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A third generation genomics group forms

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A multinational collaboration of researchers assembled to conduct third-generation genome projects was announced in Ottawa yesterday (May 5) at a conference funded by Canadian agencies and attended by more than 75 scientists from Canada, France, the United Kingdom, Singapore, Italy, and the United States.

The goal of the International Regulome Consortium (IRC), which will be based in Ottawa, will be "to utilize the tools of proteomics and genomics to characterize the protein components of transcriptional complexes containing all potential transcription factors and to identify and validate the complete set of their binding sites and corresponding target genes," according to the IRC's Web site.

"The project will utilize the mouse, as this is the only mammalian system tractable for comprehensive molecular genetic studies," according to the site, although the IRC's scientific director, Michael Rudnicki, senior scientist at the Ottawa Health Research Institute, said there will be a human component as well.

A white paper arising from the conference will be circulating almost immediately, with a final draft expected within 6 weeks. A parallel process will develop a detailed scientific proposal and endpoints. Initial funding - "to help provide the glue," according to Rudnicki - is coming from Canada and the United Kingdom. Other funding agencies "prefer to deal with incorporated bodies," he added, so final funding details are yet to be worked out. Rudnicki said that the overall Canadian contribution will probably reach CDN \$50 million (USD \$36.3 million) over 5 years, about half the funds required.

"The project will define the genetic circuit board that controls the expression of genes in cells during the formation of all tissues and organs in the body," Rudnicki told us.

"It's the next-level big problem," Rudnicki said. As the cell is created, "there is a regulatory switchboard controlling which lights are going on and off," he said. "Right now, scientists are working in their labs, on one or two of these light bulbs at a time, and connecting one to another with a single wire and going 'Ah hah! I've made a big advance.' We can continue working like that in our own labs and it'll take many, many years to put together the big picture. What we're proposing to do is to put together a systematic methodology... so we can see what the circuit board looks like. This will be a tremendous tool for us to move forward."

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