

## \$1.45 million federal grant will help guide undergraduate students into math careers

By Gail Hinchion Mancini

For 16 years, mathematics professor Frank Connolly has been shepherding gifted undergraduates toward graduate schools and careers in mathematics research.

At first, he did it for fun and, he says, for the joy of making Notre Dame's mathematics majors "competitive with the best mathematics majors in the country."

Today, he's doing it to fulfill a \$1.45 million grant from the National Science Foundation (NSF), which has rewarded his ingenuity with the largest of four "Mentoring Through Critical Transition Points" grants awarded to various U.S. universities. The grants support NSF's goal of preserving and expanding the pool of research mathematicians, whose work is essential for breakthroughs in scientific as well as mathematics fields.

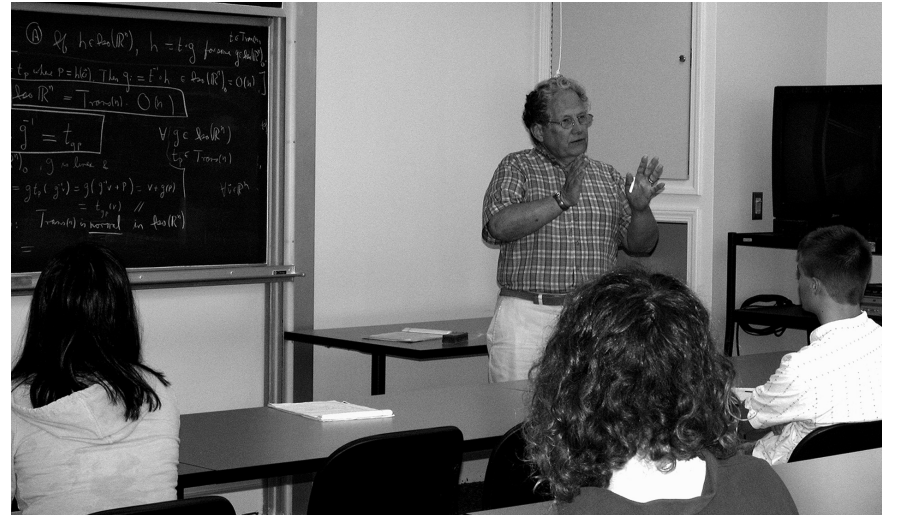
In Connolly's case, the foundation is investing not in an experiment, but in something that is known to work.

Connolly received word of the five-year grant in late June. The money allows him to expand many efforts he has been undertaking since 1990 in a program named Seminar for Undergraduate Mathematical Research (SUMR). The accelerated curriculum was designed to help students discover what Connolly calls "the beauty" of mathematics, and to develop the personal conviction that they can be successful in mathematics and in the best graduate programs in the country.

By fall, the influence of the grant will be felt with the distribution of scholarships to sophomores, juniors and seniors who commit to the Honors Mathematics Program, which prepares students for graduate studies and research careers in the mathematical sciences.

Word of the scholarships has spread, inspiring an increase in the number of students committing to the honors program, from six last year to 13 this coming fall, Connolly says.

Also during the coming academic year, funding will allow the program to pair undergraduates with graduate students in seminars that explore new mathematics topics. In fall 2007 Notre Dame will welcome its first SUMR postdoctoral faculty member. The candidate will fill a three-year position that



Mathematics professor Frank Connolly instructs a summer class of undergraduate students considering a future in research mathematics. **ND Works staff photo.**

supports his or her work and that specifically requires teaching experiences with honors mathematics majors.

The grant also will allow Connolly and the program's supporters to expand a summer undergraduate experience it has been hosting as part of NSF's Research Experience for Undergraduates (REU) program. Some nine undergraduates from Notre Dame and from other universities' mathematics programs are undertaking advanced mathematical studies on campus this summer as part of the REU program.

Since Connolly began the projects that would become SUMR, some 46 graduates have pursued doctorates or other advanced degrees. In 2000, Misha Gekhtman, associate mathematics professor, began assisting SUMR. Joining Gekhtman and Connolly on the grant's management team are mathematics professors Matt Gursky and Alex Hahn, as well as associate professor Claudia Polini. They are pursuing strategies including special efforts to recruit female and minority students, Connolly says.

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## Teamwork spills onto playing fields in summer softball intramural league

By Erin Flynn

It was the bottom of the seventh on a tense opening day for the staff of ACE (Alliance for Catholic Education.) With the bases loaded and the team down four, Rev. Lou Delfra, C.S.C., stepped to the plate. He drove the ball far into the outfield and swiftly rounded the bases. His home run set the stage for an 11-10 comeback win that the hungry ACE team would savor even more than the chicken wings they devoured at BW-3s afterwards.

Word of the win spread quickly.

"Is Father Grand Slam celebrating the Mass?" whispered a student later that night as she waited for the liturgy to begin. Delfra did, but only after congregants greeted him with applause outside the Fisher Hall chapel.

That's the effect of Notre Dame's summer softball league. With a presence that touches not only participants but the surrounding community, the league has become a touchstone of Notre Dame's campus culture during the brightest months of the year.

Starting in June, 16 teams participate in a seven-game regular season. The league's action climaxes in mid-July when teams qualify for a single elimination tournament. Casey Sponseller, the summer intern for RecSports, organizes the league under the direction of Peter Shoop, the assistant director for intramurals.

"The leagues are more competitive during the academic year," says Shoop. "They are usually bigger and driven by inter-hall rivalry. In the summer, faculty and staff are more able to find the time to relax and enjoy a ball game."

"As much as everyone wants to win, we're all out there to have a good time," says Marc Poklinkowski, captain of the Food Services team

One Fruit, One Pastry. "There are no umpires and we have to make our own calls. That has gone really smoothly for the four years we've been playing. That definitely shows that everyone is in the right frame of mind for the league, putting sportsmanship over competitiveness."

But bragging rights still matter.

"We play mainly for fun—and the glory of crushing the other chemistry team," says Kyle Haygarth, captain of Beer's Law, a team consisting of players from the Department of Chemistry.

Players, motivated by the chance to spend time enjoying late afternoon sun and friendly team competition, find that time spent on the field translates to more positive experiences in the workplace.

"Working as a team outside of work gives everyone involved a common bond," says Poklinkowski. "You may have a coworker that you may not have had a lot in common with. Now, all of a sudden, you can't wait to talk about yesterday's game."



Members of D'z Gunz, in gray shirts, face off against Beer's Law in one of the final games of the intramural softball season. Playoffs are ongoing on the field behind Stepan Center. **ND Works staff photo.**



# The 'last Holy Cross sister' leaves a valued legacy

By Michael O. Garvey

Professor Frank O'Malley, one of the most affectionately celebrated "bachelor dons" in Notre Dame's history, famously said of the University's older buildings that "there's blood in the bricks." He was speaking of the years of work, worry and loving witness that have made the place what it is. He was speaking, perhaps unwittingly, of himself. He could as easily have been speaking of Sister Mary Louise Gude, C.S.C.

"I'm the last Holy Cross sister at Notre Dame," says Sister Gude, who is addressed and referred to by all who know her simply as "M.L." She is retiring after a quarter of a century of multifaceted professional service to the University, in its residence halls, its classrooms, its administrative offices, and any of several places on and off campus to which her vocation has drawn her. "Retiring," in this instance, is merely a technical designation of professional status. People like Sister Gude are incapable of inactivity.

A member of the faculty of Notre Dame's romance languages and literatures department, Sister Gude has an enviable reputation as a scholar of 17th century French fiction and 20th century French intellectual history. Her publications include two books, "Le Page Disgracié: The Text as Confession" and "Louis Massignon: The Crucible of Compassion." In 1983, while chairing the modern languages department at Saint Mary's College, she moved across the road to Notre Dame to become assistant rector at Notre Dame's Breen-Phillips Hall. She successfully managed these two demanding careers until 1987, when she became rector of Farley Hall, serving in that post until 1993. She stayed on the Notre Dame campus teaching French, and becoming assistant vice president for

student affairs in 1998.

Although a remarkably modest, even self-deprecating woman, Sister Gude confesses some degree of pride in her work in the student affairs office as chair of the Standing Committee on Gay and Lesbian Student Needs (recently renamed the Core Council for Gay and Lesbian Students). "I think it's the work with our gay and lesbian students that I'm most satisfied with," she says. "And let me tell you, it's not the easiest work in the world. On the one hand, we're committed to affirm church teachings on sexuality, and on the other hand, our commitment obliges us to do all we can to respond to their needs and to make Notre Dame a welcoming place."

Two Notre Dame presidents, Rev. Edward A. Malloy, C.S.C., and Rev. John I. Jenkins, C.S.C., have praised the committee's efforts over the years, and student affairs vice president Rev. Mark Poorman, C.S.C., recently described it as indispensable to the University.

Sister Gude's pride is amply justified. She worked tirelessly in a ministry that all but guaranteed the fury of passionately held, deeply opposed and vehemently expressed convictions. She endured the recriminations of angry activists while establishing a secure and charitable institutional environment in which gay and lesbian students would be heard, respected, and, most importantly, loved. "Basically, my method was hanging in there. I just refused to go away," she says.

Even now, she won't be going too far away. She has moved from Farley Hall to Saint Mary's College, where she lives in a house with other religious women. Already, she says, she is enjoying the switch to a communal living with interesting women.

As the school year closed, she



Over 25 years, the recently retired Sister Mary Louise Gude, C.S.C., balanced a teaching position in romance languages with duties as a rector and a position in the Office of Student Affairs. **ND Works staff photo.**

was looking forward to "a translating gig," referring to her participation in an international conference of Holy Cross sisters in France.

"Later on, I'll probably find something to do around Saint Mary's and Notre Dame." No one who knows Sister Gude is surprised by those plans, but they are good news all the same.

# History center view of Rockne is moving, memorable

By Bill Gilroy

Elvis Presley, who had ample opportunity to reflect on the phenomena of fame, once said: "The image is one thing and the human being is another."

A new exhibit at South Bend's Northern Indiana Center for History offers fascinating glimpses into both the image and personal life of another American cultural icon: Famed Notre Dame football coach Knute Rockne.

Titled "Rockne: Crossing the Last Chalk Line," the exhibit features many artifacts that have never before been on public display. It opened May 27 and continues through Jan. 7, 2007, and commemorates the 75th anniversary of Rockne's death at the age of 43.

The first section of the exhibit features a moving depiction of events surrounding Rockne's death March 31, 1931, when a Los Angeles-bound Western Airlines plane carrying the Notre Dame coach and seven others crashed in a Kansas field. A stand of funeral home flowers, bold newspaper headlines proclaiming "Rockne is Dead," and condolence telegrams from around the world communicate an atmosphere of sudden, saddening and almost incomprehensible tragedy.

Also on display is a telegram Rockne sent to his wife at 9:52 that morning which reads: "Mrs. Bonnie Rockne= Leaving right now. Will be at the Biltmore. Love and kisses= Knute." Close by is a second telegram Mrs.

Rockne received a few hours later from Western Airlines: "We regret it becomes our painful duty to notify you of the death of Mr. Knute Rockne who was a passenger on our westbound plane..."

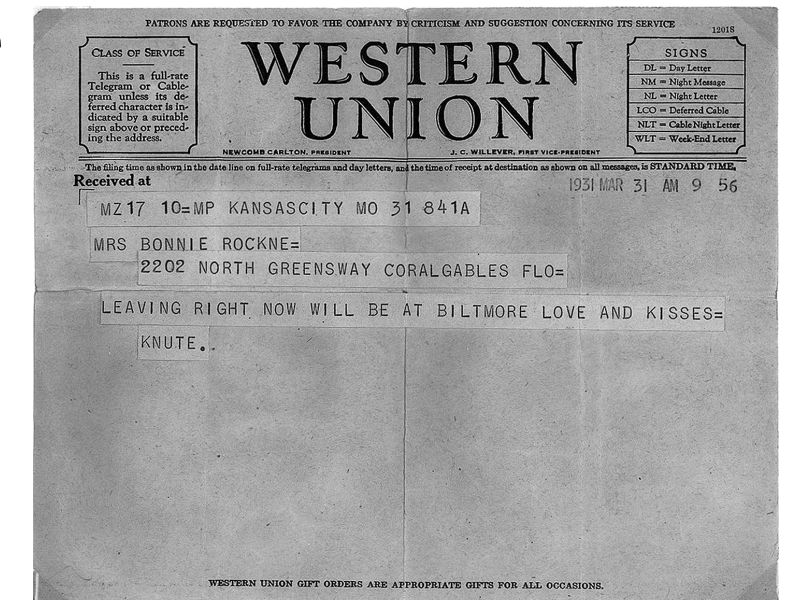
Other items on display in this section include pieces of the plane and the watch Rockne wore that day, its shattered crystal reading 11:15 a.m., the exact time of the plane's impact.

Another section of the exhibit offers insights into Rockne's childhood and his days as a Notre Dame student and, later, assistant football coach.

Much of the 3,500-square-foot gallery focuses on Rockne's extraordinary career as Notre Dame's head football coach from 1918-30, when he led five undefeated teams, produced 20 first-team All-Americans, won five national championships and achieved a record of 105 wins, 12 losses and five ties: an .881 winning percentage that remains unsurpassed by any college or professional football coach.

Among the many notable items in this section are the original New York Herald Tribune article in which Grantland Rice dubbed Notre Dame's backfield of Crowley, Layden, Miller and Stuhldreher the "Four Horsemen"; an original 1924 national championship banner; a clipboard, sweatshirt and whistle used by the coach; and what is believed to be the sole surviving mini-replica of the 1925 Rose Bowl Trophy given only to the players on that team.

Another section of the exhibit is testament to Rockne's entrepreneurial genius. More than a half century



At the Northern Indiana Center for History, this telegram from Knute Rockne to his wife describes plans he would not keep. **Photo provided by Northern Indiana Center for History.**

before the endorsement deals and television shows that are routine for today's college football coaches, Rockne created the model for the modern coach. Visitors can hear a stirring speech the coach delivered to Studebaker auto salesmen in his role as a sales motivator; view samples of sporting goods he developed and endorsed for Wilson Sporting Goods; learn about the football coaching clinics he pioneered at Indiana's Culver Academy and other locations; and examine a pristine 1933 Studebaker "Rockne" automobile.

A.E. Houseman, in his poem "To the Athlete Dying Young," suggested that it is better to die in one's prime, at the height of one's glory. The final section of the Rockne exhibit is testament to that sentiment. From near-hagiographic biographies aimed at young people to a comprehensive treatment of the filming and South Bend premiere of the 1940 Hollywood film "Knute Rockne All American," the section reflects Rockne's emergence as a cultural icon.

The exhibit title is drawn from an entry in an essay contest launched by a Hollywood production company in 1931, a few months after Rockne's death, to promote its film, "The Spirit of Notre Dame." In his entry titled "What the Spirit of Notre Dame and Knute Rockne Mean to Me," 15-year-old Bernard J. Miller cited a pep talk Rockne once delivered to his team in which he said, "...Today is our day; let's not quit until the last chalk line is crossed..."

The Northern Indiana Center for History's exhibit flawlessly passes the last chalk line, familiarizing visitors with both the legendary Knute Rockne and the man behind the legend. Hours for the exhibit are noon to 5 p.m. Sunday and 10 a.m. to 5 p.m. Monday through Saturday. Admission ranges from \$6.50 to \$8.

For more information, contact the center at 574-235-9664, or visit its Web site: [www.centerforhistory.org](http://www.centerforhistory.org).

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**Summer softball**

Many teams can't wait until the next morning to rehash the all-star plays and occasional foibles. Like the ACE staff, which gathers for dinner after most competitions, teams create a variety of post-game rituals.

"Right after each game we go out for dinner and drinks," says Trevor Cickovski, a computer science grad student and the captain of Softball Follies. "This year we have a Mexico theme with our uniforms, so we're trying to hit every Mexican restaurant in town!"

Other teams require a more intimidating form of motivation. "As the captain, I'm the Ozzie Guillen of the ND Summer Softball League," says Amy Geist, captain of Administration Invasion and assistant director of Student Activities. "If they don't do what I want them to do, I will take them out of the game and send them back to AAA."


Not that Administration Invasion, whose team members work in a variety of offices on God Quad, is completely cutthroat.

"There's a team mom assigned to each game, who is responsible for providing orange slices and Sunny D," says Geist.

Summer softball seems to attract the good-humored Domer. Whether inspired by the cheering of colleagues or renewed by spending time outdoors, participants truly relish their time on the field.

"Contrary to popular belief, summer softball isn't about the endorsement contracts or high salaries," says Matt Kloser, an ACE staffer. "It's really all about the fans."

One hopes the players remain this cheerful in post-season tournament play, which is in progress at Riehle Field, just east of Stepan Center.



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## When she quit smoking a healthy lifestyle fell into place

By Carol C. Bradley

Cyndi Sykes, administrative assistant to Deputy Athletic Director Missy Conboy, never thought she'd stop smoking. When her youngest son Michael was born in 1997, Sykes and her husband had agreed not to smoke in the house, but she never thought she'd quit.

Then she got a gentle, indirect nudge from Jessica Brookshire, who at the time oversaw wellness initiatives for human resources.

"Jessica told me she had to do a smoking cessation program at the Huddle, and asked me to walk over with her," Sykes recalls. "I told her I was going to smoke on the way over."

By the third class, Sykes says, she asked her husband if he'd like to quit smoking. "He said he'd love to quit. So we set a date. It was his birthday, August 18, 1998."

And they quit.

"I can't think of anything I've ever done in my life that was harder," she says. "Nothing. But I can't think of anything that's benefited me more."

The health benefits were immediate. "I started running," Sykes says. "I always said running was ridiculous, that I would only do it if someone were chasing me with a knife. But the better I felt, the more I thought I'd like to try it."

So far she's run two 5-K races. "I want to do one every month until the weather gets bad," she says. She came in 32nd (out of 50) in her age bracket in the Sunburst run in June, with a time of 36 minutes. "I wasn't last, so I was happy with that." She would have been happy if she had come in last, she added, as long as she finished the race.

In addition to the smoking cessation classes, Sykes decided to take advantage of the weight-loss program offered by human resources. "I lost the equivalent of a first-grader," Sykes says. "Forty pounds. I've kept it off for five years."

She also participates in aerobics classes at RecSports on her lunch hour. With so many exercise and wellness opportunities available through the University, Sykes says, "Please use it. It can only do good things, and have a positive effect on your life. We're so lucky to work for

For Your Health explores the programs that promote health and well-being and the people whose lives have been enriched by them.

an organization that is so concerned for our health and well-being."

Sykes now dislikes the smell of cigarettes. When she was a smoker, and her office was in RecSports, she regularly hung her coat in a communal closet. She could never figure out why no one else hung their coats there.

"It smelled," she says. "I apologized to them later, after I quit." She apologized to her children, too, she says, for all those years she smoked. Of her youngest son, now eight years old, she says, "We want to be around to see him graduate from college, to meet his children."

Every year, she sends Jessica Brookshire a little something, she says, "to thank her for the impact she had on my life."

**Smoking cessation programs are available to employees individually, at any time. For information, contact askHR at 631-5900.**



For Cyndi Sykes, giving up cigarettes opened doors to a healthier lifestyle. Photo by Carol C. Bradley.

## DISTINCTIONS

**Jill Bodensteiner** has received a full University-sponsored scholarship to enroll in the Executive Master's in Business Administration (EMBA) program. An attorney with the General Counsel's staff, Bodensteiner will remain with the department while in the two-year MBA program. University officers, in conjunction with the Office of Human Resources, award one EMBA scholarship every two years. Candidates are nominated by the officers.

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**Hope Kaser**, operations manager of Food Services-Concessions, is the recipient of the Ron Athey Achievement Award from the National Association of Collegiate Concessionaires (NACC). The award recognizes outstanding service to the collegiate concession industry. An active participant in NACC activities, Kaser received the award at the association's national conference in San Diego in June. Ron Athey

is a former Notre Dame assistant food services director and one of the founders of NACC.

\*\*\*

The University congratulates the following employees, who celebrated significant employment anniversaries in early summer:

### 40 years

**Judith Smith**, Indiana University School of Medicine-South Bend

### 25 Years

**JoAnn Beissel**, security

**Linda Gregory**, University Libraries

**Rick Kane**, Morris Inn

**Richard Nimtze**, information technologies

**Melanie Willamowski**, Hammes bookstore

### 20 Years

**Jaime Cripe**, Alumni Association

**Elizabeth Tucker**, political science

### 15 Years

**Dennis Brown**, news and information

**Denise Massa**, University Libraries

**Dennis McCarthy**, Land O' Lakes

**Janet Miller**, Alumni Association

**Lisa Wenzel**, catering

### 10 Years

**Richard Clifford**, general services

**Jeffrey Korros**, security

**Peter LaFleur**, athletics

## WHAT THEY WERE DOING



During a community safety fair in the Joyce Center parking lot Saturday, July 8, Kim Robinson demonstrated a "chariot" used by Notre Dame Safety/Police. Robinson says the vehicle, which gives the rider height, has proven particularly useful on football Saturdays. In one instance, it allowed her to search crowds to find a missing child. ND Works staff photo.

## Research funding totals reflect changes in government focus

By Gail Hinchion Mancini

Changes in state and federal funding priorities leveled the growth of University research dollars in 2005-6, although the number of grant applications and awards continued to grow.

University researchers secured \$71.1 million in grants this year, compared to \$80.8 million last year, according to Mike Edwards, assistant vice president and director of the Office of Research.

Among trends influencing the past year's award totals:

- Funding from corporate contracts increased markedly, to \$5.2 million in 2005-6 from \$2.6 million in 2004-5. Corporate partnerships and technology transfer arrangements are expected to provide solid funding growth in the coming years, Edwards says.

- The University is adjusting to shifting federal priorities and a general tightening of federal dollars. For example, whereas funding from the National Institutes for Health had been a strong source of research dollars, the federal government now is shifting budget emphasis to such agencies as the National Science Foundation, the Department of Energy—Science and the National Institute of Standards and Technology.

- A shifting administrative emphasis at the state level also has had an impact. Notre Dame had been the state's most successful recipient of funds from Indiana's 21st Century Fund, a program pioneered by former governor and Notre

Dame graduate Joe Kernan that encouraged university-corporate partnerships to develop new technologies. Gov. Mitch Daniels' revised program favors funding corporate initiatives.

The increased in corporate contracts, from 50 in 2004-5 to 62 in 2005-6, is an indicator of the potential for new growth, Edwards says. So is an increase in the number of proposals submitted by faculty in the past year—851—compared to the 789 submitted the year prior.

Slightly more proposals received funding in 2005-6 than in 2004-5. However, the Office of Research staff observed that federal agencies are significantly reducing budgets for both new and existing awards, often to much less than originally proposed, Edwards says.

This past year, the Office of Research has been able to improve its support to faculty by adding specialists dedicated to corporate contracts and technology transfer. The department also placed research specialists among science and engineering faculty, allowing a closer working relationship in the application and grants management processes.

Gains in technology transfer have resulted. The office has supported the transfer of 19 technologies, including 10 that are now commercially licensed.

In the coming year, the Office of Research will partner with a myriad of other University departments to introduce a new electronic grants management system that will interface with external agencies and place much of the funding opportunities, application and grants management processes on researchers' desktops. The offices of information technology, development, the controller's office and research and sponsored programs are working to get the new system in place.

The system will be the most significant research administrative grants management upgrade since the 1980s and its proposed capacity reflects continued optimism about potential growth in research dollars, Edwards says.



# BACK STORY



Top: Coming out of a wing-over maneuver at the Al Ain Aerobatic Show in the United Arab Emirates last January. **Photo provided.**



Right: In her spare time, Jenny Forsythe, research technician in the Environmental Molecular Science Institute, performs in air shows as part of the nation's only father/daughter wing-walking team. **Photo by Carol C. Bradley.**



Left: Practicing over Hiram, Ohio where the team is based. **Photo provided.**



Forsythe performs an arabesque over the Saudi Arabian desert. **Photo provided.**

## Love at first flight

By Carol C. Bradley

Jenny Forsythe is a research technician in Notre Dame's Environmental Molecular Science Institute, which investigates ways to remediate heavy metal contamination in the environment. But in her spare time, like a comic book heroine, she dons a red and blue costume and flies through the air as half of a father-daughter airplane wing-walking team.

From the time she was a little girl, Forsythe says, she loved flying. She was adopted as an infant, and in 1997 she met her biological father Bob Essell, who turned out to be the pilot half of a wing-walking team based in Hiram, Ohio. She soon discovered that flying (and performing daredevil stunts) had been part of the family for generations. Her grandfather, she says, learned to fly on the G.I. Bill; her great-grandfather used to parachute out of hot air balloons for audiences.

She started going to air shows with her father and his business partner Jon Falkner, the other half of Essell's wing-walking team. "I just fell in love with the air show business," she says. When Falkner decided to retire after 14 years, Forsythe says, "I told Dad I wanted to be his next wing walker. He said no way. It took me six weeks to talk him into it."

She spent a month on the ground training. The first time out, she says, "He put the headset on me, so if I had any problems he could land. He said, 'How're you doing?' and I said, 'Keep going, this is awesome!' It was definitely love at first flight."

She's been performing since 2003. "It's still a thrill every time," Forsythe says. Although it's not always obvious from the ground, she does use a safety tether and harness. The act is unique among air shows. It's the only father-daughter wing-walking team, the only team that performs at night with lights and pyrotechnic displays, and theirs is the only team that flies a two-seat ultralight trainer. "It's not aerobatic," she says, "but he does a variety of maneuvers, including wingovers—it looks like you're going upside down, but it's really an optical illusion."

The team has performed at air shows around the U.S., as well as in Australia and the United Arab Emirates. Last year, she was recruited for another team that needed a second wing walker for a two-person act with a biplane.

Besides performing with her father at several venues over the summer, she'll perform with the biplane team at the Cleveland National Air Show—exciting, because it's her hometown air show, she says. When she was growing up in Garfield Heights, Ohio, she could look out her back window and see the Blue Angels streaking across the sky, rehearsing for the show. "To be a performer now is a real thrill," she says.

The comparison to comic book heroes perhaps isn't so farfetched. When she was a child, Forsythe says, "I was really shy. When I look at what I'm doing now, traveling the world...even ordinary people like me can do extraordinary things."

And if we marvel that she walks on the wings of airplanes in her spare time, Forsythe says, the people she meets at air shows are equally amazed to hear that she's a research scientist at Notre Dame.



Lower left: The team's salute to the people of the UAE. **Photo provided.**

Lower right: A night performance with lights and pyrotechnics in Muncie, Ind. **Photo provided.**

