



## Membership Information



### Structural Stability Research Council

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**Member-at-Large**  
**Donor Societies**  
**Student Member**  
**Task Groups**

## What is the Structural Stability Research Council?

The Structural Stability Research Council (formerly known as Column Research Council) was founded in 1944 to review and resolve the conflicting opinions and practices that existed at the time with respect to solutions to stability problems, and to facilitate and promote economical and safe design.

The Council offers guidance to specification writers and practicing engineers by developing both simplified and refined calculation procedures for the solution of stability problems, and assessing the limitations of these procedures.

The membership of the Council is made up of representatives from organizations (both governmental and private) concerned with specifications and design procedures for metal structures, representatives of consulting firms engaged in engineering practice, members-at-large selected from universities and design offices, and international contact members from various countries who are in touch with stability research in their region.

The Council provides support and technical counsel for stability research, holds regular meetings to report on research activities, and publishes the definitive work "Guide to Stability Design Criteria for Metal Structures."

An Annual Stability Conference not only provides up-to-date information on specific topics, but it also indicates where deficiencies exist in our present understanding of structural behavior. The Proceedings of the Annual Stability Conference represent a primary source of highlights of the latest solutions to structural problems before they are eventually published in technical journals.

### **What SSRC Accomplishes**

The Council is a non-profit corporation organized for the following educational and scientific purposes:

To maintain a forum where the structural stability aspects of metal and composite metal and concrete structures and their components can be presented for evaluation, and pertinent structural research problems proposed for investigation.

To review the world's literature on structural stability of metal and composite metal and concrete structures and study the properties of materials available for their construction, and to make the results widely available to the engineering profession.

To organize, administer and guide cooperative research projects in the field of structural stability, and to solicit financial support for such projects.

To promote publication and dissemination of research information in the field of structural stability.

To study the application of the results of research to stability design of metal and composite metal and concrete structures, and to develop comprehensive and consistent strength and performance criteria and encourage consideration thereof by specification writing bodies.

### **Who Does the Work?**

#### **Task Groups and Task Reporters**

The 16 Task Groups and 9 Task Reporters review world literature on structural stability problems, organize, administer and guide research projects, promote publication and dissemination of research information, study the application of research results, and develop new strength and performance criteria.

The articles and recommendations produced by the task groups have helped in the formulation of many design specifications including those of the American Association of State Highway and Transportation Officials, The American Institute of Steel Construction, the American Iron and Steel Institute, the British Standards Institution and the European Convention for Constructional Steelwork.

SSRC Task Groups include:

- TG 1: Centrally Loaded Columns
- TG 4: Frame Analysis
- TG 6: Test Methods
- TG 11: International Cooperation on Stability Studies
- TG 13: Thin-Walled Metal Construction
- TG 14: Horizontally Curved Girders
- TG 15: Beams
- TG 18: Tubular Members
- TG 20: Composite Members and Systems
- TG 24: Stability Under Seismic Loading
- TG 25: Connection Restraint Characteristics
- TG 26: Stability of Angle Members
- TG 27: Plate and Box Girders
- TG 28: Computer Applications
- TG 30: Bracing Members

# Donor Societies and Membership Levels

SSRC Membership levels consist of Member-at-Large and Student, for the individual, and Donor Societies for both organizations and individuals. Organizations which are society members may appoint up to five representatives who are voting members.

Members of each Society will receive benefits and thank-you gifts as outlined below. As always all gifts are tax deductible and payment may be made by check, MasterCard, Visa, Discover or American Express. To become a Donor Society Member please contact SSRC Headquarters.

## Euler Society \$2400 and above

Leonard Euler was born in Basel, Switzerland, and he lived from 1707 to 1783. He studied mathematics with Jean Bernoulli and was a good friend of the brothers Daniel and Nicholas Bernoulli. He also studied theology, oriental languages and medicine. At age 20 he went to the court of Catherine the Great in St. Petersburg, where he became a professor of Physics in 1730 and then of Mathematics in 1733. From 1741 to 1766 he was at the court of Frederick the Great in Berlin. From there he returned to Russia. He contributed many memoirs to the Russian and Prussian academies of science.

Euler's greatest work was done in pure Mathematics and he is one of the founders of modern science. He made significant contributions to differential and integral calculus, and he is considered the father of the calculus of variations. As part of this work he studied the buckling of columns, and gave us the famous elastic buckling formula that is the basis of the design of columns in his paper "De Curvis Elasticis". He also studied lunar motions and Optics and contributed many original papers on these subjects.  
(Source: Encyclopedia Britannica)

Upon Entry into the Euler Society, organizations, companies and firms will receive one copy of the current "Guide" and copies of all proceedings still in print. Each year organizations, companies and firms will be sent a copy of the current proceedings of the SSRC Annual Stability Conference and discounts on other SSRC publications.

## Johnston Society \$900 to \$2399

Bruce Johnston was one of the original members of the Structural Stability Research Council, then named Column Research Council, and from its founding in 1944 to his death, Bruce contributed mightily and continuously to all aspects of it. He was part of the group that formulated the important questions to be researched by the Council in the 1940's and 1950's. He made many important theoretical and experimental additions to the science and art of structural design against instability. The CRC Column equation, the CRC Interaction Equation, the ultimate strength theory of non-linear imperfect aluminum columns and many other innovations are attributable to him. He and his students performed many of the basic experiments on residual stresses, column and beam-column strengths and torsion strengths.

Johnston's greatest gifts to our profession were the first three editions of the CRC/SSRC Guide to Stability Design Criteria for Metal Structures (1960, 1966 and 1976). As editor of these volumes he assembled the most comprehensive up-to-date knowledge on all aspects of structural stability of metal structures. These volumes served as beacons for specification writing bodies and for structural engineers searching for answers to difficult design problems. During his careers at Lehigh University, University of Michigan and University of Arizona he guided the development of many of today's leaders in structural engineering.

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## Shanley Society \$600 to \$899

It is difficult to establish much of the life history of F.R. Shanley from the data available in the technical literature. He was professor of Engineering at the University of California at Los Angeles, and he was associated with the Rand Corporation and with at least one of the West Coast airplane companies during WWII. The writer met him shortly before his death and was very impressed by his modesty and friendliness. Among his works is a very fine text on the Weight-Strength Analysis of Aircraft Structures (1952 and 1960). He did considerable work also on the creep buckling of columns and on plate girders with corrugated webs.

Shanley will be most remembered by his brilliant work on the strength of inelastic columns. Engesser and Considere had developed the tangent modulus and the reduced modulus theory of inelastic column buckling around the turn of the 19th to the 20th Century. Both of these theories were based on the assumption that at buckling there exists an adjacent buckled configuration that has the same load as the unbuckled configuration. Both of these theories had serious internal contradictions but it took about fifty years before Shanley showed that buckling indeed starts at the Tangent Modulus load, and that further deformation can occur only with an increase of load. He showed this on hand of a very careful experiment, and then he developed a simple but ingenious model to mathematically trace the load-deflection path. Shanley broke the intellectual logjam that hampered the understanding of column behavior.

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## Beedle Society \$300 to \$599

After graduation from the University of California at Berkeley, and a career in the US Navy during the Second World War, Lynn Beedle spent his entire professional life at Lehigh University in Bethlehem, PA. For many years he was director of the Fritz Engineering Laboratory which became world-famous during his tenure. For many of us the name Lehigh and Beedle are synonymous. Many of the experiments and theories of the strength and stability of steel structures that served as the basis for all modern steel design specifications in the world were performed and developed there under his leadership. His name is associated as a leader of three intellectual activities that dominated the structural steel engineering profession in the second half of the Twentieth Century: 1) plastic analysis

and design; 2) the ultimate strength of axially loaded columns; and 3) tall building planning and design. Lynn Beedle joined the SSRC soon after its founding and he was one of the members who formulated the questions and provided the answers to the pressing stability concerns of the 1950's and 1960's. He served as technical secretary in the early years, he was chairman of the Council, and for many years he was its Director. He spent more than half his life nurturing and guiding the Council, acting as its spokesman here and abroad. Through his vision the SSRC is one of the most esteemed American structural engineering organizations in the world today.

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## Winter Society \$120 to \$299

It is to George Winter that we are indebted for the Council's name — and its change from CRC to SSRC. It was during his tour as Chairman of the Council when it was clear that its mission was to be a forum for more than just columns. In unanimity of agreement, Structural Stability Research Council was thus born.

George Winter's earliest contribution to CRC was in connection with one of its very first "committees" — treating thin-walled cold-formed-members. He was the world authority in the field and his leadership benefited the Council greatly in those early years. He was a unique person. His grasp of the fundamentals of structural behavior was so complete that he always seemed to be the first one to come to the technical essence of a problem. Beyond that, his leadership in the "administrative" affairs of SSRC was notable.

He was the only person to serve on both the AISC and ACI code committees. Vienna born, Winter was affiliated with Cornell University for practically his entire life, his research lending it a prestige not duplicated in many other institutions. He was one of the great engineering teachers of our time. He was identified in 1999 by ENR as one of the 125 "Top People" in the construction industry.

This Society was established with the Member-at-Large specifically in mind. With an individual membership the yearly member-at-large dues would be included in the Society fee. Members will also receive discounts on SSRC publications

## Member-at-Large \$60

Individuals who have expressed interest in the work of the Council, and who have done or are doing work germane to its interest, may be appointed as Members-at-Large by the Executive Committee.

## Student Member \$20

Full-time graduate students who have expressed interest in the work of the Council.

Both Members-at-Large and Student Members will received discounts on SSRC Publications and be placed on the SSRC mailing list.

## SSRC Membership Application Form

(Member-at-Large applicants please also submit electronic copy of CV)

Name \_\_\_\_\_  
 Company/Organization \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Email \_\_\_\_\_  
 Fax \_\_\_\_\_

Please check the membership level in which you are interested:

- Member-at-Large (\$60)
- Winter Society (\$120 to \$299)
- Beedle Society (\$300 to \$599)
- Shanley Society (\$600 to \$899)
- Johnston Society (\$900 to \$2399)
- Euler Society (\$2400 and up)
- Student Member (\$20)



Please remit this application and CV to:  
 Structural Stability Research Council  
 Missouri University of Science and Technology  
 1401 N. Pine Street  
 301 Butler-Carlton Hall  
 Rolla, MO 65409-0030  
 Phone: 573-341-6610  
 Fax: 573-341-4476  
 Email: [ssrc@umr.edu](mailto:ssrc@umr.edu)  
 Web: <http://stabilitycouncil.org>

You will be notified regarding acceptance of membership.