Proposal for
# International Slide Rule Championships
# (ISRC)

## 1 Mission:

1.1 To increase the interest in slide rules and numeracy throughout the world, to add excitement and friendly competition between member organizations by rewarding the prowess and math competency of individual slide rule collectors and students, to increase the spirit of camaraderie amongst the collector communities, and to increase the membership of the respective national organizations.

1.2 As a secondary benefit, competitors will be become more knowledgeable and may be more willing to teach a slide rule seminar in their respective home towns, thereby recruiting younger members to the organizations.

1.3 Thirdly, this is supposed to be a FUN event in order to increase the enjoyment of owning and using a slide rule.

## 2 ISRC International Governing Body:

2.1 An ISRC Panel of Judges (POJ) will be organized initially by Michael V. Konshak, curator of the International Slide Rule Museum (ISRM) and member of the Oughtred Society and UKSRC, and by members of the Oughtred Society, which will act as impartial entities.

2.2 An independent judge, proficient in math or science from a local School or University, may be recruited for a seat on the Panel of Judges, and will act as an adviser to the competition. Currently this is Prof. Peter Alfeld, University of Utah.

2.3 The ISRC Panel of Judges shall be the sanctioning body for approving Local, Regional and National competitions.

## 3 ISRC Hosts and Administrators:

3.1 Hosted and administered by the following Organizations:
   3.1.1 United States: OS           National Administrator: TBD
   3.1.2 United States: OS East      Regional Administrator: TBD
   3.1.3 United States: OS West     Regional Administrator: Gary Flom
   3.1.4 United Kingdom: UKSRC   National Administrator: TBD
   3.1.5 Netherlands: Dutch Kring   National Administrator: Otto Van Poejle
   3.1.6 Germany: RST          National Administrator: Klaus Kuehn
   3.1.7 Japan: SRLG          National Administrator: TBD
   3.1.8 Other (School or University):  Regional Administrator: TBD

3.2 National Administrators shall be volunteers and  members in good standing . These should be members that regularly attend the organization's annual or regional meetings.

3.3 Regional Administrators (SR Collector Organizations) may be assigned to insure that members in other parts of a country can participate in separate meeting locations and dates that are distant from the annual meetings.

3.4 Regional Administrators (Educational Institutions) shall be a teacher or respected mentor of the school that is able to organize a minimum number (12) of competitors within that region

3.5 Local Administrators (Schools and Universities) shall be a teacher or respected mentor of the school that is able to organize a minimum number (3) of competitors within that particular school

## 4  Competition Year

4.1 The official competition season will be based on a fiscal year starting on June 1 through July 30 in order to allow inclusion of all the Organizational meetings as well as participation from academic institutions.

4.2 General Dates of Organizations
   4.2.1 Oughtred Society  - February - (ISRC National) OS Winter meeting, Las Vegas
   4.2.2 Oughtred Society (West) - (ISRC Regional) OS West Coast Summer meeting
   4.2.3 Oughtred Society (East) -   (ISRC Regional) OS East Coast Fall meeting
   4.2.4 UKSRC - Spring Meeting (ISRC National)
   4.2.5 Dutch KRING -
   4.2.6 RST Rechenschieber-Sammler - (ISRC National)
   4.2.7  IM20XX - International Meeting  (ISRC International)
   4.2.8 Schools and Universities - Anytime within the  school year

## 5  ISRC Competition Procedure

   Note: The following may seem too detailed and laborious for what is actually a very simple contest, but if the idea becomes popular, there needs to pre-defined rules to minimize confusion and to maintain fairness, beyond a single event.

5.1 Championships, (a Competition event) may be held at any one of the locations and dates of the annual or one of the semi-annual meetings of each participating organization within their respective country or as part of a math or science curriculum within a school or university.

5.2 Championships may start and end at a single location, (school or collector

meeting) or may be scored as part of a Local, Regional, National or International event.

5.3 All Championships for a given year or season must fall within an eight month time frame (TBD) leaving four months to receive and score the results.

5.4 Competitors may include anyone of any age that is able to attend the aforementioned organizational meetings or part of a regional sanctioned event.

5.5 A minimum number of three (3) individuals plus an administrator must be registered from an organization to compete as a sanctioned event.

5.6 Entrants that belong to several organizations must declare before hand which group they represent for Team and National Championships.

5.7 Individual entrants that wish to be part of a Team Championship must declare themselves as part of a team prior to the competition. Team name to be chosen by the members of the Team

5.8 A sanctioned Championship will consist of a number of problems to be performed by a slide rule in a set period of time, tentatively about 10-20 minutes, so as not to take too much time from the regularly scheduled meetings or class work.

5.9 A large block of practice problems with answers in several categories will be made available to competitors prior to each annual competition.

5.10 The practice problem set will be comprised of problems created by the POJ and may include exercises submitted and recommended by participating organizations

5.11 The Practice problem set will be issued to the Administrators in advance of the date of competition in order that competitors may hone their skills. Hints on which scales would be appropriate to solve the problems may be included.

5.12 The actual problem sets to be used in the Championships will be the same as the practice set, but will have alternate factors and values replaced in the equations.

5.13 In the event of a tie, a set of slide rule trivia questions will be given to the competitors to answer. The competitors will be given additional time to complete the tie-breaker.

5.14 Problem Sets and Trivia Questions (i.e. Tie-Breakers) will be in a sealed envelope and sent out to each National Administrator, and shall not be opened until the day of the competition. The Administrator may be asked to make copies of the problem sets to hand out to competitors.

5.15 The Administrator may ask a non-competitor (witness) to be a back-up timer and to help audit the competition depending on the number of competitors in attendance.

5.16 The Problem Sets will be handed out to each competitor at the organization's meeting location and the National Administrator will begin the timed competition as soon as everyone acknowledges that they are ready.

5.17 The Administrator will announce "You will have one minute to open and review the problems and the scale hints on the back page and to write your name on the sheets. Keep in mind more complex equations will receive higher points. All slide rules down, begin review".

5.18 The competitors will open their Problem Sets, write their names and review the problems and hints to build their competition strategy.

5.19 After one minute, the administrator shall announce "Slide rules up, you may begin."

5.20 The competitors will attempt to answer correctly as many problems as they are able to solve within the allotted time, using only a slide rule, scratch paper and mental ability.

5.21 The Problem Set sheet of paper may be used as scratch paper and must be the only scratch paper used.

5.22 At the end of the specified time, the Administrator announces "All Slide Rules and pencils down"

5.23 The competitors must stop all calculations and give the Problem Set back to the Administrator (or assistant).

5.24 The Administrator and assistant will score the problems sets, according to the official answer sheet.

5.25 In the event of ties, for 1st through 3rd places, the Administrator will locate the competitors and hand out the Tie-Breaking Trivia questions. This can be done when there is an appropriate break in the meeting's schedule. A time limit may or may not be imposed for answering the trivia questions.

5.26 The Administrator will score the tie-break questions and determine the winners for that local, regional or national event.

5.27 The Administrators will announce the winners at an appropriate time during the meeting, and may hand out awards or temporary certificates to the winners.

5.28 If a locally sanctioned event, not part of a regional or national championship, the problem sets may handed back to the participants.

5.29 If a regional or national event, the Administrator will combine all finished Problem Sets, along with those that were unused, back into the packet.

5.30 The Administrator must place the  packet in the mail within 5 days after the competition, addressed to the Panel of Judges for scoring.

5.31 Once all Packets are received from each participating organization, the individual tests will be scored by the Panel of Judges and compared to the results of other events that have been previously submitted.

5.32 The current standings will be posted on the ISRM and OS websites.

5.33 At the end of all submissions of a Regional championship, for more than one event, the final result will be tabulated within 15 days of completion.

5.34 At the end of the competition season, June 30 of that year, the final results will be tabulated for the National championship, assuming there has been sufficient participation.

5.35 The National, Team and Individual Champions will be determined by the Panel of Judges and plaques will be sent out to the competing individuals and organizations.

6  Problem Sets

6.1 Problems sets will be comprised of two or more constants (12, 345, .0036. etc) with one or more operators ( multiply, divide, squares, square roots, cubes, cube roots, sin, cosine, or tangent).

6.2  Scales required to solve the problems will be restricted to those found on common Mannheim slide rules: K, A, B, CI, C, D, S Cos, T Tan and S&T.

6.3  The difficulty level of the problem sets will be adjusted according to the background of the competitors at any particular event.

7  Tie-Breaker Trivia Questions

7.1 Tie-Breakers will consist of slide rule related questions, with multiple choice answers.

7.2 Questions may involve slide rule scales, materials, history, brand recognition or

about historical people.

      7.2.1 Example 1: The Flying Fish brand of slide rule was manufactured in which country? A. Denmark, B. China, C. England, D. Japan

      7.2.2 Example 2 : Post Versalogs, a U.S. brand and model, contained what primary material in their stocks? A. Mahogany, B. Basswood, C. Plastic, D. Bamboo

      7.2.3 Example 3. William Oughtred's primary profession was as ? A. Engineer, B. Physicist, C. Priest, D. Seafarer

7.3 All answers may be found from perusing data and resources at the International Slide rule Museum web site: www.sliderulemuseum.com

## 8 Scoring Method

8.1 Answers must be given to three significant digits, including trailing zeros

8.2 The last significant digit of the answer is to be within a range of +/- 2 of the nominal answer.

    8.2.1 Example 1: 243 through 247 is correct for a nominal answer of 245

    8.2.2 Example 2: 0.00360 through 0.00364 is correct for 0.00362.

    8.2.3 Example 3: $987 \times 10^{-4}$ through $991 \times 10^{-4}$ is correct for $989 \times 10^{-4}$

8.3 The decimal point must be properly placed for an answer to be correct.

8.4 Points assigned to individual problems are based on the calculating the proper significant figures and placing the decimal point correctly in a particular problem, along with bonus additional points for problems that contain multiple operators ( multiply, divide, squares, square roots, cubes, cube roots, sin, cosine, or tangent). This is to reward the extra effort in keeping track of the decimal point.

    8.4.1 Significant Figures: One point for correct Significant Figure +/- 2 of the nominal answer.

    8.4.2 Decimal Point Location: One point for correctly placing decimal point.

    8.4.3 If both significant figures and decimal point location are correct, additional Bonus points are awarded: One point for each operator.

    8.4.4 Examples:

      8.4.4.1 Problem: 12 x 76 has 1 operator (X), therefor 1 operation point is given if both significant figures and decimal location are correct. Total score= 3 points.

      8.4.4.2 Problem: $(12 \times 7/8)/345^{2}$ has 4 operators (multiply, fraction, divide and squared), therefore 4 operation points are given if both significant figures and decimal location are correct. Total score= 6 points. If only the significant figures are correct and the decimal point location is in error, than only 1 point is awarded for this problem.

## 9 ISRC Championship Categories:

9.1 International Individual Champions - The best scores from all competitors.

9.2 National Individual Champions - The best scores within a country or organization.

9.3 International Team Champions - The best combined scores of three (or TBD) individuals within an organization. Multiple teams may be registered within an organization for intra-club rivalry.

9.4 International Organization Champion - Based on the average of the cumulative scores of all participants within that organization. (Bragging rights only)

9.5 School Champions - The best scores within that school or institution.(Certificates only, or medals depending on participant fees)

10 <u>ISRC Awards:</u>

10.1 Individual National Awards may consist of a plaque, either silk screened or sublimated, and will display the Championship category, the name of the entrant, the name of any sponsor(s) and the logos of all participating organizations. However, if insufficient funds are not obtained, awards may take the form of printed certificates. (Note a 7x9 sublimated plaque runs about $24 USD and an 8x10 Silk-screened plaques with nameplates run about $35 USD each.)

10.2 Awards for individuals winning National, Team and International Championships may be combined into one plaque, depending on available funding.

10.3 Awards for schools and local events may consist of medals or ribbons. the ribbon may be selected to match the schools colors.

10.4 There will be no award, for the Organizations standings in the Championship .except through honorable mention on the organization web sites.

10.5 Awards will be issued based on a minimum of the top three places or a ratio of one award per three competitors thereafter. (9 entrants = 1st-3rd place awards, 15 entrants = 1st -5th place awards). If there is an abundance of sponsorship and other donations, the Panel of Judges will attempt to award as many places as possible to include the most participants. Competitors that place below the level that awards are issued, that want a memento of the competition for their office, may receive a plaque from the organizers at their cost.

10.6 Sizes of plaques may vary according to sponsorship funding.

10.7 Plaques may be reproduced in the respective countries at local trophy establishments if International shipping costs prove to be excessive. If so, a budget will be given to the respective organizations, based on the number of competitors that have registered at their location to buy the Plaques locally.

11 <u>ISRC Funding:</u>

11.1 The ISRC will be funded through participant fees, commercial and corporate sponsors, and donations from private individuals.  The Oughtred Society  will act as a recipient of potential funds for those U.S. donors wanting a

tax deduction. (Dependant on the approval of the OS directors) and will reimburse the Panel of Judges for related expenses. All other monies to be handled via Paypal sent to curator@sliderulemuseum.com.

11.2 Awards, printing and mailings of packets to the respective organizations hosting the competitions at their meetings, will be paid by the ISRC (Panel of Judges).

11.3 The postage cost for returning the packets for judging will be paid for by each respective participating organization.

11.4 Participant  fees will be determined once a general poll is taken amongst all the International members, interested schools, and whether there are sponsors available.

12 <u>International Contacts:</u>

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