## NEW ALLOCATION RULE FOR REPEATED MEASUREMENT DESIGNS

Y. Liang<sup>†1</sup>, K.C. Carrière<sup>1</sup>

<sup>1</sup>University of Alberta, Edmonton, Canada

<sup>†</sup>E-mail: *yliang@ualberta.ca* 

In a response-adaptive design (RAD), we review and update the trial on the basis of outcomes in order to achieve a specific goal. Optimal designs for clinical trials are usually constructed under a single optimality criterion. We improve the current strategies of building response-adaptive designs in two directions: (1) construct optimal multiple-objective designs to increase both the estimation precision and the proportion of patients assigned to a better treatment, and (2) use a more general model, that accommodates the self and simple mixed carryover effects and random subject effect. In simulations we demonstrate that the designs constructed under the new proposed allocation rule are more efficient than fixed optimal designs in terms of the mean squared error.