

ThymUS 2016 Program

The Wailea Marriott Resort & Spa, Maui, Hawaii

June 5 - 9 2016

Sunday, June 5

- 4:00 – 6:00pm Meeting Registration (*Aluni Foyer*)
Exhibitor and Poster Set-up (*Jade/Plumeria/Maile/Hadu Ballroom*)
- 6:00 - 7:00pm Keynote Address (*Pikake I & II Ballroom*)
“Aire novelties, cellular and molecular”
Dr. Diane Mathis, *Harvard Medical School*
- 7:00 - 10:00pm Opening Reception (*Jade/Plumeria/Maile/Hadu Ballroom*)

Monday, June 6

- 7:30 - 8:30am Buffet Breakfast (*South Pacific Foyer/Ballroom*)
- 8:30 - 10:30am **Thymic Organogenesis** (*Pikake I & II Ballroom*)
Chair: Yousuke Takahama

Sponsored by BD Biosciences
- 8:30 – 8:45am FOXN1-binding CIS-regulatory element for optimal CD8+ T cell production,
Presenter: *Yousuke Takahama*
- 8:45 – 9:00am Novel embryonic precursor cells of medullary thymic epithelial cells
expressing Aire, **Presenter:** *Taishin Akiyama*
- 9:00 – 9:15am VEGF mediates neonatal growth of different thymic compartments through
distinct mechanisms, **Presenter:** *Stephanie C. de Barros*
- 9:15 – 9:30am Hedgehog-Interacting Protein (Hhip), a novel Foxn1 target gene, is required
for regular thymus organogenesis, **Presenter:** *Hannah Chen*
- 9:30 – 9:45am Deciphering RANKL-RANK signal in mTEC development, **Presenter:**
Takeshi Nitta

- 9:45 – 10:00am Mechanisms controlling postnatal thymus expansion and homeostasis,
Presenter: *Jie Li*
- 10:00 – 10:30am Discussion
- 10:30 - 11:00am Coffee Break (*Jade/Plumeria/Maile/Hadu Ballroom*)
- 11:00am - 1:00pm **Thymic Stromal cells** (*Pikake I & II Ballroom*)
Chairs: Ellen Richie and Georg Holländer
- 11:00 – 11:15am FOXP1 choreographs thymic lympho-stromal cross-talk, **Presenter:** *Georg Holländer*
- 11:15 – 11:30am Intrathymically transplanted TEC progenitors differentiate, drive thymic growth, and drive both positive and negative selection, **Presenter:** *Thomas Serwold*
- 11:30 – 11:45am Relative contribution of medullary thymic epithelial cells and dendritic cells to thymocyte central tolerance as assessed by multi-photon microscopy,
Presenter: *Lauren Ehrlich*
- 11:45am – 12:00pm What turns Aire on? – Transcriptional programs controlling the expression of the Autoimmune regulator gene, **Presenter:** *Jakub Abramson*
- 12:00 – 12:15pm Thymic epithelial cells require P53 to support their role in T-cell development and tolerance induction, **Presenter:** *Nuno L. Alves*
- 12:15 – 12:30pm Isolation of putative thymic epithelial progenitors using a label-retaining assay, **Presenter:** *Maude Dumont-Lagacé*
- 12:30 – 1:00pm Discussion
- 1:00 - 2:30pm Lunch - Free Time
- 2:30 - 4:30pm **Thymic Microenvironment** (*Pikake I & II Ballroom*)
Chairs: Marcel van den Brink and Ludger Klein
- 2:30 – 2:45pm Histone-3 lysine-27 demethylases JMJD3 and UTX impact medullary thymic epithelial cell subpopulation sizes and promiscuous gene expression,
Presenter: *Annina Graedel*

- 2:45 – 3:00pm MicroRNAs regulate the development of mTECs, **Presenter:** *Kaiyong Li*
- 3:00 – 3:15pm MicroRNA-205 supports thymopoiesis following stress by positively regulating Foxn1 expression, **Presenter:** *Nicolai S.C. van Oers*
- 3:15 – 3:30pm Bone marrow-derived antigen-presenting cells extend Aire’s role in thymocyte deletion to include CCR7– thymocytes, **Presenter:** *Stephen R Daley*
- 3:30 – 3:45pm Engineering a thymic organoid, **Presenter:** *Elia Piccinini*
- 3:45 – 4:00pm Development of a novel strategy for thymus regeneration using 3D scaffolds and gene modification, **Presenter:** *Marita Bosticardo*
- 4:00 – 4:30pm Discussion
- 4:30 - 8:00pm **Luau Dinner and Show** (optional-for those that have registered)
(*Pacific Roof Top Terrace*)
- 8:00 - 10:00pm Poster Session 1 (*Jade/Plumeria/Maile/Hadu Ballroom*)

Tuesday, June 7

- 7:30 - 8:30am Buffet Breakfast (*South Pacific Foyer/Ballroom*)
- 8:30 - 10:30am **$\gamma\delta$ T Cell Development & Transcriptional Control** (*Pikake I & II Ballroom*)
Chairs: Barbara Kee and Avinash Bhandoola
- 8:30 – 8:45am Programming of type 17 gamma delta T cells by AP-1 transcriptional regulators, **Presenter:** *Maria Ciofani*
- 8:45 – 9:00am TCR, notch and cytokine signals are integrated to dictate the differentiation of specific $\gamma\delta$ T cell effector programs, **Presenter:** *Payam Zarin*
- 9:00 – 9:15am The feedback circuit of EGR2-ID3-E2A prevents innate $\gamma\delta$ T cell development, **Presenter:** *Baojun Zhang*
- 9:15 – 9:30am HEB plays a critical role in the installation of IL-17 program in $\gamma\delta$ T cells, **Presenter:** *Tracy S.H. In*
- 9:30 – 9:45am Identification of stage-specific functional complexes for PU.1, GATA3 and BCL11B in early T cell development, **Presenter:** *Hiroyuki Hosokawa*

- 9:45 – 10:00am Molecular cooperation between Tcf-1/ β -catenin and HEB in thymocyte development, **Presenter:** *Fotini Gounari*
- 10:00 – 10:30am Discussion
- 10:30 - 11:00am Coffee Break (*Jade/Plumeria/Maile/Hadu Ballroom*)
- 11:00am - 1:00pm **Transcriptional Control** (*Pikake I & II Ballroom*)
Chairs: Ellen Rothenberg and Ben Ortiz
- 11:00 – 11:15am TCF1 and LEF1 establish CD8⁺ T cell identity via their intrinsic histone deacetylase activity, **Presenter:** *Howard Xue*
- 11:15 – 11:30am Control of regulatory T cell differentiation and functions by partly overlapping functions of transcription factors Thpok and LRF, **Presenter:** *Remy Bosselet*
- 11:30 – 11:45am At least two distinct mechanisms regulate Gata3 transcription, **Presenter:** *Tomo Hosoya*
- 11:45am – 12:00pm Id proteins limit innate-like T cell differentiation at the DN stage, **Presenter:** *Sumedha Roy*
- 12:00 – 12:15pm Regulation of CD4 commitment is conserved between marsupial and placental mammals, **Presenter:** *Dietmar Kappes*
- 12:15 – 12:30pm IKAROS regulates super-enhancers to promote differentiation and prevent an epithelial-like transition in lymphoid precursors, **Presenter:** *Katia Georgopoulos*
- 12:30 – 1:00pm Discussion
- 1:00 - 2:30pm Lunch - Free Time
- 2:30 - 4:30pm **Signal Transduction** (*Pikake I & II Ballroom*)
Chairs: Ellen Robey and Alfred Singer
- 2:30 – 2:45pm Themis regulates Shp1 (Ptpn6) phosphatase activity to control T cell receptor signaling for positive selection, **Presenter:** *Nicholas Gascoigne*
- 2:45 – 3:00pm Agonist selection of TCR $\alpha\beta$ CD8 $\alpha\alpha$ intestinal intraepithelial lymphocytes (IEL) requires RASGRP1, **Presenter:** *Troy Baldwin*

3:00 – 3:15pm	Non-transcriptional legacy of thymic agonist selection of Treg cells determines peripheral Treg cell function, Presenter: <i>Andreas Krueger</i>
3:15 – 3:30pm	iNKT cell selection and effector fate are influenced by different parameters of TCR-ligand-CD1D interaction, Presenter: <i>Mayra Cruz Tleugabulova</i>
3:30 – 3:45pm	The linear ubiquitin chain assembly complex: a new function in thymic T cell and regulatory T cell development, Presenter: <i>Charis Teh</i>
3:45 – 4:00pm	A conserved T cell receptor transmembrane structure mediates transbilayer signalling, Presenter: <i>Logesvaran Krshnan</i>
4:00 – 4:30pm	Discussion
4:30 - 6:30pm	Lineage Decisions (<i>Pikake I & II Ballroom</i>) Chairs: B.J. Fowlkes and Cindy Guidos
4:30 – 4:45pm	“FLIPFLOP” mice have a reversed T cell immune system: CD8/MHC-I T-helper and CD4/MHC-II T cytotoxic cells, Presenter: <i>Miho Shinzawa</i>
4:45 – 5:00pm	HDAC3 is required for thymocyte positive selection and CD4 lineage commitment, Presenter: <i>Virginia Smith Shapiro</i>
5:00 – 5:15pm	Reducing T cell receptor signaling capacity during thymocyte development supports an instructive model of regulatory T cell lineage commitment, Presenter: <i>Amy Palin</i>
5:15 – 5:30pm	Costimulatory pathways mediating T-dependent germinal center responses: distinct cellular requirements for CD40 and B7 costimulation, Presenter: <i>Richard J. Hodes</i>
5:30 – 5:45pm	Unexpected contribution of non-GC inflammatory cytokines to CD8 lineage specification in the thymus, Presenter: <i>Ruth Etzensperger</i>
5:45 – 6:00pm	Notch-dependent IL4-producing innate T cells promote allergic inflammation, Presenter: <i>Cynthia Guidos</i>
6:00 – 6:30pm	Discussion
6:30 - 8:00pm	Dinner - Free Time

8:00 - 10:00pm **Emerging Concepts and Methods** (*Pikake I & II Ballroom*)

Chairs: Lauren Ehrlich and Dietmar Kappes

Sponsored by Beckman Coulter

8:00 – 8:15pm Inside a key node in the T-cell developmental gene regulatory network: asynchronous combinatoriality and epigenetic gating control BCL11B activation, **Presenter:** *Ellen Rothenberg*

8:15 – 8:30pm Requirement for pre-thymic notch signals in the generation of the earliest T-cell progenitors, **Presenter:** *Edward L.Y. Chen*

8:30 – 8:45pm Factors that influence autoreactive thymocyte fate, **Presenter:** *Nadia Kurd*

8:45 – 9:00pm LEF1 is a context dependent oncogene and a tumor suppressor in T lymphocyte progenitors, **Presenter:** *Barbara L. Kee*

9:00 – 9:15pm Artificial thymic organoids induce positive selection and allelic exclusion of TCR-engineered T cells from human hematopoietic stem cells, **Presenter:** *Amelie Montel-Hagen*

9:15 – 9:30pm Immune system characteristics in mice with normal immunological experience, **Presenter:** *Stephen Jameson*

9:30 – 10:00pm Discussion

Wednesday, June 8

Please make plans to attend the panel discussions below. No pre-registration is necessary. Seating is available on a first come-first served basis.

7:30 – 8:30am Career Session (*Puakeniken I & II*)
(*Breakfast served for those attending this session*)

Landing and Keeping a Position in Academia: This panel will address a range of challenges facing trainees and new investigators including: being proactive in making yourself an attractive candidate, preparing job applications, navigating the interview process, setting up your lab, preparing and submitting grants (understanding paylines, selecting institute and study section, and interpreting summary statements), strategies for identifying good postdocs/students, managing lab budgets and personnel, and prepping for tenure review. For those young investigators desiring assistance beyond the meeting, contact information for senior investigators willing to assist them will be provided. The session is open to anyone but would be informative for grad students, postdocs and newly independent investigators.

Panelists:

B.J. Fowlkes	NIAID	Kris Hogquist	University of Minnesota
Rebecca Fuldner	NIA	Ben Ortiz	Hunter College
Barbara Kee	University of Chicago	David Wiest	Fox Chase Cancer Center

- 7:30 - 8:30am Buffet Breakfast (*South Pacific Foyer/Ballroom*)
- 8:30 - 10:30am **Selection** (*Pikake I & II Ballroom*)
- Chair:** Paul Allen
- 8:30 – 8:45am Two distinct thymic IEL precursors, **Presenter:** *Kristin Hogquist*
- 8:45 – 9:00am Mucosal-Associated Invariant T (MAIT) cell lineage development in mice and humans, **Presenter:** *Dale Godfrey*
- 9:00 – 9:15am Controlling innate CD8 T cells development in the thymus by common gamma chain cytokine receptor expression, **Presenter:** *Hyun Park*
- 9:15 – 9:30am TCR ligand controls the development and effector function of T10/22-binding $\gamma\delta$ T cells, **Presenter:** *Shawn P. Fahl*
- 9:30 – 9:45am Insights into the origins of MHC specificity by repertoire and sequence comparisons of MHC-restricted and MHC-independent ABT cells, **Presenter:** *Francois van Laethem*
- 9:45 – 10:00am Reversed T-cell receptor docking on Major Histocompatibility Class I complexes within the naïve T-cell repertoire limits involvement in the immune response, **Presenter:** *Nicole L. La Gruta*
- 10:00 – 10:30am Discussion
- 10:30 - 11:00am Coffee Break (*Jade/Plumeria/Maile/Hadu Ballroom*)
- 11:00am - 1:00pm **Tolerance and Autoimmunity** (*Pikake I & II Ballroom*)
- Chairs:** Cheong-Hee Chang and Charlie Surh
- 11:00 – 11:15am Development of regulatory T cells in the thymus- two paths to the same goal? **Presenter:** *David L. Owen*
- 11:15 – 11:30am In vivo generation of autoantigen-specific Tregs to treat autoimmunity by manipulating apoptosis, **Presenter:** *WanJun Chen*
- 11:30 – 11:45am A novel key regulator of autoimmunity, **Presenter:** *Hiroyuki Takaba*
- 11:45am – 12:00pm FOXP3 induction serves as a fail-safe mechanism for deleting thymocytes expressing autoreactive TCR, **Presenter:** *Xuguang Tai*
- 12:00 – 12:15pm Targeted deletion of C-met in thymic epithelial cells results in an autoimmune phenotype, **Presenter:** *Laijun Lai*

- 12:15 – 12:30pm Nuclear receptor NR4A3 is required for proper clonal deletion and limits Treg differentiation, **Presenter:** *Nathalie Labrecque*
- 12:30 – 1:00pm Discussion
- 1:00 - onwards Free Time - explore the island

Thursday, June 9

- 7:30 - 8:30am Buffet Breakfast (*South Pacific Foyer/Ballroom*)
- 8:30 - 10:30am **Aging and Immune Reconstitution** (*Pikake I & II Ballroom*)
Chairs: Vishwa Dixit and Richard Boyd
- Sponsored by Generon***
- 8:30 – 8:45am Production of BMP4 by endothelial cells is crucial for endogenous thymic regeneration, **Presenter:** *Jarrood Dudakov*
- 8:45 – 9:00am Reconstitution of functional thymus organoids by repopulating decellularized thymus scaffolds with thymus stromal cells, **Presenter:** *Yong Fan*
- 9:00 – 9:15am The fate of neonatal and adult CD8+ T cells during infection is linked to their developmental origin, **Presenter:** *Brian Rudd*
- 9:15 – 9:30am In vitro-derived human T-cell progenitors restore thymic architecture and facilitate hematopoietic stem cell-derived T-lymphopoiesis in vivo, **Presenter:** *Jasty Singh*
- 9:30 – 9:45am Late effects of ionizing radiation exposure and age on human thymus morphology and function, **Presenter:** *Gregory D. Sempowski*
- 9:45 – 10:00am Prolongevity ketogenic hormone FGF21 delays age-related thymic involution, **Presenter:** *Vishwa Deep Dixit*
- 10:00 – 10:30am Discussion
- 10:30 - 11:00am Coffee Break (*Jade/Plumeria/Maile/Hadu Ballroom*)

11:00am - 1:00pm **Immunodeficiency and Dysfunction** (*Pikake I & II Ballroom*)

Chair: Naomi Taylor

Sponsored by Northwest Biotherapeutics

11:00 – 11:15am Dynamic regulation of nutrient transporter expression during thymocyte differentiation, **Presenter:** *Sarah Gailhac*

11:15 – 11:30am Regulation of inflammatory immune responses by metabolic homeostasis of NKT cells, **Presenter:** *Cheong-Hee Chang*

11:30 – 11:45am Antiviral CD8+ T cells restricted by HLA class II DRB1 exist in HIV infection and exhibit clonal expansion, **Presenter:** *Srinika Ranasinghe*

11:45am – 12:00pm Lymphopenia induced by busulfan and cyclophosphamide drives an unusual mode of CD4+ T cell fast proliferation, **Presenter:** *Juhee Kim*

12:00 – 12:15pm Clinical grade in vitro production of human T-cell precursors from neonatal and adult hematopoietic stem cells, **Presenter:** *Isabelle André-Schmutz*

12:15 – 12:30pm Translating T-cell receptor-alpha (TCR α) gene regulation to chimeric antigen receptor gene therapy, **Presenter:** *Benjamin D. Ortiz*

12:30 – 1:00pm Discussion

1:00 - 2:30pm Lunch - Free Time

2:30 - 4:30pm **Cancer Immunology and Immunotherapy** (*Pikake I & II Ballroom*)

Chair: Pamela Ohashi

Sponsored by Juno Therapeutics

2:30 – 2:45pm Novel subsets involved in T cell anti-tumor immunity, **Presenter:** *Pam Ohashi*

2:45 – 3:00pm Tcf7 - Lineage repressor and essential mediator of Notch-induced T-ALL, **Presenter:** *Freddy Radtke*

3:00 – 3:15pm Co-potential of antigen recognition in human T cells: a novel strategy to achieve anti-tumor immunotherapy, **Presenter:** *Diana Gil Pages*

3:15 – 3:30pm Investigating the role of LDB1 transcription complexes in T cell acute lymphoblastic leukemia (T-ALL), **Presenter:** *LiQi Li*

3:30 – 3:45pm Regeneration of WT1 antigen-specific cytotoxic T lymphocytes by utilizing iPS cell technology, **Presenter:** *Hiroshi Kawamoto*

3:45 – 4:00pm High affinity tumor/self antigen-reactive T cells can be found in the peripheral blood of healthy donors, but are less antigen responsive, **Presenter:** *Thomas M. Schmitt*

4:00 – 4:30pm Discussion

4:30 - 6:00pm Poster Session 2 (*Jade/Plumeria/Maile/Hadu Ballroom*)

6:00 - 7:00pm **Founder's Keynote Address** (*Pikake I & II Ballroom*)
“One very personal fascination with T cell repertoire selection”
Dr. Janko Nikolich-Zugich, *University of Arizona*

7:00 - 10:00pm **Banquet Dinner and Awards** (*Pacific Roof Top Terrace*)

10:00pm Meeting Closes

Friday, June 10

Hotel checkout

Thank you, Mahalo, and have a safe journey, Aloha