

Knot Theory as an Excuse

Salaries and Benefits. Since 2017 I have graduated four PhD students (Travis Ens, Jesse Frohlich, Huan Vo, Leonard Afeke). I am presently working with three more (Jessica Liu, Daniel Martchenkov, Kevin Santos). I plan to support each of those at around \$10,000 per year. In addition I've had a number of master's students, I expect to have about two more per year, and to support each at about \$5,000 per year. Likewise I've taken a number of undergraduate "summer project" students, and I hope to support about two such students per year, at about \$2,500 each.

I hope to be able to support a postdoctoral fellow throughout the grant period, at about \$50,000 per year.

Equipment or Facility. Many of my past projects required massive computations, often running for months at a time (e.g., the calculation of all the invariants appearing on the Knot Atlas, <http://katlas.org>), and many of the results are made available by means of a dedicated web server, <http://drorbn.net>, especially <http://drorbn.net/ap>. My current proposal will lead me to continue using computers in a similar way. This will be a lot more effective if I would be able to pur-

Discovery Grant Proposal Budget Justification

chase and maintain current hardware. Hence the \$3,200 allocated per year for purchase or rental of computers and peripherals, and the \$700 allocated per year for the maintenance of those. Also, I will have to pay user fees for some of the programs I will be using (Mathematica, for example) and also to some shared facilities to be provided by my university — internet connection, backup services, etc. I am requesting an amount of \$2,000 per year for these purposes.

Materials and Supplies. This amount of \$700 per year will be used primarily to purchase office supplies and printer paper and ink.

Travel. In the past I have traveled extensively and gave presentations on my work in a large number of domestic and foreign universities and in many international conferences. I expect this will continue throughout the years of my contract. In addition I hope to support some travel by my graduate students and postdoctoral fellows, and to support visits by my scientific collaborators to Toronto. I am requesting an amount of \$9,000 per year for these purposes.

Books. Need no explain.