Professor S.K. Donaldson, FRS
Professor of Mathematics

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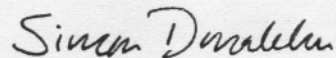Oxford OX1 3LB

February 12, 1991

Dr. Celso Doria,
PUC RJ Dept. de Matematicas,
Sao Vicente 225,
Gavea 22453 ,
Rio de Janeiro ,
Brasil

Dear Dr. Doria

I am writing to confirm our invitation to you to visit the Mathematical Institute.
If you are able to visit, we hope that you will be able to join our group working in
differential geometry and related areas, particularly on gauge theory and its appli-
cations in topology and geometry. There is an active group here working on these
topics: with senior people like Peter Kronheimer, a number of post-doctoral visitors
and a large and active collection of research visitors. We hope you will be be able to
work in this group and we look forward to learning new techniques from this collab-
oration. Particularly active areas for research at present include the extension of the
ideas of Floer homology to more general 3-manifolds (there are results of Mrowka
and Taubes in this direction) and applications to surgery formulae for 4-manifold in-
variants, (I am interested in relating these to gluing rules in conformal field theory)
and the development of a theory of singular connections (with singularities along
surfaces). I think your experience in analytical methods should be of great utility in
these projects. In another direction, I am rather interested in symplectic geometry,
and the use of minimal surface techniques, and these problems should be well-suited
to your research background.

I wish you the best of luck with your plans to visit the Mathematical Institute.

Yours sincerely,

Simon Donaldson

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