Ryan bids farewell
Study coordinator retiring after five years at UI HDSA COE

By Jolene Luther
UI HDSA COE Public Relations Assistant

As I sat down to interview Pat Ryan about her years at the UI HDSA COE in light of her retirement, she clutched a handful of tissues in anticipation of the questions she knew would surely bring up a few tears.

The tissues came in handy as Ryan opened up about her favorite part of the job — time spent with the participants. With a smile on her face, she reminisced about the many lunches spent with them during research visits, sharing thoughts and feelings and coming to learn “how brave and generous many of our HD participants are in their quest to make a difference.”

“It takes courage to face a future that has a lot of unknown factors,” Ryan said, “and to come to a research visit where you get asked a lot of questions that may be painful to think about.”

As Ryan affectionately reflected on her tenure here, it was clear what stood out to her most was not any specific event or goal accomplished, but the multitude of relationships she formed with both her colleagues and the PREDICT-HD participants.

In 2008, looking for a job that would allow her to get involved in research on a meaningful topic, Ryan thought the UI HDSA COE research associate job fit the bill. With a background in psychology, social work, and sociology, Ryan said she found a need to which she could contribute something worthwhile and long-lasting.

Anyone who has had the privilege of working with Ryan would agree that she more than met these initial goals during her time with us. Research Associate Stephen Cross said Ryan has been “incredibly compassionate, highly conscientious about everything she was responsible for, and had a phenomenal work ethic.”

Her exemplary work was shown as the PREDICT-HD study underwent some major changes to accommodate the ever growing number of research angles from which we approach the study of HD, which meant even more tests for the participants. Amidst these changes, Ryan was ever the advocate for her participants, ensuring that the visit remained workable for them, and gracefully acting as the middle person in the triangle formed by participants, scientists and the data management team.

UI HDSA COE Co-director Dr. Jane Paulsen also noted Ryan's compassion and the extraordinary work she has done to make the UI HDSA COE not just run smoothly, but also provide the participants with an enjoyable experience.

“Part of the reason our participants return year after year is because they enjoy the time spent with us and don’t see it as a burden,” Paulsen said, “and that is due in large part to people like Pat. It shows in the fondness her participants have for her.”

While she’s not entirely sure what the post-retirement future will hold, Ryan is looking forward to spending more time with her parents and in-laws, volunteering, and having more time to exercise — particularly, biking and her little-known hobby, playing pickleball.

Her retirement may bring about some yet undefined changes in her life, but one thing is certain: she will be dearly missed at the UI HDSA COE.

“I'm sure that Pat will be missed equally by her colleagues and participants alike. Everyone loves Pat,” said Cross.

It is the continued and extended relationship with the participants that is the hardest for Ryan to leave behind. She is saddened to have to say goodbye and to know that she won't be present for the next chapter in their lives. She thanked all her participants for their dedication and generosity, patience and flexibility, warmth and receptivity, and for opening up and sharing their lives with her.

“I think I'm a different person because of knowing them, learning from them, and experiencing them,” Ryan said.
Bella De Soriano enjoys Scrabble, rock climbing and lounging, and is the newest research associate at the UI HDSA COE.

By Sean Thompson
HIND-Sight Editor

The first thing you notice about Bella De Soriano may be her southeast London accent or her fiery red hair. But it’s her genuine disposition, her good-natured quick wit and her desire to help other people that stick with you and more fully help define who she is.

Like many who work in the HD research field, De Soriano’s altruistic nature is one of the main reasons she sought a position as a research associate at the UI HDSA COE, where she’s held that position since September. But much like her journey from growing up in London to studying anthropology at the UI, her path to working here was far from conventional.

As an undergraduate, De Soriano worked as a student systems administrator in the UI HDSA COE, testing data collection software used in the PREDICT-HD study. But she had only a basic understanding of HD, with little to no exposure to the specifics of the disease.

It wasn’t until a screening for staff of the documentary “Do you Really Want no exposure to the specifics of the disease.

As an undergraduate, De Soriano

Soriano said watching the film was an eye-opening experience.

“Things that seem trivial to me are a big deal for people with Huntington disease,” she said. “Seeing how the disease affected people helped me decide to go for a permanent position where I would be seeing people directly and helping in a different way.”

Lending an understanding ear

Aside from helping participants complete the various components of the visit, De Soriano says listening is one of the most important things she does as a coordinator. Participants may not be thinking about HD every day or may be pushing it to the back of their minds, she says, but when they are here for research, they want to talk about what’s going on in their lives relative to HD.

“I think it’s nice for them to have someone there who knows what they’re talking about and can just listen instead of having to explain all these things about HD,” De Soriano said. “We are someone for them who have an understanding of where they’re coming from.”

From snobby to smitten with Iowa

De Soriano’s mother is originally from Virginia and a UI graduate. When she tossed out the idea of attending the UI to her daughter, De Soriano went for it.

“I think I cried a fair amount,” she recalls upon arriving in Iowa. “It was a huge culture shock and I’ll admit that I instant was quite snobby when I first got here. I thought it had nothing to offer me and I wasn’t going to stay here. But I was proven wrong.”

She adjusted to and immersed herself in campus life in the Midwest. Now, she lists Iowa City and London as her top two favorite cities in the world.

Making research enjoyable for her participants

Experienced researchers will tell you the quality of the research participant’s experience comes down to how well the coordinator made him or her comfortable. This ability to have a direct positive impact on someone’s research experience is De Soriano’s favorite part of the job.

“I like seeing how my work can affect people in a beneficial way,” she said. “My first visit was great and everyone left happy, and they seemed like they had a good time, which I don't think you expect from a research visit. Knowing that someone had a good visit and part of the reason they did was because of me is very rewarding.”

Enroll-HD observational study now underway

The UI HDSA COE is now accepting participants for a new observational study that is sure to open up HD research participation to many more people.

Enroll-HD is a global study that seeks to aid in the development of future clinical trials. Researchers also hope to learn more about the human biology of HD. Participants are seen for yearly testing and collection of a blood sample.

Much like the PREDICT-HD study, researchers will be looking for changes from year to year over a variety of domains. Those who have tested gene positive for HD but are not diagnosed will continue participating in PREDICT-HD, but those who have tested negative, are diagnosed or haven’t tested at all are eligible for Enroll-HD. Even spouses and other family members can participate in the study.

The study visit can last up to four hours, and limited reimbursement is available for travel costs. For more information, contact Amanda Miller at 319-335-6640 or amanda-c-miller@uiowa.edu.

HD studies currently enrolling at the UI

- **PREDICT-HD:** An observational study for pre-symptomatic, gene-positive individuals. Contact Stephen Cross, predict-hd@uiowa.edu, 319-384-1008

- **HDQUALIFE:** An observational study for adults diagnosed with HD or PREDICT-HD participants who are gene positive. Contact Courtney Shadrick, courtney-shadrick@uiowa.edu, 319-353-5443

- **CREST-E:** A clinical drug trial for symptomatic, diagnosed individuals. Contact Jacky Walker, jacky-walker@uiowa.edu, 319-353-4357

- **Enroll-HD:** An observational study for anyone in the HD community. Contact Amanda Miller, amanda-c-miller@uiowa.edu, 319-335-6640.
Fellowship provides immersion in HD research

University of Iowa senior Jolene Luther was chosen as one of two nationwide recipients of the HDSA Donald A. King Summer Research Fellowship. The Belgium, Wis., native conducted Huntington disease research for 12 weeks this summer at the UI HDSA COE, where she continues to work during the fall semester.

By Jolene Luther
UI HDSA COE Public Relations Assistant

After years of seeking ways to get more involved in the HD community, I was given the incredible opportunity to immerse myself in the world of HD research. With the support of Drs. Jane Paulsen and Hans Johnson, I spent 12 weeks gaining vast insight into research and all the work that goes into it.

My research project focused on the role iron plays in the progression of HD. There is increasing evidence that iron has a key role in neurodegenerative diseases like Alzheimer and Parkinson diseases, and increased iron levels have been detected in HD brain tissue analysis after death. Since we can’t examine the brain tissue of living people, magnetic resonance imaging (MRI) can be used to study iron accumulation in the prodromal HD stage. Much like the popular photo application Instagram allows you to apply different filters to your photos, MRI scans allow you to see the brain with different contrasts. Areas of the brain with more iron accumulation than normal will show up as dark areas and can be identified by the trained eye of a professional and are classified as “hypointense.”

In one study, “MRI T2 Hypointensities in basal ganglia of premanifest Huntington’s disease,” Caroline Jurgens and coauthors found these hypointense areas in study participants with prodromal HD, suggesting there is already more iron accumulation in the brain than normal in those with HD before they reach a clinical motor diagnosis of HD. Using this study as a base, I came up with a proposal to replicate and extend the Jurgens study using the thousands of MRI scans from the large multi-site PREDICT-HD study.

My work began by figuring out how I could use the scans (which included computer-generated “maps” of the brain images) and some basic computer programming to find the hypointense areas within the basal ganglia region, an important area of the brain that plays a role in controlling cognition (thinking ability) as well as movement coordination.

First, I looked at many MRI scans and determined the threshold for which iron accumulation can be considered normal. In other words, just how dark, or hypointense, can this area of the brain be before it is considered abnormal and possibly attributed to HD?

I then used a statistics program to calculate the percentage of the basal ganglia that was hypointense for each scan to see if the prodromal HD basal ganglia scans had larger percentages of hypointense area compared to scans of gene-negative control participants. I also used statistical tests to see if there was a relationship between the percentages of hypointense area and things like the motor (movement) assessment score given to the participant, their probability of experiencing HD onset within five years, and their CAG repeat length.

My very basic statistical analysis showed a small correlation between the percentage of hypointensities and some clinical characteristics like motor score, which suggests that having more hypointense areas in the basal ganglia negatively affects HD functioning. However, there are many more statistical tests to run and adjustments that need to be made before a more definitive conclusion can be reached. The work that I completed this summer could be used as a foundation for the PREDICT-HD research team in the future as they continue to explore biomarkers for HD.

Being mentored by an incredible researcher like Dr. Johnson was both demanding and exceptionally rewarding. I had to push myself harder every day to continue to learn and open my mind to face new and unexpected challenges.

I owe a warm thank you to all those who contributed to providing me this outstanding experience, including all the participants who have given their time and effort to be part of the PREDICT-HD study. Your contributions allowed for this fellowship that has solidified my aspiration of working to better the lives of those affected by HD.

HD Support Groups:

Des Moines
Valley View Village Conference Room
2571 Guthrie Avenue
Third Sunday at 1:30 p.m.
Mark Hillenbrand
(515) 208-3511

Omaha, Nebraska
Perkins Restaurant
108 L. Street
Second Monday at 6 p.m.
Cathy McNeil
(402) 537-0739

Iowa City
University of Iowa Hospitals and Clinics
Della Ruppert Conference Room
Fourth Sunday at 1 p.m.
Shawna Feely
(319) 353-4307

At-risk/presymptomatic
Every other month
Brandon Rogers
(319) 333-2211

An MRI scan of a prodromal HD brain with label maps used to detect hypointensities in the basal ganglia (colored) region. Hypointensities indicate iron accumulation, which Luther’s research suggests has the potential to be a biomarker of HD.
Imagine that you live in a house with dozens of holes in the roof, says Dr. Dale Bredesen, a scientist with the Buck Institute for Research on Aging in Novato, Calif., and an expert in degenerative brain diseases and Alzheimer’s in particular.

“And when it rains, the floor gets wet,” he says. You can repair one hole, but it’s not going to keep the place dry - you’ve got to repair all of them.

Alzheimer’s scientists are starting to believe that a main reason they haven’t yet found a treatment is because they’ve been focusing on just one hole in the roof.

That hole has a name: amyloid beta. For decades, it’s been the primary target of Alzheimer’s research, and for good reason.

But efforts to tackle amyloid beta - to remove the plaque from the brains of people whose cognitive function and memory have started to fade with disease - have failed.

The focus on amyloid beta has been a twofold problem.

First, amyloid beta is probably just one piece of a long chain of events that go wrong in the brains of people with Alzheimer’s. And second, that plaque buildup likely has been going on for years, even decades, before people are symptomatic.

Naturally, in order to study the earliest phases of a disease, scientists need to be able to identify future patients long before they complain of symptoms like memory loss. That’s why the most attractive targets for early Alzheimer’s interventions may be found in people who are known to have a genetic risk for the disease.

There are three versions of the ApoE gene, and one of them - called ApoE4 - is associated with a massive increased risk of developing Alzheimer’s. People with two copies of the ApoE4 gene are up to 14 times more likely to get Alzheimer’s than someone with a healthy variant.

“One of the most under-investigated and underexploited areas in Alzheimer’s research is ApoE - it’s nature’s clue in how to avoid the disease,” said Dr. Lennart Mucke, director of the Gladstone Institute of Neurological Disease. “If we want to find out how to delay the disease or stop it, nature has already taught us,” he said. “Now we just need to learn from it.”