

## Abstract Submission Directions:

1. Please complete all of the fields in the Online Submission Form.
2. Prepare your abstract document following the ABSTRACT FORMAT instructions provided below. Abstracts must be prepared using Microsoft Word only. Abstracts will NOT be accepted if submitted using a different software application.
3. All student abstracts must have a faculty sponsor. Only ONLINE submissions will be accepted.
4. **Abstracts are DUE by 11:59PM on Wednesday, September 15, 2017. The ONLINE submission site will be closed after that day and time.** A general notification message that an abstract has been received will be sent to the first author and faculty sponsor by September 20, 2017. The notification will consist of a general receipt of abstract message.

First authors and faculty sponsors will be notified whether their abstract has been accepted no later than October 7, 2016. Notification will consist of a general acceptance message and the type of session for the presentation. Once the program has been completed, presenters and faculty sponsors will be sent a link to a PDF of the meeting schedule with the dates and times for podium and poster presentations.

5. All students, whose abstracts are selected for a Podium Presentation, will be automatically eligible for a MARC-ACSM Student Investigator Award. Three awards are provided at each annual conference: 1) the Matthew Kerner Undergraduate Student Investigator Award; 2) the Master Student Investigator Award; or 3) the Doctoral Student Investigator Award. Finalists for these awards will be determined by the Research Committee. Finalists will present in one of three joint sessions based on academic/award level.

Please direct questions to Dr. Jill Bush, Chair, Research Committee at [researchchair@marcacsm.org](mailto:researchchair@marcacsm.org)

*Please note: The first author must present the abstract. You may only appear as first author on ONE abstract, but may co-author as many abstracts as desired. If a person submits, as first author, more than one abstract, only one abstract will be accepted and all others will be rejected. Authors should note that this abstract may be submitted/presented both at the regional and national ACSM annual meetings.*

## Guidelines & Example

### Abstract Format Instructions

1. The entire abstract must be typed using a Times New Roman font and a font size of no smaller than **11** points. There is a 2,000 characters limit (not including spaces, title, or author block) for abstracts. If including table, chart or graph, your text character count will be limited to 1500 characters (not including spaces, title, or author block) to accommodate your graphic. Non-compliant abstracts are subject to rejection for presentation. Please review the guidelines and example to make sure your abstract meets the requirements for acceptance.
2. The title of the abstract should be typed in Title Case and in bold. It should be limited to 15 words. On a new line, with a 3-space indent, type the name of the authors (first name, middle initial and last name), followed by the institution, city and state. If multiple institutions are represented in the abstract, please use a numerical superscript following each author with corresponding superscript in front of the institution (see example). Skip a line between the title/authors and the body of the abstract.

3. The text of the abstract should be single-spaced and one paragraph. Tables are permitted. The abstract **MUST** report data and **MUST** include the following headings: **PURPOSE, METHODS, RESULTS, and CONCLUSION**. It is unsatisfactory to state, “The results will be discussed.” **Abstracts of experimental studies must include data** to substantiate the conclusions being drawn. It is not satisfactory to simply describe what was found verbally in general terms. *The lack of inclusion of experimental data may result in the abstract being rejected.* Do not use brand names in the abstract.
4. **Statement of Disclosure:** Indicate grant or other sponsor funding information at the bottom of the abstract. Indent 3 spaces and provide the funding agency and grant number supporting the research reported.
5. Abstracts must be prepared and submitted in Microsoft Word, PC or MAC version, and written in English.
6. Use standard abbreviations, symbols, and punctuation as used in MSSE. When using abbreviations in the body of the abstract, spell out in full the first mention, followed by the abbreviation in parentheses.
7. Human studies must comply with the ACSM statement regarding the use of human participants and informed consent (MSSE Vol. 30, No. 7, July 1998, “Policy Statement Regarding the Use of Human Subjects and Informed Consent”).
8. Animal studies must comply with the NIH guidelines regarding the use of animals.
9. **Nonconforming abstracts are subject to rejection.**

**Abstract Submission Checklist (student and faculty mentor should review this)**

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|--|-------|
| 1. The abstract title has been placed in title case                                  | _____ |
| 2. Investigator names/affiliations are indented three spaces                         | _____ |
| 3. Investigator names are listed correctly (first name, middle initial, last name)   | _____ |
| 4. Do not use the numerical superscript if all authors are from the same institution | _____ |
| 5. A space is provided between the institution and the abstract body                 | _____ |
| 6. Proper section headings are provided  | _____ |
| 7. The abstract <u>must</u> contain data to substantiate the findings                | _____ |
| 8. The abstract does not exceed the total character count                            | _____ |

## **Mechanisms Underlying Age-Related Changes in Skin Vasodilation During Local Heating**

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The skin blood flow (SkBF) response to local heating is reduced in healthy older (O) vs. young (Y) subjects; however, the mechanisms that underlie these age-related changes are unclear. Local skin heating causes a bimodal rise in SkBF involving at least two independent mechanisms: an initial peak mediated by axon reflexes and a secondary slower rise to a plateau which is mediated by the local production of nitric oxide (NO). **PURPOSE:** To determine the altered mechanism(s) underlying the attenuated SkBF response to local heating in aged skin. **METHODS:** Two microdialysis fibers were placed in the ventral skin of the forearm of 10 Y (22±2 yrs) and 10 O (77±5 yrs) subjects. SkBF over each site was measured by laser-Doppler flowmetry as the skin over both sites was heated to 42° C for ~60 min. At one site, 10mM L-NAME was infused throughout the protocol to inhibit NO-synthase (NOS). At the second site L-NAME was infused after 40 min of local heating. Cutaneous vascular conductance (CVC) was calculated as flux/mean arterial pressure and scaled as % maximal CVC (infusion of 50mM sodium nitroprusside). Age comparisons were made using two-way ANOVA with repeated measures. **RESULTS:** Maximal CVC was reduced in the O (156±15 vs. 192±12 mV/mmHg, p<0.05), as were the initial peak (46±4 vs. 61±2% max, p<0.05) and plateau (82±5 vs. 93±2%, p<0.05) responses. The decline in CVC with NOS inhibition during the plateau phase was similar in the Y and O groups but the initial peak was significantly lower in O when NOS was inhibited prior to local heating (38±5 vs. 52±4%, p<0.05). **CONCLUSION:** Age-related changes in both axon reflex-mediated and NO-mediated vasodilation contribute to the diminished vasodilator response to local heating in aged skin.