

# Greg Chaitin in Ontario



During September 2009, Greg Chaitin visited Ontario and delivered a series of six lectures as follows:

- (1) Mathematics, Biology and Metabiology,  
The University of Western Ontario, London, September 18, 2009  
Host: Stephen Watt URL: <http://www.cs.umaine.edu/~chaitin/ufrij.html>
- (2) The Search for the Perfect Language,  
Perimeter Institute for Theoretical Physics, Waterloo, September 21, 2009  
Hosts: Lee Smolin, Richard Cleve, Robin Blume-Kohout  
URL: <http://pirsa.org/09090007/>
- (3) How Real Are Real Numbers?  
Wilfrid Laurier University, Waterloo, September 22, 2009  
Host: Ilias Kotsireas  
URL: <http://www.sharcnet.ca/help/index.php/Talk-Chaitin-20090922-How Real Are Real Numbers>
- (4) Algorithmic Information as a Fundamental Concept in Physics, Mathematics & Biology  
Institute for Quantum Computing, Waterloo, September 23, 2009  
Hosts: Raymond Laflamme, Michele Mosca URL: <http://www.iqc.ca/>
- (5) Leibniz, Complexity & Incompleteness  
Fields Institute, Set Theory Seminar, Toronto, September 25, 2009  
Hosts: Juris Steprans, Franklin Tall URL: <http://www.cs.umaine.edu/~chaitin/apa.html>
- (6) Mathematics, Biology & Metabiology  
Fields Institute, Center for Mathematical Medicine, Toronto, September 25, 2009  
Host: Siv Sivaloganathan URL: <http://www.cs.umaine.edu/~chaitin/jack.html>

Chaitin delivered his lectures with a tremendous amount of enthusiasm and clarity, answering lots of interesting and challenging questions and engaging in vivid conversations and debates with students and researchers.

Those who were lucky enough to interact with him during lunches, dinners and coffee breaks will readily admit that it is a real delight to be in his presence. Chaitin likes to share his groundbreaking ideas and insights with anyone at any time.

During his Ontario tour of lectures, he presented topics for which he is well known, such as Algorithmic Information Theory, the discovery of his number  $\Omega$ , complexity and incompleteness.

But he also discussed new ideas that are still in an embryonic state. In particular, he has been working for about a year in a new field that he calls Metabiology. The main idea of Metabiology, as Chaitin envisions it, is to describe a mathematical model of Biology, with the aim to give a mathematical proof of Darwin's Theory of Evolution. This mathematical model would be a toy one, to start with, so that one can prove theorems. Chaitin reported that he has proved 2 ½ theorems already and that he plans to continue in this direction. He invited whoever is interested to start working in this field. As it turns out, his number  $\Omega$  (the halting probability), plays a role in Metabiology as well. More information on Metabiology can be found on his webpage <http://www.umcs.maine.edu/~chaitin/>

Another one of Chaitin's characteristics became crystal clear throughout this series of lectures. During his 40+ years research career, he has gained a deep understanding and genuine appreciation of the work of such Masters as Leibniz, Borel, Weyl, Gödel, Turing and others.

He was accompanied by his wife who is an epistemologist with a special interest in pre-Socratic philosophy. On several occasions, he mentioned that he had been meaning to visit certain Institutes in Ontario, but that this had never materialized so far. On at least three occasions he met people that had corresponded with him over the years, but that he had never met in person.

This month of September, the Chaitin-in-Ontario series of 6 lectures was attended by full houses everywhere. Some talks are available as live stream video on-line. The audiences had the rare opportunity to meet and listen to one of the great thinkers of our time whose work is of profound interest in a number of different disciplines and of everlasting inspiration to subsequent generations.

Ilias Kotsireas  
[ikotsire@wlu.ca](mailto:ikotsire@wlu.ca)  
Waterloo