

The PADs Sentinel

*News from the program that trains Parkinson's Alert Dogs
for the detection of Parkinson's Disease.*

Volume 1. Number one. February 2018

Sniffing for Odors Unique to Parkinson's Disease.

PADs is engaged in an exciting new avenue of research to help discover causes of Parkinson's Disease. Understanding these causes is the first step towards finding a cure.

In September of 2017, PADs worked with participants, who had previously donated T-shirt samples, to re-donate shirts with the goal of using laboratory equipment to determine if volatile organic compounds could be found that are unique to Parkinson's Disease. An equal number of control samples were also used in the research study. Laboratory analysis has so far

proven to be inconclusive, however the research team is continuing to search among the thousands of molecules found in the T-shirts to discover an odorant molecule unique to Parkinson's Disease.

Genomic analysis is proving to be more fruitful in unlocking the mystery of the signature Parkinsonian "smell" by leading to predictions of associated molecules. Consequently, these molecules have been artificially synthesized and tested with Parkinson's Alert Dogs (PADs). The dogs gave a positive result to a T-shirt swabbed with these molecules. These results were compelling and led to intensive research surrounding these



molecules which is currently ongoing.

We sincerely thank all of you who helped to make this research happen, with special thanks to the scientists, volunteers, sample donors and canine handlers who are dedicating their time, expertise and funding to this effort.

A wag of the tail to all of you!

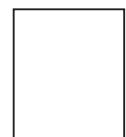
The limitations of machine-based chemical analysis underscore the amazing ability of the dog in sniffing. There is no substitute for dogs when it comes to accurately detecting the presence or absence of a very small trace of molecular substance. Trained dogs can distinguish a single molecule out of millions (some experts say billions.)

Dr. Matthew Lawyer, Parkinson's Disease Researcher, had this to say about the value of sniffer dogs to his work: "PADs has been an extraordinary gift to scientific understanding. These dogs have been crucial in providing us with deeper insight into causes of Parkinson's Disease. Even if a theory proves itself wrong, the dogs continue to guide us to a better theory. I am forever grateful for the help of the PADs organization and dogs."

WHAT'S INSIDE: New Board Members . Seven New Noses . Sample Donors . In the News . Padding Forward

PADs for Parkinson's

PO Box 2703
Friday Harbor, WA 98250



Going nose to nose.

Canine Nose:
300 million olfactory receptors
Human Nose:
6 million olfactory receptors

Dogs have 40% of their brains dedicated to sense of smell, and are 10,000 to 100,000 times more efficient than a human at odor detection.



A nose for news puts PADs in the news.

PADS was honored to be featured by King 5 News, Seattle's most-watched news program, in July 2017. You can view this 3.5 minute video over the Internet by using your search engine to search for PADs for Parkinson's King 5 News. PADs was also featured with a video of the dogs in action on **San Juan Update**, you can view this online <https://sanjuanupdate.com/2017/06/pads-for-parkinsons/> the online news journal of the San Juan Islands. Thank you, King 5 and San Juan Update!

And congratulations to **Journal of the San Juans** for a second-place win from the Washington Newspaper Publishers Association for "**Sniffing out Parkinson's**," a 2016 story on PADs and the Parkinson's Alert Dogs covered by San Juan Island journalist, Courtney Oldwyn.

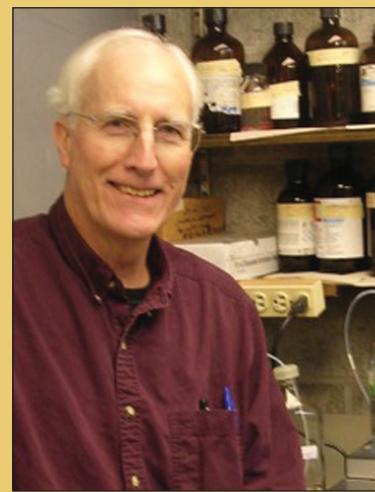


Richard Lind Leads Board in 2018.

Newly-elected Board President, Richard Lind, brings a wealth of nonprofit leadership to PADs. Mr. Lind's former experience includes serving as Dean/President of the Seattle chapter of the 200-member American Guild of Organists where he led a 12-member Board. Mr. Lind currently serves as Chair of Activities for St. David's Church, is a volunteer scribe for PADs and co-handles PADs canine "Rudi" with partner, William Moore. Mr. Lind received his Master of Music from Indiana University.

Dr. Jack Bell and Richard Lind join Board Members: Nancy Jones, Dr. Carolyn Haugen, and Katy Barsamian.

Welcome Dr. Jack Bell to the Board.



PADs is pleased to announce the appointment of Dr. Jack Bell to its Board of Directors. Dr. Bell is an analytical chemist with extensive experience in identification and measurement of environmental toxins, and professor at the University of Washington Friday Harbor Labs, providing oversight and guidance on bio-molecular research studies. Dr. Bell serves the Board as Chief Science Officer.



Seven new noses join eight veteran ones.

A great number of canine noses is critical to the success of the PADs program. Since Parkinson's Disease is a clinical diagnosis with no absolute confirmation of diagnosis available for a living patient, PADs has the goal of providing a minimum of 8 dogs performing at a level of 90% or higher in accuracy. This is to ensure canine-obtained information that is as accurate as possible before providing this information to the many people who want to be tested by the dogs. Today, we have 5 dogs performing at the 90% or higher accuracy level. To account for training time, attrition, and the relatively short lifespan of a dog, it is important for us to support many dogs to achieve the goal of eight dogs with a high level of reliability. We are often asked if the dogs will go out into

public, or to health clinics, and sniff people. We do not see this as the case. Due to the clinical limitations in confirming a dog's positive or negative indication, we intend to supply information, whether for research or screening, based on a consensus by many dogs. In the future, we see a scenario where sample kits are provided to sample donors, then returned to PADs, or a similar program. Once a kit is returned with the sample, it would then be screened by a group of dogs in a closed, controlled laboratory environment. Our veteran dogs have now worked more than 100 individual days for a minimum of 275 rounds of training for each dog. They have each worked between 50 and 100 unique

Parkinson's sample donors and an equal number of controls. A few of the dogs have been in the program for 18 months. These dogs come to training four days a week.

The top tier dogs in the program are performing at an accuracy level of 90% or higher, and the veteran group as a whole, wrapped up 2017 with an average accuracy rating of 90%.

The seven new dogs in the program range from small to tall, from a Pomeranian to an American Field Labrador, all with tremendous drive for the sniffing work. Even we can smell success when we see these dogs go to work!

Thank you, volunteers. You make it happen.

The level of commitment from the dog owners and the volunteers who assist with each session's documentation and management is incredible. If you, or someone you know, has Parkinson's Disease, you can trust that you have an amazing team of two and four-legged mammals working side by side to help make a difference for those living with this disease.

Pictured left to right, ace volunteers Lori Stokes, Luc Diaz and Kathleen Nelson. Lori, Luc and Kathleen are but three of the many amazing and dedicated volunteers who assist with daily training sessions. Volunteers are at the heart of the PADs program and we remain so very grateful for their service.



From Moses Lake to Mount Vernon, we thank our sample donors.

It is a great effort on the part of donor sample coordinators to supply samples for training aids for the dogs. Since the odorant molecules in Parkinson's Disease remain a mystery, we rely on the introduction of many samples to help the dogs begin to recognize a marker for the disease. We remain so grateful to the numerous Parkinson's support groups throughout the West that have come forward to help us obtain samples. To date, we have had help from our local Washington-state support groups in Ephrata, Bellingham, Moses Lake, Mount Vernon-Burlington, Anacortes, Orcas, Lopez and San Juan Island, Whidbey Island, Vashon Island and the Seattle area. Even out-of-state support groups from Nevada and Utah have provided samples. We are pleased to discover that when shipped during opportune temperature conditions, samples survive shipping without noticeable deterioration. Thank you so much for your willingness to provide samples, so necessary to the success of PADs.

A PADs sample kit provides all that is needed for a sample donor to wear a T-shirt overnight and return it in the canister. The dogs learn to detect Parkinson's Disease by sniffing these canisters.



Help us continue to PAD ahead.

*You can support the PADs mission
by supplying time, samples, or funding.*

To find out how you can help, please contact PADs Program Director, **Lisa Holt**, at sanjuanlisa@gmail.com, or call (360) 298-5494.

PADs for Parkinson's is a 501(c)(3) nonprofit corporation. Donations, of any size, are needed and welcomed. You can mail your donation to PADs for Parkinson's, PO Box 2703, Friday Harbor, Washington 98250. Please include your return address so that we may promptly send your tax-deductible receipt by mail.

A special thank you to the following organizations for their funding support: Paddle for Parkinson's, the San Juan Island Community Foundation, The Women's Fund, the Ann Moss Foundation, and the Henry W. Bull Foundation. And a special thank you goes out to each one of you who has provided funding support. Every dollar counts, and every dollar works to help train dogs to detect Parkinson's.

PADDING forward. The Mission Continues.

It is the mission of PADs to:

- Train dogs to detect Parkinson's Disease.
- Supply reproducible training protocol for other trainers to start a PADs training program.
- Assist research efforts that bring us closer to a cure for Parkinson's Disease.

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