**Position Description:**

The Risques Lab at the Department of Pathology, UW, is looking for a postdoc to work in the application of two novel DNA Next Generation Sequencing (NGS) technologies to relevant cancer problems. The first technology is called PolyG-MIP and enables the subclonal detection of indels in polyguanine tracts that are captured, molecularly tagged, and sequenced with Molecular Inversion Probes (MIPs). The main applications of PolyG-MIP are analysis of intratumor heterogeneity, characterization of cancer evolution, and early detection of cancer. The Risques lab is currently working on the advanced development of the technology and its application to (1) determine the patterns of colorectal cancer metastatic dissemination and (2) enable prediction of progression to colorectal cancer in ulcerative colitis patients. The second novel NGS technology is called Duplex Sequencing (DS). DS is able to detect a single mutation in $10^7$ wild-type nucleotides, which allows the identification of very low frequency cancer DNA molecules within a normal DNA background. We are using DS for early detection of ovarian cancer in peritoneal fluid and Pap smear DNA. The postdoc will work primarily on the advanced development and applications of PolyG-MIP and, secondarily, on the early ovarian cancer detection DS project.

**Qualifications:**

PhD in molecular biology, genome sciences, biochemistry, cellular biology, or a related field with strong interest in cancer research. This position requires strong background in molecular biology, experience in NGS library preparation and data analysis, ability to work independently, and outstanding communication skills and interpersonal skills. Prior experience in cancer genetics and advanced computing knowledge is desirable. A track record of excellent first author publication is essential. Please email CV including three references to rrisques@uw.edu (write ‘postdoc application’ in subject line).