived from the Tumor Antigen SIM2 Induces an Effective CD4 and CD8 T-Cell Response. *PLoS One*. 2014, Apr 1;9(4):e93231

Kissick HT, Sanda MG, Dunn LK, Arredouani MS. Development of a peptide-based vaccine targeting tmprss2:Erg-fusion-positive prostate cancer. *Cancer Immunol Immunother*. 2013, Dec;62(12):1831-40

Ireland DJ, Greay SJ, Hooper CM, **Kissick HT**, Filion P, Riley TV, Beilharz MW. Topically applied Melaleuca alternifolia (tea tree) oil causes direct anti-cancer cytotoxicity in subcutaneous tumour bearing mice. J Dermatol Sci. 2012. PMID: 22727730

Kissick HT, Ireland DJ, Krishnan S, Madondo M, Beilharz MW: Tumour eradication and induction of memory against murine mesothelioma by combined immunotherapy. *Immunology and Cell Biology*. 2012. PMID: 22349521

Ireland DJ, **Kissick HT**, Beilharz MW: The role of Regualtory T-cells in Mesothelioma. *Cancer Microenvironment,* 2012. PMID: 22302659

Kissick HT, Ireland DJ, Greay SJ and Beilharz MW: Mechanisms of immune suppression exerted by regulatory T-cells in subcutaneous AE17 murine mesothelioma. *Journal of Interferon & Cytokine Research*, 2010. PMID:20836714

Greay SJ, Ireland DJ, **Kissick HT**, Levy A, Heenan PJ, Carson CF, Riley TV and Beilharz MW: Inhibition of established subcutaneous murine tumour growth with topical *Melaleuca alternifolia* (tea tree) oil. *Cancer Chemo Pharm.* 2010. PMID: 19680653

Greay SJ, Ireland DJ, **Kissick HT**, Levy A, Beilharz MW, Riley TV and Carson CF: Induction of Necrosis and Cell Cycle Arrest in Murine Cancer Cell Lines by *Melaleuca alternifolia* (Tea Tree) Oil and Terpinen-4-ol. *Cancer Chemo Pharm.* 2010. PMID: 20577741

Kissick HT, Ireland DJ, Beilharz MW: Combined Intratumoral Regulatory T-Cell Depletion and Transforming Growth Factor-beta Neutralization Induces Regression of Established AE17 Murine Mesothelioma Tumors. *J Interferon Cytokine Res*. 2009. PMID:19203251

Ireland DJ, **Kissick HT**, Beilharz MW: Alpha-Tocopheryl succinate: toxicity and lack of anti-tumour activity in immuno-competent mice. *Food Chem Toxicol*. 2008. PMID: 17923224