

SPP Quarterly Newsletter

Winter 2024

- 1. Editorial Note
- 2. President's Message
- 3. In Memoriam of Doctor Gareth Jevon
- 4. SPP 2024 Spring Meeting
- 5. Joint PPS/SPP Meeting
- 6. <u>Committee Connection</u>
- 7. SPP History
- 8. Institutional Review

Editorial Note

This issue of the SPP Newsletter is a bit late, and I apologize for the delay. As a result, it is somewhat abbreviated, with the main news being our upcoming Spring meeting in Baltimore. I encourage all members to attend.

The editors decided to include the second installment of last month's Institutional Review, this one with a controversial subject and somewhat confrontational tone. The subject of this discussion, use of artificial intelligence to replace morphologists, is somewhat chilling to those of us who have devoted our careers to anatomic pathology. In many ways, it reminds me of similar debate that arose in the 1980s and 1990s as genetics pushed the boundaries of pathologic description. At that time, I argued that a combination of genetic and morphologic description was more potent than either alone. And I would argue that genetics have enhanced diagnosis, but not replaced microscopy.

New tools bring new challenges and new opportunities to all medical practitioners, as we seek to incorporate them into our practice and to learn their advantages and shortcomings. I don't think we should be ready to sell our microscopes, though intimated throughout my career. True, there will be some areas where new tools are more proficient than morphology; I came to realize that fact in my own study of alveolar rhabdomyosarcoma. However, for those of us who probably study 100 cases of gastrointestinal, infectious, and/or placental diseases for every neoplasm,

morphologists still have a lot of work to accomplish, and we direly need budding morphologists to replace us as we end our practice.

Lastly, we need open fora to discuss new ideas, and for that reason, we included the Institutional Review in a largely unedited format. If you would like to write a rebuttal to the comments in the Institutional Review and/or Editorial Note, you are invited to do so. Please send your submission to me c/o the SPP.

Editorially yours,

David

President's Message

Dear SPP Members,

I hope everyone enjoyed the holiday season and survived the doldrums of February. I am especially proud that we had a successful January Workshop month with 4 new workshops that attracted many participants and were truly excellent lectures. My thanks to all the speakers and to Rachael Lowery for making the workshops run so smoothly. In other good news, you have the SPP Spring Meeting in Baltimore to look forward to this month! The Executive Committee, the Education Committee and our management team has been working tirelessly to make sure the meeting goes smoothly and offers the networking and education our members desire. If you haven't registered for the meeting, please consider attending. There is no virtual component this time, but sessions will be recorded and available for purchase if that works better for you. Information and registration can be <u>found here</u>.

Also, please check out the <u>website for more information</u> on the Joint SPP and PPS Pediatric Pathology meeting in Dublin this Fall. Maureen O'Sullivan is the local host and has put together a fabulous line-up of speakers and symposia. It may be a great opportunity to explore Ireland, meet up with our PPS colleagues, and get educated as a bonus. I hope you will consider attending.

As always, I want to thank the many folks who make the SPP run, particularly our association management team and Rachael Lowery, our Executive Director. Rachael has really stepped up since our transition in management companies in the late fall, and is truly committed to the success of the SPP. I look forward to working with her through the end of my presidency and beyond! I am very excited about the future of the SPP, and I am feel assured we will continue to move our society into the future in the best way possible.

My best,



Linda Ernst SPP President

SPP 2024 Spring Meeting



Please Join Us for the SPP's Final Spring Meeting!

We are looking forward to a meeting full of excellent content, networking, and connection.

Date: March 22nd - March 23rd, 2024

- March 22nd | Select Meetings
- March 23rd | Educational Sessions

Location: Baltimore, MD

Pricing:

- Regular | \$495
- Affiliate | \$395
- Trainee | \$245

Register Now

Meeting Schedule

8:00AM - 11:30AM | Welcome & Platform Presentations

11:30AM - 1:00PM | Business Meeting & President's Address

1:30PM - 2:30PM | Farber-Landing Lecture: Neuroblastoma Pathology: 40 Years of Experience | *Hiroyuki Shimada, MD, PhD, FRCPA Stanford University Medical Center*

· Learning Objectives:

- Tell prognostic factors predicting clinical behaviors of peripheral neuroblastic tumors (pNTs). They are Clinical Stage, Age at Diagnosis, Pathology Classification, MYCN Oncogene Status, DNA Index, and Segmental Chromosomal Aberrations.
- Tell Three Risk Groups based on the combination of prognostic factors. Patients in the Low- and Intermediate-Risk group can have a better prognosis after surgery alone or biopsy/surgery with nonintensive chemotherapy, respectively. In contrast, patients in the High-Risk group are often refractory to the currently available and multi-modal treatments.
- Tell High-Risk tumors are molecularly heterogeneous, and they can be divided into MYC subgroup, TERT subgroup, ALT subgroup, and Null subgroup.

2:30PM - 6:30PM | Featuring a Half-Day Symposium:

- Radiologic Features of Pediatric Thyroid Nodules What Pathologists Need to Know | Jennifer Lim-Dunham, MD, Loyola University
- Pediatric Thyroid Tumors Updates on New WHO Classification and Emerging Entities | Zubair W. Baloch, MD, PhD, University of Pennsylvania Medical Center, Perelman School of Medicine
- Cytopathology of Pediatric Thyroid Nodules Updates on New Bathesda System with Emphasis on Practical Challenges and Pitfalls | Huiying Wang, MD, Vanderbilt University Medical Center
- Pediatric Thyroid Nodules Molecular Landscape and Diagnosis | Vivian L. Weiss, MD, PhD, Vanderbilt University Medical Center and Sule Canberk, MD, MIAC, University of Porto, Portugal
- Management Strategies for Pediatric Thyroid Nodules A Pediatric Otolaryngologist's Perspective | Ryan Belcher, MD, MPH, Monroe Carell Jr. Children's Hospital at Vanderbilt

6:30PM - 7:45PM | Poster Blitz

7:45AM - 9:00PM | Awards & Cocktail Reception

Joint PPS/SPP Meeting Save the Date!





The Dublin Royal Convention Centre Dublin, Ireland

Committee Connection

This year, committee meetings will take place virtually instead of in person at the Spring Meeting. Scheduled Meetings:

- Informatics & Communication | March 12th | 12:00PM EST
- Perinatal | March 19th | 3:00PM 4:00PM EST
- Research & Awards | March 15th | 1:00PM 3:00PM EST
- Membership | March 20th | 12:00PM 1PM CST
- Education | March 7th | 1:00PM CST
- Practice | March 18th | 3:30PM EST
- Publications | March 14th | 10:00AM PST

Education Committee Update

- January Winter Workshops 2024 were a huge success! Thank you to all who attended and thank you to our speakers. If you missed the live workshops but would like to view them at your convenience, both January 2024 and August 2023 workshops are available for one year after their original airing. Please see this link to register for or access the workshops: https://education.spponline.org/
- The 2025 January Winter Workshop series topics and speakers have been selected, covering topics from lymph node pathology to solid organ transplant evaluation to pediatric pancreatic pathology - stay tuned for additional details
- The SPP Spring 2024 Meeting will feature the symposium Pediatric Thyroid Tumors: A Practical Update on The Classification, Molecular Diagnostics and Management Strategies led by Drs. Huiying Wang, MD & Vivian L. Weiss, MD, PhD. Admission to this symposium is included in your Spring Meeting registration hope to see you there!
- Interested in submitting a workshop proposal or case for the Slide Survey Online? Contact Lauren Parsons, education committee chair, at <u>LParsons@mcw.edu</u>

SPP History

25 Years Ago – SPP Newsletter Winter 1999

Outgoing SPP Tom Stocker announced that the new journal, *Pediatric and Developmental Pathology*, had successfully navigated its first year of publication and was accepted for indexing by the National Library of Medicine. For this effort he thanked the inaugural editors and co-editors Drs. **Denis Benjamin**, **Jem Berry**, **Jerry Garvin**, **John Hicks**, **Steve Qualman**, **Don Singer**, and **Jim Dimmick** and the publisher Springer-Verlag.

Dr. Stocker also lauded the leadership of Dr. **Bob Bendon** and his group in initiating a perinatal section within the SPP. As part of that effort, a newsletter insert included a preliminary report from the Ad Hoc Perinatal division, with a meeting report from Dr. Bendon, a Nosology report from **Dr. Ray Redline** about the Working Group on Placental Nomenclature and Diagnostic Criteria, and a survey directed to SPP members interested in participating in this new SPP Division.

In Memoriam of Doctor Gareth Jevon

In Memory of Doctor Gareth Jevon MBChB, FRCPC, FRCPA, AB Pathology (certificate in Pediatric Pathology)

Doctor Gareth Jevon, a great friend and colleague died on 29 October 2023 at 6 pm in Perth, Australia. Gareth graduated in South Africa in 1983, migrated to Canada where he was briefly a general practitioner, then completed the Royal College program in Anatomic Pathology at McMaster University in Hamilton Ontario. With the encouragement of Dr. Derek DeSa, Gareth in 1992 trained in Pediatric Pathology at Baylor College, Texas with Dr. Milton Finegold. Gareth was recruited to the Children's and Women's Health Centre of British Columbia, Canada in 1993 where he remained as a consultant in perinatal and pediatric pathology and clinical associate professor at the University of British Columbia until 2007. He then departed for Australia and continued as a perinatal and pediatric pathology consultant and clinical associate professor then department head at Perth Children's Hospital.



During the COVID-19 pandemic, in May 2021, Gareth made the move to Singapore, joining the small team of pediatric pathologists at KK Women's and Children's Hospital as senior consultant pathologist and clinical associate professor at Duke-NUS Medical School. Gareth generously shared his rich personal experience with and mentored his younger colleagues and was immensely popular with pathology residents in Singapore.Gareth was a very competent consultant and diagnostician and a productive academic contributing a combined 91 presentations, published papers, and book chapters, most notably on pediatric gastrointestinal, metabolic, and liver diseases. Through his career Gareth held many memberships in professional bodies and hospital committees, and he taught residents and medical students.

During his tenure in Vancouver (JED) and Singapore (KTEC), Gareth was our valued friend and colleague. We shared a great deal of enjoyment and collaborated on various projects. Gareth leaves behind his beloved wife Genevieve (Gen), and children Rhys, Dillon, Alexandra, and Madeleine. He remains fondly in our memories.

5 February 2024

James E Dimmick MD FRCP (retired) Professor Emeritus, University of British Columbia Qualicum Beach, British Columbia, Canada

Kenneth T E Chang Department of Pathology and Laboratory Medicine KK Women's and Children's Hospital Singapore, Singapore

Institutional Review

Interview with Dr. Neil Sebire Joe Rutledge, MD Professor Neil Sebire is Professor of Paediatric and Developmental Pathology at Great Ormond Street Hospital (GOSH) Institute of Child Health at University College London, and is also the Chief Research Information Officer and Director of the Digital Research, Informatics and Virtual Environment unit at https://www.goshdrive.com/digital-research. Most readers will know him from his textbooks in their department or his >800 publications spanning pediatric pathology. He is dual boarded in pathology and obstetric & gynecology which explains some of his interest in the perinatal sphere. Professor Sebire provided an interview, part of which was published in the last newsletter. Herein we publish the second part answering the question, "How did your research interests change to produce a new career?"

We take up the interview with Dr. Sebire's discussion of Micro-CT imaging.

NEIL SEBIRE: Generally, we have found that post-mortem imaging is really good for neuroanatomy. Obviously, there's some things that require histology. We've had cases where, even if you look at post-water MRI, you get quite good brain anatomy. And then when you then go ahead to do even with fixation or anything else, It almost impossible to maintain the brain in any kind of shape and intact structure. When you go back to the MRI, you can't believe it is the same case. An additional benefit is that you can do 3-D reconstructions. That's the thing that's changed it for me. You can reconstruct things in any plane. The value of these tools is one of the things that got me into the whole area of the data and informatics. It is my opinion that the days of a human looking at something and saying, "I think this is what this is," are finished. In other words, looking at a slide and saying, "It looks like a fried egg, so we're going to call it this tumor" are not completely finished, but will be. Also, in my opinion, it's the same for radiology and for all sorts of other medical information.

The first thing is digitizing everything and capturing everything. But the next phase after that very quickly is having AI systems that will do a large chunk of the work.

JOE RUTLEDGE: Are you digitalizing all your slides?

NEIL SEBIRE: We're not fully 100% digital yet, but we will be by beginning of 2024. Most places using digital, including us at the moment, are using it in the same way that a slide system is being used; it's more around the workflow, such as reporting off-site remote consultations, etc. But it's still a human looking at a picture and saying, "This picture looks like a cat". In my opinion, that's not the main potential benefit of digital imaging; the main benefit will come when I won't be required.

JOE RUTLEDGE: Maybe that will coincide with your retirement, but I think you've got a long road ahead for total machine interpretation. It seems digital information for the autopsy and then histology as well as the projections of what could happen in anatomic pathology are what moved you toward informatics and a new career.

NEIL SEBIRE: That, plus lots of the other research I've done that was around kind of stillbirth and cot death, data sets, etc., and then trying to say, "What do the data show," as opposed to "What do people think?" Just trying to look at any large series, what is the yield of pancreas histology in determining the cause of death in stillbirth? More or less zero. I'm actually having data to show that. I've always been very interested in data, kind of nerdy, and into computers. When the hospital about five or six years ago was looking at its whole digitization program, the EPR system, digital pathology imaging, they wanted someone who kind of understood this stuff but also had a research interest in how we could use this data. That's how I became interested in broader applications of informatics.

I became chief research information officer, which is still pretty unusual in the UK. I was the first in the UK, but now there's three or four others. Our interest is not just how we use the EPR system to report things, but how do we make value out of that the data, including non-pathology data? I am now 50% clinic, 50% academic. I spend one-half of my clinical time in reporting. All of the rest of my time concerns informatic work and research. We now have a click-in informatics research program. We have 23 PhD students that are doing various things around this type of informatics, including hardcore machines learning, reinforcement learning, graph analytics, and networks. Some of them are looking at clustering algorithms and prediction.

Obviously, the next project concerns whole slide imaging digital biology, of which we haven't really done much yet, because we wanted to wait until we were fully digital. That's been quite a big change for me. I'd always had students, but the students before were always doing pathology-based things. Now I've run those downs, to speak in football terms. I don't have any pathology fellows anymore but rather PhD students, all of whom are students involved with usual informatics and Al.

JOE RUTLEDGE: Is that supported through grants or GOSH?

NEIL SEBIRE: It is almost entirely grants. The UK system now no longer has funding internally for academia, including through the universities. As a university professor, I have no funding at all, no fellows, no lecturers, whatever, and that's the same as everywhere else. Every research project is funded through some kind of grant funding. To be fair, we actually do receive a large amount of charity through the GOSH Charity program. GOSH has really been instrumental in allowing us to set up the Clinical Informatics Research Program. We've leveraged the funding quite well, and the charity has been really important for that.

JOE RUTLEDGE: Well, that really sounds exciting, and I think that's probably enough for the interview. I probably need to move you along to your next task. I wish I were your PhD student. On the other hand, having read a couple of books around AI in our book club, I doubt that it would be within my reach.

NEIL SEBIRE: I still think pathology is a very good area to go into. However, the traditional way of answering, "What do you want to do as a pathologist?" with "I want to come in. I want to sit all day with my slides, and I want to report them" is not happening anymore. That's not going to be what pathologists do in the future. There's always going to be this skill of interpreting everything and even more so with the multimodal interpretation of the imaging and genomics and proteomics and all the other information that comes. However, looking at a picture and saying, "I think that's a cat", it's just not the thing. That's why I get very frustrated now when I still see people coming through teaching, and we're still trying to tell them that a nucleus looks like a bean. That's a very human-centric way of doing it. In fact, the AI system won't know what a bean is. What it will do is evaluate 5,000 metrics from that slide, and the system will get better than us at distinguishing between these various things. The fact something looks like a bean is not the kind of way you should be teaching people anymore. It's a really super exciting time to be kind of young and involved in the field, but it's not if you've still got this old mindset.

JOE RUTLEDGE: That's a good summary and will cause some GI upset for a bunch of the readers, but I think it points the direction that they need to go.

Editorial comment: The above remarks do not represent the views of the newsletter editor but are printed as an open forum for the interview process.

More Information on Dr. Sebire's Research

Al in Pathology Podcast

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