**Request for Permission to Include Previously Published or Co-Authored Material**

**Date**: July 14, 2016

**From**: Bruce Buffett

**To:** Associate Dean of the Graduate Division for Academic Affairs

Graduate Services: Degrees, 318 Sproul Hall

**Re:** Ian R. Rose, SID: 17864617, Earth and Planetary Science, ian.rose@berkeley.edu

I am writing to ask for permission for the dissertation of the above named student to use coauthored and/or previously published material, as follows:

*Stability and accuracy of free surface time integration in viscous flows,*

submitted to *Physics of Earth and Planetary Interiors*, manuscript number *PEPI\_2016\_38,* on June 7th, 2016.

*Scaling rates of true polar wander in convecting planets and moons,* submitted to *Physics of Earth and Planetary Interiors,* manuscript number *PEPI\_2016\_60,* on July 11th, 2016.

The student named was involved in the published/coauthored research in a role that makes it appropriate to claim a role as author of the work as an original contribution to research. The previously published work forms part of a larger coherent argument appropriate for the graduate degree for which the student is a candidate.

Statements agreeing to the use of co-authored work are included with this letter.

**Coauthors: Bruce Buffett, Timo Heister**

*The dissertation chair's letter should explain circumstances that justify proceeding without explicit permission from any authors from whom permission was not/could not be obtained.*

*This may include identifying some co-authors who mainly had a supporting role, such as providing laboratory or instrumentation assistance, and whose explicit permission may be less critical.*

*If any co-authors can no longer be reached (due to changes in employment, for example) this should be stated.*

***The letter should be submitted along with the first page of each article (showing title and all authors); and printed copies of permissions received. Permissions received as email are acceptable.***

***The request must be received by Graduate Services Degrees office at 318 Sproul Hall no later than three weeks before the intended filing date.***