January 4, 2008

Dr. C. Sarazin
Department of Astronomy
University of Virginia
530 McCormick Road
P.O. Box 400325
Charlottesville, VA 22904-4325

Dear Dr. Sarazin:

Please accept the attached application for your postdoctoral position advertised in the December 2007 issue of the AAS Job Register. For my thesis (advised by Megan Donahue and Mark Voit), entitled *'Virialization, Entropy, and Feedback in Clusters of Galaxies'*, I am studying the coupling of feedback mechanisms – such as AGN, star formation, and conduction in cluster cores – to gas entropy, and the role of this feedback in altering global ICM properties and growth of massive galaxies. I have also studied a method for quantifying the virialization state of clusters. For my thesis, I assembled a sample of 350 archival *Chandra* observations for 276 clusters totaling 11.6 Msec of data. The results of this laborious effort have been many and are detailed in my research summary.

I am a valuable research asset for any X-ray astronomer because of my extensive experience with X-ray data, innovative technical skills, and ability to independently advance the group's and my own research objectives. I feel the post-doctoral position under your advisory at UVA is an ideal fit for me, and your research goals will benefit from my addition. My expertise is in X-ray astrophysics and I'm optimally suited to continue working with galaxy clusters with a specific focus on better understanding feedback mechanisms.

Along with this letter are my CV, a list of publications, a summary of my research experience, and a description of research interests. Letters of recommendation from Megan Donahue, Mark Voit, and Jack Baldwin should already have arrived under separate cover. Please contact me if there is any further information I can provide as you review my application.

Thank you for your consideration.

Sincerely,

Kenneth W. Cavagnolo
Michigan State University