

**STRUCTURAL STABILITY  
RESEARCH COUNCIL**



**ANNUAL TECHNICAL  
SESSION & MEETING  
24-26 July 2000**



**FINAL PROGRAM**

***Monday, July 24th***  
**TASK GROUP  
MEETINGS  
REPORTS ON CURRENT  
RESEARCH ACTIVITIES**

***Tuesday, July 25<sup>th</sup>***  
**LYNN S. BEEDLE  
SESSION  
ANNUAL TECHNICAL  
SESSION**

***Wednesday, July 26th***  
**THEME CONFERENCE  
MATERIAL PROPERTIES  
&  
STABILITY ISSUES**

**MEMPHIS MARRIOTT DOWNTOWN**

**250 NORTH MAIN ST., MEMPHIS, TN 38103**

**PHONE: 901-527-7300 FAX: 901-526-1561**

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Steven Thomas, Varco-Pruden Buildings  
SSRC/Memphis Contact Member

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**STRUCTURAL STABILITY RESEARCH COUNCIL**

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# STRUCTURAL STABILITY RESEARCH COUNCIL



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- ADVANCE REGISTRATION FORM
- MEMPHIS MARRIOTT HOTEL RESERVATION FORM

## SCHEDULE OF EVENTS

### Sunday, July 23<sup>rd</sup>

• 12:30pm - 1:45pm	Finance Committee Meeting	St. Louis Room
• 2:00pm - 6:00pm	SSRC Executive Committee Meeting	St. Louis Room
• 6:00pm - 7:30pm	Dinner - Executive Committee & Guests	Beale Room

### Monday, July 24<sup>th</sup>

• 8:30am	Early Bird Registration & Breakfast	Heritage Foyer
• 9:30am -3:30pm	Task Group Presentations & Meetings	Heritage I and II
• 3:45pm -5:00pm	Executive Committee & Task Group Chairmen Meeting	Heritage II

### Tuesday, July 25<sup>th</sup>

• 7:45am	Registration & Continental Breakfast	Heritage Foyer
• 8:30am -10:00am	Lynn S. Beedle Session	Heritage I and II
• 10:00am -12:00pm	Annual Technical Session (Morning)	" "
• 12:00pm - 1pm	Luncheon	Heritage Foyer
• 1:00pm - 5:00pm	Annual Technical Session (Afternoon)	Heritage I and II
• 5:00pm	Annual Business Meeting	
• 5:30 - 7:00pm	Reception	Heritage Foyer

**Wednesday, July 26th**

- 7:45am Continental Breakfast
- 8:15am - 11:45am Theme Session
- 12:00pm ADJOURN

Heritage Foyer  
Heritage I and II


**SSRC 2000 ANNUAL TECHNICAL SESSION & MEETING  
MEMPHIS, TENNESSEE**

 **ANNUAL TECHNICAL SESSION & TASK GROUP MEETING PRESENTATIONS**

The Annual Technical Session 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 Session will cover reports on current research activities germane to the various SSRC Task Groups and Task Reporters. The Proceedings of the ATS will represent a primary source of highlights of the latest solutions to structural problems before they are eventually published in technical journals.

 **LYNN S. BEEDLE DEDICATION**

The 2000 Annual Technical Session will be dedicated to Dr. Lynn S. Beedle, in honor of his lifetime achievements and retirement. Three guest lecturers will be invited as opening session speakers for the Tuesday Annual Technical Session, followed by an award presentation.

 **THEME CONFERENCE - MATERIAL PROPERTIES & STABILITY  
ISSUES**

Structural performance depends on the successful interaction of design, material and workmanship to resist the applied loads. The 2000 SSRC Theme Conference will focus on the steel material property aspects of this combination, examining shape and plate strength and ductility characteristics, applicable standards, and related material effects on structural stability. Advances in steel development and engineering demands will be examined on the basis of the requirements that have to be met by a satisfactory structure.

 **SARADA M. AND RAJU A. VINNAKOTA AWARD**

In 1997, the Structural Stability Research Council was honored to receive a generous gift from Ramulu S. Vinnakota, in honor of his parents who believed in education and research. The award has been established in the name of Dr. Vinnakota's parents, and was approved and accepted by the SSRC Executive Committee in October, 1997. The fund will enable the SSRC to award a \$500 cash honorarium to be presented to a student with the best paper presented at the SSRC Annual Technical Sessions, on alternate years, beginning in 2000. Presentations submitted for this award are indicated by a (M) after the reference number.

 **CONFERENCE PROCEEDINGS**

Papers presented, together with additional papers selected by the Session Program Committee, will be printed in a post-session conference proceedings. Instructions concerning the preparation of manuscripts will be given at the time of selection notification. Students and SSRC Life Members' registration fees are waived, however, there will be a separate charge for conference proceedings and lunch.

 **ACCOMMODATIONS**

The Memphis Marriott Downtown (formerly Crowne Plaza) will host the 1999 Annual Technical Session & Meeting. The hotel is in the heart of downtown Memphis, overlooking the Mississippi River, and minutes away from world-

renowned Beale Street, Mud Island, Graceland, the Brookes Museum of Art, and the Memphis International Airport.



### **RATES/RESERVATIONS - (HOTEL RESERVATION FORM INCLUDED)**

Rates Based on Group Rates: Please cite our group code (**SSRC**) when making reservations. Cut-Off Date for Group Reservations is **7/3/00**. Singles (1 person): Doubles (2ppl/1bed): Double (2ppl/2 beds): **\$102** Check-in time: 4:00pm; Check-out time: 12:00 Noon. All major credit cards accepted. Individual call-in reservations: Marriott's WorldWide Reservations 800-228-9290, or hotel direct at 901-527-7300.



### **VISITOR INFORMATION**

Memphis: Internet: <http://www.memphistravel.com> or <http://www.ci.memphis.tn.us/>

Location/Transportation:

Memphis International Airport: Internet: <http://www.mscaa.com>

A new International Arrivals Facility can clear 400 passengers within 45 minutes. Also #1 Air Cargo Airport in the world for four consecutive years. Memphis is continually in top ten airports for on-time flight arrivals by its nine airlines.





## TASK GROUP SCOPE - TOPIC OUTLINE

**TG-1** CENTRALLY LOADED COLUMNS: Chairman: D.J.L. Kennedy

**1-1** **MON 2:35PM**

Title: Stability & Load-Carrying Capacity of Hybrid Compressed Steel Elements

Author(s): Pavel Juhas

**TG-4** FRAME STABILITY AND COLUMNS AS FRAME MEMBERS: Chairman G.G. Deierlein

**4-2** **TUES 10:40AM**

Title: In-Plane Stability and Second-Order Effects in Multi-Bay Pitched-Roof Steel Frames

Author(s): Dinar Camotim, N. Silvestre

**4-3** **MON 1:30PM**

Title: Non-Linear Behaviour of Pitched-Roof Frames with Bi-Linear Semi-Rigid Connections

Author(s): P. Nogueiro, L. Simoes da Silva, N. Silvestre, Dinar Camotim

**4-4** **TUES 11:00AM**

Title: Approximate K-Factors for Partially Braced Columns

Author(s): Francois Cheong-Siat-Moy

**TG-13** THIN-WALLED METAL CONSTRUCTION: Chairman: W.S. Easterling

**13-0** **TUES 2:20PM**

Title: A Design Procedure for the Influence of Bend Radii on Local Buckling

Author(s): Prof. Cedric Marsh

**13-1** **MON 9:30AM**

Title: Buckling Curve for Cold-formed "S" Compressed Members

Author(s): Francisco C. Rodrigues, P.C. Costa Santata

**13-2** **MON 9:55AM**

Title: ~~Determination of the Moment-Rotation Behavior of Connections Between Beams and Columns of Cold-Formed Steel Profiles (PAPER WITHDRAWN)~~

Author(s): Francisco C. Rodrigues, J. Filho

**13-3** **TUES 1:20PM**

Title: Simplified Method for Steel Structures Design of Buildings in Fire Situation

Author(s): Francisco C. Rodrigues, R.H. Fakury, V. Pignatta e Silva, R.J. Pimenta

**13-4** **MON 10:45AM**

Title: The Local Buckling Strength of Stainless Steel Beam Webs Subjected to a Stress Gradient

Author(s): G. J. Van den Berg, P. Van Tonder

**13-5** **MON 10:20AM**

Title: Southwell Plot Estimation of Local Critical Stresses in Thin-Walled Columns

Author(s): Dinar Camotim, E. Batista, E. Vazquez, L.C. Prola

**13-6** **WED 11:20AM**

Title: The Mechanical Properties of Stainless Steels for Cold-Formed Structural Applications

Author(s): G. J. Van den Berg

**13-7** **TUES 2:40PM**

Title: On the Influence of the End Plate Conditions on the Distortional Buckling Mode of Cold-formed Rack Sections

Author(s): Eduardo de M. Batista, D. Camotim, L.C. Prola, E. Vazquez





## TASK GROUP SCOPE - TOPIC OUTLINE

- TG-13**      **THIN-WALLED METAL CONSTRUCTION: Chairman: W.S. Easterling**  
**13-8**      **WED 8:20AM**  
Title: Elastic-Plastic Interactive Buckling of Thin-Walled Steel Beams  
Author(s): Viorel Ungureanu, D. Dubina
- 13-9 (V)**      **TUES 2:00PM**  
Title: Experimental Behaviour of Transition Junctions in Elevated Steel Silos and Tanks  
Author(s): J.G. Teng, Y. Zhao
- TG-15**      **BEAMS: Chairman: S. Vinnakota**  
**15-1**      **TUES 3:20PM**  
Title: Ultimate Strength Modeling of Wide Flange Beams Subjected to Torsion  
Author(s): Robert G. Driver
- 15-2**      **TUES 3:40PM**  
Title: Tension Flange Buckling of Wide Flange Beams  
Author(s): J.J. Roger Cheng, G.Y. Grondin
- 15-3**      **TUES 4:00PM**  
Title: The Analytical and Statistical Approaches to Lateral Beam Buckling  
Author(s): Jindrich J. Melcher, Z. Kala, K. Kala
- TG-17**      **DOUBLY CURVED SHELLS AND SHELL-LIKE STRUCTURES: Chairman: D.T. Wright**  
**17-1**      **TUES 1:40PM**  
Title: Numerical Buckling Strength Assessment in the Stability Design of Metal Shell Structures  
Author(s): J.G. Teng, C.Y. Song
- TG-20**      **COMPOSITE MEMBERS AND SYSTEMS: Chairman: R.Leon**  
**20-1**      **TUES 10:00AM**  
Title: Compressive Strength of Larger Scale Partially Encased Composite Stub Columns Made with Non-Compact Shapes  
Author(s): Robert Tremblay
- 20-2 (V)**      **WED 9:20AM**  
Title: Three-Dimensional FEM Analysis of High Strength Square CFT Columns  
Author(s): Amit H. Varma, J.M. Ricles, R. Sause
- 20-3**      **MON 9:30AM**  
Title: Calibration of a Simplified element Model for the Analysis of Slim Composite Floors  
Author(s): Fernando Amorim de Paula, G. Queiroz
- TG-24**      **STABILITY UNDER SEISMIC LOADING: Chairman: S.C. Goel**  
**24-1**      **MON 2:35PM**  
Title: Strength and Stability of Corner Gusset Plates Under Cyclic Loading  
Author(s): J.J. Roger Cheng, G.Y. Grondin
- TG-25**      **Connection Restraint Characteristics: Chairman: A.V. Goverdhan**  
**25-1**      **TUES 4:40PM**  
Title: Computer Modeling of Single Plate Framing Connections and Analytical M- $\theta$  Curves  
Author(s): Gilson Queiroz, L. A. Cordeiro da Mata





## TASK GROUP SCOPE - TOPIC OUTLINE

**TG-26 STABILITY OF ANGLE MEMBERS: Chairman: L.A. Lutz**

**26-1 TUES 4:20PM**

Title: A Study of Single Angle Major Principal Axis Flexure

Author(s): Christopher J. Earls

**26-2 MON 10:45AM**

Title: Repair of Angles Through Thermo-spray Metalizing

Author(s): Dimos Polyzois, C.S. Leong, S.K. Hassan

**TG-27 PLATE AND BOX GIRDERS: Chairman: M. Elgaaly**

**27-1 WED 9:00AM**

Title: Capacity of Singly Symmetric Beam Columns Using Modified Stress-strain Curve

Author(s): Peter W. Marshall, D. Stock, D. Lewis

**27-2 WED 8:40AM**

Title: Strengthening the Fatigue Cracked Orthotropic Deck with Composite Layers

Author(s): Ronaldo Battista, M. Pfeil

**27-3 MON 1:30PM**

Title: Properties of Variable Loading in Relation to Local Stability and Resistance Capacity of Plate Girders

Author(s): Emilia Juhasova, P. Juhas

**27-4 TUES 11:40AM**

Title: Wrinkling Behavior of Internally Stiffened HPS Sandwich Panels for Plate Girder Web Applications

Author(s): Robert Driver, H. Abbas, R. Sause

**TG-29 2ND ORDER INELASTIC ANALYSIS FOR FRAME DESIGN: Chairman: D.W. White**

**29-1 (V) TUES 10:20AM**

Title: Analysis and Design Methods for Partially Restrained Steel Framing Systems

Author(s): Andrea Maleck, D.W. White

**TG-30 BRACING MEMBERS: Chairman: T.A. Helwig**

**30-1 (V) TUES 11:20AM**

Title: Top Flange Lateral Bracing of Steel Box Girders

Author(s): Brian Chen, J.A. Yura

**TASK REPORTER 16 - STIFFENED PLATE STRUCTURES**

**TR16-1 TUES 1:00PM**

Title: Stability of Stiffened Steel Plates Under Axial Compression and Bending

Author(s): G. Y. Grondin, J.J.R. Cheng, A.E. Elwi

## MONDAY, JULY 24

<b>TASK GROUP MEETINGS &amp; PRESENTATIONS</b>						
<b>8:30 - 9:30</b>	<b>MORNING SESSION</b> Early Bird Registration & Coffee				<b>SLIDE PREVIEW ROOM</b> Sunday 7/23: 7pm-9pm Monday 7/24: 7am-8am	
<b>HERITAGE I</b>			<b>HERITAGE II</b>			<b>MEMPHIS</b> (No Presentations)
9:30-9:55	13-1	<b>F. C. Rodrigues,</b> P.C. Costa Santana	9:30-9:55	20-3	<b>F. Amorim de Paula</b> G. Queiroz, L.A. da Mata	9:30 - <b>TG-6 Meeting</b> 10:00 <i>L. Tall, Chairman</i>
9:55-10:20	13-5	<b>D. Camotim</b> E. Batista , E. Vazquez, L.C. Prola	<b>9:55- 10:30 - TG-20 Meeting</b> <i>R. Leon, Chairman</i>			10:00-10:30 <b>TG-11 Meeting</b> <i>M. Ivanyi, Chairman</i> <i>A. H. Zureick, Co-Ch.</i>
10:20-10:45	13-4	<b>G.J. Van den Berg</b> P. Van Tonder				10:30-11:15 <b>TG-30 Meeting</b> <i>T. A. Helwig, Chairman</i>
<b>10:45 - 11:30 - TG-13 Meeting</b> <i>W.S. Easterling, Chairman</i>			10:30-10:55	<b>26-2 D. Polyzois</b>		11:15 - <b>TG-29 Meeting</b> 12:00 <i>D.W. White, Chairman</i>
			<b>10:55 - 11:30 - TG-26 Meeting</b> <i>L.A. Lutz, Chairman</i>			

### 11:45 - 1:15 LUNCH BREAK

(Luncheon Buffet available at Magnolia's Grille)

1:30-1:50	4-3	<b>D. Camotim</b> P. Nogueiro, L. Simoes da Silva, N. Silvestre, D. Camotim	1:30-1:50	27-3	<b>E. Juhasova</b> P. Juhas	1:30-2:00 <b>TG-18 Meeting</b> <i>P.C. Birkemo, Chairman</i>
<b>1:50 - 2:30 - TG-4 Meeting</b> <i>G. G. Deierlein, Chairman</i>			<b>1:50 - 2:30 - TG-27 Meeting</b> <i>M. Elgaaly, Chairman</i>			2:00-2:30 <b>TG-15 Meeting</b> <i>R.S. Vinnakota, Chairman</i>
2:35-3:00	1-1	<b>Pavel Juhas</b>	2:35-3:00	24-1	<b>J.J. Roger Cheng</b> G. Y. Grondin	2:30-3:00 <b>TG-14 Meeting</b> <i>J.M. Yadlosky, Chairman</i>
<b>3:05 - 3:30 - TG-1 Meeting</b> <i>D.J.L. Kennedy, Chairman</i>			<b>3:05 - 3:30 - TG-24 Meeting</b> <i>S.C. Goel, Chairman</i>			3:00-3:30 <b>TG-17 Meeting</b> <i>D.T. Wright, Chairman</i>

**3:45 - 5:00 EXECUTIVE COMMITTEE & TASK GROUP MEETING  
HERITAGE I & II**

**MONDAY, JULY 24 -TASK GROUP MEETINGS & PRESENTATIONS**

<b>TASK GROUP MEETING SCHEDULES (*)</b>		
Task Group 1**	3:05 - 3:30pm	Heritage I
Task Group 4**	1:50 - 2:30pm	Heritage I
Task Group 6	9:30 - 10:00am	Memphis
Task Group 11	10:00 - 10:30am	Memphis
Task Group 13**	10:45 - 11:30am	Heritage I
Task Group 14	2:30 - 3:00pm	Memphis
Task Group 15	2:00 - 2:30pm	Memphis
Task Group 17	3:00 - 3:30pm	Memphis
Task Group 18	1:30 - 2:00pm	Memphis
Task Group 20 **	9:55 - 10:40am	Heritage II
Task Group 24**	3:05 - 3:30pm	Heritage II
Task Group 26**	11:10 - 12:00am	Heritage II
Task Group 27**	1:50 - 2:30pm	Heritage II
Task Group 29	11:15am - 12:00	Memphis
Task Group 30	10:30 - 11:15am	Memphis

(\*) Estimated Length of Meeting      (\*\*) Indicates presentations preceding TG meeting

**MORNING PRESENTATIONS**

<u>TIME</u>	<u>REF#</u>	<u>RM</u>	<u>PRESENTATION</u>
9:30AM	13-1	H-I	BUCKLING CURVE FOR COLD-FORMED "S" COMPRESSED MEMBERS, <i>Francisco C. Rodrigues, P.C. Costa Santana</i>
	20-3	H-II	CALIBRATION OF A SIMPLIFIED ELEMENT MODEL FOR THE ANALYSIS OF SLIM COMPOSITE FLOORS, <i>Fernando Amorim de Paula, G. Queiroz</i>
9:55AM	13-2	H-I	DETERMINATION OF THE MOMENT-ROTATION BEHAVIOR OF CONNECTIONS BETWEEN BEAMS AND COLUMNS OF COLD-FORMED STEEL PROFILES, <i>C. Rodrigues, J. Filho</i>
10:20AM	13-5	H-I	SOUTHWELL PLOT ESTIMATION OF LOCAL CRITICAL STRESSES IN THIN-WALLED COLUMNS, <i>Dinar Camotim, E. Batista, E. Vazquez, L.C. Prola</i>
10:45AM	13-4	H-I	THE LOCAL BUCKLING STRENGTH OF STAINLESS STEEL BEAM WEBS SUBJECTED TO A STRESS GRADIENT, <i>G. J. Van den Berg, P. Van Tonder</i>
10:45AM	26-2	H-II	REPAIR OF ANGLES THROUGH THERMO-SPRAY METALIZING, <i>Dimos Polyzois, C.S. Leong, S.K. Hassan</i>

**AFTERNOON PRESENTATIONS**

<u>TIME</u>	<u>REF#</u>	<u>RM</u>	<u>PRESENTATION</u>
1:30PM	4-3	H-I	NON-LINEAR BEHAVIOUR OF PITCHED-ROOF FRAMES WITH BI-LINEAR SEMI-RIGID CONNECTIONS Author(s): <i>P. Nogueiro, L. Simoes da Silva, N. Silvestre, Dinar Camotim</i>
	27-3	H-II	PROPERTIES OF VARIABLE LOADING IN RELATION TO LOCAL STABILITY AND RESISTANCE CAPACITY OF PLATE GIRDERS, <i>Emilia Juhasova, P. Juhas</i>

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2:35PM	1-1	H-I	STABILITY & LOAD-CARRYING CAPACITY OF HYBRID COMPRESSED STEEL ELEMENTS, <i>Pavel Juhas</i>
	24-1	H-II	STRENGTH AND STABILITY OF CORNER GUSSET PLATES UNDER CYCLIC LOADING, <i>J.J. Roger Cheng, G. Y. Grandin</i>

## TUESDAY, JULY 25 - Morning Session

ANNUAL TECHNICAL SESSION	
7:45am - 8:30	<b>REGISTRATION &amp; CONTINENTAL BREAKFAST</b>
8:30am - 8:35	<b>WELCOME &amp; INTRODUCTIONS</b> <i>Presiding:</i> <b>Reidar Bjorhovde</b> , SSRC Chairman
LYNN S. BEEDLE SESSION	
8:35 - 8:50am	<b>Theodore V. Galambos</b> , University of Minnesota, Twin-Cities
8:50 - 9:05am	<b>Gerard F. Fox</b> , Consultant
9:05 - 9:20am	<b>Shankar Nair</b> , Teng & Associates
9:20 - 9:40am	<b>Lynn S. Beedle</b> , Lehigh University
9:40 - 9:45am	<b>Presentation &amp; Award</b>

### 9:45 - 10:00AM REFRESHMENT BREAK

<i>SESSION I</i>	PRESIDING: LeRoy A. Lutz, <i>Computerized Structural Design, Inc.</i>
10:00 am - 10:20	<b>20-1 COMPRESSIVE STRENGTH OF LARGER SCALE PARTIALLY ENCASED COMPOSITE STUB COLUMNS MADE WITH NON-COMPACT SHAPES</b> <i>Robert Tremblay</i> , Ecole Polytechnique
10:20 am - 10:40	<b>29-1 ANALYSIS AND DESIGN METHODS FOR PARTIALLY-RESTRAINED STEEL FRAMING SYSTEMS</b> <i>(V)</i> <i>Andrea Maleck</i> , Georgia Institute of Technology, <i>Co-author(s): D. W. White</i>
10:40 am - 11:00	<b>4-2 IN-PLANE STABILITY AND SECOND-ORDER EFFECTS IN MULTI-BAY PITCHED-ROOF STEEL FRAMES</b> <i>Dinar Camotim</i> , University of Portugal, <i>Co-author(s): N. Silvestre</i>
11:00 am - 11:20	<b>4-4 APPROXIMATE K-FACTORS FOR PARTIALLY BRACED COLUMNS</b> <i>Francois Cheong-Siat-Moy</i> , California State University, Sacramento
11:20 am - 11:40	<b>30-1 TOP FLANGE LATERAL BRACING OF STEEL BOX GIRDERS</b> <i>(V)</i> <i>Brian Chen</i> , University of Texas at Austin, <i>Co-author(s): J. A. Yura</i>
11:40 am - 12:00	<b>27-4 WRINKLING BEHAVIOR OF INTERNALLY STIFFENED HPS SANDWICH PANELS FOR PLATE GIRDER WEB APPLICATIONS</b> <i>Robert Driver</i> , University of Alberta, <i>Co-author(s): H. Abbas, R. Sause</i> , Lehigh University

12:00 NOON - 1:00 PM  
LUNCHEON - HERITAGE FOYER

**Presentation of SSRC Life Member Awards - 2000**

**Prof. D.J. Laurie Kennedy**  
University of Alberta  
Member - 1985

**Dr. George C. Lee**  
MCEER, SUNY Buffalo  
Member - 1976

**Dr. Clarence D. Miller**  
Retired, CBI Technical Services  
Member - 1979

**Dr. Donald R. Sherman**  
University of Wisconsin-Milwaukee  
Member - 1974

**Dr. Murray C. Temple**  
Retired, Alcoa Technical Services  
Member - 1976

**Prof. Sriramulu S. Vinnakota**  
Marquette University

Member - 1975

**LUNCHEON MENU**

House Salad

Flatbreads & Luncheon Rolls

Penne Pasta With Grilled Chicken

Tossed in a Basil-Garlic Sauce  
garnished with Tomatoes and Pine Nuts

Dessert

Coffee, Tea, Beverages



Vegetarian E ntree Available Upon Request

## TUESDAY JULY 25 - Afternoon Session

<b>SESSION II</b>	<b>PRESIDING: Mohammed Elgaaly, Drexel University</b>
1:00 pm - 1:20	<b>16-1 STABILITY OF STIFFENED STEEL PLATES UNDER AXIAL COMPRESSION AND BENDING</b> <i>G. Y. Grondin</i> , University of Alberta, <i>Co-author(s): J.J.R. Cheng, A.E. Elwi</i>
1:20 pm - 1:40	<b>13-3 SIMPLIFIED METHOD FOR STEEL STRUCTURES DESIGN OF BUILDINGS IN FIRE SITUATION</b> <b>Francisco C. Rodrigues</b> , Universidade Federal de Minas Gerais, <i>Co-author(s): R.H. Fakury, V. Pignatta e Silva, R.J. Pimenta</i>
1:40 pm - 2:00	<b>17-1 NUMERICAL BUCKLING STRENGTH ASSESSMENT IN THE STABILITY DESIGN OF METAL SHELL STRUCTURES</b> <i>J.G. Teng</i> , The Hong Kong Polytechnic University, <i>Co-author(s): C. Y. Song</i>
2:00 pm - 2:20	<b>13-9 EXPERIMENTAL BEHAVIOUR OF TRANSITION JUNCTIONS IN ELEVATED STEEL SILOS AND TANKS (V)</b> <i>Y. Zhao</i> , Hong Kong Polytechnic University, <i>Co-Author(s): J.G. Teng</i>
2:20 pm - 2:40	<b>13-0 A DESIGN PROCEDURE FOR THE INFLUENCE OF BEND RADII ON LOCAL BUCKLING</b> <i>Cedric Marsh</i> , Concordia University
2:40 pm - 3:00	<b>13-7 ON THE INFLUENCE OF THE END PLATE CONDITIONS ON THE DISTORTIONAL BUCKLING MODE OF COLD-FORMED RACK SECTIONS</b> <i>Eduardo de M. Batista</i> , Universidade Federal do Rio de Janeiro, <i>Co-author(s): D. Camotim, L.C. Prola, E. Vazquez</i>

### 3:00 - 3:15PM REFRESHMENT BREAK

<b>SESSION III</b>	<b>PRESIDING: Peter W. Marshall, MHP Systems Engineering</b>
3:20 pm - 3:40	<b>15-1 ULTIMATE STRENGTH MODELING OF WIDE FLANGE BEAMS SUBJECTED TO TORSION</b> <i>Robert G. Driver</i> , University of Alberta
3:40 pm - 4:00	<b>15-2 TENSION FLANGE BUCKLING OF WIDE FLANGE BEAMS</b> <i>J.J. Roger Cheng</i> , University of Alberta, <i>Co-author(s): G. Y. Grondin</i>
4:00 pm - 4:20	<b>15-3 THE ANALYTICAL AND STATISTICAL APPROACHES TO LATERAL BEAM BUCKLING</b> <i>Jindrich J. Melcher</i> , Technical University of Brno, <i>Co-author(s): Z. Kala and K. Kala</i>
4:20 pm - 4:40	<b>26-1 A STUDY OF SINGLE ANGLE MAJOR PRINCIPAL AXIS FLEXURE</b> <i>Christopher J. Earls</i> , University of Pittsburgh
4:40 pm - 5:00	<b>25-1 COMPUTER MODELING OF SINGLE PLATE FRAMING CONNECTIONS AND ANALYTICAL M-<math>\Theta</math> CURVES</b> <i>Gilson Queiroz</i> , Federal University of Minas Gerais, <i>Co-author(s): L.A. Cordeiro da Mata</i>
<b>5:00 - 5:15 PM ANNUAL BUSINESS MEETING</b>	

5:30 - 7:00 PM	RECEPTION - HERITAGE FOYER
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## WEDNESDAY, JULY 26

<b>THEME SESSION MATERIAL PROPERTIES &amp; STABILITY ISSUES</b>	
7:45 am - 8:15	<b>CONTINENTAL BREAKFAST</b>
8:15 am - 8:20	<b>THEME SESSION:</b> <i>Presiding:</i> <b>Nestor R. Iwankiw</b> , Theme Session Program Chairman (Introductions)
8:20 am - 8:40	<b>13-8 ELASTIC-PLASTIC INTERACTIVE BUCKLING OF THIN-WALLED STEEL BEAMS</b> <i>Viorel Ungureanu</i> , Romanian Academy of Sciences, <i>Co-author(s): Dan Dubina</i> , Politehnica University of Timisoara
8:40 am - 9:00	<b>27-2 STRENGTHENING THE FATIGUE CRACKED ORTHOTROPIC DECK WITH COMPOSITE LAYERS</b> <i>Ronaldo Battista</i> , COPPEE/Federal University of Rio de Janeiro, <i>Co-author(s): Michele Pfeil</i>
9:00 am - 9:20	<b>27-1 CAPACITY OF SINGLY SYMMETRIC BEAM COLUMNS USING MODIFIED STRESS-STRAIN CURVE</b> <i>Peter W. Marshall</i> , MHP Systems Engineering, <i>Co-author(s): D. Stock, D. Lewis</i>
9:20 am - 9:40	<b>20-2 THREE-DIMENSIONAL FEM ANALYSIS OF HIGH STRENGTH SQUARE (V) CFT COLUMNS</b> <i>Amit H. Varma</i> , Lehigh University, <i>Co-author(s): J.M. Ricles, R. Sause</i> , Lehigh University

9:40 - 10:00 BREAK

10:00am - 10:20	<b>Theodore V. Galambos</b> <i>University of Minnesota-Twin Cities</i>	<b>THE EFFECT OF MATERIAL PROPERTIES ON THE STABILITY DESIGN CRITERIA OF STEEL STRUCTURES</b>
10:20 am- 10:40	<b>Tom Pike</b> <i>Corus Construction &amp; Industrial</i>	<b>PRODUCTION AND METALLURGICAL PERSPECTIVE OF MODERN CONSTRUCTIONAL STEELS</b>
10:40 am- 11:00	<b>Dann Hall</b> <i>Bridge Software Development, Inc.</i>	<b>EFFECT OF MATERIAL PROPERTIES ON STABILITY IN BRIDGE STEELS</b>
11:00 am- 11:20	<b>Roger Brockenbrough</b> <i>R.L. Brockenbrough &amp; Associates</i>	<b>1999 SUPPLEMENT TO AISI SPECIFICATION &amp; REVIEW OF MATERIAL PROPERTY CONSIDERATIONS</b>

11:20 am- 11:40	<b>G.J. Van den Berg</b> <i>Rand Afrikaans University</i>	<b>THE MECHANICAL PROPERTIES OF STAINLESS STEELS FOR COLD-FORMED STRUCTURAL APPLICATIONS</b>
11:40 am	<b>DISCUSSION &amp; CONCLUSIONS</b>	
12:00 Noon	<b>ADJOURN</b>	

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## ANNOUNCEMENT

◆◆◆◆  
**2001 ANNUAL TECHNICAL SESSION & MEETING**  
**May 8-11, 2001**

In Cooperation with the

**American Institute of Steel Construction**  
**NORTH AMERICAN STEEL CONSTRUCTION CONFERENCE**  
**May 9 - 12, 2001**

Fort Lauderdale Convention Center  
Fort Lauderdale, FL

THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S **NORTH AMERICAN STEEL CONSTRUCTION CONFERENCE** WILL BE HOST TO THE SSRC ANNUAL TECHNICAL SESSION & MEETING AS PILOT FOR FUTURE COMBINED MEETINGS. TASK GROUP MEETINGS AND PRESENTATIONS WILL BE SCHEDULED FOR TUESDAY, MAY 8<sup>th</sup>, WITH AN SSRC TRACK RUNNING DURING THE **NASCC** MEETINGS, FT. LAUDERDALE, FL

AISC Event Web Site:

<http://www.steelcalendar.org>

SSRC Web Site:

<http://www.ce.ufl.edu/~ssrc>

# STRUCTURAL STABILITY RESEARCH COUNCIL

2000 Annual Technical Session & Meeting  
24-26 July 2000

**Memphis, Tennessee**

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*\*Includes attendance to SSRC Task Group Presentations (Monday), Annual Technical Session, Theme Conference, Tuesday Luncheon and Reception, and Post-Conference Proceedings.*

<p><b>REGISTRATION FEE WAIVED FOR:</b></p> <p>G <b>LIFE MEMBERS</b></p> <p>G <b>STUDENTS</b></p> <p><i>(Does not include Tuesday luncheon or conference proceedings)</i></p>	<input type="checkbox"/> Proceedings ___ @ \$35  <input type="checkbox"/> Lunch ___ @ \$20	
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