

1-800-SRI-Twin (774-8946)

<http://www.sri.com/twin>

Our Name and Logo

We are now the Twin Research Registry at SRI International, a name that reflects our goals to be progressive, inclusive, and innovative in our research efforts.

SRI International's Twin Research Registry is an active registry of twins of all ages and backgrounds, fraternal and identical, who are interested in learning more about twins and to participate in research studies to help advance science.

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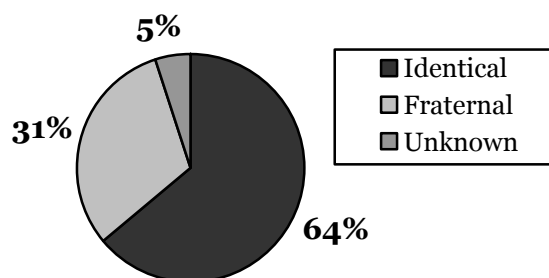
Send Us Your Twin Story Ideas!

How to Contact Us

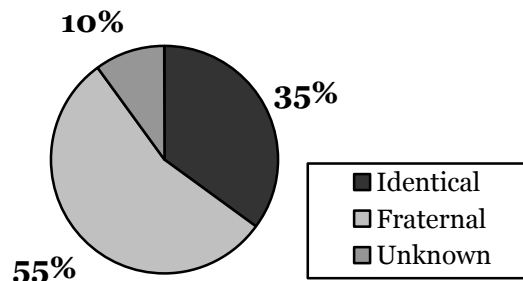
Membership Updates

2,838 Active members

85% of Members are adults



15% of Members are under age 18



More of the Registry's young twins are fraternal!

Café Scientifique at SRI

Dr. Gary E. Swan, Director of the Center for Health Sciences at SRI International and the principal investigator of many research studies on twins, gave a talk at SRI's Menlo Park headquarters about the role that twin research plays in health sciences and the many discoveries that twin studies have produced here at SRI and elsewhere around the world. His overview of the rates of twinning across time

and countries was well received by a large audience. Dr. Swan emphasized the important contributions of twins to our understanding of health and illness. He also discussed the use of current technologies that increase knowledge about the impact of the environment on differences between twins. Watch this video: <http://www.youtube.com/user/innovationSRI>

Cafe Scientifique takes place on the second Tuesday of most months in SRI's International Building at 333 Ravenswood Avenue, Menlo Park. The meetings are open to the public and free of charge. For more information on Café Scientifique Silicon Valley activities, directions, and to sign up for reminders of upcoming events, go to www.cafescisv.org

Recent Publications and Presentations from SRI Twin Research

Lessov-Schlaggar CN, Benowitz NL, Jacob III P, Swan GE. **Genetic influences on individual differences in nicotine glucuronidation.** *Twin Research and Human Genetics*, 2009 Oct; 12(5):507-13. This paper is the first to examine genetic and environmental influences on a secondary pathway involved in nicotine metabolism. We found evidence for genetic and environmental influences on glucuronide metabolites excreted in urine. These results contribute to the ongoing work to map the complete pharmacogenetics of nicotine metabolism.

Swan GE, Lessov-Schlaggar CN. **Tobacco addiction and pharmacogenetics of nicotine metabolism.** *Journal of Neurogenetics*, 2009, 23, 262-271. This paper presents an overview of efforts to identify the genetic factors involved in nicotine metabolism. There appear to be several gene families involved, several of which remain to be fully characterized. This information will be critical to developing more comprehensive and effective treatments for nicotine dependence.

Swan GE. **Pharmacokinetics of nicotine metabolism in twins.** Invited presentation to the NIDA Genetics Consortium, Bethesda, MD, March 16, 2009. This presentation summarized results of the Pharmacogenetics of Nicotine Addiction and Treatment project, a consortium of

investigators from across the U.S. SRI's nicotine metabolic and treatment studies are part of this consortium. Novel genetic variants have been identified.

Swan GE. **Nicotine dependence and genetics in individuals, families, and twins.** Invited presentation to UCSF Cancer Center, November 24, 2009. This talk summarized historical and new findings from the field of genetics and nicotine dependence to which SRI has contributed. Emphasis was placed on the recent studies reporting an association with nicotinic receptors found on chromosome 15.

Fraternal and Identical Twins are Important to Research

A goal of twin research is to determine the percentage of individual differences in a trait that can be attributed to genetic and the percentage that can be attributed to environmental influences. In twin studies, a mix of fraternal and identical twins is essential. All twin pairs are matched on age and often have similar environments, at least early in life. However, fraternal twins have about half of their DNA in common (like regular siblings) and identical twins have all of their DNA in common.

When you look at the difference between two twins in a trait (for example, blood pressure levels) and then compare the average difference between fraternal twins with the average difference between identical twins, you can see how much of that difference may be explained by genetics. If the difference between identical twins appears to be significantly smaller than the difference between fraternal twins, this points towards a greater genetic influence on that trait.

Current/Upcoming Twin Studies

Pain Sensitivity Study

The Twin Research Registry at SRI International is continuing to recruit participants for this important study that is investigating variations in reactions to pain medications. Although codeine and morphine are the primary medications prescribed for pain relief, effectiveness and dosage required vary from patient to patient. In

addition, side effects such as nausea or feeling tired can occur for some people, but not at all for others.

For this National Institutes of Health funded study, SRI has partnered with Stanford University's Department of Anesthesiology. Study volunteers will have their reactions to mild heat and ice cold temperature measured before and during an infusion of pain medication.

Researchers will compare individual reactions and variations in levels of sedation, mental sharpness, and nausea between identical and fraternal twins. Results will provide an explanation about which responses may be genetic. Throughout the study, heart rate, blood pressure, carbon dioxide, and oxygen levels are monitored to determine the impact of genetics and environmental factors on the effects of medication on the pain response.

For participating in the study each twin will receive \$200 plus compensation for local travel expenses and results from a zygosity test (which verifies fraternal or identical twin status). All days of the week are available for testing.

Recruiting for the study ends in May 2010; please call our recruiter Jill Rubin at **1-800-605-3645** today! To date, more than 150 twins have participated. **Thank you!** Preliminary results show that family similarities exist for most pain responses and genetics may explain between-twins differences in pain relief, side effects, and positive emotional responses to pain medications.

Study of Seasonal Flu Vaccines

The National Institute of Allergy and Infectious Diseases recently awarded Stanford University a 5-year grant to study how current seasonal flu vaccines interact with the human immune system. Researchers want to learn how the immune systems of individuals in different age groups respond to specific flu strains. The results could help in developing more effective vaccines and lead to a better understanding of immunological correlates of health.

At the first visit at the Stanford University Medical Center, twins will have a small amount of blood drawn and will then be given a flu shot. At the second and third visits, twins will simply have their blood drawn. The blood samples will be

analyzed for various indicators of immunologic activity.

We will resume recruiting for this study in summer 2010 and appointments will occur between September and January 2011. The study is open to twins in these age groups: children 8-17 and adults 18-30, 40-49, and 70-100. Twins will be compensated, and zygosity (fraternal or identical status) will be determined and shared with the twins. If you would like to take part in this study, you can contact Jill Rubin at any time at **1-800-605-3645** and you will be added to the list of twins to be contacted this summer.

Asthma Study

In collaboration with Stanford University physicians, we invite you to complete the enclosed questionnaire to help identify twins who are at risk for asthma. When the results are analyzed, twins may be asked to give a blood sample for the purpose of identifying genetic and environmental causes of this respiratory condition. To be eligible for participation in future studies of asthma, please return the completed questionnaire in the enclosed postage-paid envelope.

Do You Have Type I Diabetes?

A study in collaboration with Stanford University seeks to identify twins who both have type I diabetes. This type of diabetes occurs when immune cells have destroyed the insulin-producing cells in the pancreas, and can develop at any age.

Stanford researchers will be examining the frequency and function of specific immune cells that may be involved in the development of the disease. The results in twins will help determine how much impact genetics vs. the environment has in diabetes.

If you have type I diabetes and would like to participate in this study, please email us at twin@sri.com You will be asked to donate a blood sample and may be followed over time to provide additional blood samples for comparison. If only one twin of the pair has Type I diabetes, it's possible that both twins could participate in the study, depending on other enrollment criteria.

Twins in the News

For the following two stories and more go to:
http://www.oddee.com/item_96625.aspx

A pair of twins in Georgia, both delivered twin boys on the same day. Their mothers were six months pregnant when they discovered both were carrying twin boys and due on the same day!

Twins separated at birth: the girls were adopted by different sets of parents and neither knew they were twins until they discovered each other in New York. An acquaintance, confused about their identity, caused the twins to contact each other through the Internet, and now they are close friends.

Twin reunites with sister from Haiti: in South Florida, where many families spent anguishing hours and days worrying about loved ones in Haiti, at least two twin sisters were united. Read about Gina's and Ginette's happy ending:
<http://www.wsvn.com/news/articles/local/MI141307/>

"Twin Tuesday!" on Twitter:
<http://twinhappyjen.blogspot.com/2010/01/what-is-twintuesday.html>

Feedback

Do you have a twin story?

If you have an interesting, fun story about being a twin, e-mail it to twin@sri.com and you may be featured in our next newsletter! Please include permission for us to share your story.

We're Going Green

Would you prefer to receive our newsletter via email? Email us at twin@sri.com All information is kept confidential and not shared with anyone else.

You can see all of our newsletters on our website at
<http://www.sri.com/twin>

How to Contact Us

- ❖ **You can visit our website at <http://www.sri.com/twin/>** for more information. Adult twins interested in registering can do so on this website.
- ❖ **Check out the SRI Twin Research Registry page on Facebook.** 
- ❖ **Follow us on Twitter at @twinSRI** 
- ❖ **You can email us at twin@sri.com** to ask questions, update us with a new address or telephone number, or just to check in with us.
- ❖ You can call **1-800-SRI-TWIN (1-800-774-8946)**. We check for messages daily, and will return your call as soon as possible.
- ❖ For information about study opportunities, call Jill Rubin at **1-800-605-3645**

