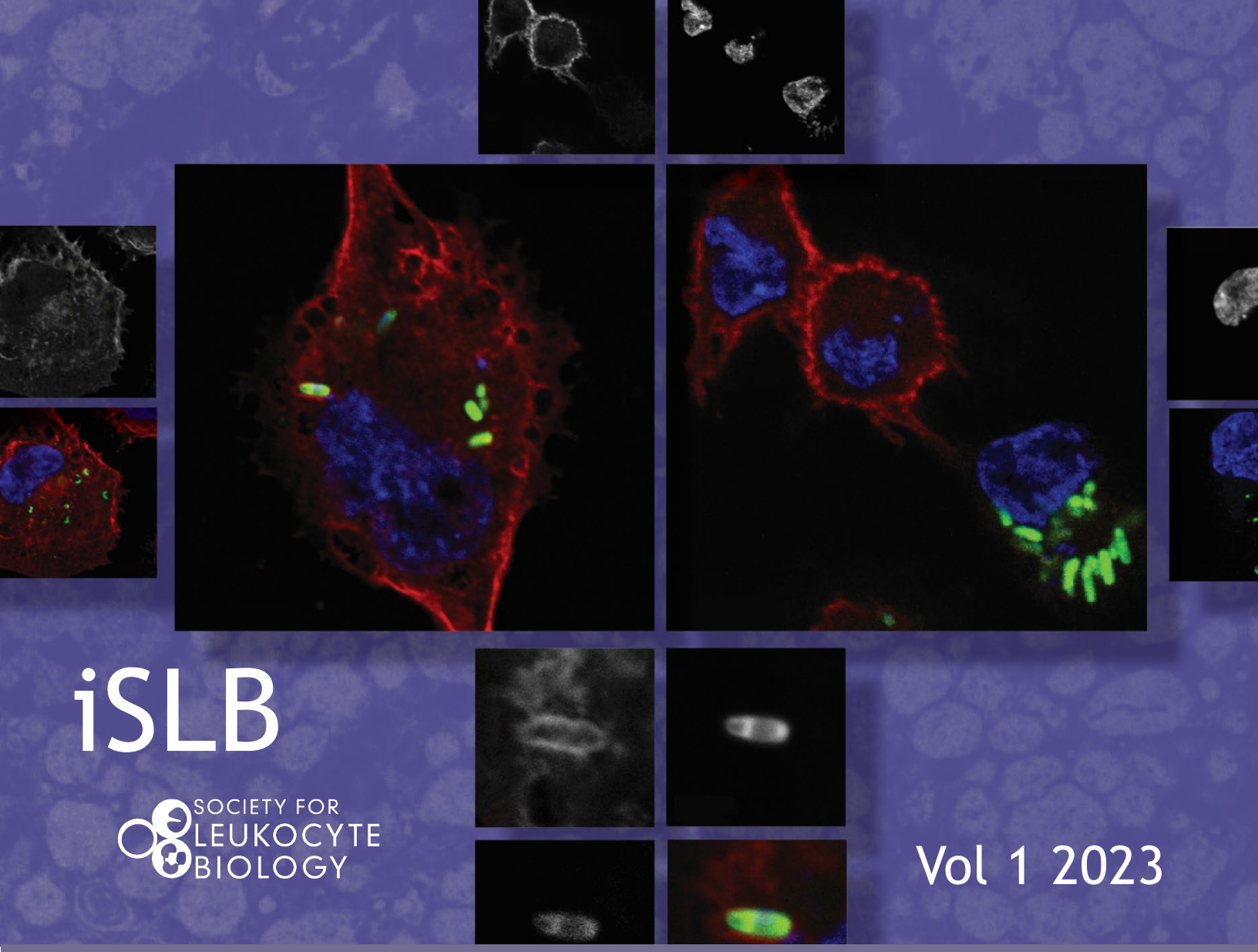


iSLB

SOCIETY FOR LEUKOCYTE BIOLOGY

Vol 1 2023

In this issue…..

A Message from the President


David Underhill

2023 has arrived and SLB and JLB are busier than ever. Planning is underway for the annual meeting set for September 27th through 30th and we hope you can join. In addition to an innovative program designed by program chairs Peter Keyel and Balazs Rada, SLB has gone to great efforts to ensure this year's program is accessible and serves the needs of our members. We're excited to hold 4 member led Special Interest Group Satellites again this year as a prelude to the main conference. Learn more about these options as well as the full program on the website. We can't wait to see your abstract!

JLB's transition to Oxford University Press has gone smoothly and we hope you have had a chance to see one of the 2023 issues and advanced access content available on the new platform. More changes are in the works so check back regularly and continue to submit your manuscripts to JLB. Several surveys have been sent out recently with a focus on JLB and your input is very much appreciated. JLB is *your* journal and with the ever-changing landscape, our EIC and Publication Committee is seeking your input to help pave the path for the future of our publication.

Our partnership with FASEB continues to demonstrate our society's commitment to advocating for science. SLB's Board Representative, Lee-Ann Allen, and Past President, Nick Lukacs, are joining FASEB's 2023 Capital Hill Day to meet with representatives and ensure the voice of science continues to be heard.

While we are always future focused, it is also important to reflect on the past. Recently a brief but comprehensive history of the society and journal were posted on the website. Feel free to review this origin story and dive deeper into the archives of past newsletters, issues of RES and more. Every so often, SLB is asked to find an abstract from a meeting long ago or a paper in RES and we are always happy for these missions as they remind us of how far SLB, JLB, and our science has come.

There is much to come this year including a refreshed website, our celebration of the International Day of Immunology in April, a variety of webinars in the works and more. In addition to all of the "behind the scenes" work it takes to run a successful community like SLB, all of our programs are driven by our volunteer committees – SLB runs on its volunteers! Please contact us if you want to get more involved or have any questions about the society.

April Webinar: Current Research in India

Join us for these timely talks; one related to ALS and another to anti-tumor immune response. Registration is free for members.

Thursday, April 13th, 9 - 10am eastern

Neuroinflammation in Neurodegenerative Diseases with Special Reference to Amyotrophic Lateral Sclerosis T R Raju, Director, Research, Sankara Academy of Vision, Bengaluru

Role of Gut Microbiota in Modulation of Anti-tumor Immune Response Amit Awasthi, Senior Professor, Translational Health Science and Technology Institute

Learn more and register

Successful Transitions from Academia to Industry

By Shuvasree SenGupta and Stephanie Silva-Del Toro

Are you considering industry positions and looking for guidance? Is your scientific training enough to land a job in industry? Meet two trainees, who recently transitioned from academia and are thriving in the industry setting: *Allan Prichard* and *Ramya Ganesan*. Allan moved to industry after graduating from the University of Iowa with a PhD in Microbiology and Immunology and is now a Research Scientist in AstraZeneca's Bioscience and Immunology Department. Ramya earned her PhD in Biomedical Sciences from the Wright State University Boonshoft School of Medicine, and completed a post-doc at the Emory University School of Medicine. Shortly after, Ramya moved to industry and entered as a Principal Scientific Researcher position in Genentech.

***Q:** At what point of your academic career did you realize that you were more inclined to industry positions and began prepping for the transition?*

Allan: I believe I was inclined towards industry after experiencing grant writing courses in my third year, and this was further solidified after having conversations with previous graduate students, who had transitioned from academia. While I made this decision back then, largely the preparation for industry jobs did not begin until after I had already graduated.

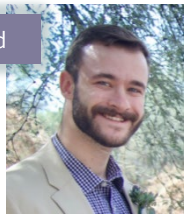
Ramya: In the third year of my postdoctoral fellowship, I realized that without publishing in a big journal within the next year, I would not be able to bag tenure track positions or get grants. Given there are limited funding opportunities for international scientists in the USA, I decided to switch to industry to continue doing research with the same rigor, but without the stress of finding funds for running a lab.

***Q:** How did you know which position in the industry is the most suitable for your career?*

Allan: Due to my desire to continue bench science and general interest in research as a whole, I chose a position that would allow me to continue my development as a scientist in R&D.

Ramya: My search criteria for an industry position was finding a role that best fits my interests based on the years of experience the role requires. After having found such roles and being invited for interviews, I reached out to people to ask about the company culture, job track, scope for growth, expectations for promotion, etc.


Ramya Ganesan


Allan Prichard

***Q:** Tell us how you navigated the process of preparation, handling interviews, and landing the job.*

Allan: The preparation was largely thanks to the post-doc in our lab who assisted with interview prep by providing interview questions, answers, and even assisted in seminar preparation.

Ramya: I had applied for about 30-50 jobs total. Once I was invited for interviews, I asked the recruiter what is expected in an interview- full presentation or chalk talk, direct one-on-one or panel interviews, etc. Each role and/or company has a unique interview process. But the one thing that was common to all industry positions is that the hiring managers will not provide any details about the role (IP issues), only an overview of what the research focus is. Once I gathered all the necessary information, I prepared for the interview with a focus on how my expertise would complement the role I applied to. Sometimes you can be all the role asks for, and yet not get selected. Going through the entire interview process and not making the cut is very disheartening. That is the one thing that took me some time to prepare myself for more than the interview itself.

***Q:** Tell us briefly how your day-to-day looks like in your current position.*

Allan: In my current position my day to day is similar to the role I had in graduate school. I conduct experiments, analyze data, and prepare for slides for weekly meetings with my project teams as well as manager directly.

Ramya: I plan my work week(s) out keeping in mind all the meetings I have to attend. Most days are fully packed from morning to evening with meeting and experiments. Some days, when there are multiple meetings, I use the times in between for data analysis and/or prepare for any meeting, where I have to present. Also, I share any updates with my manager on a weekly basis and we discuss the next steps together.

***Q:** Can you comment on the process of growth in your position? How does your work in the industry get scored and appreciated?*

Allan: There are tiered positions within the company, and with research experience and contribution there is the availability of vertical growth. For scoring, we establish manageable goals related to our projects which once completed can be cited for raises and promotions. We also are directly recognized for the experiments we conduct and are given employee appreciation in the form of group outings/awards.

Ramya: The track I am currently working is research intensive. I was hired as Scientist 3 (Principal Scientific Researcher) and there is one more position in this track for promotion. However, in the future, depending on my interests and contributions, I have the scope to switch tracks and either go into project management role or a role that is similar to tenure track in academia (managerial role/principal scientist track). In my company, from what I have heard, it takes at least 4-6 years to get promoted.

My work is scored by my manager, colleagues and collaborators I work with on different projects, my contribution to pipeline projects and my publication record in my new role. The annual appreciation works as incentives or bonus that is calculated based on the factors mentioned above.

***Q:** What is your take on the work life balance in industry vs. academic positions?*

Allan: The work life balance for my position is very reasonable. The hours are similar to those I worked in academia with the only differences being experiment timing. I generally work 40 hour work weeks with longer days/weekend work only being required during times of higher impact projects.

Ramya: It has only been six months since I moved to industry. And I can honestly say that my work-life balance is pretty good and has been about the same as academia. There are always some long and hectic days, but the beauty of working in industry is that you are not competing with one another, which allows room for a lot of collaborations and working together, making even the long days seem not very hectic.

***Q:** What one thing you wish you knew about industry positions while you were in academia?*

Allan: During the interview process, I had thought that industry job requirements were firm but that is not the case. As long as you have experience in the majority of the requirements, many companies are happy and willing to fill your gap in knowledge/techniques.

Ramya: I can think of several things, but will highlight 2 here-(1) It is a myth that industry jobs are monotonous. This is not true. (2) Also, it is believed that industry jobs are just 9-5 and not as intense as academia. Again, this is also a myth and not true.

***Q:** What one thing you miss about academia (if any)?*

Allan: I do find myself missing my friends/family I made in graduate school, but I think this will happen with your movement from any position. As far as research goes, I am happy with my growth in industry and continued study of Immunology.

Ramya: Not having to attend so many meetings.

***Q:** What is your take on the stability of industry positions?*

Allan: While I understand that there is the perception of job stability in industry, for my company we have very stable positions. Several coworkers have been with the company for decades!

Ramya: A job in a biotech/biopharma industry is as secure as it is in academia. At the end of the day, the manager provides feedback on your performance during annual review. Unless one performs very poorly, they get to keep their job (same as academia).

***Q:** What advice do you have for trainees thinking about switching to industry and don't know how to start?*

Allan: The most important advice I can give is to reach out to individuals in your field of interest and/or company of interest for information and advice. Internal references for positions assist in scoring that first interview, and from there preparation and confidence will make sure you nail those first interviews.

Ramya: If you are really interested in a high-paced research environment without the stress of fetching your own funds, please switch to industry. Keep in mind, just because you do not have to fetch funds, does not mean you do not have to work hard and/or publish. Nowadays, industry is equally into publishing research as academia. Search for jobs on Linkedin/any job search websites and start by reaching out to recruiters and people who work in that company. Network, network, network!! Network and do informational interviewing with people working in industry to find out about the company's culture, what the job entails and whether the job fits your expectations and whether you would be a good fit for the job, etc.

A new feature in iSLB, we'll be highlighting various cell types, explaining their history, significance and future focus. Have a cell type you want to write about? Contact us!

Metamorphosis of Neutrophils

By Sofia de Oliveira

Neutrophils are the most abundant leukocytes and first responders to threats, equipped with an arsenal of weapons that detects and kills pathogens. Elie Metschnikoff, the father of innate immunity, was a comparative embryologist enthusiastic for marine biology and follower of Darwinian Evolution Theory. Using intravital experimentation in non-mammalian systems, Metschnikoff found in 1882[1] that a glass tube or a rose-thorn introduced into a starfish larva led to accumulation of macrophages and microphages (neutrophils). In 1884 he reported phagocytosis as one of the main "weapons" used to defend the host upon a threat. This was not the first-time neutrophils were described, indeed Max Johann Sigismund Schultze in 1865 identified the blood leukocytes, lymphocytes, monocytes, eosinophils, and neutrophils.

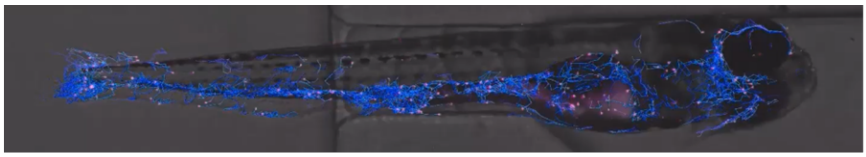


Figure 1: Non-invasive intravital confocal microscopy of neutrophil recruitment to a tail fil injury. By Sofia de Oliveira head of de Oliveira lab at Albert Einstein College of Medicine.

Neutrophils and phagocytosis started to be under deep investigation. In 1939 using canine neutrophils Baldridge and Gerard [2] discovered the oxidative burst, first named as "respiratory burst". This key mechanism used to destroy pathogens was found to be an energy-requiring process that depended on glucose metabolism, independent of mitochondria, by Sbarra and Karnovsky [3] in 1959. Over 40 years many key discoveries on neutrophil biology were made such as finding of reactive oxygen species role in phagocytosis, NADPH oxidases reaction mechanisms [4], biochemical and histochemistry analysis of neutrophil granule [5-8] content and characterization of dysfunctional neutrophils from chronic granulomatous disease (CGD) patients. In the 1990s and beginning of the XXI century, the field was deeply engaged in investigating neutrophil extravasation cascade [9]. Neutrophil extravasation and migration depend on a diverse and intricated cascade of chemical signals that involves chemoattractant molecules and their receptors (like CXCL8/CXCL1/CXCL2-CXCR1/2, or LTB4-BLT1/2), integrins (like CD11b/CD18), selectins (like L-selectin, E-selectin), adhesion molecules (like ICAM1) and sulfated glycosaminoglycans. In 1996, Takei et al [10] made an exciting new discovery of a cellular death pathway different from apoptosis and necrosis, called NETosis. The visualization of neutrophil extracellular traps (NETs), which are extracellular structures composed of chromatin and granule proteins that bind and kill microorganisms, brought a much-needed novelty and excitation wave to the field, that remains until today [11, 12]. NETosis has now expanded from a microbe-associated killing mechanism to a key process involved in cancer progression and metastatic dissemination or sustaining autoimmune responses [13, 14]. Overall, this research made the scientific community to mostly associate neutrophils to tissue damage, vastly demonizing this immune cell.

Over the decades the study of neutrophil biology and their full characterization has proven to be challenging [15], which dampened advances in the field comparing to other immune cells such as macrophages and lymphocytes. Major technological advances in isolation procedures, new instrumentation, introduction of single-cell transcriptomic profiling and other omics with specific neutrophil focused protocols, new animal models (e.g., zebrafish), and the use and manipulation of induced pluripotent stem cells have contributed to explosive findings in the last years. The Classical View that neutrophils are a homogenous population of terminally differentiated cells with the unique function of detecting threats and die shortly, is finally being contested. Unprecedent discoveries that support regulatory roles of neutrophils both in homeostatic conditions as well as in pathological inflammation and immune processes, as well as evidence of neutrophil heterogeneity, neutrophil tissue-specific reprograming and neutrophil reverse migration are helping the community to end some very dogmatic ideologies. From the Huttenlocher lab Mathias et al [16] using the zebrafish model, showed for the first time that neutrophils can leave the injury site by a process named neutrophil reverse migration (or neutrophil reverse transendothelial migration, rTEM [17-20]). Neutrophil reverse migration is under a vast investigation since it offers a therapeutic target to drive resolution of inflammation in chronic settings, but evidence demonstrate that it can also contribute to the spreading of inflammation to other tissues and organs. A better understanding of neutrophil reverse migration function and consequences at different inflammatory contexts is needed. Another major discovery to end the dogma that neutrophils are "bad guys" came with the finding that they are also main regulators of the resolution and wound healing processes. Importantly, neutrophils are not a homogeneous population, and several labs have successfully reported the existence of subsets at bone marrow, infection, injury, autoimmune diseases, and cancer. From Frenette and Hidalgo Labs, demonstration that circadian time regulates neutrophil recruitment in inflammation [21], neutrophils' aging process [22], and induces a programmed 'disarming' process of the neutrophil proteome [23], created an all-new area of investigation. A surprising finding for the field was that neutrophils can infiltrate tissues under homeostasis [24] with tissue-specific signals driving neutrophil reprogramming [25]. In addition, neutrophils display characteristic behaviors from other cells, as recently shown by the behavior landscape analysis performed by Crainiciuc et al [26]. The swarming behavior for example observed upon infection or sterile injury [27] has been investigated in detail and involves LTB4 [28], connexins and calcium signals [29, 30] as found in mice and the zebrafish models. Moreover, neutrophils can regulate differentiation and polarization of other leukocytes and display immunosuppressive, and antigen presentation functions [31].

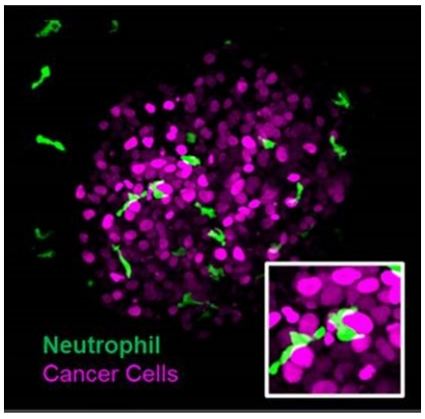


Figure 2: Neutrophil interacting with Cancer Cells in Zebrafish Xenograft Model. By Cassia Michael from de Oliveira Lab at Albert Einstein College of Medicine.

The Challenge. The neutrophil field is living an intense, exciting, and promising era; however, the community faces the tremendous challenges of establishing standardized nomenclature and markers for neutrophil subsets and find consensus among laboratories, disease models and species [32, 33].

Exploring the Zebrafish animal model. Neutrophils are extremely fragile and reactive innate immune cells, models that provide opportunity for manipulation and non-invasive visualization of neutrophilic inflammation in homeostasis and disease are key for further advances. The zebrafish is a well-established vertebrate animal model to study human disease and neutrophil biology. This model provides a unique

ability to visualize neutrophil recruitment and behavior non-invasively at a whole-animal scale using fluorescently tagged neutrophil lines (Figure 1). The easiness for genetic and pharmacological manipulation, allied to conserved recruitment pathways such as CXCL8-CXCR1/2 [34-41] puts this model into the spotlight of the neutrophil community. In our lab we are exploring the use of zebrafish juvenile larvae to study neutrophil biology in the context of injury (Figure 1), infection, cancer (Figure 2), and diet-induced metabolic syndrome [42-44]. Since at 2 weeks of age zebrafish have functional adaptive and innate immune systems, this model model has a more mature and robust immune system compared to the traditional 3-9 days post fertilization systems.

Areas to develop significant knowledge. The new knowledge and technological advances in the neutrophil field have now opened investigation in multiple *hot areas* with tremendous therapeutical potential [45] such as: 1) neutrophil reverse migration and its role in disease and homeostasis; 2) neutrophil immunometabolism, 3) neutrophils role in cancer focusing on innate immune evasion mechanisms, reprograming mechanisms to generate cytotoxic and anti-cancer neutrophils; 3) clarification of the impact of current immune checkpoint on neutrophils; 4) further investigation of the role of trained immunity on neutrophils and differences in this program in the context of infection, metainflammation and inflammaging (particularly important in the context of COVID19); 5) explore gender, race and ethnicity neutrophil disparities in disease and treatment; 6) identify neutrophil specific pro-resolution subsets and regulatory transcriptional programs to use as a therapeutical options to damper chronic inflammation and tissue damage and promote regeneration (autoimmune diseases, NASH, etc.).

Click here to review References

Behind the Science: An Interview with a JLB Author

Read the full article in JLB...

by Alan Hsu

Louisa Ashby

Oxidation of bacillithiol during killing of Staphylococcus aureus USA300 inside neutrophil phagosomes

Louisa V Ashby, Reuben Springer, Vu Van Loi, Haike Antelmann, Mark B Hampton, Anthony J Kettle, Nina Dickerhof

Contact Louisa to learn about her work...

Q: Where did your journey in science begin (what inspired you to pursue a career in science)?

A: It started in New Zealand with a chemistry degree and an honours project on a cytotoxic compound in *Delisea elegans*. I knew I wanted to study further in medical research so I worked for a few years in diabetes and immunology research groups learning many different techniques. I was inspired by the realisation that true advances in overcoming human disease comes from understanding the molecular mechanisms at the subcellular level.

Q: How did you choose your current research topic and interest?

A: I was fortunate to travel to England to do my PhD on the NADPH oxidase, in the lab of Prof Tony Segal, University College London. It was an adventure to work far from home in a multinational lab, and to start to focus on protein biochemistry in the neutrophil. My postdoc positions in London broadened my knowledge of other cell types. Working back in New Zealand again now, I feel lucky to be able to continue with my interest in the neutrophil, which is a key focus of the redox research undertaken in our group at the University of Otago Christchurch.

Q: Could you use a few lay sentences to describe/summarize your findings in this paper?

A: When neutrophils ingest bacteria to begin the process of killing them, the bacteria rely on self-defence mechanisms to survive. In *Staphylococcus aureus*, the abundance of a low molecular weight thiol, bacillithiol, has been thought to act as a defence against oxidative attack by the neutrophil. We showed that although some bacillithiol is indeed oxidised when *S. aureus* are trapped inside neutrophils, this does not provide *S. aureus* with much protection. This finding has provided insight on the relative strength of multiple bactericidal mechanisms that neutrophils launch. We still haven't answered the question as to why some bacteria manage to evade killing inside neutrophils. It is likely to require multifaceted survival mechanisms.

Q: What was the most exciting or memorable moment(s) during the process of this research?

A: It was exciting to establish that molecular reactions characterised in test tubes using purified reagents also take place in complex cellular systems. Once cells are involved, the signal to noise ratio of chemical analyses increases hugely, so it is rewarding to reveal redox chemistry occurring as predicted.

Q: What was the biggest hurdle or challenge associated with this story?

A: We were surprised at our finding that bacillithiol-deficient *S. aureus* were not greatly more susceptible to neutrophils than those containing bacillithiol. We always observe a degree of biological variation between donors and experiments when collating neutrophil data, so it is challenging to measure subtle effects. It was a big effort to ascertain whether there was a protective effect of bacillithiol in our neutrophil killing assay, but it was interesting to find that it was a minor effect only.

Q: Besides your PI is there anyone that significantly helped on your path to become a scientist?

A: This publication is a good example of the team effort that goes into most of our projects, with significant contributions from each of the authors, including international collaborators. For this project, Dr Nina Dickerhof was instrumental in bringing the story together, in the lab and

on paper. I am grateful for having had wonderfully encouraging parents whose advice was to "find what you like, and keep learning".

Q: What's next for you?

A: Continue with ongoing mechanistic and cell biology studies on myeloperoxidase, neutrophil bactericidal activity and neutrophil defects in disease.

Q: What would your advice be for junior or incoming Ph.D. Students who want to pursue a career in science and perhaps your field?

A: Aim high and work with people you admire. Embrace work/life balance challenges and keep working at them, it's hard in research – I returned to the lab after several years dedicated to raising children, and I would do the same again.

Q: Tell us something about yourself outside of being a scientist.

A: A new hobby of mine in recent years is woodwork, mostly I make furniture. I'm not fast at it! But I find it very rewarding to attend workshop each week and eventually bring home something useful made out of beautiful wood such as ash or mahogany.

Fireside Chat with the 2023 Legacy Awardee, Andrea Tenner

Dr. Tenner is a Distinguished Professor at the University of California, Irvine, where she runs a research program in the field of complement biology and co-directs the UCI MODEL-AD Center that seeks to generate new mouse models of Alzheimer's Disease. Dr. Tenner is the recipient of multiple prestigious awards, including the 2019 AAI Distinguished Lecturer and the 2015 UC, Irvine Daniel G. Aldrich, Jr. Distinguished University Service Award.

An Interview by Albert Sek

Q: Can you tell us about your research? What brought you into the field of complement and neuroinflammation?

A: Research interests are developed by often serendipitous events. My early interest in bioethics led me to consider developmental biology (summer research program at Oak Ridge Laboratories with Robin Wallace), but then I ultimately moved into cellular biochemistry of cell cycle control for my graduate studies at UC, San Diego (under Immo Scheffler). I had planned to continue probing the then novel dolichol pathway of N-glycosylation of proteins as a postdoc until my marriage prompted a change of direction. I decided to move down the street to a complement lab (Neil Cooper) at Scripps Research Foundation where I began to uncover the multiple diverse roles of the classical pathway complement recognition protein C1q in the human immune system. This system helps to destroy pathogens but also influences the nature of adaptive immune system. That remained the focus of my work during time on the east coast until moving back to California as a faculty member at UC, Irvine. UCI was/is a powerhouse of neurobiology, and I was soon drawn into the role of complement in Alzheimer's disease (AD). It has been a great ride. In addition to influencing the immune response (both via the canonical complement pathway and its interactions with cells to "silently" clear debris), C1q initiates a classical complement pathway-dependent synaptic pruning during the development of parts of the nervous system and in adult synaptic plasticity. However, excessive activation of complement in disorders such as AD and tauopathies (but also, viral infections in the brain, autism and schizophrenia) results in localized pathologic synapse loss, and the generation of proinflammatory peptides C5a and C3a, which in turn is also detrimental to the adult nervous system. Currently my laboratory is defining the roles of C5a-C5aR1 axis and the molecular drivers of complement-mediated synaptic pruning, neuroprotection and neuroinflammation. The goal is to understand the molecular interactions involved such that therapeutic interventions to limit damaging inflammation or enhance appropriate immune responses to slow or stop progression of AD and other neurodegenerative diseases can be designed (along with clinical trials to test them). My laboratory tests hypotheses using genetic, molecular, biochemical, cellular, tissue, physiological and behavioral approaches.

Q: What are some of the challenges facing complement and neuroinflammation research and where do you see the field going?

A: The challenge in multidisciplinary research, such as assessing the interface between the nervous system and the immune system, is knowing not only the inducers, activators, and regulators of each "node" of these interactions, but also the detailed biochemistry of each system to be able to properly integrate and manipulate them for beneficial outcomes for the individuals. We also must understand when our animal models are compatible or where they need to be modified to reflect the human condition. Bioinformatics is critical, but proper experimental design (with lots of controls!) to generate and collate all the multiomics/big data is equally important. I believe that complement, given that it is a component of the first line of defense and maintenance, will be a robust target to modify consequences of multiple disorders. However, knowledge of the complete genetic and environmental input to an individual will ultimately allow tailored therapeutic cocktails – i.e. personalized precision medicine.

Q: Can you tell us more about your involvement with the Society for Leukocyte Biology, including your role as Councilor?

A: The Society for Leukocyte Biology is a wonderful organization. Its members and leadership have been incredibly supportive. Scientifically, it embraces both molecular and cellular components of the immune system, which was perfectly suited to my interests. In addition, I particularly liked the focus on engaging the young investigators (grad students, post doc, and early investigators) – they are the future and our legacy. Being a Councilor provided me with an invaluable opportunity to work with national and international colleagues with diverse approaches to achieving common goals, and to learn how to craft projects for successful execution. I have also personally benefited from valuable friendships made throughout the years.

Q: In your career, what has been most surprising, most challenging, and most enjoyable?

A: These are hard to pinpoint, but:

- Most surprising is/was recognizing how pervasive unconscious bias was/is.
- Most challenging (beyond unconscious bias) is fundraising even for the most admirable causes, partially because you must determine

how to communicate in language and style that is effective with different audiences.

- Most enjoyable is working with forward-thinking colleagues in teams to achieve something (scientifically or professionally) that would not be possible (or practical) individually.

Q: What advice would you offer to the next generation of scientists?

A: Here is my advice:

- Love what you do and do what you love and are excited about.
- Don't let society as a whole push you to make career/life decisions in an all or nothing way. Look for solutions that are not detours, but rather are nuanced adjustments or even elevating opportunities.
- While there is always "risk" in career decisions, take advantage of the many opportunities for networking, communicating and engaging your scientific peers – such as are provided by professional societies like SLB. These active interactions will provide insight and tools to minimize risks and maximize gain for all involved, and also lead to opportunities that you would not otherwise see fully.

- Be selective in the type and time commitment of service activities. Aligning them with your own work or passion is usually best for everyone.
- Personally, and high on the list of importance, chose your life partner very carefully.

Q: What are some hobbies that you enjoy outside of the office?

A: I have been so fortunate in having an exciting family to enjoy (3 wonderful children, now 2 fantastic grandchildren, and of course my husband of 45 years!!). I also love the sun, skiing, tennis, and Greece. Though limited skills in the two sports, the sun and trips to Greece are never disappointing.

Q: Any other acknowledgements or comments you'd like to share?

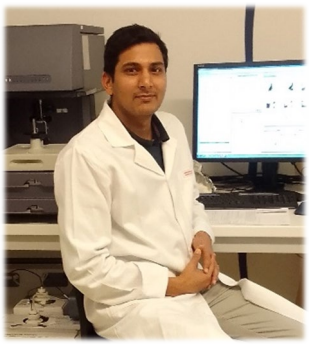
A:First of all, I am very honored to be the recipient of the SLB Legacy Lecture Award, and deeply thank those who took the time to initiate and support my nomination.

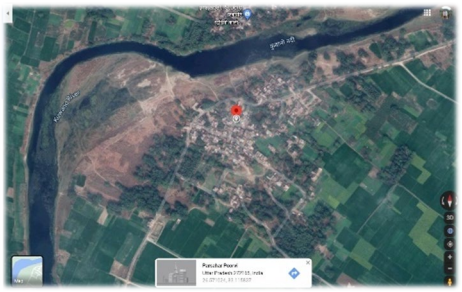
I have had the good fortune to have insightful and well intentioned advisors/mentors at what turned out to be game-changing points in my life (from high school on). Perhaps as a result, I have always valued and tried to help my students and trainees succeed. Many individuals have contributed to the efforts of my laboratory over the years and to the excitement of discovery. They have been the ones that earned this award with me. My colleagues in various endeavors from California to Maryland and back, have informed me graciously as well, and I am so thankful to all. I continue to be committed to providing meaningful training and guidance to student and young trainees and to sharing my experience and considerations with colleagues at all levels.

Global Science: A Voyage from India to Hungary

My name is Parvind Singh, and I'll be sharing my experiences as a PhD student in Europe. I am a third-year PhD student in the Faculty of Medicine, Department of Laboratory Medicine, University of Debrecen in Hungary (Link). The laboratory is outfitted with cutting-edge technology. Last year, I authored three articles and one of those was printed in *Journal of Leukocyte Biology* (JLB) (link). The online tracking and prompt responses made publishing in JLB smooth and I also joined the society. Recently, I became part of the members in transition and training committee (MTTC) within SLB, this group focuses on creating a "from the bottom up" type of programming for the society's trainee members.

My voyage started in Parshar Poorvi, a village located in Uttar Pradesh, the most populous state in India (Figure 2). After completing school, I moved to New Delhi for my higher education. In 2016, I earned my Bachelor of Science in Medical Laboratory Technology. Later I joined the lab of Dr. Vimarsh Raina (my mentor). My fascination with science grew rapidly under his guidance, and I learned a variety of techniques for histocompatibility testing, DNA profiling, and flow cytometry. In 2018, I also finished my Master of Biotechnology while working with him. In 2019 my application was accepted to deliver a clinical case study lecture at the annual clinical cytometry society (ICCS) conference in Atlanta, Georgia, USA. I'll be honest; given my mysterious past, I wasn't anticipating that! Yet, that movement ended up being my finest accomplishment and had a significant impact on my decision to pursue a career in science. I met Professor Kappelmayer János from the University of Debrecen, Hungary, during that same meeting. Subsequently, through a fellowship, I began a PhD program at his lab, under the supervision of Dr. Zsuzsanna Hevessy.





Here, living as a PhD student is quite relaxed compared to Indian standards. People not only concentrate on their work; they also lead active lives. However, the curriculum must be finished on time! I work five days a week, on average for 7-8 hours, depending on the amount of work that needs to be done. Our department organizes an annual scientific retreat, where we go out of town for two-three days and discuss scientific progress outside of the laboratory environment. Almost every weekend, I enjoy fun activities with my friends in the city. I am a sports maniac and am obsessed with volleyball; practicing often after the work day (Figure 3). Together with buddies from other teams, we play in university championship games and I enjoy the travel.

FASEB CORNER

SLB joined FASEB – the nation's largest coalition of biomedical researchers, representing 30 scientific societies – in 2019. FASEB corner is a regular feature providing updates on recent initiatives that demonstrate the Federation's dedication to its member societies.

Science Policy Round-Up – The FASEB Science Policy Committee (SPC) had a busy first quarter responding to a variety of topics including:

- Submitted comments expressing continued support for the National Science Foundation (NSF) INCLUDES Initiative and Evaluation and the agency's decision to rename the program after Representative Eddie Bernice Johnson (D-TX) in recognition of her efforts to increase the diversity of the scientific workforce
- Issued comments in support of an assessment of the implementation of NSF's terms and conditions pertaining to harassment and sexual assault at awardee institutions. FASEB's website was also updated to reflect information about agency harassment policies to increase awareness
- Submitted comments in response to the report and recommendations of the NIH Working Group on Diversity, Subgroup on Individuals with Disabilities
- Transmitted comments to the National Institutes of Health (NIH) Center for Scientific Review on a proposed simplified framework for NIH Research Project Grant applications

Bob Clark represents SLB on the SPC and SLB member Beth Garvy chairs the committee in her capacity as Vice President for Science Policy.

Preparing for the NIH Data Management and Sharing Policy – NIH's Data Management and Sharing Policy went into effect on January 25, 2023. To help researchers comply with the new NIH policy, FASEB is continuing the DataWorks! Salons which are interactive online conversation spaces that enable researchers to exchange ideas and design effective practices for data sharing and reuse in their labs. DataWorks! Salons continue on a monthly basis – learn about and register for upcoming Salons here. FASEB and the Office of Data Science Strategy at NIH also announced the inaugural recipients of the FASEB DataWorks! Prize, showcasing exemplary achievements in biological and biomedical research that were made possible through data management and sharing. Eleven research teams won nearly $500,000 in prize money.

Responding to NIH's Public Access Plan – On February 21, NIH published its Plan to Enhance Public Access to the Results of NIH-Supported Research in response to the August 2022 memo from the White House Office of Science and Technology Policy. NIH also issued a Request for Information (RFI) to collect stakeholder input on four key questions related to their public access plan (comments due April 24, 2023). Discussions about this RFI were held with member society Public Affairs staff and Publishers Steering Committee as well as key FASEB governance committees (SPC, Publications, and Board of Directors). FASEB's response to the NIH RFI will be reviewed by the SPC during its March teleconference and finalized by the Board in early April.

Supporting Diversity in Science – FASEB will accept applications for the 2023 Career Advancement and Research Excellent Support (CARES) program beginning March 20. CARES applications are due April 28. **CARES** provides financial support to alleviate financial burdens associated with caregiving, enabling FASEB society members to continue their scientific training, professional development, and career progression.

Applications for Leadership Engagement and Appreciation of Differences (LEAD) will open May 15 and close June 30. LEAD is a reverse mentoring program that pairs senior-level professionals with junior-level mentors to gain different perspectives of individual, group, and cultural views within the workplace and the scientific research communities.

Members of SLB can apply for CARES or LEAD using the online portals linked above.

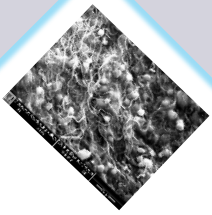
SLB's Annual Image Contest

April 29th is the International Day of Immunology! SLB welcomes members to participate in a little fun. Submit an original, self-made, unpublished image in any of these categories and be entered into a prize drawing. Formats accepted include jpegs, gifs, pngs, and pdfs. Entries are being accepted **now through 5pm eastern Tuesday, April 18th**. Winners to be announced on April 28th in celebration of the International Day of Immunology. Learn more and submit today!

2022 Winner: Girdhari Lal

By submitting your image and caption, you give SLB permission to include the images (with credit) in the next issue of iSLB and on the society website.

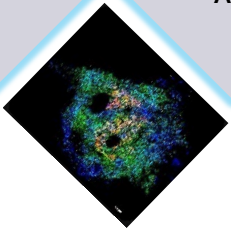
Microscopic Images



Science Humor Cartoons

Graphical Abstracts

Scientific Art



iSLB

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ICYMI

Review this recent article in JLB "Reinvigorating the JLB experience".

Look

Origin Stories

The Communication Committee recently posted a brief but informative origin story of our society and journal.

Look

Meet the Newest Members of MTTC

Meet the newest members of our grassroots committee; led by, and for, SLB trainees.

Look

Time for a New Look!

You may have noticed a new look for the newsletter. SLB is also updating the website. We hope you enjoy the refreshed designs for iSLB and our online presence.

Look

Registration and abstract systems are now open! Learn more about the presentation and award opportunities and mark September 27-30 on your calendar today!

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