# History of SSSRC The First 75 Years (1944 - 2019)



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# History of SSRC – The First 75 Years (1944-2019)

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### Introduction

The Structural Stability Research Council (SSRC) serves as a forum for the exchange of ideas and ongoing research efforts related to the stability of structural systems and components. Since its inception, SSRC has provided a venue for the presentation of fundamental research on the behavior of metal structural systems and components and played a major role in the development of design specifications throughout the world. The 2019 Annual Stability Conference marks the 75<sup>th</sup> anniversary of the Structural Stability Research Council (SSRC). The Council began in 1944 as the Column Research Council (CRC) and became the Structural Stability Research council in 1976. The history of SSRC was documented in 1981 by Professor Bruce Johnston and in 1994 by Professor Don Sherman. Although a portion of the early years is covered in this summary, the primary focus is on the history of SSRC since 1994. There have been substantial changes in SSRC over the past 25 years including multiple relocations of the headquarters, changes in the annual stability conference, as well as modifications in the structure of the organization.

### Brief Summary of CRC/SSRC from 1944-1994

A complete summary of the history over the first 50 years is provided by Johnston (1981) and Sherman (1994). Briefly highlighting key points during the first 50 years of the Council underscores the importance of the organization as well as the many individuals that conceptualized the group's roles and shepherded the organization into the technical resource that it became in the late 20<sup>th</sup> and early 21<sup>st</sup> century. An overview of the first 50 years also provides perspective on the many changes that have occurred over the past 25 years.

Although the official birth-year of the CRC was 1944, the ideas of the Council date back to 1939 when the Chief Engineer of the Fabricated Steel Construction Division with Bethlehem Steel Corporation, Jonathan Jones, submitted a memorandum related to axial stresses in highstrength columns to the Structural Division of the America Society of Civil Engineers (ASCE). At the time of the memo, the commonly used steel was ASTM A7 with a nominal yield point of 33 ksi; however Jones recognized that the structural steel industry would be moving to higher strength steels. In the early 1940's, the American Institute of Steel Construction (AISC), the American Standards Association (ASA), as well as various city building codes were independently considering various approaches towards the development of column-design formulations. Jones recognized the potential chaos that might ensue and therefore proposed that individuals interested in writing column-design formulas form a "...central group and carry on the research and analyze the results in a way that will be satisfactory to all." (Johnston, 1981)

While action related to the development of the Council was delayed in 1942 and 1943 due to World War II, in 1943 AISC embraced the idea and recommended that a "...Column Research Council be organized under the Engineering Foundation." An organizing committee was formed consisting of Shortridge Hardesty (Chair), C. Ellis, F. Frankland, S. Hollister, J. Jones, and B. Johnston, who was serving as the chair of the ASCE Committee on the Design of Structural Members. Early in 1944, ASCE agreed to be the sponsoring member under the Engineering

Foundation. The first meeting of the Column Research Council was held in New York City on September 25-26, 1945. The resulting organizational plan for the CRC was that an Executive Committee would be formed of nine elected members as well as ex-officio members consisting of the Council Chair and Vice-Chair. The Executive Committee would not focus on technical matters, but would instead handle administrative and planning issues. Individual members of the Council would be assigned to category groups that represented their primary field of interest. Twelve category groups were proposed consisting of 1) Railway Bridges, 2) Highway Bridges, 3) Tier Buildings, 4) Industrial Buildings and Hangars, 5) Machinery, 6) Derricks and Cranes, 7) Military Structures, 8) Fixed and Floating Marine Structures, 9) Towers, 10) Aircraft, 11) Ship Structures, and 12) Mobile Equipment. A Technical Board comprised of membership from each of the category groups reported to the Executive Committee. A Committee on Research and a Committee on Recommended Practice were included within the Technical Board. In the initial 1945 meeting, four research subcommittees were identified as follows: 1) Mechanical Properties of Materials, 2) Initial Eccentricities of Compression Members, 3) Local Buckling of Compression Elements, and 4) Columns in Structural Frames.

In the first few years of existence, the original scheme of the organization was recognized to be unwieldy and in 1951 the Technical Board and Research Committee were eliminated in place of "task-oriented" committees that reported directly to the Executive Committee. In 1960, these task-oriented committees began to be referred to as "task groups". While the organization of the Council in the first few decades consisted of a smaller number of Task Groups, in later years the scope of the Council expanded to include a much wider focus. Between 1960 and 1993, a total of 30 Task Groups were organized. Although some of the Task Groups were eliminated over the course of time, 17 of the Task Groups were still active late into the 20<sup>th</sup> century. A list of the Task Groups as well as the year of initiation and termination are given in Table 1. A major reorganization of the Task Groups occurred in 2010, which is discussed later in this summary in the section on History from 1994-2019. As noted in Table 1, many of the Task Groups were renamed periodically to reflect changes in the scope or direction of the specific task group. Some of the Task Groups were replaced by a "Task Reporter", which occurred when there was insufficient multi-researcher activity on a topic to warrant an entire Task Group. The Task Reporters were individuals that were carrying out work in the specific area that had been covered by the group. The Task Reporter provided a summary of the ongoing work to the Executive Committee. From 1963 until 1994 there were a total of 23 designated Task Reporters as discussed by Sherman (1994). As Task Groups were added to the Council, the scope broadened well beyond columns. To reflect the broadened scope of the Council, the organizational name was changed in 1976 from the Column Research Council to the Structural Stability Research Council.

Table 2 presents the principal officers of the Council over the first 50 years (Johnston-1981, Sherman – 1994). Shortridge Hardesty played an important role in organizing the CRC and was voted the first Chair, a position he would hold until 1955. In the early years, there were no term limits for the Chair or Vice Chair and it was common for individuals to hold the position for extended periods of time. In 1961, the Bylaws were amended to limit the appointments for the Chair and Vice Chair to three-year terms with a one-year extension permitted as necessary.

Task	Title	Year of	Year of
Group	Title	Initiation	Termination
1	Centrally Loaded Columns	1960	2010
2	Ultimate Strength of Laterally Loaded Columns	1960	1963
3	Ultimate Strength of Columns with Biaxial Eccentric Load (Changed to Columns with Biaxial Bending in 1975, Changed to	1960	1991
	Beam Columns in 1981, Replaced by Task Reporter 23 in 1991)		
4	Factors Affecting Strength of Columns in Actual Structures (Terminated in 1963, Reinstated in 1967 as Frame Stability and Effective Column Length in 1967, Changed to Frame Stability and Columns as Frame Members in 1980)	1960	2010
5	Higher Strength Steels (Changed to Classification of Steels for Structures in 1964)	1960	1969
6	Testing Techniques for Lateral Stability Testing (Changed to Classification of Steels for Strutures in 1964)	1960	2010
7	Tapered Members (Replaced by Task Reporter 21 in 1983)	1966	1983
8	Dynamic Instability of Compression Members (Changed to Dynamic Instability in 1968, Changed to Dynamic Stability of Compression Elements in 1975)	1967	
9	Curved Compression Members (Replaced by Task Reporter 15 in 1973)	1967	1973
10	Design of Laterally Unsupported Columns (Changed to Design of Laterally Unsupported Restrained Beam-Columns in 1968)	1967	1974
11	European Columns Studies (Changed to Internatinoal Cooperation on Stability Studies in 1975)	1967	2010
12	Mechanical Properties of Steel in the Inelastic Range	1967	1988
13	Thin-Walled Metal Construction	1967	2010
14	Horizontally Curved Girders	1968	2010
15	Laterally Unsupported Beams (Changed to Beams in 1989)	1969	2010
16	Plate Girders (Changed to Plate and Box Girders in 1971, Changed to Plate Girders in 1975, Merged with TG21 as TG 27 in 1985)	1969	1985
17	Stability of Shell-Like Structures (Changed to Doubly-Curved Shells and Shell-Like Structures in 1981)	1969	Early 2000's
18	Tubular Members (Changed to Unstiffened Tubular Members in 1975, Changed to Tubular Members in 1989)	1970	Early 2000's
19	Stiffned Plate Structures (Replaced by Task Reporter 16 in 1973)	1970	1973
20	Composite Members (Changed to Composite Members and Systems in 1981)	1971	2010
21	Box Girders (Merged with TG 16 as TG 27 in 1985)	1975	1985
22	Stiffened Tubuar Members (Combined with TG18 in 1989	1975	1989
23	Effect of End Restraint on Intially Crooked Columns	1978	1984
24	Stability Under Seismic Loading	1983	2010
25	Connection Restraint Characteristics	1984	Early 2000's
26	Stability of Angle Struts	1985	2010
27	Plate and Box Girders	1985	2010
28	Computer Applications	1986	Early 2000's
29	2nd Order Inelastic Analysis for Frame Design	1989	Early 2000's
30	Bracing Members	1993	2010

# Table 1: History of Task Groups (1960-1994)

Note: Major Reorganization in 2010 – Covered in Section on History 1994-2019

Year	Chairman	Vice Chairman	Director	Treasurer	Technical Secretary	Administrative Secretary
1945	S. Hardesty	H. Whittemore				
1946	S. Hardesty	H. Whittemore				
1947	S. Hardesty	H. Whittemore			L. Beedle	
1948	S. Hardesty	R. Archibald			L. Beedle	
1949	S. Hardesty	R. Archibald			L. Beedle	
1950	S. Hardesty	R. Archibald			L. Beedle	
1951	S. Hardesty	T. Higgins			L. Beedle	
1952	S. Hardesty	T. Higgins			L. Beedle	
1953	S. Hardesty	T. Higgins			L. Beedle	
1954	S. Hardesty	T. Higgins			R. Ketter	
1955	S. Hardesty	T. Higgins			R. Ketter	
1956	B. Johnston	T. Higgins			R. Ketter	
1957	B. Johnston	T. Higgins			G. Berg	
1958	B. Johnston	T. Higgins			G. Berg	
1959	B. Johnston	T. Higgins			R. Harris	
1960	B. Johnston	T. Higgins			R. Harris	
1961	B. Johnston	T. Higgins			R. Harris	
1962	E. Gaylord	L. Beedle			R. Wright	
1963	E. Gaylord	L. Beedle			R. Wright	
1964	E. Gaylord	L. Beedle			R. Wright	
1965	E. Gaylord	L. Beedle			R. Wright	
1966	L. Beedle	J. Durkee			B. Yen	
1967	L. Beedle	J. Durkee			B. Yen	
1968	L. Beedle	J. Durkee			R. Bjorhovde	
1969	L. Beedle	J. Durkee			R. Bjorhovde	
1970	T. Galambos	G. Winter	L. Beedle		R. Bjorhovde	
1971	T. Galambos	G. Winter	L. Beedle		F. Van der Woude	
1972	T. Galambos	G. Winter	L. Beedle		G. Schulz	
1973	T. Galambos	G. Winter	L. Beedle		B Freeman	
1974	G. Winter	J. Clark	L. Beedle		F. Cheong-Siat Moy	
1975	G. Winter	J. Clark	L. Beedle		F. Cheong-Siat Moy	
1976	G. Winter	J. Clark	L. Beedle		F. Cheong-Siat Moy	
1977	G. Winter	J. Clark	L. Beedle		T. Kanchanalai	
1978	J. Clark	J. Iffland	L. Beedle		R. Zandonini	L. Federinic
1979	J. Iffland	J. Durkee	L. Beedle		S. Kitipornchai	L. Federinic
1980	J. Iffland	J. Durkee	L. Beedle		M. Aydinoglu	L. Federinic
1981	J. Iffland	J. Durkee	L. Beedle		Z. Shen	L. Federinic
1982	J. Iffland	J. Springfield	L. Beedle	J. Durkee	G. Askar	L. Federinic
1983	J. Springfield	S. Errera	L. Beedle	J. Durkee	C. Hu	L. Federinic
1984	J. Springfield	S. Errera	L. Beedle	J. Durkee	C. Castigliioni	L. Federinic
1985	J. Springfield	S. Errera	L. Beedle	J. Durkee	G. Stewart	L. Federinic
1986	J. Springfield	S. Errera	L. Beedle	J. Durkee	G. Stewart	L. Federinic
1987	S. Errera	G. Fox	L. Beedle	J. Durkee	G. Stewart/Y. Gu	L. Federinic
1988	S. Errera	G. Fox	L. Beedle	J. Durkee	Y. Gu	L. Federinic
1989	S. Errera	G. Fox	L. Beedle	J. Durkee	Y. Gu	L. Federinic
1990	G. Fox	D. Sherman	L. Beedle	J. Durkee	Y. Gu	L. Federinic
1991	G. Fox	D. Sherman	L. Beedle	J. Durkee	Y. Gu	L. Federinic
1992	G. Fox	D. Sherman	L. Beedle	J. Durkee	Y. Gu	L. Federinic
1993	D. Sherman	C. Miller	L. Beedle	J. Durkee		L. Federinic
1994	D. Sherman	C. Miller	J. Ricles	J. Durkee		L. Federinic

Table 2: Principal Officers of Council (1945-1994)

During the first 20 years of the CRC, there were no headquarters for the organization. In 1966, the headquarters were established at Lehigh University. In 1970, Professor Lynn Beedle was appointed to a paid position as part-time Director. Professor Beedle served in that role until 1993 when Professor James Ricles took over the position. To assist in the financial support of the Director, in 1990 Glenn Gibson provided a special contribution to create the Bruce G. Johnston Endowment Fund at Lehigh University. Several individuals and industry partners also contributed to the fund, which reached a total of more than \$300,000 (Sherman, 1994). The income from the endowment was designated to support a major portion of the salary of the SSRC Director.

Professor Beedle had also served as the first Technical Secretary for the Council, beginning in the year 1947. The Technical Secretary position was not occupied for a few years after 1992. The position was occupied for a few years in the late 1990's, but has not been occupied since. In 1978, an administrative secretary was hired in addition to the technical secretary. The first administrative secretary was Ms. Lesleigh Federinic from Lehigh University.

# History of SSRC from 1994-2019

A number of major changes have occurred within SSRC over the past 25 years. The brief outline in the previous section on the history over the first 50 years of the Council provides perspective on these changes. The history from 1994-2019 is provided in topical discussions focusing on Administrative Appointments, Annual Stability Conference, Headquarters Location, Task Group Organization, SSRC Guide, Continuing Education, Colloquium and Conference Participation, and SSRC Awards and Honors.

# Administrative Appointments

Table 3 shows a summary of the Primary Administrative Appointments over the past 25 years. The positions of the Chair and Vice Chair followed the trend that had begun towards the end of the first 50 years in that the vice chair was typically nominated and voted into the position of chair. The term lengths were generally between 3-4 years. Professor James Ricles held the position of Director up until 1997 when the headquarters was moved from Lehigh University, Bethlehem, PA to the University of Florida, Gainesville, FL. When the headquarters was moved, the position of Director was replaced with a Liaison. Prior to the move from Lehigh to Florida, the longtime Administrative Coordinator, Lesleigh Federinic, retired in 1996 and was replaced with Ms. Diana Walsh. Diana Walsh moved to Florida with the headquarters; however she resigned the position to move back to Pennsylvania the following year. Additional discussion of the SSRC Liaisons and Administrative Coordinators is provided in the subsection on the Headquarters Location later in the summary.

The Chair and Vice Chair appointments have generally followed the term limits established in the Bylaws in 1960 with lengths of 3 years and an optional extra year. In 2018, a bylaws change was successfully balloted to shorten the Chair and Vice Chair appointments to 2-year terms, still maintaining the optional one extra year. The Technical Secretary position was continuously occupied in the Council between the years 1947 - 1992. The position was not occupied for several years in the 1990's until Perry Green served in that role in 1997-1998. Subsequently, the position has not been filled.

Year	Chair	Vice Chair	Director	Treasurer	Administrativ e Coordinator	SSRC Liaison
	Head	Iquarters Location	on – Lehigh	University, Be	ethlehem, PA	
1994	D. Sherman	C. Miller	J. Ricles	J. Durkee	L. Federinic	
1995	D. Sherman	C. Miller	J. Ricles	J. Durkee	L. Federinic	
					L. Federinic/D.	
1996	C. Miller	R. Bjorhovde	J. Ricles	D. Sherman	Walsh	
1997 <sup>a</sup>	C. Miller	R. Bjorhovde	J. Ricles	D. Sherman	D. Walsh	
	Headq	uarters Location	n – Universi	ty of Florida, C	Gainesville, FL	
1998	C. Miller	R. Bjorhovde		D. Sherman	D. Walsh	D. Ellifritt
1999	R. Bjorhovde	N. Iwankiw		D. Sherman	D. Walsh	D. Ellifritt
					D. Walsh/C.	
2000	R. Bjorhovde	N. Iwankiw		D. Sherman	Schwing	P. Green
2001	R. Bjorhovde	N. Iwankiw		D. Sherman	C. Schwing	P. Green
2002	N. Iwankiw	S. Easterling		D. Sherman	C. Schwing	P. Green
Headquarters Location – University of Missouri-Rolla, Rolla, MO						
2003	N. Iwankiw	S. Easterling		D. Sherman	C. Stratman	R. LaBoube
2004	N. Iwankiw	S. Easterling		D. Sherman	C. Stratman	R. LaBoube
2005	N. Iwankiw	S. Easterling		D. Sherman	C. Stratman	R. LaBoube
2006	S. Easterling	R. Ziemian		D. Sherman	C. Stratman	R. LaBoube
2007	S. Easterling	R. Ziemian		R. LaBoube	C. Stratman	R. LaBoube
Headqu	arters Location -	- Missouri Unive	ersity of Sci	ence & Techno	ology, Rolla, MO	(Name Change)
2008	S. Easterling	R. Ziemian		R. LaBoube	C. Stratman	R. LaBoube
2009	S. Easterling	R. Ziemian		R. LaBoube	C. Stratman	R. LaBoube
2010	R. Ziemian	B. Schafer		R. LaBoube	C. Stratman	R. LaBoube
2011	R. Ziemian	B. Schafer		R. LaBoube	C. Stratman	R. LaBoube
2012	R. Ziemian	B. Schafer		R. LaBoube	C. Stratman	R. LaBoube
Headquarters Location – AISC Chicago, IL						
2013	R. Ziemian	B. Schafer		R. Ziemian	J. Cummins	C. Carter
2014	B. Schafer	T. Helwig		R. Ziemian	J. Cummins	C. Carter
2015	B. Schafer	T. Helwig		R. Ziemian	J. Cummins	C. Carter
2016	B. Schafer	T. Helwig		R. Ziemian	J. Cummins	C. Carter
2017	T. Helwig	L. Fahnestock		R. Ziemian	J. Cummins	L. Kruth
2018	T. Helwig	L. Fahnestock		R. Ziemian	R. Jordan	L. Kruth
2019 <sup>b</sup>	T. Helwig	L. Fahnestock		R. Ziemian	R. Jordan	L. Kruth

# Table 3: Administrative Appointments 1994-2019

Notes:

<sup>a)</sup> Perry Green served as Technical Secretary from 1997-1998. Since 1998 the position of Technical Secretary has not been occupied.
 <sup>b)</sup> Professor Lou Geschwindner served as an AISC liason to SSRC around the time period of 2002-2005.

<sup>c)</sup> The incoming Chair in 2019 is L. Fahnestock; the incoming Vice Chair is D. Linzell.

Additional elected members that play an important role in the direction of SSRC are the members of the Executive Committee (EC). Table 4 summarizes the individuals that have served the Council on the EC over the past 25 years. EC members have been elected to 3-year terms. While there were no limits to the number of terms that a member can serve on the EC, in 2018 a bylaws change was successfully balloted to limit the number of consecutive terms on the EC to two 3-year terms. The decision to ballot EC term limits was to provide opportunities for several newer members to assume leadership positions. The hope for the change is that active younger members such as Task Group Chairs and Vice Chairs might move into positions on the EC, while members that rotate off the EC might assume leadership roles within the TGs.

L. Beedle	Y. Fujita	P. Marshall
P. Birkemoe	T. Galambos	C. Miller
C. Bishop*	P. Green*	C. Moen
R. Bjorhovde	L. Griffis	J. Ricles
D. Camotim*	D. Hall	B. Schafer
W. F. Chen	T. Helwig*	M. Sharp
J. Durkee	N. Iwankiw	D. Sherman
S. Easterling	L. Kruth	W. Studebaker
M. Elgally	R. LaBoube	R. Tremblay
L. Fahnestock*	R. Leon	D. White
E. Fischer*	D. Linzell*	R. Ziemian
G. Fox	L. Lutz	

 Table 4: Former and Present SSRC Executive Committee Members (1994-2019)

Prior to approximately 2002, the Executive Committee generally met once a year following the Annual Stability Conference. As is discussed in more detail in the sub-section on the Annual Stability Conference and Headquarters Location, since approximately 2002, the EC meetings have been held twice a year in conjunction with the AISC task committee meetings.

# **Annual Stability Conference**

The Annual Stability Conference has long been the location where significant technical strides are made within SSRC. In addition to the outstanding presentations that take place in technical sessions at the Conference, the Task Group meetings are held at the annual meeting to discuss ongoing work in the stability area, research needs, and to collaborate on the major SSRC publication, the **Guide to Stability Design Criteria of Metal Structures.** Up until 2003, the title of the proceedings from the conference was generally referred to as the Annual Technical Session and Meetings. In 2004, the name of the conference/proceedings began to be referred to as the Annual Stability Conference. The proceedings from all past SSRC conferences are available in the educational archives on the AISC website, which is discussed in more detail in the section related to Headquarters Location.

The location and specifics of the conferences from 1994 - 2019 are given in Table 5. Much like the trend from the first 50 years (Johnston-1981, Sherman-1994), between 1994 and 2000, the annual conference included a theme. Many papers on general topics were presented as part of the technical session, but a portion of the conference was focused on a specific topical area.

Year	Location	Theme	General Notes
	Lehigh		
	University,	SSRC - Link Between Research and Practice	
1994	Bethlehem, PA	(SSRC 50th Anniversary)	
		Stability Problems Related to Aging, Damaged,	
1995	Kansas, City, MO	and Deteriorated Structures	
		Future Directions in Stability Research and	
1996	Chicago, IL	Design	
1997	Toronto, Canada	North American Stability Design Criteria	
1998	Atlanta, GA	Frames with Partially Restrained Connections	Partial Funding from NSF
		Conference cancelled due to difficulties in	
1999	No meeting	moving SSRC Headquarters	
2000	Memphis, TN	Material Properties and Stability Issues	
	Fort Lauderdale,		First collaboration with
2001	FL	NASCC	AISC at NASCC
2002	Seattle, WA	NASCC	
			Annual Technical Session
2003	Baltimore, MD	NASCC	and Meetings
			Annual Stability
2004	Long Beach, CA	NASCC	Conference
	Montreal,		
2005		NASCC	
2006	San Antonio, TX	NASCC	
2007	New Orleans, LA	NASCC	
2008	Nashville, TN	NASCC	TGs meet on Saturday
	<b>D</b>		First time meet on
2009	Phoenix, AZ	NASCC	Tuesday
2010	Orlando, FL	NASCC	New IG structure
2011	Pittsburgh, PA	NASCC	
2012	Grapevine, TX	NASCC	
2013	St. Louis, MO	NASCC	
2014	I oronto, Canada	NASCC	
2015	Nashville, TN	NASCC	
2016	Orlando, FL	NASCC	
2017	San Antonio, TX	NASCC	
2018	Baltimore, MD	NASCC	
2019	St. Louis, MO	NASCC - SSRC 75th Anniversary	

Table 5: Annual Stability Confer	ence Locations
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The 1998 conference in Atlanta, GA was somewhat unique since partial funding for the conference was obtained from the National Science Foundation to support the conference. Significant efforts were put forth by the Director, James Ricles and the members of the Executive Committee, to receive this funding. In 1999, no conference was held due to the difficulties associated with moving the SSRC Headquarters from Lehigh University to the University of Florida, which is discussed in more detail later in the summary.

The conferences held in 2000 and 2001 are particularly noteworthy. The 2000 conference in Memphis, TN was the last time that SSRC included a conference theme. The 2001 conference began a new era for SSRC since the Council held the Annual Stability Conference as part of the North American Steel Construction Conference (NASCC) organized by the American Institute of Steel Construction. The successful partnership with AISC was made possible by the foresight of

the Executive Council and especially the Chair (Reidar Bjorhovde) and Vice Chair (Nestor Iwankiw) as well as the AISC NASCC Program Director, Scott Melnick. The idea behind the move as well as the ability to foster cooperation with AISC was facilitated greatly by Nestor Iwankiw who, at the time, held the position as the AISC Vice-President of Research. The initial partnership in 2001 was actually undertaken on a trial basis with the hope that further conference collaborations would be scheduled on a "regular basis". The 2001 NASCC was held in Ft. Lauderdale, Florida and was a great success. Both SSRC and AISC recognized the value of combining the two conferences. Many of the SSRC conferences in the 1990's had an attendance in the range of 80-150. The total attendance at NASCC in recent years has been in the range of 4000-5000. As a result of the partnership with the AISC-NASCC, numerous engineers and industry professionals have been exposed to the high-quality program that is always present in the Annual Stability Conference. Non-members of SSRC are also encouraged to attend the Task Group meetings.

In the move to hold the ASC as part of NASCC, there were significant concerns among the Council membership that SSRC might lose its identity and be absorbed by the extremely large conference. However, AISC has allowed SSRC to maintain our identity and advertises our conference in the title of NASCC. The program usually includes a title such as NASCC: The Steel Conference, incorporating the SSRC Annual Stability Conference.

In addition to the exposure SSRC has gained by co-locating with NASCC, early in the partnership AISC began providing SSRC with substantial financial support for the speakers. Speakers and moderators received free registration and AISC generously provides a modest stipend that is used to offset travel costs for the speakers. A significant portion of the membership and ASC attendees are academic researchers (U.S. and International) presenting on-going or recently completed research. Prior to the joint ASC/NASCC conference, faculty members always desired to give student researchers the ability to present at the ASC, however, travel and registration costs had previously provided a difficult hurdle. The travel stipend has allowed many student researchers to attend the conference, present their research results, and become engaged with the Task Groups early in their careers. With the increased number of student researchers attending the conference, a high percentage of the student attendees have remained engaged with the Task Group activities.

While the partnership with NASCC introduced significant benefits to the Annual Stability Conference, the transition did present some difficulties in the structure of the Task Group meetings. Prior to 2001, the ASC schedule typically consisted of Task Group meetings held on the first day followed by the technical program. When the ASC was combined with NASCC (which runs from Wednesday thru Friday), the ASC was structured to have technical presentations the first 3 days of the conference and the Task Group meetings were scheduled on Saturday. Although the lack of conflict with technical presentations was desirable, the fatigue on participants from the previous three days of the conference often stifled Task Group participation and activity. In 2009, the schedule was reorganized so that the annual business meeting and all TG meetings occurred on Tuesday along with 2-3 technical sessions. The change in schedule worked extremely well and continues to be the general schedule for the ASC.

### **Headquarters Location**

As noted earlier, in 1966 the location of the SSRC Headquarters was established at Lehigh University, Bethlehem, PA. Locating the headquarters at Lehigh University worked well due to the historically strong record of stability-related research conducted at the institution. The Council thrived in the 1970's through the 1990's; however concerns on the financial conditions of the Council began to arise. By the mid-1990's the annual budget for SSRC had reached approximately \$140,000. The membership dues for members-at-large were \$40/year which raised less than \$10,000. Although the Johnston Endowment Fund had more than \$300,000, the return on investment left a large financial difference with expenses. The council did receive significant support from industry members; however there were concerns about the financial conditions. Funding received from NSF for activities such as the workshop at the 1998 were significant; however the ability to receive long-term funding of this sort was not viewed as sustainable. SSRC had also begun continuing education efforts that raised significant funds that aided in the budget, which are discussed later. Although the financial well-being of the Council.

In 1998, under the leadership of Clarence Miller (Chair), Reidar Bjorhovde (Vice-Chair) and the Executive Committee, the difficult decision was made that significant changes were required in the operating structure of the Council – including the location of the headquarters. In-as-such, Headquarters was moved from Lehigh University to the University of Florida (UF). One of the difficulties associated with the move was that the Bruce G. Johnston Endowment Fund resided at Lehigh University and obviously would not transfer with the change in Headquarters. However, the Executive Committee made changes in the organizational structure so that the paid position of the Director was not filled. Instead, a Faculty Liaison was relied upon, which incurred a much smaller annual cost to the Council. An active member with SSRC, Professor Duane Ellifritt from the University of Florida assumed the position of the first faculty liaison. Professor Ellifritt retired in 1999 and the Liaison position was assumed by Professor Perry Green, who maintained the position until 2002. Another change in the SSRC administration was that the Administrative Coordinator, Ms. Diana Walsh, who had moved to Florida with SSRC resigned the position in 2000 and moved back to Pennsylvania. Ms. Christine Schwing took over the Coordinator position.

The successful move of the Headquarters from Lehigh University to the University of Florida as well as the efficient operation was greatly facilitated by Professor Duane Ellifrit, Professor Perry Green, Diana Walsh, and Christine Schwing. Although the move of Headquarters to UF was successfully executed, there were a number of difficulties that developed within SSRC at UF. Although the budget had reduced with the elimination of the Director position, the cost of Headquarters were still relatively high. For example, in 2000, Headquarter expenditures were more than \$113,000 with an income of less than \$89,000. In addition, by 2003 there was not an active faculty member in the structural stability area at UF.

The years from 2001 to 2003 were one of the most difficult periods the Council has encountered in its entire history. In 2003, Nestor Iwankiw (Chair) and Samuel Easterling (Vice Chair) led the efforts to evaluate the best location for the Headquarters. Under their leadership, the Executive Committee made the decision to again move the SSRC headquarters from the University of Florida to the University of Missouri at Rolla, the name of which was later changed to Missouri University of Science and Technology (MUS&T). The administrative structure required for SSRC

already existed at MUS&T with the Wei-Wen Center for Cold-Formed Steel Structures (CCFSS) already active at the university. The transition of Headquarters was aided by a significant effort by Professor Donald Sherman. In 2005, Professor Sherman and his spouse, Joyce, traveled to Gainesville, Florida and moved the entire SSRC library and other belongings to Rolla, Missouri. The faculty liaison position was taken over by long-term SSRC member, Professor Roger LaBoube, while the Administrative Coordinator position was assumed by Ms. Christine Stratman. Since Dr. LaBoube and Ms. Stratman had extensive experience with the CCFSS, the transition of the relocation of the SSRC Headquarters went extremely well.

Although SSRC had been in a precarious state in 2003, over the next several years, the Council experienced significant growth. While several individuals on the Executive Committee contributed to the leadership during these years, of particular note are Nestor Iwankiw, Samuel Easterling, Ronald Ziemian, Donald Sherman, Roger LaBoube, and Christine Stratman. The growth and strengthening of SSRC was due to quality leadership as well as several other factors.

By 2011, the Council was well-positioned financially and the membership was active and growing. However, the Executive Committee was again facing a difficult dilemma. Professor LaBoube was nearing retirement and the SSRC Headquarters was facing the similar situation that had occurred at the University of Florida which consisted of the lack of a faculty member active in SSRC. The Council leadership believed having an active SSRC member serving as the liaison was of utmost importance for the day-to-day SSRC activities. While the potential of moving to another university with an active SSRC member was considered, concerns existed about a repeat of the previous two headquarters sites.

Professor Ronald Ziemian began a discussion with Dr. Charlie Carter about the possibility of locating SSRC Headquarters at AISC in Chicago. Under the leadership of Professors Ziemian and Benjamin Schafer and the Executive Committee, the decision was made to relocate SSRC Headquarters to the AISC offices in Chicago. Dr. Charlie Carter was serving as the AISC Vice-President at the time and was instrumental in the transition. Due to the long-standing relationship in the collaboration between the ASC and NASCC, locating the headquarters along with AISC provided the ideal partnership. Much like the transition from Florida to Missouri, the transition to AISC was essentially seamless due to the leadership provided by Professors Ziemian and Schafer for SSRC and by Dr. Carter and the new Administrative Coordinator, Ms. Janet Cummins at AISC. SSRC has thrived since moving its Headquarters to Chicago. In 2017, the AISC Liaison was changed from Dr. Carter to Mr. Larry Kruth. The following year, Ms. Cummins was replaced as the Administrative Coordinator by Ms. Rachel Jordan. The transition between Ms. Cummins and Ms. Jordan was again seamless.

# SSRC Library, ASC Proceedings, and the Partnership with NASCC/AISC

The SSRC library includes a number of reports and other technical documents related to the structural stability field that have been amassed over the past several decades. The library originally existed at the Lehigh University Headquarters and was subsequently moved along with Headquarters. In 2015, the decision was made to have the entire library scanned to create electronic versions of the documents. The electronic versions of the documents reside at Headquarters and there have been discussions of the best way to archive the files for membership.

Included in the SSRC library are the proceedings of the ASC. While individual members that have attended the conference have hard copies of the proceedings, the ability to electronically archive the documents is of utmost importance with preserving the numerous contributions that members have provided each year at the Councils annual meetings. The partnership with AISC through the joint NASCC/ASC offering has been instrumental in the growth of SSRC. SSRC has received significant funding as well as administrative and technical support from the collaboration.

As noted earlier, the travel stipend provided to SSRC as well as the lack of speaker/moderator registration costs have been very important for our membership. Such conference support for speakers is not generally available at any other conference in the world. Another major contribution to SSRC consisted of an agreement reached in approximately 2012, when AISC began providing SSRC an annual stipend to allow the proceedings to be included in the publication section of the AISC website. When the SSRC headquarters were moved to Chicago along with the library, all previous proceedings were scanned and are now available on the AISC website by simply searching for the SSRC content in the educational archives: <a href="https://www.aisc.org/education/continuingeducation/education-archives/">https://www.aisc.org/education/continuingeducation/education-archives/</a>. The last published hardcopy of the proceedings were in 2010. All versions of the proceedings up through 2010 have been scanned in and are available. After 2010, the proceedings have been available electronically and can be found on the AISC link.

# Task Group Organization

By 2010, SSRC consisted of eleven active Task Groups as shown in Table 6. Although the number of task groups was reduced from the groups active in the 1970's and 80's, the number was still often unwieldy and made Task Group scheduling difficult at the ASC. Under the leadership of Professor Benjamin Schafer, a new structure was developed to reduce the number of Task Groups to 5. The 11 active Task Groups were therefore consolidated into five new groups numbered TG 02-06. The new Task Groups are as follows:

# <u>New Task Group 02: Members</u> (Stability of steel members)

Combining old TG1, 6, 15, and 26. The inaugural chair of TG 02 was Professor Don White. The Task Group is currently chaired by Dr. Craig Quadrato.

# <u>New Task Group 03: Systems</u> (Stability of steel systems, primarily frames)

Combining Old TG 04 and 30. The inaugural chair of TG 03 was Professor Christopher Foley. The current chair is Professor Ben Schafer who recently took over leadership from Graham Cranston.

# New Task Group 04: Bridges (Stability of metal bridges and bridge components)

Combining Old TG 14, 27, and 30. The inaugural chair of TG 04 was Professor Daniel Linzell. The committee is currently chaired by Dr. Andres Sanchez.

# New Task Group 05: Thin-walled Members and Systems (Stability of thin-walled metal structures as well as aluminum and stainless structures)

Replacing Old TG13. The inaugural chair of TG 05 was Dr. Cris Moen. The current chair is Professor Kara Peterman.

# <u>New Task Group 06: Extreme Loads</u> (Stability under extreme loads – seismic, fire, and blast)

Replacing Old TG20 and 24. The inaugural co-chairs of TG 06 were Professors Amit Varma and Robert Tremblay. The current chair is Dr. Mina Seif.

Task Group	Name
1	Centrally Loaded Columns
4	Frame Stability
6	Test Methods
13	Thin-Walled Members
14	Horizontally Curved Bridges
15	Beams
20	Compression Members and Fire
24	Stability Under Seismic Loading
26	Stability of Angle Members
27	Plate and Box Girders
30	Bracing

# Table 6: Active Task Groups as of 2010

# SSRC Guide

While the proceedings from the Annual Stability Conference represent a major contribution to the profession, the **Guide to Stability Design Criteria for Metal Structures** (The Guide) generally represents the definitive source of information on the state-of-the-art understanding of stability problems and the influence on design and behavior. While the discussions within the SSRC Task Groups revolve around ongoing research as well as research needs, a primary focus and responsibility of the Task Groups has generally been the work on the next edition of The Guide. Table 7 summarizes the editions of the Guide, year published, and general statistics.

Edition	Year Published	Number of Pages	Number of References	Editor
1	1960	93	157	B. Johnston
2	1966	217	327	B. Johnston
3	1975	616	902	B. Johnston
4	1988	786	>1200	T.V. Galambos
5	1998	911	>1200	T.V. Galambos
6	2010	1078	>1200	R. Ziemian
7	2020 (Planned)			R. Ziemian and L. Fahnestock

Table	7:	Editions	of	the	SSRC	Guide
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### **Continuing Education**

The role of continuing education within the engineering disciplines has become a major necessity. Professional development hours has become a major requirement for maintaining licensure throughout the U.S. SSRC was one of the first technical organizations to recognize the value of serving as an educational provider in this effort. The exposure of the Council to engineering professionals in this regard is invaluable. The income associated with these efforts has also been a valuable resource for SSRC. As noted earlier, the SSRC budget in the 1990's was growing and the need for a source of funding was important. In addition, developing and providing high quality educational programs would allow SSRC to reach a relatively broad base. The SSRC Director, James Ricles, and the Chair, Donald Sherman showed a great deal of insight to seek out opportunities for continuing education.

Professors Ricles and Sherman reached an agreement with AISC for a stability-related shortcourse. The first endeavor into the continuing education efforts consisted of an 8-hour course that was developed by Professors Joseph Yura and Todd Helwig and was entitled "Bracing for Stability". The first presentation of the course was given at AISC's 1995 Annual Steel Conference (not yet referred to as NASCC) in San Antonio, TX. The course began on Friday evening at the close of the conference and finished at noon on Saturday. Attendance at the first course exceeded 250 engineers. The strong interest in the course resulted in a partnership between SSRC and AISC that consisted of a travelling course over the next 10 years. In the agreement, the net proceeds of the courses were split evenly between AISC and SSRC. AISC advertised the course and covered the cost of the facilities, while SSRC covered the speaker reimbursement and travel. Registration costs between 1995 and 2005 ranged from approximately \$180-\$250. The course was presented by Professors Yura and Helwig in over 50 cities with a total attendance well over 4000 (average attendance was approximately 80 persons per site). While the course was successful, AISC decided in 2005 to suspend the collaboration.

In an attempt to continue the successful continuing education venture, in 2006 SSRC developed a partnership with the National Council of Structural Engineers Associations (NCSEA). The verbal agreement with NCSEA was similar to the previous agreement with AISC in which the NCSEA utilized their mailing database to advertise the course and to arrange or pay for the venue while SSRC provided the course, handouts, and speakers. The course was successfully presented in 5 cities grossing approximately \$50,000. Unfortunately, SSRC did not have a written agreement with NCSEA. NCSEA charged a significant portion of the salary of a staff member to the short course and therefore showed no profit from the course. SSRC ended the partnership with NCSEA after the 5 courses. The "Bracing for Stability" course eventually was offered several times at NASCC in future years, which is discussed later in this section.

In addition to the Bracing course that began in 1995, SSRC also developed and presented a course entitled "SSRC Worldview" The course was developed and taught by Professor Ted Galambos and other members. In 1995, the course was offered in 4 cities and was well-received; however without a partner such as AISC, coordination and advertising of the course was deemed beyond the mission of the Council and subsequent offerings were not given.

Based upon the success of the "Bracing for Stability" course, the SSRC leadership in 2002 developed another partnership with AISC for the development of a course entitled "Basic Design for Stability". Nestor Iwankiw and Sam Easterling played an important role in developing the

relationship. The 4-lecture course was developed by Professors Ted Galambos, Perry Green, Todd Helwig, and Joseph Yura. The first offering of the course occurred on the Saturday following the 2003 NASCC conference in Baltimore, MD. The course was offered in approximately 10 cities between 2003-04 and was well received. In the travelling course, teams consisting of either Galambos/Green or Helwig/Yura made the presentations. Despite the success of the lecture series, the unfortunate timing of the course was at the simultaneous with time that AISC decided to suspend the partnership with SSRC on continuing education.

Although the partnership with AISC on the travelling short courses was suspended, continuing education was an important aspect of NASCC. Therefore, in the years to follow, offerings of the Bracing short-course were given at NASCC. The full 8-hour course was delivered at conferences beginning in 2009. However, an 8-hour course required lunch to be included, which was quickly recognized to diminish the net profits. As a result, the course was broken into two different offerings: 1) "Bracing for Stability – Columns and Frames" and 2) "Bracing for Stability – Beams". The Course on Beam Bracing was offered at NASCC in 2010, 2013, and 2016 while the course on Column and Frame Bracing was offered in 2014.

The EC recognized the need to build a library of courses that would broaden the ability to offer courses at NASCC. In 2011, Professors Roger LaBoube and Michael Seek proposed and developed a 4-hour course entitled "Cold-Formed Steel Design for Secondary Building Framing Members". The course was presented at the 2011 and 2012 NASCC conferences and was very well received.

Another opportunity for a continuing education partnership between SSRC and AISC came in the form of the AISC Night School program in which a series of 75-minute lectures are provided online once per week. In 2012, Professor Ron Ziemian negotiated an agreement with AISC for SSRC to develop and deliver an 8-lecture program related to stability. Professor Ziemian assembled a team consisting of Perry Green, Todd Helwig, Donald White, and Joe Yura to put the lecture series together. The lecture series was entitled "Fundamentals of Stability for Steel Design" and was divided into theory and practice including the behavior of columns, beams, beam-columns, and bracing. The lecture material typically consisted of a presentation on theory one week followed by a presentation on practical design applications the following week. The lecture series was given during the summer of 2013 and was very well received. In 2017, AISC requested a repeat of the "Fundamentals of Stability for Steel Design" course. In 2014 and 2015, Professor Ziemian presented a 3-lecture subset of the Fundamentals Night School Course at the NASCC conference.

Another course that was organized and presented on behalf of SSRC was developed by Professors Don White and Ron Ziemian entitled "Stability Design of Steel Structures – Applying Modern Methods of Structural Analysis". A subset of this course was first offered in Coasta Rica followed by an 8 lecture series as part of the AISC Nigh School Series. The course was well received and timely to parallel the Direct Analysis Method from the AISC Specification.

In 2018, a new course was developed and presented at the NASCC conference by Professor Kara Peterman and Dr. Cris Moen. The course was entitled "Steel Fundamentals: Tools for Designing Members with Slender Elements". The course was well received. The library of course offerings from SSRC continues to expand and in 2019, a new course developed by

Professor Barry Rosson will be offered entitled "Nonlinear Structural Analysis Methods Used in Modern Steel Design".

Continuing education has been an important method of outreach for SSRC over the past 25 years. The courses have allowed the Council to publicize the important work carried out by the members and to educate the public. The courses have also been an important contributor to the financial health of the Council.

# **Colloquium and Conference Sponsorship**

The Annual Stability Conference is the premier conference on structural stability in the US and attracts participants from all around the world. In addition to the ASC, there are a number of conference around the world with applicability to structural stability and SSRC endorses a number of these conferences. A major conference that SSRC played a role in initiating as well as the continual organization and publication in is the International Colloquium on Stability and Ductility in Steel Structures (SDSS).

The SSRC International Colloquium Series that started in 1972 was essentially the precursor to SDSS. The Colloquium focuses on the advancement in theoretical, numerical, and experimental work related to stability and ductility requirements for steel and steel/concrete composite structures. Table 8 summarizes the 5 Colloquiums that have taken place since 1999 as well as the 2019 Colloquium happening in September.

Year	Location	Organizing Committee Chair(s)
1999	Timisoara, Romania	Dan Dubina
2002	Budapest, Hungary	Miklós Iványi
2006	Lisbon, Portugal	Dinar Camotim
2010	Rio de Janeiro, Brazil	Eduardo Batista
2016	Timisoara, Romania	Dan Dubina
2019	Prague, Czech Republic	František Wald

### Table 8: Locations of SDSS Colloquium

Another conference that SSRC regularly endorses in the International Conference on Advances in Steel Structures, which recently held the 9<sup>th</sup> conference in the series. The ICASS series originated in 1996 in Hong Kong. Eight of the nine conferences have been held in Asia with the 2015 conference held in Lisbon Portugal.

# SSRC Awards and Honors

There have been several awards that have been established in the past 25 years and many of the awards have had a dramatic impact on the Council. The first award that was established was to honor the late Lynn S. Beedle, who played a significant role in the leadership and direction of the Council for more than 50 years. He served as the first Technical Secretary for the Council, and also a term as Vice Chair and Chair. He also served as Director for the Council from 1967-1993. The award recognizes his leadership in both the national and international arenas. The Beedle Award is the top award given by SSRC. Criteria for the award is described in the Bylaws and requires nominees to be long-time members of the Council that have been worldwide leaders in research and design issues pertaining to structural stability. Recipients of

the award are asked to make a presentation at the Annual Stability Conference. Table 9 provides a list of the recipients of the award.

Year	Recipient
2002	Theodore Galambos
2004	Yuhshi Fukumoto
2005	William McGuire
2006	Joseph Yura
2007	D. J. Laurie Kennedy
2008	Donald Sherman
2009	Wei-Wen Yu
2010	Reidar Bjorhovde
2011	Nick Trahair
2012	Peter Birkemoe
2013	Rene Maquoi
2014	Sriramulu Vinnakota
2015	David Nethercot
2016	Roger LaBoube
2017	LeRoy Lutz
2018	Dinar Camotim
2019	Samuel Easterling

### **Table 9: Recipients of Beedle Award**

Another award that has had a dramatic impact on SSRC is the Vinnakota Award, which was established by long-time SSRC member Professor Ramulu S. Vinnakota. The award was given in honor of Professor Vinnakota's parents Sarada and Raju Vinnakota, who believed in the importance of education and research. The award is given to the best student-authored paper presented at the Annual Stability Conference. The award was first given in 2000. As noted earlier, that annual funding for the ASC provided by AISC allowed substantially more students to attend the conference due to the travel stipend provided to speakers. The other major factor that dramatically impacted student participation has been the tough competition for the Annual Vinnakota Award. The winner is selected by a jury that reviews all of the student-authored papers prior to the conference. For several years, the winner was announced at the session when their paper was given and the award was given during the annual business meeting, which took place after the conference for many years. The award is now given at the annual business meeting the first day of the ASC. While an award has been given every year since 2000, the high quality of the papers has often resulted in a difficult decision by the jury and often includes 1-2 honorable mentions. In one year, two winners were selected. The winners of the award are summarized in Table 10.

Long-time contributors to SSRC that have had a dramatic and consistent impact on the stability field throughout are eligible for the Beedle Award, while the Vinnakota Award focuses on strong contributions from student members at the start of their career. These two outstanding awards provided recognition for members that are generally at the two extremes of their careers. However, there was somewhat of a void in the awards available as members begin establishing a reputation in the field of stability. In 2016, a step to filling this void was made when the MAJR award was established that recognizes outstanding young members that have had a successful start to their professional careers. The award acronym stands for McGuire Award for Junior Researchers in honor of the late Professor William "Bill" McGuire, a longtime member of SSRC

who emphasized that state-of-the-art research is instrumental to improve the quality of stability design. The award was conceptualized by Professors Dinar Camotim and Ronald Ziemian with Professor Camotim provided funding for the award. The award is available to young members with a PhD that are in the first 10 years of their careers that have presented their work at the ASC. The quality of nominees has been extraordinary. An award jury is established from members of the EC that consider the nominee package that consists of their resume and selected publications. The winner is selected in August/September of the year prior to the formal award presentation since the winner is invited to make a presentation at the ASC on the subject of their choosing. The inaugural winner of the award in 2016 was Cristopher Moen followed by Rodrigo Goncalves in 2017. The 2018 winner is Mina Seif, who will make his presentation at the 2019 ASC.

Year	Recipient
2000	Brian Chen
2001	Andrea Surovek
2002	Peter Dusicka
2003	Andrew Sarawit
2004	Nuno Silverstre
2005	Ozgur Egilmez
2006	Jose Martinez-Garcia
2007	Jiro Takagi
2008	Mehdi Dastfan
2009	Ian MacPhedran
2010	Duncan Stark
2011	Khanh Le Tran
2012	Mark Denavit
2013	Miguel Abambres
2014	Merih Kucukler
2015	Andre Martins
2016	Hannah Blum and Enio Mesacasa Jr.
2017	Alireza Farzampour
2018	Bence Jager

Table 10: Recipients of the Vinnakota Award

The latest award that was established in 2018 is the Yoon Duk Kim Young Researcher Award. The award has been established in honor of the late Yoon Duk Kim, who was unfortunately taken away from us in 2018 at far too young of life. Yoon Duk was one of the recent members in SSRC that transitioned from giving excellent presentations as a graduate student to being a highly active and valued member-at-large. The Yoon Duk Kim Young Researcher Award is open for graduate students and young researchers who have completed a graduate degree in Structural Engineering within the 3 years prior to the nomination. Nominees should have demonstrated a significant interest in the technical initiatives within the purview of the Council. The nominations are solicited from a current SSRC member. The award consists of a certificate, a travel stipend to attend the conference as well as a cash honorarium.

The awards that have been instituted in the last 25 years have had a significant benefit to the Council. In particular, the awards that have targeted student and younger members have

provided a lively competition leading to a great deal of energy and strong contributions to the next generation of leaders for the Council.

# Council Membership

The diverse membership in the Council provides a collection of technical expertise that allows the organization to provide significant contributions through the collective knowledge of the group. The annual dues for SSRC have been purposely kept relatively low compared to many technical organizations. The majority of the members support SSRC as a "Member-at-Large" (MAL). For several years, the annual dues for the MAL were \$40. In approximately 2007, the dues were raised to \$70 per year, which is where the dues currently stand. With the increased number of student members, a student membership was instituted in approximately 2010 with annual dues of \$20. The hope of the Council is that student members will become familiar with the opportunities to contribute to the technical knowledge base leadership opportunities and transition into becoming productive members-at-large and continue to contribute to the ASC with abstract/paper submissions each year. Over the years, higher levels of membership have been added to SSRC in an effort for long-time members as well as industry partners to provide a higher level of support to the Council. The different levels of membership have been named after the many individuals that left an indelible mark on the field of structural stability and therefore on the Council as a whole. The Winter Society is named after George Winter and members that contribute between \$120-\$299 are honored with this distinction. The Beedle Society is named after long term member Lynn Beedle and members that contribute between \$300-\$599 are given the distinction. The Shanley Society is named in honor of Francis Shanley in honor of his stability contributions with particular emphasis on his contributions to inelastic column buckling. Members that contribute \$600-\$899 are included in the Shanley Society. The Johnston Society is named after longtime member Bruce Johnston and members that contribute between \$900-\$2399 are given the distinction. Finally, the most prestigious grade of membership is the Euler Society in honor of the first individual credited with recognizing the limit state of stability, Leonard Euler. Members or industrial partners contributing more than \$2400 are included in the Euler Society.

# <u>Summary</u>

SSRC has become the preeminent collection of experts in structural stability in the world. While the organization began in 1944 with a relatively specific focus on the design requirements for columns, the leadership from a truly impressive group of individuals throughout the years allowed the Council to broaden the scope to focus on all aspects of stability problems in structural engineering. The organization went through a number of difficult times over the past 25 years that necessitated movement of the Headquarters and changes in the operating structure; however the leadership from a number of selfless individuals pulled the group through these dire times. One of the most notable decisions during our past 2 decades that has bolstered the strength of the organization was the partnership with AISC to combine the Annual Stability Conference with NASCC. The operation of the Headquarters staff throughout the years has been another important factor in weathering the difficult times so that the Council could arrive at the position we are currently in. SSRC is in the best position that it has been in years from the position of organizational stability and activity. Many of us have enjoyed participating and observing the progress throughout our history and it is exciting to see where our future will lead as we enter into the Council's next 75 years.

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