Jolan E. Walter, MD, PhD

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Citizenship

U.S. Citizen

Education

University of Pecs, Hungary, Virology, Ph.D.	10/96-10/02
University of Pecs, Hungary, Medicine, M.D.	09/90-09/96

Postgraduate Training

Boston Children's Hospital, Boston, MA, Pediatric Allergy Immunology Fellowship	07/06-06/09
Children's Hospital of the King's Daughters, EVMS, Norfolk, VA Pediatric Residency, Pediatrics	07/03-06/06
Center of Pediatric Research, EVMS, Norfolk, VA, Research Fellow in Infectious Diseases	06/98-04/01

Licensure and Board Certification

Florida Medical License (active) (#ME127615)	01/18-01/20
Massachusetts Medical License (inactive) (#233737)	07/06-06/16
Virginia Medical License (inactive) (#0116014429)	03/02-06/06
U.S. Foreign Medical Graduate Examination (active) (#0-539-027-3)	10/98-Present
Hungarian Medical License (inactive)	10/96
American Board of Pediatrics (recertified, 2023) License #666979	2006
American Board of Allergy and Immunology (recertified, 2028) License #91647	2008

Awards, Honors, Honorary Society Memberships

Fellow of Clinical Immunology Society, Elected Member	2021
Advocacy Committee, Society of Pediatric Research	2021
Member, Variant Curation Expert Panel (VCEP) for SCID	2020
Steering Committee Member, SCID Compass, Immune Deficiency Foundation	2019
Steering Committee Member, NICER	2019
"Americas Top Doctors" – Castle Connolly	2019
John W. Hadden MD Young Investigator Award, University of South Florida, Research	2017
Faculty Inductee, Robert A. Good Honor Society, University of South Florida, Research	2017

"Excellence in Action", Massachusetts General Hospital, Clinical Care	2015
Society for Pediatric Research, Elected Member	2014
K08 Career Award, NIAID, National Institutes of Health, Research	2012
Nathan Talbot Pediatric Research Award, MassGeneral Hospital *for* Children, Research	2012
Junior Faculty Award, Clinical Immunology Society, Research	2011
Partners in Excellence, Massachusetts General Hospital, Clinical care	2010
Travel Award, Advanced Course of Basic and Clinical Immunology, Scottsdale, AZ, Clinical Care	2009
Fellows Career Development Award, GSK-American Academy of Allergy, Asthma and Immunology, Research	2008
Young Faculty Research Award, Southern Society for Pediatric Research, Research	2002
Travel Award, Seventh European Workshop on Virus Evolution and Molecular Epidemiology, Leuven, Belgium, Research	2001
Perry Morgan Fellow, Center for Pediatric Research, EVMS, Norfolk, VA, Research	2000
Travel Award, Annual Conference of America Society of Virology, Research	1999, 2000
First Prize Award by the Dean, Pécs University Medical School, Thesis	1995
Scholarship of the Republic of Hungary, Government (Republic of Hungary), Outstanding academic performance	1994-96

Appointments

Academic Appointments

Associate Professor, Genomics Program, University of South Florida	05/19-Present
Associate Professor, Molecular Medicine, University of South Florida	12/18-Present
Faculty (joint BMT/Immunology clinic), Moffitt Cancer Center	10/18-Present
Associate Professor of Pediatric (adjunct), Johns Hopkins Medical Institute	10/16-Present
Director, Jeffrey Modell Diagnostic and Research Center for Primary Immunodeficiencies, Johns Hopkins All Children's Hospital	03/16-Present
Robert A. Good Endowed Chair	03/16-Present
Associate Professor, Department of Pediatrics, University of South Florida	03/16-Present
Consultant in Immunology Research, Pediatric (Allergy/Immunology) Massachusetts General Hospital *for* Children	03/16-Present
Associate in Pediatrics, Pediatrics (Allergy/Immunology) Massachusetts General Hospital	08/15-02/16
Associate Investigator, Nutrition Obesity Research Center, Harvard Medical School	09/14-02-16
Principal Investigator, Center for Immunology and Inflammatory Disease (CIID), Massachusetts General Hospital	11/13-02/16
Assistant in Pediatrics, Pediatrics (Allergy/Immunology), Massachusetts General Hospital	07/09-08/15

Administrative Appointment

Vice Chair, AAAAI	3/22-present
Division Chief, Pediatric (Allergy/Immunology), John Hopkins All Children's Hospital	05/16-Present
Division Chief, Pediatric (Allergy/Immunology) University of South Florida	03/16-Present
Director, Immunodeficiency Program, Division of Allergy/Immunology, Massachusetts General Hospital *for* Children	04/14-02/16

Hospital

Staff Physician, Immunology, Moffitt Cancer Center	08/18-Present
Staff Physician, Pediatrics, Johns Hopkins All Children's Hospital	10/16-Present
Staff Physician, Pediatrics, Franciscan Hospital for Children, Brighton, MA	10/07-10/16

Teaching, Lecture

Undergraduate Medical

Immune Deficiency Cases, 2-hr sessions, Morsani College of Medicine, USF	03/19-present
Cellular and Molecular Immunology (HST-175), Harvard Medical School, three 1-hr sessions per year on topics related to Clinical Immunology	2010-2016

Graduate Medical (residents, fellows)

Noon teaching conference for residents and medical students, Massachusetts General Hospital *for* Children, three 1-hr sessions per year on topics related to Immunology	08/2018
Morning teaching conference for Allergy/Immunology fellows, University of South Florida and Johns Hopkins All Children's Hospital, five 1-hr sessions per year on topics related to Immunology: (1) Immunodeficiency 101, (2) B cell phenotypes and function, (3) T cell phenotypes and function, (4) Gene therapy, (5) Immune phenotyping and genetic approach in primary immunodeficiencies	2016-present
Noon teaching conference for residents (USF, JHACH) University of South Florida and Johns Hopkins All Children's Hospital, one to two 1-hr sessions per year on topics related to Immunology (Primary Immunodeficiency 101)	2016-present

Hospital

Annual Grand Rounds presentation for USF Medicine (Dermatology, Pediatrics),	2016-present
Johns Hopkins All Children's Hospital (Medicine, Neonatology) on newborn screening for SCID and primary immunodeficiencies	2016-present
Moffitt Cancer Center, ad hoc talks on primary immunodeficiencies and HSCT	2018-present

Teaching, Supervisory

Clinical supervisory and training responsibilities

Supervision of residents in Pediatric Allergy/Immunology clinics, 10 residents per annum. USF and JHACH Ped and Med/Peds Programs (5% effort)	2016-present
Supervision of Allergy/Immunology fellows on inpatient wards rotations and in Pediatric Allergy/Immunology clinics (1 or 2 fellows from USF Peds AI and 3 fellows from USF Medicine AI per annum) (10% effort)	2016-present

<u>Clinical trainees in Pediatric Allergy/Immunology:</u>
Several of our trainees were mentored to present abstract at national meetings and participate in CIS-PID school

Jenny Yoon, Sheila Bina, Adeeb Bulkhi	2016
Bhumika Patel, Joanna Castro-Wagner, Peter Ricketti, Chen Lin, Sultan Alandijani	2016-2017
David Lindsay, Sonia Joychan, Kirk Shepard, Amber Pepper, Emma Westermann	2016-2018
Fatima Khan, Warit Jithpratuck, Tara Saco, Shiven Patel	2017-2019
Irina Dawson, Jacqueline Squire, Raul Villareal, Claudia Gaefke	2018-2020

Maria Chitty Lopez, Stephanie Hudey, Nicholas Kolinsky, David Gubernick	2019-2021
Mary Ann Miranda, Priya Timothy, Donya Imanirad, Natalie Diaz-Cabrera	2020-present
Shannon Sullivan, Silpa Taunk	2021-present

International clinical trainees in Pediatric Allergy/Immunology (visiting): 2018-2020

Visiting international fellows and faculty:

Dr Benz(Pailin Yooma) and Dr Oui (Thitaya Sangsawang) Yada Treepaiboon.	2020
Nattiya Kitiphipat, Jose Roberto M. Pegler, Cristiano Góes do Nascimento and Maira Mastrocola de Campos.	2019
Nuntanut Rutrakool, Thunyatorn Phisitbuntoon, Teerapol Chantveerawong, Isree Leelayuwattanakul, Pamela F. Alves Barbosa, Mariana Castiglioni, Nathalia Mota, Maram Albanyan, Renan Perera, Renata Guardiano Dias Lais Millan and Mariana Fernandes Barp Melnik.	2018

Laboratory or other research supervisory, training
Formally supervised trainees

Lael Yonker MD, Clinical fellow in Pulmonology / Massachusetts General Hospital *for* Children. Provide formal mentorship, supervision and career guidance in research in the field of common variable immunodeficiency. She presented our findings at CIS (2011) and co-author on the summary of these findings published in *Frontiers of Immunology (2017\).* Current position: Assistant Professor at Harvard (MGH) 2010-2013

Melissa Walker MD PhD, Resident / Massachusetts General Hospital *for* Children (now Instructor at Harvard). Provide formal mentorship, supervision and career guidance in research in the field of immunodeficiency in mitochondrial disorders. She presented our findings at CIS (2013) and her manuscript was accepted *in JACI: In Practice (2014).* She completed a review on mitochondrial disease and the immune system at *Journal of Immunology Research (2014).* She is co-author on an additional case review. I was a grant mentor for Dr. Walker who has received a Publication Research Grant from CSL-Behring to assess cost-benefit of immunoglobulin replacement for patients with recurrent infections, immune dysfunction and mitochondrial disorder. Current position: Instructor, Harvard (MGH) 2012-2016

Tim Lax, MD, Clinical Fellow in Allergy/Immunology / Massachusetts General Hospital for Children (now Instructor at Harvard). Provide formal mentorship, supervision and career guidance in research in the field of dyskeratosis congenita Dr. Lax presented our findings at CIS (2013) and CIS-PID School (2013). Case report has been presented as CPC series at Massachusetts General Hospital in May 2014 and was invited for publication at *The New England Journal of Medicine (2015)*. Current position: Instructor, Harvard (BIDMC) 2012-2014

Samira Farough MD, Foreign graduate (now Research Fellow in Radiology, MGH). Provided formal mentorship, supervision and career guidance in research in the field of immunodeficiency in mitochondrial disorders
She presented our findings at CIS (2013) and has a case report with Coenzyme Q10 deficiency and immune dysfunction (*Clinical Immunology, 2014*). Current position: Director of Medical Review, Imaging Endpoints (AZ) — 2012-2014

Ottavia Delmonte MD PhD, Resident/ Boston Children's Hospital (now Staff Clinician, NIAID, NIH) PhD thesis advisor, and providing supervision and career guidance in research in the field of immunodeficiency, in particular AID deficiency. She presented her data as oral abstract at AAAAI 2014 meeting and defended her PhD thesis on AID deficiency in Italy in April 2014. Current position: Assistant Professor, National Institutes of Health. — 2013-2016

Boglarka Ujhazi MS, PhD candidate, Research technician II, Walter laboratory, MGH. Studies on celiac-like enteropathies in primary immunodeficiencies in human and mice models. She oversees laboratory operations, computational analysis of B cell repertoire. She has several platform and poster presentations at national meetings and coauthor on several publications. Co-mentor for PhD training. Current position: Biological Scientist, Walter laboratory, USF — 2013-present

Katrina Abernethy MD, Co-supervisor in her Master in Research entitled "Measurement and characterisation of autoantibodies by high capture fluorescence microarray in X-linked chronic granulomatous disease carriers" visiting medical student from Institute of Cellular Medicine, Newcastle University, Newcastle-upon-Tyne, UK. She completed her thesis with distinction and had poster accepted to the biannual meeting of European Society of Primary Immunodeficiencies (ESID) in October 2014. Current position: Unknown — 2014 Apr-May

George Zhang, 1st year undergraduate student, Harvard University (Pre-Med). Walter laboratory, MGH. Human studies of autoreactive cells in Rag deficiency: cloning and sequencing monoclonal heavy and light chain from patient with Rag deficiency. Current position: Software engineer, Google (CA) — 2014 Jun

Zachary Fitzpatrick, graduate student, Louisiana State University (Biochemistry, Political Science). Walter laboratory, MGH. Clinical studies: Genetic studies in primary immunodeficiencies, in particular TRECS and KRECS in SCID, T cell lymphopenia and combined immunodeficiencies (CID). Laboratory experiment: Sequence analysis of B cell repertoire of patients with RAG deficiencies and analysis of epigenetic modifiers in disease. Zach is currently a Fulbright Scholar, studying therapeutic gene transfer and immune deficiencies at the Pasteur Institute in Paris, France and will continue graduate work at the University of Cambridge as a Gates Cambridge Scholar. Current position: Fulbright Scholar, Université Pierre-et-Marie-Curie and the Pasteur Institute, France — 2015-2016

Omri Rotem, 4th year medical student, Debrecen University Medical School, Hungary. Walter laboratory, MGH. Human studies of autoreactive cells in RAG deficiency. Amplification of heavy and light chain of single B cells of naïve and — 2014 Jul

mature compartment from patients with RAG deficiencies. Current position Emergency Medicine Resident, Sheba Tel HaShomer City of Health, Israel

Carin Dahlberg, Graduate student, Karolinska Institute, Stockholm, Sweden. Walter laboratory, MGH. Dysregulation of innate lymphocytes and induction of autoimmunity in murine model of RAG deficiency. We published jointly on immune dysregulation and autoantibodies in Wiskott-Aldrich mouse model. Current position: Project Manager, Karolinska Institute, Sweden — 2014 Aug

Zsofia Foldvari MD, 6th year medical student, Debrecen University Medical School, Hungary. Walter laboratory, MGH. Human studies of autoreactive cells in RAG deficiency. Cloning of heavy and light chain of single B cells of naïve and mature compartment from patients with RAG deficiencies. Assistance with murine models of RAG deficiency. Zsofia is first co-author on treatment outcomes of autoimmune cytopenias and other autoimmune disorders in RAG deficiency published in *JACI: In Practice* (2019). Current position: PhD student, K.G. Jebsen Center for Cancer Immunotherapy, Oslo University Hospital, Norway — 2015-2016

Christoph Geier MD PhD, medical student from Medical School of Vienna, Austria. Christoph has collected and presented our data on adult RAG patient with as a moderated poster presentation at the European Society of Immunodeficiency (ESID) meeting in 2016 and published our findings as first co-author in the *Journal of Allergy and Clinical Immunology (2018).* This was an extensive global collaboration between investigators from the United States of America and Europe and Christoph has been instrumental in communication with the sites. We also collaborated with Christoph and his mentors, Dr. Wolf and Dr. Eibl on common variable immunodeficiency (CVID) and Christoph published a first author paper on "deficiency of group 2 innate lymphoid cells in patients with common variable immunodeficiency" (*European Journal of Immunology, 2017*). In 2019, Christoph presented on complications of vasculitis in RAG deficiency at AAAAI and published our findings in the Frontiers of Immunology (2020). Current joing work includes the natural history of WHIM syndrome and B cell studies in WHIM patients. He will complete a manuscript and assist with genetic studies on SCID patients from Brazil. Current position: Postdoctoral Fellow and Clinician — 2015-present

Bhumika Patel MD, Fellow in Allergy Immunology, University of South Florida, supervision and career guidance in research in the field of immunodeficiency. Dr. Patel submitted an abstract on RAG deficient patient cohort with autoimmune cytopenia and is a co-author on a publication in *JACI: In Practice (2018).* Current position: Private Allergist Immunologist, Tampa, FL — 2016-2017

Anna Meyer MD PhD, Pediatric Resident, Johns Hopkins All Children's Hospital, supervision and career guidance in research in the field of autoimmunity and immunodeficiency. Dr. Meyer presented our retrospective dataset on autoimmune cytopenia with or without primary immunodeficiencies at a national meeting and is primary author on a publication in draft on this dataset. She also has submitted abstracts to 2018 CIS meeting on leaky SCID patients identified by newborn screening that was published in *Frontiers of Pediatrics (2019)*. Current position: Assistant Professor, Allergy & Immunology, National Jewish Health — 2016-2018

Bence Zakota, Undergraduate Student, University of South Florida. Bence has worked for over a year in our laboratory as a student researcher. He has won a Poster Award for Undergraduate Research in Allergy, Immunology and Infectious Diseases in 2018 USF Health Research Day. Current position: Medical Student — 2017-2018

Cristina Meehan, Graduate Student, University of South Florida. Cristina has worked for the past two years in our laboratory as a clinical coordinator and student researcher. She contributed to writing grants to Foundations and have published two papers with our team (*Rev Paul Pediatr* (2018), *Frontiers of Pediatrics (2019)*). Her work was focusing on immunological and genetic studies in our retrospective and prospective dataset on autoimmune cytopenia with or without primary immunodeficiencies; description of leaky SCID patients identified by newborn screening and global awareness of SCID. She contributed to several grant applications.
She has also represented our team at several local conferences (USF, JHACH). Current position: MD PhD student, at University of Alabama, Birmingham — 2017-2019

Joseph Dasso MD PhD, Staff Scientist, Walter laboratory, USF. Dr. Dasso's main focus is the microbiome in humans and animal models of PID. I have been mentoring Dr. Dasso on human studies in RAG deficiency and immune dysregulation. He has presented posters at meetings, has been assisting with eight grant applications (institutional, private and federal [R01] sources) and is a co-author on 6 publications in the Walter lab. In particular, he co-wrote and successfully applied with me for the Rothman grant (2019) where we plan to correlate the microbiome of children with PANDAS to their immune status (IgA deficiency) and an R01 on age-associated B cells. Current position: Staff Scientist, Walter laboratory — 2017-present

Rachel Cruz, Undergraduate Student, University of South Florida. Rachel has worked for the past two years in our laboratory as a student researcher and in May 2019 started as research coordinator. She has presented at 2018 CIS meeting a case series of patients with cardiac transplant and parvovirus viremia and published her findings in the *Open Forum of Infectious Diseases*. Currently she is working on the manuscript on natural history of WHIM syndrome and ovarian cancer in CVID. She has also represented our team at several local conferences (USF, JHACH). Current position: Medical Student, USF — 2017-present

Maryssa Ellison, BSc, Research Coordinator, University of South Florida. Maryssa has worked for 4 years in our laboratory as as research coordinator. She has presented at several local and national meetings on WHIM syndrome. Currently she is working on the manuscript on natural history of WHIM syndrome Current position: PhD student, Wake-Forest University, Molecular and Cellular Biological Sciences, Winston-Salem, NC — 2017-2021

Kevin Wu, Medical Student, University of South Florida. Supervisor for summer elective Scholarly Concentration Program (SCP) administrated by the office of Research, Innovation & Scholarly Endeavors (RISE) (2018). Kevin has worked all summer in our laboratory on impaired tolerance checkpoints and polyreactive B cells, represented our team at several local conferences with platform presentations (USF, — 2017-2020

JHACH) and in webinar setting for CIS. He received the "Best Oral Presentation Award" at 2019 USF Research Day and has a first author paper published on treatment approach for two patients with RAG deficiency and arthritis (*Frontiers of Pediatrics (2019).* He was selected to the Robert A. Good Honor Society as a graduating medical student. Current position: Diagnostic Radiology, USF

Claudia Gaefke MD, Fellow in Allergy Immunology, University of South Florida, Supervisor and career mentor in research in the field of immunodeficiency. Dr. Gaefke presented at several meetings on our patients with primary immunodeficiency (AAAAI 2019, CIS 2019) and currently preparing publications on patients with ALPS. Current position: Specialist in Allergy Immunology, Tucson, AZ — 2018-2020

Pooja Purswani MD, Resident and JHACH. Supervisor and career mentor in research in the field of immunodeficiency. Dr. Purswani has published two case reports on immunodeficiencies in the Frontiers of Immunology and submitted abstracts to our national AAAAI meeting. Current position: Clinical Fellow in Pediatric Allergy Immunology, Duke Medical School — 2018-2021

Priya Patel MD, Resident and JHACH. Career mentor research in the field of immunodeficiency and immune dysregulation, specifically with partial DiGeorge syndrome and autoimmune cytopenias. Dr. Patel has presented several abstracts at our national AAAAI and CIS meeting. Manuscript was invited and are in process for submission to Frontiers of Immunology. Current position: Resident at JHACH — 2020-present

Priya Timothy MD, Fellow in Allergy Immunology, University of South Florida, supervision and career guidance in research in the field of immune evaluation in food allergy and immune dysregulation. Dr. Patel submitted an abstract on CTLA4 deficiencies. She is spearheading a funded internal grant on immune evaluation among patients with peanut oral immunotherapy. Current position: Fellow in Allergy and Immunology, USF, Tampa, FL — 2020-present

(David) Evan Potts, Medical Student, University of South Florida. Supervisor for summer elective Scholarly Concentration Program (SCP) administrated by the office of Research, Innovation & Scholarly Endeavors (RISE) (2021). Evan has worked all summer in our laboratory on three SCID genes discovered among Irish Travelers in the US. He is key personnel on the project above that is funded by the SCID Compass, Immune Deficiency Foundation. Also assists in studies in other SCID variants (IL2RG), WHIM patient cohorts, Immune responses in patients infected or immunized with SARS-CoV2 andRAG recombinase activity measurements. Current position: Medical Student, USF — 2021-present

Kady Palmer, Medical Student, Drexler University, Philadelphia, Pennsylvania. Supervisor for summer elective on pathomechanism for clinical variability in the Mennonite population with hypomorphic RAG variant, cohort of patients with SCID variants (IL2RG) and human microbiome studies in primary immunodeficiencies. Current position: Medical Student, Drexler University, Philadelphia, Pennsylvania — 2021-present

Melis Yilmaz, volunteer intern, Walter laboratory, USF. Mentor on projects on WHIM syndrome including natural history and pathomechanisms for B cell — 2021-present

abnormalities. Current position: Medical Student, Drexler University, Philadelphia, Pennsylvania

Peter Illes MD (from Hungary), clinical coordinator, Walter laboratory, USF. Mentor on projects on WHIM syndrome including natural history and pathomechanisms for B cell abnormalities. Current position: Research Coordinator, Allergy and Immunology, Tampa, FL — 2021-present

Mentoring faculty

Krisztian Csomos PhD, Research Associate, Walter laboratory (USF). I started mentoring Dr. Csomos as Postdoctoral Fellow at MGH in the area of human and animal studies of autoreactive cells in RAG deficiency. Krisztian is co-author is on several publications in *Journal of Clinical Investigations, JACI, JACI: In Practice*. He established multiple techniques in our laboratory and prepares data for first author publication on impaired tolerance mechanisms in RAG deficiency. He has several platform and poster presentations at national meetings. Highly productive team member and leader of the Walter laboratory operations. He had received grant internal funding from USF in 2019. Current position: Research Associate (USF). — 2013-present

Jocelyn Farmer MD PhD, Supervision and career guidance in research in the field of immunodeficiency, in particular CVID. She assisted in preparing my presentation for the USIDNet Face-to-Face meeting at NIH (Jan 2014). Grant mentor for Dr. Farmer who has received a Publication Research Grant from CSL-Behring to assess immunoglobulin dosing among patients with infectious and non-infectious complications and CVID (1) and Grant from USIDNet/Baxter on comparison of population-based MGH CVID cohort to USIDNet data. She is invited to USIDNet Face-to-Face meeting at NIH on CVID data at MGH (Jan 2016). First and co-author on several papers and chapters in *Frontiers of Immunology, JACI and JACI: In Practice, JAMA* and *Cell Signaling* (see below). Jocelyn submitted a K08 application to NIAID in 2020 under co-mentorship with Dr. Shiv Pillai and me. Current position: Assistant Professor at Harvard Medical School and Massachusetts General Hospital — 2013-present

Sara Barmettler MD, Supervision and career guidance in research in the field of immunodeficiency. Frist author publication in *JAMA Open Access* adverse outcome of Rituximab at Massachusetts General Hospital. Currently, she is working on AAAAI guidelines on hypogammaglobulinemia after Rituximab. She also published an XLA cohort study with USIDNet, approach to patients with ataxia telangiectasia identified by newborn screening for SCID. Currently we are working on joint projects on WHIM syndrome. I am mentoring Dr. Barmettler on a funded K23 on CAR-T cells and B cell immune reconstitution. Current Position: Assistant Professor at Harvard Medical School and Massachusetts General Hospital — 2015-present

Panida Sriaroon MD, Supervision and career guidance in for independence in research and leadership role. Under my mentorship she is leading a successful Pediatric Allergy & Immunology Fellowship Program. She established and currently leads the Food Allergy Center at JHACH. She serves as local co-Director of the FARE program, became PI in several sponsored studies related to food allergy (e.g. eosinophilic esophagitis) and in collaboration with academic centers, such as Baylor — 2016-present

Medical School, she is now participating in a R32 grant and NIH U grant applications. She submitted a grant on mechanistic studies in peanut OIT to JHACH. We have co-authored several papers. Current Position: Associate Professor, Division of Allergy & Immunology, USF.

Adeeb Bulkhi, MD, Supervision and career guidance in for building his practice in clinical immunology and to become a national leader in Immunology in Saudi Arabia. We have abstracts at national meetings, co-authored several peer reviewed papers, jointly edited chapter for the Encyclopedia of Immunology and he is participating in our book "Genetics 101 for the Practicing Immunologist". Current Position: Adjunct Professor at USF, Assistant Professor, Umm Al Qura University and Consultant, International Medical Center, Jeddah, Saudi Arabia. Current Position: Assistant Professor, Umm Al Qura University — 2017-present

Vera Goda, MD, Supervision and career guidance, outside mentor for PhD thesis in translational medicine. Dr. Goda is an Immunologist with strong interest in primary immunodeficiencies. Dr. Goda is the first author on our joint publication in JACI-IP (2018). We have active collaboration on variants of SCID and PI3K deficiencies. Current position: Assistant Professor, Bone Marrow Transplant Unit, St Laszlo Hospital — 2018-present

Svetlana Sharapova PhD, Supervision and career guidance in human studies in RAG deficiency and variants of SCID. Dr. Sharapova had a poster presentation at CIS 2019 with us. We are working on several papers. I have also mentored Dr. Sharapova in a successful grant application to the Jeffrey Modell Foundation in 2019. As part of this grant, she has visited our laboratory in summer 2019. She published as two author paper under my mentorship in the *Frontiers in Immunology (2020).* Current Position: Visiting Faculty Scientist, Walter laboratory, USF and Principal Investigator, Cancer Institute, Minsk, Belarus. — 2018-present

Emma Westermann-Clark MD, Supervision and career guidance in primary immunodeficiencies with autoimmune cytopenias. She presented at several national meetings (CIS, PIDTC). Emma oversees our retrospective and prospective studies on patients with autoimmune cytopenias with specific emphasis for those with underlying immunodeficiency. She has published a first author publication and served as co-author on papers with RAG deficiency and autoimmune cytopenias (*Journal of Clinical Immunology 2018, JACI: In Practice 2019*). She has also been working with us on NIH grant applications. Current Position: Adjunct Research Faculty in Allergy/Immunology — 2018-present

Marton Keszei PhD, Adjunct Faculty, Walter laboratory, USF. Dr. Keszei was visiting us from the Karolinska Institute in Sweden. He is being mentored by me on human studies in WHIM syndrome. Dr. Keszei has written an Investigator Initiated Grant to X4 with us and will continue collaboration on fitness of T and B cells in WHIM syndrome — 2018-present

Anne Szymanski MD, Clinical Instructor, Johns Hopkins All Children's Hospital. Dr. Szymanski has trained at the NIH and currently is an academic Rheumatologist with expertise in translational research. Under my joint mentorship with Dr. Diana — 2019-present

Milojevic, Dr. Szymanski has submitted an Institutional Grant at JHACH for research on antibody response in patients with immunodeficiency or immune modulation at JHACH.

Joud Hajjar, MD, Assistant Professor, Baylor Medical School (PhD student) 2020-present
Dr. Hajjar is an Allergist/Immunologist with strong interest in translational medicine. She is currently preparing a K23 as we support her with samples and consultation on the microbiome of patients with CVID and non-infectious complications.

Formal teaching of peers (e.g. CME, other continuing ed) (CME)

Food allergies: A growing epidemic 2009
Primary Care Pediatric Conference, Harvard Medical School

Severe case of systemic mastocytosis, MGH Chief of Service Round. MGH staff 2010

SCID and newborn screening update. Porter Lecture 2011
MGH*f*C Pediatric Grand Rounds. MGH staff

Screening for Primary Immunodeficiencies: When and How? First Steps with SCID 2011
Newborn Screening. Primary Care Pediatric Conference, Harvard Medical School

Human RAG deficiency: not just immunodeficiency. Novel insights into mechanisms 2012
of immune dysregulation. Presenter at Plenary Session, MGH*f*C Research Day

Severe Combined Immunodeficiency 2013
Allergy/Immunology Grand Rounds, MGH

Autoimmunity in Primary Immunodeficiencies 2013
Pediatric Grand Rounds, MGH*f*C

A 14-year-old boy with immune dysfunction and cognitive, endocrine and liver 2014
abnormalities. Case Records of Massachusetts General Hospital: Clinicopathological Conference at Pediatric Grand Rounds

Primary Immunodeficiencies – in the era of whole exome sequencing 2014
Analytic and Translational Genetics Unit (ATGU) Coffee hour

Annual Symposium & Rhinolaryngoscopy Hands-on Workshop 2016-present
Diagnosis of Immunodeficiency Diseases. Tampa, FL

Moderator and organizer of clinical case and research conference in Immunology for 2017-present
clinical fellows and faculty (Immune Dysregulation Think Tank Meeting)
1-hr presentation per month when we discussed cases and research ideas in Immunology in multidisciplinary settings at JHACH. Outside speakers were invited and their visit was funded with advocacy funds from the Jeffrey Modell Diagnostic and Research Center

Lectures by Invitation

International

"The growing spectrum of RAG deficiencies" 2013
Invited speaker, II São Paulo Advanced School on Primary Immunodeficiencies: "The interface of Autoimmunity and Immunodeficiency (II ESPCA-PID), São Paulo, Faculdade de Medicina da Universidade de São Paulo (FMUSP), Brazil

"Dysregulated innate immune system feeds hyperinflammation in RAG deficiency" 2013
Invited speaker, Annual Meeting of Hungarian Immunology Society, Pecs, Hungary

"Combined Immunodeficiencies with immune dysregulation" 2015
Cancer Research Institute rounds Immunology Rounds, The Chaim Sheba Medical Center, Tel-Aviv University, Sackler School of Medicine, Tel-Aviv, Israel

"RAG and autoimmunity" 2015
Invited speaker, Second International Workshop on ALPS and associated disorders, Genova, Italy

"Review of Novel Primary Immunodeficiencies: DNA PK deficiency" 2016
Euro-CID/P-CID/CELL-PID meeting, Rome, Italy

"SCID identified by newborn screening: diagnostic approach and targeted therapy", 2019
Annual meeting of Hungarian Immunology Society (MIT), Hungary

"Cytopenias of Many Kinds: An Emerging Face of Primary Immunodeficiencies", 2019
Immunodeficiency Canada 7th SCID Symposium, Montreal, Canada

"Most frequent molecular defects and gene therapy for SCID", XLVIII Brazilian 2021
Congress of Allergy and Immunology, virtual

"Crossroads between SID, PID and Autoimmunity" Symposium on Secondary 2021
Immune Deficiency and Primary Immune Deficiency Crossovers, European Society for Immunodeficiencies (ESID), virtual

National

"B cell dysregulation in RAG-dependent PID in human and mice" 2011
Department of Pediatrics, Stanford Medical School

"Autoimmunity in RAG-dependent Primary immunodeficiency" 2011
Grand Rounds, NIAID, National Institutes of Health, Bethesda

"Understanding Autoimmunity in Immunodeficiencies" 2012
Discussion Leader, AAAAI Annual Meeting, Miami, FL

"Challenges before and after newborn screening for SCID" 2012
Grand Rounds. Children's Hospital of The King's Daughters, Eastern Virginia Medical School

"Clinical Challenges in the Diagnosis of Primary Immunodeficiencies" 2012
Annual meeting for Association of Medical Laboratory Immunologists (AMLI), Minneapolis, MN

"Clinical Challenges in the Diagnosis and Treatment of Autoimmunity in Primary Immunodeficiencies", Immunology Seminars, Mayo Clinic, Rochester, MN 2012

"Secondary Evaluation of SCID Screen-Positive Infants" 2014
AAAAI Annual Meeting, San Diego, CA

"Comparative analysis of patients followed at the Massachusetts General Hospital (MGH) versus the national CVID registry (USIDNET)" 2014
USIDNET Annual Face-to-Face Meeting, Washington, DC

"The broadening spectrum of RAG deficiencies". 2014
Grand Rounds, Division of Pediatric Allergy and Immunology, Northwestern University, Chicago, IL

"Clinical spectrum and challenges in autoimmune complications in PID" 2015
(Symposium supported by CSL-Behring), AAAAI Annual Meeting, Houston, TX

"Autoimmunity in RAG deficiency: Lessons from our patients" 2015
Grand Rounds, University of South Florida, Tampa, FL

"Autoimmunity in RAG deficiency: Lessons from our patients" 2015
Grand Rounds, Mattel Children's Hospital, UCLA, Los Angeles, CA

"Clues for early detection, proper immune suppression and support of patients with autoimmune disease and underlying immune deficiency" 2015
Annual Meeting of American College of Rheumatology, San Francisco, CA

"Mechanisms of allergic inflammation in Omenn Syndrome" 2016
Discussion Leader, Annual Meeting of AAAAI, Los Angeles, CA

"The link to immunodeficiency: Targeted therapy" 2016
Discussion Leader, Annual Meeting of AAAAI, Los Angeles, CA

Session on "Immune dysregulation" 2016
Moderator, Annual Meeting of Clinical Immunology Society, Boston, MA

"Mechanism-based treatment strategies of immune dysregulation in PIDs" 2016
Allergy & Clinical Immunology Seminar, Yale University School of Medicine, New Haven, CT

"Congenital Immunodeficiency: Primary Immunodeficiencies hints for diagnosis and treatment" Grand Rounds, Cleveland Clinic, Cleveland, OH 2016

"Advancing Ig Nursing and Pharmacy Practice. The Role of Rituximab and Ig Therapy" IgNS 2016 5th National Conference, Miami, Florida — 2016

"T-cell receptor excision circle (TREC) cutoff in newborn screening for SCID: when and how to act" 48th Annual Meeting of Hungarian Medical Association of America. Sarasota, FL — 2016

"Severe Combined Immunodeficiency" HST-Session for medical students, Harvard Medical School, Boston, MA — 2016

"Year in Review Workshop: Hot Topics in Pediatric Allergy/Immunology" Annual Meeting of AAAAI, Atlanta, GA — 2017

"Anti-cytokine autoantibodies in human disease" Discussion Leader, Annual Meeting of AAAAI, Atlanta, GA — 2017

"Hot Topics in Immunology" Pediatric Allergy & Immunology Teaching Conference, Duke University, Durham, NC — 2017

"Clinical variability and immune dysregulation in Rag deficiency" Baylor College of Medicine /Texas Children's Hospital, Houston, TX — 2017

"Primary Immunodefiency Diseases in Adults", Annual meeting of Oklahoma Allergy and Asthma Society, Oklahoma City, Oklahoma — 2018

"Patient Perspectives on Primary Immunodeficiency (PI): Shared Decision-Making for Personalized PI Management" Annual Meeting of AAAAI, Symposium sponsored by Shire, Orlando, FL — 2018

"Impaired tolerance mechanisms and targeted therapies for autoimmunity in PID" AIR Grand Rounds, University of Rochester School of Medicine & Dentistry Rochester, NY — 2018

"Gene Therapy Technology in Clinical Trials for Hereditary Immune Deficiency", Annual Meeting of AAAAI, San Francisco, CA — 2019

"Genetics 101 for the Practicing Immunologist" Discussion Leader, Annual Meeting of AAAAI, San Francisco, CA — 2019

"Adult Primary Immunodeficiencies" Discussion Leader, Annual Meeting of AAAAI, San Francisco, CA — 2019

Practical application of "Why How Where" Annual Meeting of Clinical Immunology Society, Atlanta, GA — 2019

"Primary Immunodeficiency Diseases in Adults" Oklahoma Allergy and Asthma Society, Tulsa, Oklahoma — 2019

"Updates in Diagnostics for Neutrophil Disorders" 2020
National Neutropenia Network, Virtual Conference, Webinar

"Rituximab and Eculizumab when Treating Non-Malignant Hematologic Disorders (NMHD): Infection Risk, Immunization Recommendations, Antimicrobial Prophylaxis Needs" American Society of Hematology, Annual Meeting, Virtual 2020

"Advances in clinical and mechanic understanding in WHIM syndrome" 2021
NICER monthly meeting, virtual

"Inborn errors of immunity and metabolic diseases in Irish Travelers community" 2021
SCID Compass Key Opinion Leader Roundtable, virtual

"NBS for SCID: perspectives of a clinician and researcher" Newborn Screening Research: Innovations from Technology, Advocacy and Clinical Care. Newborn Screening Summit by Newborn Screening Translational Research Network, virtual 2021

"Diagnosis and Management of Autoimmune Cytopenias (AIC) in Primary Immunodeficiency (PID)" 2021
National Meeting of Immune Deficiency Foundation, virtual

WHIM Syndrome (Warts, Hypogam, Infections, Myelokathexis) 2021
Rare of The Rare Summit, Immune Deficiency Foundation, virtual

<u>Regional</u>

"Everyday management of primary immunodeficiency for parents" 2009
Immunodeficiency Foundation Education Conference, Billerica, MA

"Ask the Expert" Session 2011
Immunodeficiency Foundation Education Conference, Dedham, MA

Immune deficiency and immune dysregulation 2012
1. "Ask the Expert" Session
2. Navigating between specialists

Immunodeficiency Foundation Education Conference, Dedham, MA

"Teen Escape" – conference focusing on needs to adolescent with PID 2012
1. "Ask the Expert" Session
2. "Take control of your health" – round table discussion with teens

Immunodeficiency Foundation Education Conference, Dedham, MA

Frontiers in Pediatric Gastroenterology, Hepatology & Nutrition. Immune modulation in Pediatric Neuropsychiatric disorders 2014

An Educational Day to Learn about Primary Immunodeficiency Diseases" 2014
1. Autoimmunity & Primary Immunodeficiency – What's the Link? – oral presentation
2. "Ask the Medical Expert" Session

Immune Deficiency Foundation Family Conference Day, Dedham, MA

"Autoimmunity & Immunodeficiency: What's the link?" 2015
"Ask the Medical Experts" Session
Immune Deficiency Foundation Retreat, Newton, MA

"Autoimmunity & Immunodeficiency: What's the link?" 2016
Immune Deficiency Foundation Education Meeting. Sarasota, FL

"Diagnosis of Immunodeficiency Diseases" 2016
Florida Allergy, Asthma & Immunology Society Annual Meeting. Orlando, FL

"Targeted treatment strategies for autoimmunity in PID" 2017
Conference and meeting with Rheumatology and Immunology, Gainesville, FL

"Where we are & Where we are going", Immune Deficiency Foundation. Immune Deficiency Foundation Education Meeting, St Augustine, FL 2018

"Genetic Landscape and diagnostic approach for SCID identified by Newborn screening" 2018
Genetics and Newborn Screening Advisory Council meeting, Tallahassee, FL

"Two atypical SCID cases from Florida" 2019
Florida Pediatric BMT and Cell Therapy Consortium, Webinar

"Cytopenias of Many Kinds: An Emerging Face of Primary Immunodeficiencies" 2020
Florida Pediatric BMT and Cell Therapy Consortium, Webinar

"Autoimmunity in PID". National Jewish Hospital, Pediatric Allergy and Immunology Morning Conference, Denver, CO 2020

<u>Local</u>
"Immune dysregulation in RAG deficiencies" 2013
MGH Immunology Seminar Series
Charlestown Naval Yard Research Building, MA

"Challenges before and after newborn screening for Severe Combined Immunodeficiency" 2013
Grand Rounds, Department of Pediatrics, Cambridge Health Alliance 2013

"Autoimmunity in Primary Immunodeficiencies" 2014
Harvard Introductory Course for Allergy and Immunology Fellows, Brigham and Women Hospital, Boston, MA

"Inflammation and immune modulation in Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcus (PANDAS)", Grand Rounds, Emerson Hospital, Concord, MA 2014-2018

"Autoimmunity in CVID and other Primary Immunodeficiencies" 2014
Harvard Introductory Course for Allergy and Immunology Fellows, Brigham and Women Hospital, Boston, MA (annual talk)

"Autoimmunity in Primary Immunodeficiencies: Lessons from RAG deficiency in human and mice" 2015
Rheumatology Grand Rounds, Boston Children's Hospital, Boston, MA

"Autoimmunity in Primary Immunodeficiencies: Lessons from RAG deficiency in human and mice" 2015
Rheumatology Grand Rounds, Brigham and Women Hospital, Boston, MA

"Clues for early detection, proper immune suppression and support of patients with autoimmune disease and underlying immune deficiency" 2015
Rheumatology Grand Rounds, Brigham and Women Hospital, Boston, MA

"Mechanism of inflammatory enteropathy through the lens of RAG deficiency" 2015
Annual Meeting of Center for Study of Inflammatory Bowel Disease
Massachusetts General Hospital, Boston, MA

"Challenges of a new era: combined immune deficiencies with immune dysregulation" 2016
Allergy Grand Rounds, Boston Children's Hospital, Boston, MA

"Precision Medicine for Autoimmunity in Primary Immunodeficiencies" 2016
Pediatric Grand Rounds, Tampa General Hospital, Tampa, FL

"Impaired tolerance checkpoints drive autoimmunity in immune deficiency" 2017
Johns Hopkins All Children's Hospital 5th Annual Research Symposium, St. Petersburg, FL

"Personalized Medicine for Late-Onset Primary Immunodeficiencies: From Biologicals to HSCT", Grand Rounds, Moffitt Cancer Center, Tampa, FL 2017

"Precision Medicine for Autoimmunity in Primary Immunodeficiencies" 2018
Grand Rounds, St. Joseph Children's Hospital, Tampa, FL

"Newborn Screening, Genetic Testing & New Avenues in Therapy" 2018
Immune Deficiency Foundation, Education Meeting, Tampa, FL

"Role of microbiome in immune dysregulation and neurological manifestations" 2019
Gut-Brain Research Program, Symposium & Planning Retreat, Johns Hopkins All Children's Hospital, St. Petersburg, FL

"SCID/CID Screening 101: diagnostic approach and targeted therapy" 2019
Johns Hopkins All Children's Hospital, St. Petersburg, FL

Immune Mediated Cytopenias -A Sign of PIDD or Not? NICER Immuno-Hematology Symposium Agenda, OH 2019

"Autoimmunity in PID" 2020
Johns Hopkins All Children's Hospital, St. Petersburg, FL

Clinical Activities or Innovations

Practice Activities

Pediatric inpatient care, Franciscan Hospital for Children, Brighton, MA, 2009-2016
3 night and 1 weekend day per month

Sub-specialty ambulatory care, Allergy/Immunology, MGHfC, Boston, MA 2009-2012
4-5 half-day clinic sessions per week

Sub-specialty ambulatory care, Allergy/Immunology, MGHfC, Boston, MA 2012-2016
2 half-day clinic sessions per week

Sub-specialty inpatient care, Allergy/Immunology, MGHfC, Boston, MA 2009-2016
12 weeks of inpatient service per year

Sub-specialty ambulatory care, Allergy/Immunology, USF, St. Petersburg, FL 2016-present
1.5 half-day clinic sessions per week

Sub-specialty inpatient care, Allergy/Immunology, JHACH, St. Petersburg, FL 2016-present
16 weeks of inpatient service per year

Sub-specialty ambulatory care, Immunology, Moffitt Cancer Center, Tampa, FL 2019-present
1 half-day clinic sessions per month

Clinical Innovations

Dr. Walter's work contributed to the increased awareness of autoimmune disease among pediatric and adult patients with primary immunodeficiency as a sign of immune dysregulation. She closely works with other disciplines to promote early diagnosis. In her clinical care, Dr. Walter promotes mechanism-based immune modulation as bridge therapy for this patient population. If bridge therapy fails, her patients are diligently prepared for discussion for hematopoietic stem cell transplant in conjunction with the BMT team. Lastly, she had success referring her patients to gene therapy trials if conventional HSCT options are exhausted. Her observations have been reported at the Clinical Immunology Society Meetings in multiple abstracts and in publications on combined immunodeficiencies. Her work will continue in clinical care and translational research in CID in children and adults.

Research Innovation

Dr. Walter is a translational physician-scientist with specific training and expertise in basic science (cellular immunology, murine studies), clinical immunology (primary immune deficiency [PIDs] and regulatory disorders) and virology (epidemiology of viruses in the gut).

Dr. Walter's research concerns fundamental and therapeutic studies of immune dysregulation in combined immunodeficiencies (CIDs), with emphasis on B cell dysfunction. As a recipient of an NIAID-K08 grant (2012), I developed and carried out studies in B cell tolerance in PIDs and assembled a research team at Harvard (2013-2016). Currently I am Division Chief of Pediatric Allergy/Immunology at University of South Florida and at Johns Hopkins All Children's Hospital with my time divided between research (75%), teaching and clinical care (15%), and administration (10%).

At present, targeted therapies for elimination of autoreactive B cells are limited and may result in hypogammaglobulinemia, especially in inborn errors of immunity (IEI) (*Barmettler JAMA-NO 2018*). Mechanistic understanding of impaired tolerance checkpoints and drivers of autoreactive B cells could guide innovation in treatment approaches. Dr. Walter's group examined impaired tolerance checkpoints at specific B cell developmental stages in several IEI including partial RAG deficiency (pRD) (*Walter, JCI 2015, Walter, JEM 2010*) and in collaboration in human PI3K deficiency (*Farmer, Science Signaling 2019),* human activation-induced cytidine deaminase (AID) deficiency (*Cantaert, Immunity 2015*) and B cell intrinsic mouse models of Wiskott-Aldrich syndrome. Treatment outcomes for immune dysregulation are often guarded and mechanism-based therapy is available for selected CIDs but not for pRD (*Farmer, JACI-IP 2018*).

Dr. Walter investigate pathomechanisms of immune dysregulation in inborn errors of immunity. In the past 10 years, novel polyreactive-prone B cell subsets were identified both on clinical grounds and in animal models that accumulate in the extrafollicular (EF) space and contribute to the pre-plasma cell pool for autoantibody secreting cells. Specifically, my research team focuses on extrinsic and intrinsic factors related to age-associated B cell (ABC) development, that may affect the marked phenotypic diversity and tendency for autoimmunity in a genetically-coded IEIs (G-CIDs). These factors include microbial antigen load and B cell activating factor (BAFF). The results of our investigations will likely have important clinical implications for future research on disease mechanisms and preventive/therapeutic strategies.

Dr. Walter's team has a strong collaborative network for gene expression studies in mouse models and leading B cell experts including Michael Cancro (UPenn) (one of two lead investigators to first describe ABCs [2011]), Klaus Warnatz (Freiburg, Germany) (B cell expert in ABC-like cells in CVID), and Chis Tipton from Sanz group (Emory University) (B cell repertoire studies in human autoimmune diseases). Overall, my long-term goal is to translate the results of basic science studies of B cell dysfunction to impact clinical practice, part of which focuses on a highly informative albeit challenging group of patients with CID and immune dysregulation.

Scholarly Activity (grant history)

A) Current Grants

Agency: NIH/NIAID
ID#: 1R01AI153830-01A1
Title: "Mechanisms driving extrafollicular polyreactive B cell lineages in partial RAG deficiency"
P.I.: Jolan Walter, MD PhD
Role on Project: Principal Investigator
Percent effort: 30%
Direct costs per year: $440,669/year (5 years)
Total costs for project period: $2,269,039.27
Project period: 09/22/2021 – 08/31/2026

Agency: Johns Hopkins All Children's Hospital
ID#: All Children's Research Institute
Title: "Mechanistic studies of accelerated aging of B cells in combines immunodeficient patients and animal models"
P.I.: Jolan Walter, MD PhD
Role on Project: Principal Investigator
Percent effort: 5%
Direct costs per year: ~$80,000/year (3 years)
Total costs for project period: $250,000.00
Project period: 11/01/2021 – 09/30/2024

Agency: SCID Angels for Life Foundation
ID#: n.a.
Title: "Severe Combined Immunodeficiency(SCID) Screening and Education"
P.I.: Jolan Walter, MD PhD
Role on Project: Principal Investigator
Percent effort: 2%
Direct costs per year: $50,000/year (1 year)
Total costs for project period: $ 50,000
Project period: 08/01/2021 – 07/31/2022

Agency: Florida Department of Health and Orca Biosystems, Inc.
ID#: n.a.
Title: "Phase I/II Trial: Engineered Donor Graft (Orca Q) for Pediatric Hematopoietic Cell Transplant HCT"
P.I.: Biljana Horn, MD
Role on Project: Site-PI
Percent effort: 1%
Direct costs per year: $16,000/year (3 year)
Total costs for project period: $48,000
Project period: 04/01/2021 – 03/31/2026

Agency: Johns Hopkins All Children's Hospital
ID#: Department of Medicine Research Council Grant
Title: "Evaluating T cell subsets during oral immunotherapy for peanut allergy"
P.I.: Panida Sriaroon, MD
Role on Project: Co-Principal Investigator
Percent effort: 2%
Direct costs per year: $30,000/year (1 year)
Total costs for project period: $30,000.00
Project period: 09/01/2021 – 08/31/2022

Agency: Immune Deficiency Foundation
ID#: 4 SC1MC31881-02-02
Title: "Severe Combined Immunodeficiency(SCID) Screening and Education"
P.I.: Alissa Creamer

Role on Project: Co-Investigator (Subcontract)
Percent effort: 2%
Direct costs per year: $50,000/year (1 year)
Total costs for project period: $ 74,750
Project period: 08/01/2021 – 07/31/2022

Agency: Johns Hopkins All Children's Hospital
ID#: Foundation Institutional COVID-19 Related Research Grant
Title: "Studies on natural history of and immune response in COVID-19 in the immunocompromised population"
P.I.: AnnMarie Szymanski, MD PhD
Role on Project: Co-Principal Investigator
Percent effort: 3%
Direct costs per year: $100,000/year (1 year)
Total costs for project period: $100,000.00
Project period: 08/01/2021 – 07/31/2022

Agency: University of South Florida
ID#: Project Enhancement Grant
Title: "Dissecting the role of T and B cells in immune dysregulation partial RAG deficiency and autoimmunity"
P.I.: Jolan Walter, MD PhD
Percent effort: 5%
Direct costs per year: $25,000/year (1 year and NCE)
Total costs for project period: $25,000
Project period: 05/01/2019 – 04/30/2022

Agency: Medical Center-University of Freiburg, Germany
I.D.# Multicenter Grant
Title: "A prospective outcome study on patients with profound combined immunodeficiency"
P.I.: Jolan Walter, MD PhD (US Site)
Role: US-Site Coinvestigator
Percent effort: 1%
Total costs for project period: paid per referral
Project period: 01/01/2017 – 12/31/2022

Sponsored Research Study:

Agency: Shire (now Takeda)
ID#: Sponsored study
Title: "Efficacy, Safety, Tolerability, Immunogenicity and Pharmacokinetic Evaluation of HYQVIA in Pediatric PIDD Subjects"
Site-P.I.: Jolan Walter, MD PhD
Percent effort: 5%
Direct costs per year: $31,000/year (4 years)

Total costs for project period: $127,000
Project period: 11/17/2017 – 11/16/2022

Agency: X4 Pharmaceuticals, Inc.
ID#: Investigator Initiated Study
Title: "Immune Cell Profiling Protocol for WHIM Syndrome"
P.I.: Jolan Walter, MD PhD
Percent effort: 1%
Direct costs per year: $45,000/year (1 year and NCE)
Total costs for project period: $45,000
Project period: 03/01/2019 – 02/29/2024

Agency: Octapharma
ID#: Sponsored study
Title: "Study to Monitor Subcutaneous Human Immunoglobulin Administered at Modified Dosing Regimens in Patients with Primary Immunodeficiency Diseases"
Site-P.I.: Jolan Walter, MD PhD
Percent effort: 2%
Direct costs per year: $30,000/year (4 years)
Total costs for project period: $120,000
Project period: 01/03/2020 – 01/02/2025

Agency: Leadiant
ID#: Sponsored study
Title: "Registry Study of Revkovi Treatment in Patients with ADA-SCID"
Site-P.I.: Jolan Walter, MD PhD
Percent effort: 2%
Direct costs per year: $20,000/year (4 years)
Total costs for project period: $80,000
Project period: 08/07/2019 – 08/06/2024

1-Name: Norm-01(Newnorm)(PID)- 20% SC product
Sponsor: Octapharma PI: Dr. Jolan Walter Sub investigator: Daime Nieves

2-Name: NGAM-12(CLL) secondary immunodeficiency- Panzyga 10% IV- USF IC
Sponsor: Octapharma PI: Dr. Jolan Walter Sub investigator: Daime Nieves

4-Name:X4P 001-104(Severe Congenital Neutropenia >12y ANC less than 1000 – genetics done, diagnosis 6 months prior to screening Sponsor: X4Pharmaceuticals
PI: Dr. Jolan Walter. Sub investigator: Daime Nieves Collaboration: Dr. Sotomayor TGH

- Name: ABCVILD
Sponsor: Bristol Mayer/(BM) FDA/ Cincinnati Children- Michael Jordan MD

PI: Cincinnati- Michael Jordan MD Sub investigator: Dr. Jolan Walter/ Daime Nieves

Sponsor: Janssen PI: Dr. Jolan Walter Sub investigator: Daime Nieves
Status: Enrolling- Amendment 4 - renegotiating budget –

Name: AZD7442- Evusheld- monoclonal for kids
Sponsor: Astrazeneca PI: Dr. Jolan Walter Sub investigator: Daime Nieves

Name: Revcovi- Registry- LBI-2279-004
Sponsor: Lediant/ Chiesi. PI: Dr. Jolan Walter Sub investigator: Daime Nieves

9- Name: ADMA- 004- Hyperimmune IgG Asceniv- patient in IV for 12 weeks (2-6) (7-11)
Sponsor: ADMA PI: Dr. Jolan Walter Sub investigator: Daime Nieves

10- Name: Regeneron R686-EE 1877- Dupixent and EOE
Sponsor: Regeneron PI: Dr. Panida Sriaroon Sub investigator: Daime Nieves

B) Past Grants

Agency: NIH/NIAID
ID#: 5R01AI10088707
Title: "Immune repertoire and function in typical and atypical SCID"
P.I.: John Manis, MD
Role on Project: Collaborator (Subcontract)
Percent effort: 5%
Direct costs per year: $30,000/year (5 years)
Total costs for project period: $7,097,957
Project period: 07/01/2016 – 06/30/2021

Agency: Jeffrey Modell Foundation
ID#: Research Grant
Title: "Genetic Screening Protocol for WHIM syndrome: Diagnostic Protocol for Non-Immunologists"
P.I.: Jolan Walter, MD PhD
Percent effort: 1%
Direct costs per year: $50,000/year (2 years and NCE)
Total costs for project period: $100,000
Project period: 05/01/2018 – 04/30/2021

Agency: Jeffrey Modell Foundation
ID#: C.H.I.L.D.R.E.N! Research Program Grant
Title: "Genetic Screening for Primary Immune Deficiency Among Patients with Autoimmune Cytopenias"
P.I.: Jolan Walter, MD, PhD

Percent effort: 5%
Direct costs per year: $25,000/year (2 years and NCE)
Total costs for project period: $50,000
Project period: 04/01/2018 – 03/31/2021

Agency: University of South Florida
ID#: New Researcher Grant
Title: "Gut microbiota translocation drives autoimmunity in RAG deficiency"
P.I.: Krisztian Csomos PhD (Co-PI: Jolan Walter MD PhD)
Direct costs per year: $25,000/year (1 year and NCE)
Total costs for project period: $25,000
Project period: 05/01/2019 – 04/30/2021

Agency: Johns Hopkins All Children's Hospital
I.D.# Institutional Grant ("Rothman")
Title: "The microbiome-gut-brain axis in pediatric neuropsychiatric syndromes with OCD and/or tics as affected by antibiotic treatment and native IgA levels—a pilot study"
P.I.: Jolan Walter, MD PhD
Total costs for project period: $100,000
Percent effort: 1%
Project period: 06/01/2019 – 05/31/2021

Agency: Johns Hopkins All Children's Hospital
I.D.# Institutional Grant
Title: "Feasibility study to assess the role of T and B cells in refractory cytopenias in children"
P.I.: Jolan Walter, MD PhD
Percent effort: 1%
Total costs for project period: $240,000
Project period: 01/01/2017 – 06/01/2020

Agency: NIH/NIAID
I.D.# K08 Career Award
Title: "Autoimmunity in Rag deficiency: in the nexus of immunodeficiency and immune dysregulation"
P.I.: Jolan Walter, MD PhD
Percent effort: 75%
Direct costs per year: $125,000
Total costs for project period: $625,000
Project period: 08/01/2012 – 07/31/2017

Agency: John Hopkins All Children's Hospital
I.D.# Institutional Grant
Title: "The Gut Microbiota of Primary Immunodeficiency Diseases"
P.I.: Larry Dishaw, PhD

Role on Project: Co-Investigator
Percent effort: 1%
Total costs for project period: $80,000
Project period: 01/01/2015 – 12/31/2019

Agency: USIDNet
I.D.# Baxter Grant
Title: "Define CVID epidemiology, with a specific focus on non-infectious disease complications"
P.I./Mentor: Jolan Walter, MD PhD
Mentee: Jocelyn Farmer, MD PhD
Percent effort: 10%
Total costs for project period: $8,000
Project period: 07/01/2015 – 06/30/2016

Agency: CSL-Behring
I.D.# Publication Research Grant
Title: "Defining the epidemiology and individualized Ig Dosing for CVID in a large tertiary care centers"
P.I./Mentor: Jolan Walter, MD PhD
Mentee: Jocelyn Farmer, MD PhD
Percent effort: 10%
Total costs for project period: $25,000
Project period: 01/01/2015 – 12/31/2016

Agency: CSL-Behring
I.D.# Publication Research Grant
Title: "Cost-benefit analysis of immunoglobulin replacement for mitochondrial patients with immune dysfunction"
P.I./Mentor: Jolan Walter, MD PhD
Mentee: Melissa Walker, MD PhD
Percent effort: 10%
Total costs for project period: $20,000
Project period: 07/01/2015 – 06/30/2016

Agency: NIH-NIDDK
Center for Study of Inflammatory Bowel Disease, MGH
I.D.# Pilot Feasibility Grant (in 5P30DK043351-25)
Title: "Mechanism of inflammatory enteropathy through the lens of RAG deficiency"
P.I.: Jolan Walter, M.D PhD
Percent effort: 10%
Total costs for project period: $10,000/year
Project period: 01/01/15 – 12/30/15

Agency: NIH-NIAID
I.D.# Junior Faculty Pilot Grant (IOF in U19 AI095261-01)
Title: "ILC2-driven allergic inflammatory responses in a murine

model of Omenn syndrome"
P.I.: Jolan Walter, MD PhD
Percent effort: 10%
Total costs for project period: $50,000
Project period: 07/01/2013 – 06/30/2014

Agency: Nathan Talbot
I.D.# Pilot Feasibility Grant
Title: "Dissecting mechanisms of central and peripheral dysregulation among patients with RAG deficiencies"
P.I.: Jolan Walter, MD PhD
Percent effort: 10%
Total costs for project period: $50,000
Project period: 07/01/2012 – 06/30/2013

Agency: Clinical Immunology Society/Baxter
I.D.# Junior Faculty Award
Title: "Unraveling the spectrum of B cell mediated autoimmunity in Rag deficiencies"
P.I.: Jolan Walter, MD PhD
Percent effort: 50%
Total costs for project period: $50,000
Project period: 07/01/2011 – 06/30/2012

Agency: GSK-AAAAI
I.D.# Fellow Career Development Award
Title: "Role of B cells in the pathophysiology of Omenn syndrome"
P.I.: Jolan Walter, MD PhD
Percent effort: 50%
Total costs for project period: $50,000
Project period: 01/01/2008 – 12/31/2010

Agency: NIH-NIAID
I.D.# NIH 5T32 AI007512
Title: "Molecular Basis of Allergic and Immunologic Diseases"
P.I.: Raif Geha, MD
Percent effort: 100%
Total costs for project period: n.a.
Project period: 01/01/2007 – 12/31/2009

Past Sponsored Research Studies:

Agency: X4 Pharmaceuticals, Inc
ID#: Sponsored study
Title: "A Trial of X4P-001 in Patients with WHIM Syndrome (X4P-001-MKKA)"
Site-P.I.: Jolan Walter, MD PhD

Percent effort: 1%
Total costs for project period: $20,000
Project period: 05/01/2016 – 04/30/2020

Agency: Leadiant Biosciences, Inc.
ID#: Sponsored study
Title: "EZN-2279 in Patients with ADA-SCID"
Site-P.I.: Jolan Walter, MD PhD
Percent effort: 5%
Total costs for project period: $10,000
Project period: 05/01/2016 – 04/30/2017

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6. Walter, J.E., Matson, D.O., Berke, T., Mitchell, D.K. (2001). Reclassification of the family Astroviridae based on Comparative Phylogenetic Analysis of Capsid Genes. The Infectious Disease Review 3(3) 155-6.
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3. Walter J.E. (2015) Clues for early detection, proper immune suppression and support of patients with autoimmune disease and underlying immune deficiency. American College of Rheumatology, Highlights for presentation, San Francisco, CA

4. Walter J.E. (2018) Screening for Severe Combined Immunodeficiencies. Webinar sponsored by Blueprint Genetics. Recorded April 19, 2018.
https://blueprintgenetics.com/resources/genetic-diagnostics-targeted-therapies-primary-immunodeficiency-diseases-pid/

5. Kevin Wu. Clinical challenges in Recombination Activating Gene Deficiency and Arthritis. (Moderated by Walter J.E., Milojevic D.) (2018) Clinical Immunology Society Conference Webinar. Recorded October 2018
https://www.youtube.com/watch?v=pt37q8aUTHo

6. Walter J.E. Leiding J. (2018) Q&A: What is the "bubble boy" disease? Experts explain severe combined immunodeficiency. Article and video.
https://www.clickorlando.com/news/qa-what-is-the-bubble-boy-disease
https://www.clickorlando.com/getting-results-/getting-results-for-your-health/can-new-gene-therapy-save-children-from-bubble-boy-disease?fbclid=IwAR0YY98iDHs7HcFR-bb88D5jKHVEWl_BZDeevXKh2UBnjjHlxKUivJq_7P8

7. Facebook live on COVID-19 for USF

8. ESID WHIM syndrome
https://www.webevents.today/landing_pages/whim_syndrome_panel_discussion/

SCID Variants and the Irish Family, 2021 SCID Compass Summit in April.
https://www.youtube.com/watch?v=3pD8klR-Hd0&list=PL1Gjgf3508UFBngTPwExUsQF36tMIFA97&index=8

Other Research and Creative Achievements

Service

Memberships
Member, Hungarian Physicians' Society
Member, American Society for Virology
Member, Infectious Diseases Society of America (IDSA)
Member, American Academy of Pediatrics (AAP)
Member, American Academy of Asthma, Allergy and Immunology (AAAAI)
Fellow, American Academy of Asthma, Allergy and Immunology (AAAAI)
Member, Robert A. Good Immunology Society (RAGIS)
Member, American Thoracic Society
Member, Clinical Immunology Society (CIS)

Member, Massachusetts SCID Newborn Screening Workgroup
Member, Hungarian Immunology Society
Member, Society of Pediatric Research
Fellow, American Academy of Asthma, Allergy and Immunology (AAAAI)
Member, Robert A. Good Honor Society, Morsani College of Medicine
American Association of Immunologists (AAI)

Service to University and Hospital
Search Committee, Walmart Chair of Nephrology, USF
USF microbiome Initiative Leadership Committee, member
Co-leader of RSC
Reviewer, Robert A. Good Honor Society, Morsani College of Medicine
Reviewer, Scientific Review Committee, Johns Hopkins All Children's Hospital
Co-Chair, Research Council, Department of Medicine, Johns Hopkins All Children's Hospital
Director, Newborn Screening Program for SCID, USF, Tampa Bay Area, FL

Service to Societies
Member, Basic and Clinical Immunology (BCI), Study Section, AAAAI
Member, Division Director's Committee, AAAAI
Diagnostic Interpretation of Genetic Studies in Patients with Primary Immunodeficiency Diseases: A Working Group Report of the Primary Immunodeficiency Diseases Committee of the American Academy of Allergy, Asthma, and Immunology (published in JACI)
Member, Steering Committee, SCID Compass Program, Immune Deficiency Foundation
Member, Primary Immune Regulatory Disease (PIRD) Study group, PIDTC
BCI – Genetics initiative study group – Guidelines
Program Organizing Committee, Annual Meeting of Clinical Immunology Society
Expert Review Panel – AAAAI
Steering Committee Member, National NICER group (Hematology-Immunology)
Genetics, Molecular Biology & Epidemiology Committee and the Autoimmunity and Altered Immune Response Committee – AAAAI

Reviewer
Publications
Ad hoc reviewer, Journal of Allergy and Clinical Immunology, Human Immunology
Ad hoc reviewer, Clinical Immunology
Ad hoc reviewer, Journal of Clinical Immunology
Ad hoc reviewer, American Journal of Respiratory and Critical Care Medicine
Ad hoc reviewer, Frontiers of Immunology, Immunology Letters
Ad hoc reviewer, British Journal of Nutrition, Clinical Case Reports and Reviews
Ad hoc reviewer, Pediatric Blood and Cancer
Ad hoc reviewer, Journal of Allergy and Clinical Immunology: In Practice
Ad hoc reviewer, Journal of Clinical Investigations

Meeting abstracts
Ad hoc reviewer, abstracts for Annual Meeting for Clinical Immunology Society
Ad hoc reviewer, abstracts for Annual Meeting of AAAAI

Study Sections and Funding Agencies
Ad hoc reviewer, Welcome Trust (UK)
Ad hoc reviewer, grants Jeffrey Modell Foundation, Translational Research Program
Ad hoc reviewer, grants for European Joint Programme on Rare Diseases
Scientific Review Member, Jeffrey Modell Foundation, Translational Research Grants Program 2019 (Cycle 7), 2020 (Cycle 8), 2021 (Cycle 9)
Ad hoc reviewer, NIH Center for Scientific Review:
- 2019 ZRG IMM-K (52), Primary Immunodeficiency special emphasis review panel
- 2020 ZRG1 IMM-N (52), Primary Immunodeficiency special emphasis review panel
- 2022 NIH Cellular and Molecular Immunology – A Study Section
Ad hoc reviewer, Austrian Science Fund

Editorial work:
1. Special Issue Editor, Journal of Immunology Research
"Advances in Primary Immunodeficiencies: Challenges in Biology, Diagnosis Management and Treatment"
2. Chapter Editor, Encyclopedia of Medical Immunology by Ian R. Mackay, Noel R. Rose "Congenital Immunodeficiency Syndromes"
Special Issue Editor, Frontiers of Immunology:
3. Topic Editor in Frontiers of Immunology:
- Screening for Primary Immunodeficiency Disorders (PIDDs) in Neonates (2019)
- Lessons Inborn Errors of Immunity Hold for Common Autoimmune and Autoinflammatory Disorders (2022)
- The Interplay Between the Immune System and Bone Marrow Function in Inborn Errors of Immunity and Marrow Failure (2022)
- Mechanism of Dysregulated Antibody Responses in Inborn Errors of Immunity, Frontiers in Immunology (2022)
4. Member of the Editorial Board, JACI: In Practice (since 2020)
- Editor for the February theme issue on immunodeficiencies (Feb 2021)
- Editor for July theme issue on genetics of immunodeficiendies (Jul 2022)
5. Editor, Genetics 101 for the Practicing Immunologist (Elsevier, by invitation) (2021)