

FALL 2024

SAC 50 NOTAM



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ODEGARD SCHOOL OF AEROSPACE SCIENCES

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COVER PHOTO

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It's almost the end of another semester for UND Aerospace. This Fall we welcomed more than 520 new students to the campus across our undergraduate programs, bringing the total to 2,277. Of these new students, more than 150 came in with their Private Pilot Certificates complete and kicking off the inaugural offering of AVIT 220. It's been a great semester for flying with winter holding off as long as it did, and we look forward to completing as many students as possible before the Holiday Break. New airplane deliveries are continuing, and we expect another helicopter by early summer.

We're continuing to make upgrades across the college—everything from Air Traffic Control and airplane simulators to classrooms. We've also started displaying some unique space artifacts—The UND ISS Agriculture Camera, a Saturn 1B Rocket Engine, and an Orion Test Capsule from NASA. Aerospace students just launched a project to the International Space Station and others will participate in testing a UND satellite expected to launch next June.

It's time to begin applying for internships for next summer and we'll also be sending two sections of students to London in the spring for a Study Abroad opportunity to learn about the Battle of Britain.

I wish you all well in your Final Exams and checkrides and hope you all have a nice Holiday break to spend time with your family and friends. See you all in the New Year!

ROBERT KRAUS | DEAN, JDOSAS



The end of the fall semester marks the completion of another successful term for the Student Aerospace Advisory Council. I would like to thank all of our current SAAC Officers who consistently dedicate their valuable time to make the student experience better at UND Aerospace; without their contributions to the council, SAAC would not be able to effectively serve the student body. This semester, SAAC has worked hard to provide increased transparency and knowledge to students, while also working to identify problems and implement solutions in many areas throughout both the school and flight line. Key initiatives and events for the fall semester were increasing the effectiveness of the airport shuttle service, the Aerospace Student Organization Fair, the SAAC Collegiate Mentorship Program (CMP), the Industry Mentorship Program (IMP), the Hawk Talk, the Dean's Forum, and our CFI Appreciation event.

Closing out SAAC's 50th year in service, it remains integral to our mission that student interests and concerns are heard and valued within the college. SAAC has worked to provide elevated experiences like increasing the airport shuttle stops at Wilkerson in the cold weather months, providing strengthened mentorship programs and hosting events where students can engage directly with professors and both school and airport leadership, as demonstrated by our Hawk Talk and Dean's Forum events.

We hope that you have been positively impacted by the Student Aerospace Advisory Council this semester, whether it was grabbing a coffee and doughnut at our CFI Appreciation event, finding value within the bi-monthly SAAC Flight Ops email update, or any of the other many SAAC efforts or events. Thank you again for a successful and productive semester, and I wish you the best in the spring!

JOSH SALMI | PRESIDENT, SAAC

Courtesy of Eric Hylden | Grand Forks Herald



GFK Paving the Way

by David Manzke and Santiago Echevarria-Robinson

"Big changes are on the horizon at GFK, bringing exciting opportunities for students and staff"

This past October, Grand Forks International Airport opened the extended runway 9L/27R. Expanded from 4,206 feet to 6,701 feet, the new runway allows Grand Forks to continue to grow and to better handle the challenges of being one of America's busiest GA airports.

Patrick Dame was the Executive Director of the Grand Forks International Airport from 2009 to 2015. He accomplished many notable projects during his time in Grand Forks, including the new passenger terminal, airport fire station, and snow removal equipment building. He also worked to help make the new crosswind runway project a reality. When asked about the need for a crosswind runway expansion, Patrick likened the traffic flow at Grand Forks to pulling apart a Slinky, in which each coil of the Slinky represents a closed-pattern UND training flight. The coils must be pulled apart to fit the airline traffic at GFK.

"You get both patterns being a Slinky and you've got a number of aircraft in those patterns. You got to create separation, then land the airliner down the center of two Slinkies."

GFK is a unique airport with an incredibly high amount of closed-pattern traffic. The goal of the expanded crosswind runway is to allow the airport to operate just as efficiently during east/west operations as during north/south operations. Such an endeavor spanned multiple Executive Directors. Large scale projects like the crosswind runway span decades and involve stakeholders from airport tenants to community members and even legislators in Washington DC.

"There's a lot of legacy that you're building just in everything that you do. It's really cool to see how it all comes together in the end and that's something I think this this new runway really speaks to."

The legacy that airport managers, consultants, and many others leave on an airport often goes unrecognized; however, it is this legacy of hard work and planning that we enjoy from day to day in our flight training—a legacy that ought to be appreciated. Today, Patrick is the Executive Director for Rapid City Regional Airport in Rapid City, SD, where he is currently working to expand the passenger terminal to allow Rapid City to better capture seasonal tourist traffic.

Big changes are on the horizon at GFK. The recent completion of the extension and repaving of runway 09L/27R marks a significant milestone. With this upgrade, GFK now boasts a second operational runway capable of accommodating airline traffic, paving the way for much needed improvements to the aging runway 35L/17R. The reconstruction of runway 35L/17R is set to begin in summer 2026 and will be carried out over three summers to minimize disruptions. The project will tackle the runway in three sections: starting with the northern third in 2026, followed by the middle section in 2027, and concluding with the southern third in 2028. Thanks to the availability of runway 09L/27R, airliners will have a viable alternative during the phased construction.

Another major project is the construction of a new tower, which will significantly enhance operations. The new tower will nearly double the height of the current one and introduce advanced capabilities for controllers. According to Ryan Riesinger, Executive Director of the Grand Forks Airport Authority, construction is expected to begin in 2025, with a build timeline of 1.5 to 2 years. The new tower will be in the grassy area, west of the existing tower, ensuring minimal impact on parking for UND students and staff. These developments signal an exciting era of growth and modernization at GFK.



Ryan Riesinger, Executive Director, GFK



Patrick Dame, previous Executive Director, GFK



Antonia Wagener, Asst. Chief Flight Instructor

PO-180° Tips for Success

Provided by Antonia Wagener | Asst. Chief Flight Instructor

Proper planning and airspeed control are the first steps to success when executing a power-off 180° accuracy approach to landing. As the power is reduced to idle, you should pitch for and maintain best glide speed, until slowly transitioning to ~55 knots as you begin the round out and flare. Speed is essential because it helps you anticipate your altitude loss and is the easiest variable to keep consistent throughout the maneuver.

Planning is also imperative as the wind conditions will change when you turn from downwind to base. For a successful landing, you should plan a continuous turn to final rather than squaring your downwind to base and base to final. This continuous turn is key to your approach. If a headwind is expected on final, you must begin turning base earlier. The stronger the wind, the earlier the turn should be initiated. If a tailwind is expected, you must delay turning your base. Similar considerations must be made if a crosswind is expected, as that will either increase or decrease your ground speed on base.

While turning base and final, you must continuously reference airspeed and sight picture. The sight picture in relation to the runway aiming point will indicate if the airplane is on glide path, high, or low. If your glide path is high, you have a couple of options. A forward slip is generally good, but it cannot be continuous. It is essential to enter the slip for a few seconds, release it, check your sight picture and glide path, and re-enter if necessary.

If your approach is high, adding flaps is another option. The technique will be similar to the forward slip:

- Add one notch at a time
- Let the airplane adjust to the configuration change
- Change pitch to continue maintaining the best glide speed
- Check your sight picture
- Add the next notch if needed

Lastly, **ensure you are not lifting your wing in the downwind** to see your aiming point **or counting as a measure of when to turn base**. These techniques are not accurate and will yield inconsistent results, nor will they work as you transition to other airplanes.



Safety Spotlight on Sanford Fogg



"Sanford previously attended UND as a student and helicopter flight instructor before beginning a position in Saudi Arabia..."

by Josh Salmi

With over 123,000 flight hours flown in 2023 (and on track to meet similar numbers for 2024), leading the safety department at UND Aerospace is no easy feat. This past June, Sanford Fogg assumed the role of Director of Safety for UND Flight Operations, jumping straight into UND Aerospace's busiest flying season—the summertime. Approaching the end of his first six months in the role, Student Aerospace Advisory Council members met with Sanford to reflect upon the current state of safety within Flight Operations and his vision to further secure safety.

Sanford previously attended UND as a student and helicopter flight instructor before beginning a position in Saudi Arabia as the Director of Safety at the National Aviation Academy. When discussing the transition to his current role, Sanford noted that he was excited to be able to apply an objective sight to UND operations, building off his experiences in Saudi Arabia and having a handful of new perspectives in his back pocket.

During his initial adjustment period, Sanford worked tirelessly to revitalize UND's SMS—a pillar of our Flight Operations. Specifically, Sanford noted the importance of five clearly defined safety objectives compared to the less specific objectives in the older SMS edition. He also highlighted the implementation of the "Knock It Off" campaign, stressing accountability for all those accessing the flightline and challenging everyone to question and terminate potentially dangerous behavior.

Most recently, Sanford's team has dedicated resources to construct an improved emergency response team to streamline communication between airport staff and various main campus offices. His team is also working to implement the Veoci App, which revolutionizes emergency response protocols that will jolt response capabilities to new heights. These implementations will result in a newly achieved level of safety and intervention at UND Aerospace.

Above all else, Sanford emphasized the "most important" pillar of the SMS culture, which includes open-door policies, increased safety awareness, and an environment where fear of reprisal is eliminated.

He also emphasized his **genuine availability and willingness to listen to student questions and concerns**, remaining **open and approachable 24/7**—even for what might seem like **the smallest safety issues**. He hopes that every member of UND Aerospace feels empowered to speak up when something doesn't seem right, helping to make the flight line safer for all.

Inspiration and Humor at the Fall 2024 Hawk Talk

"Filled with history lessons and jokes, students heard from Professors Kent Lovelace and Jim Higgins during the Hawk Talk on the evening of November 6, 2024"

by Ethan Mathews

The Talk began with Lovelace, the Director of Industry Relations for the Aviation Department, sharing his journey through aviation, starting at just 15 as a "fuel dispensing technician" in St. Cloud, where he also began working on his private pilot license. His goal was to become an airline pilot, like most of the students in the college currently, when he met John D. Odegard at the National Intercollegiate Flying Association's 1976 Safety and Flight Evaluation Conference, who encouraged him to come to UND to instruct.

Lovelace rose through the ranks at the airport, becoming a lead and stage check instructor, and graduated from the Aviation Administration program in 1980. He also started teaching a section of AVIT 102, and after graduating, became an assistant chief, and an assistant professor in 1984. From 1994-2014, he was the Aviation Department Chair, which he said was his only regret during his career; he wished he had handed the position off sooner.



Kent Lovelace, Director of Aviation Industry Relations



Jim Higgins, Professor

Hawk Talk cont.

Lovelace's Lesson

His first lesson to students was to be open to all possibilities, as careers and life can lead students in many different directions. Lovelace certainly never saw himself becoming a professor, but credits his successes to the faculty, staff, and students he has worked with over the years. In October of 2016, Lovelace saw his life change: a Parkinson's diagnosis. He shared that while everyone's journey through the disease is unique, only about 1 in 300 Americans have it. He took the diagnosis in stride, however, and encouraged students not only to "honor the threat[s]" they may face, but, like Henry V, realize that "it is as it is," meaning there is only so much one can control, and if something bad happens, either fix it, or deal with it and move on.

What about Higgins?

The Talk concluded with Higgins, a Professor in the Aviation department and co-founder of Thread, a massively successful tech startup based in Grand Forks. He began by sharing with students that to build something, like a startup, from nothing, it all begins with an idea, but if you want it to be successful, you will have to work harder than you ever have before. Higgins cautioned students about having an ego and shared a conveniently titled book, *Ego is the Enemy*, by Ryan Holiday.

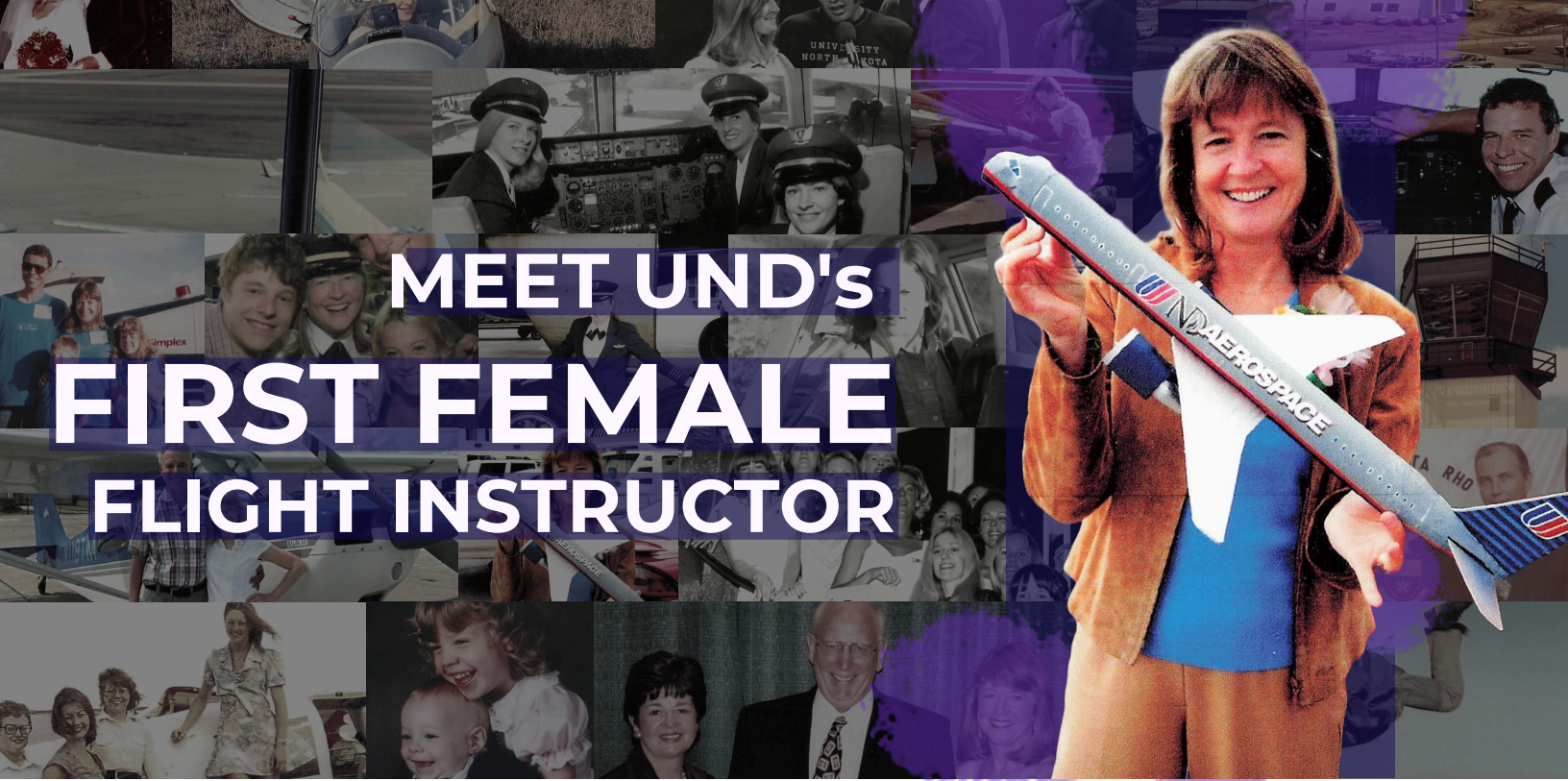


He shared another book, *The Four Agreements*, by Don Miguel Ruiz, which emphasizes important lessons like always doing your best and being "impeccable with your word." Higgins, in one of his final lessons, suggested that since everyone's goals are different, success looks different to everyone, and that students should be mindful of that as they venture into their careers.

"Burn the ships," you say?

Professors Lovelace and Higgins saw their roles come together when, in 2009, the National Defense Transportation Association asked for a pilot supply forecast. Their research discovered that between 2010 and 2025, a shortage of 85,000 pilots would exist, which was met with a thankful "nice pitch, boys!" But, around 2012, the NDTA asked the pair to regularly attend their meetings because they were beginning to see the shortages.

The Fall 2024 Hawk Talk was greatly enjoyed by students, where they heard Professors Kent Lovelace and Jim Higgins share insightful and valuable lessons, and a whole lot of humor. As Professor Lovelace reminded students, never attack a prepared position unless you have a 3:1 advantage in troops, the first three rules of flying are airspeed, airspeed, airspeed, and as Professor Higgins detailed, sometimes it is necessary to burn the ships and take the island!



MEET UND's FIRST FEMALE FLIGHT INSTRUCTOR

by Evelyn Jordan

"Jean Haley Harper has shown us that we can achieve anything we set our minds to"

Jean Haley Harper's journey to becoming a pioneering aviator began at the age of 16 in Tracy, California, when she learned to fly from her father, a crop duster. Her path to the University of North Dakota was anything but conventional, filled with its own set of challenges. After completing her first solo flight in 1968, Jean quickly earned her Private Pilot's License, Instrument Rating, Commercial Single Engine Certificate, Certified Flight Instructor Certificate, and Certified Flight Instructor Instrument Rating. However, it wasn't until 1971 that she began her freshman year at UND at 21 years old after the encouragement of her CFI check examiner. She graduated in 1975 with a Bachelor of Science in Aviation Administration.

During her time at UND, Jean made history as the first female flight instructor in the College of Aerospace Flight Operations, in part due to the support of John D. Odegard, who never doubted her abilities as a female aviator. Throughout her career, Jean had always dreamed of becoming an airline pilot—a dream that, for a young girl in the 1950s and 1960s, was often met with skepticism and resistance from both adults and peers. Yet, she found unwavering support in her father, Frank Haley, who never once discouraged her ambitions. Tragically, Frank passed away in 1976 in a crop dusting accident, but his belief in Jean never wavered.

Jean's determination to pursue her dreams was not without its challenges. In third grade, she received an "F" on a career goal paper for writing about her ambition to become an airline pilot. When she questioned her father about it, he assured her, "Of course! Look at Amelia Earhart!" Despite the doubts and obstacles placed in her path, Jean's faith in her purpose remained unshakable. When I spoke with her, I asked how she managed to keep going despite the negativity surrounding her. Jean shared that she always knew exactly what she was meant to do. Her family, especially her father, encouraged her to pursue her dreams, and her strong faith in God assured her that aviation was her divine calling. No matter how many times she faced adversity, Jean remained resolute.



Did you know that cloud seeding dates back to 1946?

Jean's perseverance paid off. Throughout her life, she became a trailblazer for women in aviation, even before she realized the full impact of her actions. Many of the men she worked with had never seen a woman pilot perform at her level, and Jean had to prove herself in a field dominated by men, often enduring sexism and doubt. But she never let it stop her. She continued to defy expectations, paving the way for future women aviators—women like me—who are now able to follow our dreams more easily, thanks to the struggles Jean faced.

In 1978, Jean became the third female pilot ever hired by United Airlines, where she would go on to enjoy a distinguished 35-year career. She was even the first pilot to ever take maternity leave at United Airlines! She is married to a fellow pilot, a retired United Airlines captain, and together they have two children. Jean's message to women today is simple: "Just go for it!" She encourages women to pursue their dreams, reminding them that it's possible to have a successful career in aviation while also balancing family life.

As I reflect on Jean's incredible legacy, I am deeply grateful for her trailblazing efforts and for the women like her who continue to inspire us. Jean Haley Harper has shown us all that we can achieve anything we set our minds to. Her story serves as a powerful reminder that with determination, faith in ourselves, and the support of those who believe in us, there are no limits to what we can accomplish.

WOMEN AT UND

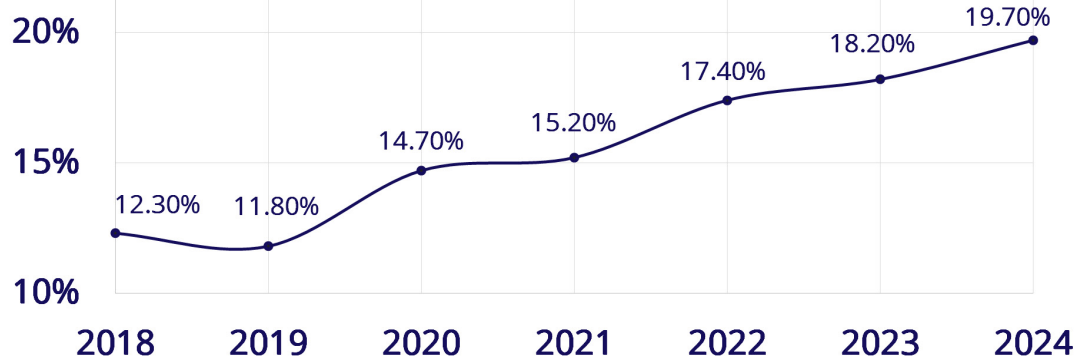
The progress of women in aviation has come a long way since Jean Haley Harper blazed a trail as UND's first female flight instructor in the 1970s. The graphs below highlight the steady growth of female representation at the UND in both the Commercial Aviation program and the overall student body. Current trends indicate a growing recognition of women's capabilities in a field that was once considered "off-limits."

By inspiring countless women to pursue an aviation career, Jean's success has certainly paved the runway for this progress. Yet, while the current percentage of female students reflects an upward trend, there is still opportunity to achieve true gender unity in this industry.

331

flight students in 2024 were female

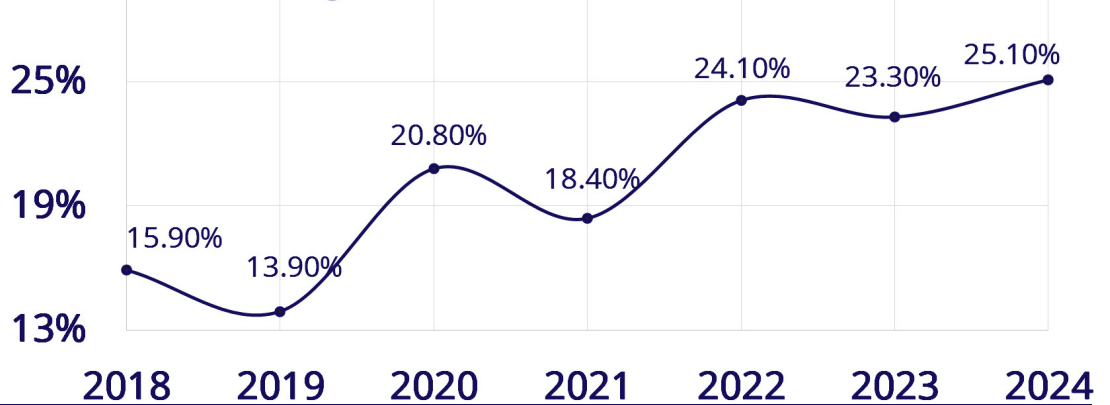
Overall Female Students in Commercial Aviation



49%

of all UND students are female

Incoming Female Student Matriculation





CFIs of the Month

Recognized nominees May—October



Meridath Jackson
May



Nolan Pinkse
June



Andrew Gargulak
July



Rachel Fogelberg
August



Collin Fritchen
September



Carrie Sharp
October

**Do you know an
outstanding CFI?**

Nominations are open on Blackboard! Submit your nominations today and help us celebrate those who make the difference!



MEMBER UPDATES

At the end of this academic semester, we say goodbye to members **Arjun Jagada, Julia Raker, Mateo Garcia, Yago Echevarria-Robinson, and Josh Salmi**, who will be completing their terms on the council. We thank you for your service to the Aerospace College.

In their place, we are pleased to welcome **Franka Boesh, Nawin Bravo, Greyson Orne, Lucas De Jager, and Ella Hedman**. Congratulations on your appointment.



Pictured left to right, Fall 2024:

Kallen Wachi, Treasurer

Evelyn Jordan, Director of Public Relations

Riley Zarm, Director of Student Outreach

Mateo Garcia, Director of Technology

Julia Raker, Vice President

Josh Salmi, President

Ethan Mathews, Secretary

Zachary Hagengruber, Director of Industry Relations

David Manzke, Director of Programming

Logan Harden, Council Member

Arjun Jagada, Council Member

Yago Echevarria-Robinson, Council
Member

JOIN US FOR A MEETING
Sundays @ 4:00PM | Robin 136



**Have a suggestion?
Let us know!**



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