

ABSTRACT SUBMISSION GUIDELINES

1. There are numerous formats in which the abstract may be submitted, however, this is dependent on scientific meeting/conference that you may be presenting or attending. The abstract will be printed in a space 7 inches by 4 inches. Compose the abstract to fit **within** this area.
2. PLEASE FOLLOW THE EXAMPLE BELOW. Abstracts that do not conform to the format will not be printed.
3. Begin the title of the abstract at the far-left margin. The title of the presentation is in ALL CAPITAL LETTERS. End with a period.
4. Author(s): Give full first and last names underlining each name. End with a period.
5. Following author(s) immediately with department(s), address(es) including zip code(s), separated by commas. If multiple authors, add asterisk (*) behind name of person presenting the paper. End with a period. For this assignment: use the schools address and your major for your department affiliation.
6. Start text on the next new line and indent the first line of the abstract 5 spaces. Do not leave any lines in entire abstract. Type entire abstract within rectangular box and do not type on or beyond any portion of the box.
7. Use TIMES NEW ROMAN typeface in 12 point size. Single-space all typing. Type perfect copy.
8. **An emailed copy of your abstract must be sent (EMAIL) to your instructor by 5 pm, Friday, May 7, 2010. Late abstracts will NOT be accepted.**

SEASONAL VARIATION IN GLUCONEOGENESIS IN A MAMMALIAN HIBERNATOR (*Spermophilus lateralis*). James F. Staples and Peter W. Hochachka. Department of Zoology, University of British Columbia, Vancouver, B.C. V6T 1Z4, Canada

Seasonal hibernation in mammals is usually associated with fasting, and since blood glucose and liver glycogen stores decrease during a hibernation bout, gluconeogenesis from endogenous substrates is crucial to replenish carbohydrate supplies required by some tissues. Triglyceride is the main metabolic fuel during hibernation and arousal, and since there is evidence of "protein sparing" during hibernation, it was predicted that glycerol would a preferred gluconeogenic substrate during hibernation and arousal. Hepatocytes isolated from *Spermophilus lateralis* in deep hibernation, after arousal from deep hibernation, or in summer normothermy were used to assess this. Rates of glucose production from 10mM lactate/1mM pyruvate ($1.21 \pm .13$, $1.08 \pm .10$, $0.83 \pm \mu\text{mol glucose/g wet wt/min} \pm \text{SEM}$ respectively) and 10mM alanine ($0.46 \pm .07$, $0.35 \pm .07$, $0.33 \pm .06$) did not change with hibernation state, while with 10 mM glycerol, rates were twice as high in hibernation and arousal as in summer normothermy ($1.11 \pm .13$, $1.13 \pm .10$, $0.58 \pm .05$, $p = 0.003$). These differences were reflected by rates of cellular oxygen consumption with the different substrates but there was no difference in apparent oxidative efficiency of gluconeogenesis between hibernation states.