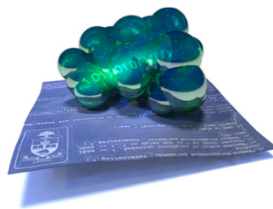


A
BIOINFORMATICS
COURSE

BIOINFORMATICS INFORMATION SOURCES



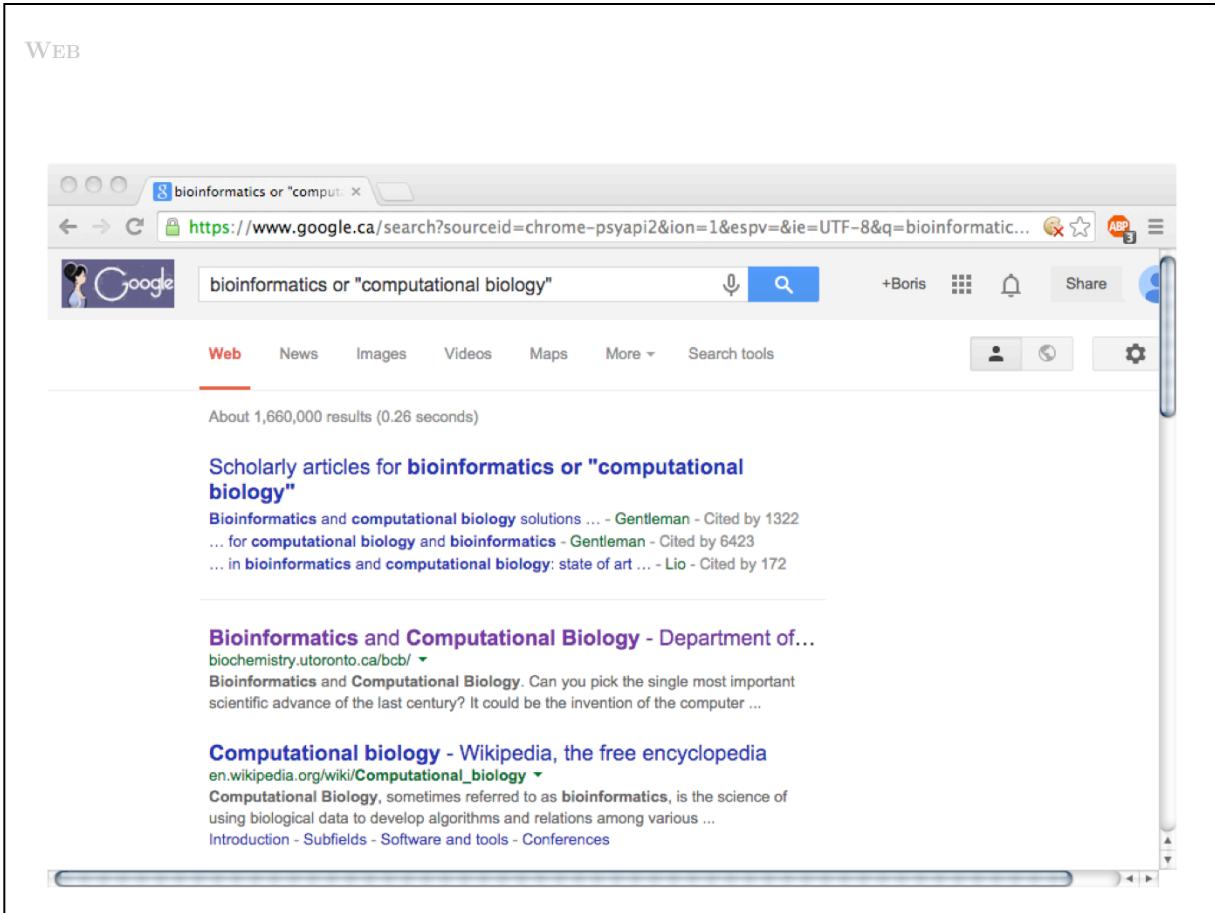
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Sources of information

Problem: outdated information has
much inertia

Let's browse through some information sources that you can access to identify **current concepts and practice** in Bioinformatics.



The amount of information that can be found by a Google search on a given topic is quite impressive. Much of the material is actually also very good.

WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikimedia Shop

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools
What links here
Related changes
Upload file
Special pages

Article [Talk](#)

Read [Edit](#) [View history](#)

Bioinformatics

From Wikipedia, the free encyclopedia

For the journal, see [Bioinformatics \(journal\)](#).

Bioinformatics ⁱ/baɪ.oʊ.ɪnfərˈmætɪks/ is an interdisciplinary field that develops methods and software tools for understanding biological data. As an interdisciplinary field of science, bioinformatics combines [computer science](#), [statistics](#), [mathematics](#) and [engineering](#) to study and process biological data.

Bioinformatics is both an umbrella term for the body of biological studies that use computer programming as part of their methodology, as well as a reference to specific analysis "pipelines" that are repeatedly used, particularly in the fields of [genetics](#) and [genomics](#). Common uses of bioinformatics include the identification of candidate genes and nucleotides (SNPs). Often, such identification is made with the aim of better understanding the genetic basis of disease, unique adaptations, desirable properties (esp. in agricultural species), or differences between populations. In a less formal way, bioinformatics also tries to understand the organisational principles within [nucleic acid](#) and [protein](#) sequences.

Map of the human X chromosome (from the NCBI website). Assembly of the human genome is one of the greatest

Often Wikipedia is the top hit ...



... and it's free, collaborative and open sourced. On many questions these days, Wikipedia is my first stop for information.

But you **must** sharpen your critical reading skills to be able to understand which articles are well written by experts in a domain (there are many!) and which articles are derived from a high-school project that probably got a **C**. Living in an era where information is primarily derived from opinion, not fact has made it crucial to evaluate information critically, never to simply take it as fact.

Register an account and start editing.

<http://bioinformatics.ca>

The screenshot displays the bioinformatics.ca website. The browser's address bar shows the URL <http://bioinformatics.ca>. The website has a dark red header with the bioinformatics.ca logo on the left and navigation links: Home, About, Workshops, Job Postings, Resources, and a search bar. Below the header is a large banner area with the text "The bioinformatics.ca co" and "workshop alumni, bioinformatic" and "bioinformatics research in Canada. The c" and "to resources and materials to supp". To the right of the banner is a sidebar menu with links: Resources, Bioinformatics Links Directory, Bioinformatics Experts in Canada, Alumni Directory, Bioinformatics Activities in Canada & Worldwide, and Education Programs and Courses in Canada. Below the banner is a "User Login" section with fields for "Username or e-mail:" and "Password:" and a "Log in" button. There is also a link for "Create new account". Below the login section is a "Featured" section with a graphic of a fan and the text "mRNA". To the right of the featured section is a photo of a group of people at a workshop, with the caption "Canadian Bioinformatics Workshp" and a slide counter "1 2 3".

Portals are useful entry points into many aspects of a discipline – **IFF** they are kept current.

The CBW bioinformatics portal – home of the Canadian Bioinformatics Workshops – hosts open-sourced lecture recording and slides for many bioinformatics workshops in current topics, as well as an excellent curated list of links to bioinformatics resources.

(<http://bioinformatics.ca>)

The screenshot shows the homepage of the International Society for Computational Biology (ISCB). The browser address bar displays www.iscb.org. The page features a header with the ISCB logo and the tagline "The Leading Professional Society for the New Era of Computational Biology". A navigation menu includes links for About ISCB, Membership, Conferences, Multimedia, Publications, Careers, Affiliates & COSIs, Student Council, Support ISCB, and Education. A search bar is located below the navigation menu. The main content area is divided into three columns:

- Society Announcements:**
 - F1000 Posters & Research:** Monthly Spotlight on an ISCB Conference Author's Work
 - Subscribe here to the ISCB News Feed!
 - Sept 05: ISCB-LA: Call for Late Posters - Deadline: September 15!
 - Sept 02: Register Now for Rocky 2014!
 - Aug 18: ISCB Announces Results of the 2014 Officer Elections
 - Aug 15: Submissions now open for ISCB-Africa ASBCB Bioinformatics Conference 2015
- ISCB Conferences:**
 - ISCB-Latin America x-Meeting on Bioinformatics with BSB & SolBio:** Belo Horizonte, Brazil, October 28 - 30, 2014
 - RECOMB/ISCB Conference on Regulatory and Systems Genomics, with DREAM Challenges and Cytoscape Workshops 2014:** San Diego, California, USA, November 09 - 14, 2014
 - 12th Annual Rocky Mountain Bioinformatics Conference:** Aspen/Snowmass, Colorado, December 11 - 13, 2014
- ISCB Official Journals:**
 - Bioinformatics:** Bioinformatics is an official journal of the ISCB and the ISMB Proceedings are published as part of a regular, online, open-access issue of this journal. Read more...
 - PLoS Computational Biology:** PLoS Computational Biology is an official journal of the ISCB and is published as open-access, peer-reviewed journal by the Public Library of Science (PLOS). Read more...

At the bottom right, it states "ISCB Society Pages featured in" with logos for Bioinformatics and PLoS Computational Biology.

The **International Society for Computational Biology** (among other activities) hosts ISMB - the world's largest bioinformatics conference.

(<http://iscb.org>)

Bioinformatics

NAR (esp. *Databases* and *WebServices* issues)

BMC Bioinformatics

PLoS Computational Biology

others ...

... all available electronically via U of T Library

... all have e-mail contents alert service or RSS.

Subscribing to journals' table of contents is an excellent way to keep oneself current in a particular field. In particular NAR (Nucleic Acids Research) publishes a special issue on bioinformatics databases each year, and one on bioinformatics Web services.

<http://steipe.biochemistry.utoronto.ca/abc>

B O R I S . S T E I P E @ U T O R O N T O . C A

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