

# Da Descoberta ao Artigo Científico

Prof. Dr. Walter F. de Azevedo Jr.



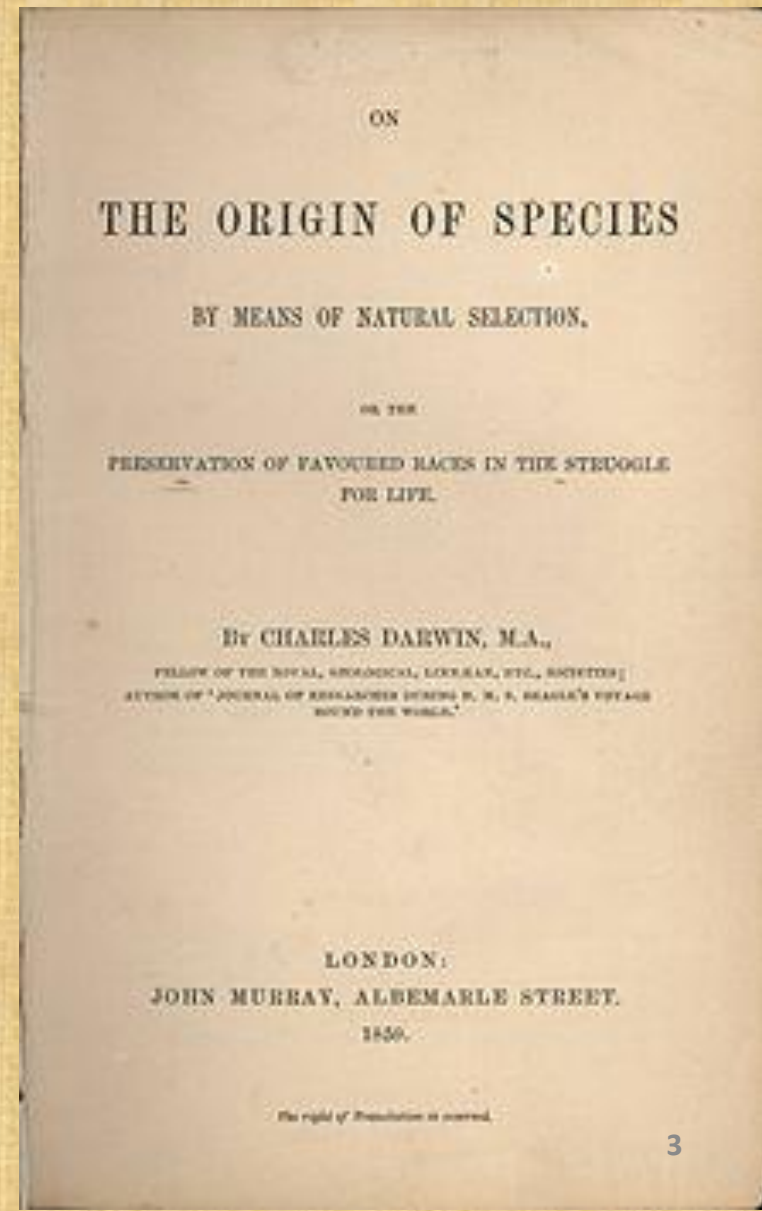
Os principais passos para transformar uma descoberta científica em um artigo científico estão aqui descritos. Numa linguagem clara e objetiva é apresentado na forma de um fluxograma esquemático o processo da aplicação do método científico, com elaboração de hipóteses e testes destas, bem como a análise dos resultados e a geração de conhecimentos por meio de artigos científicos.

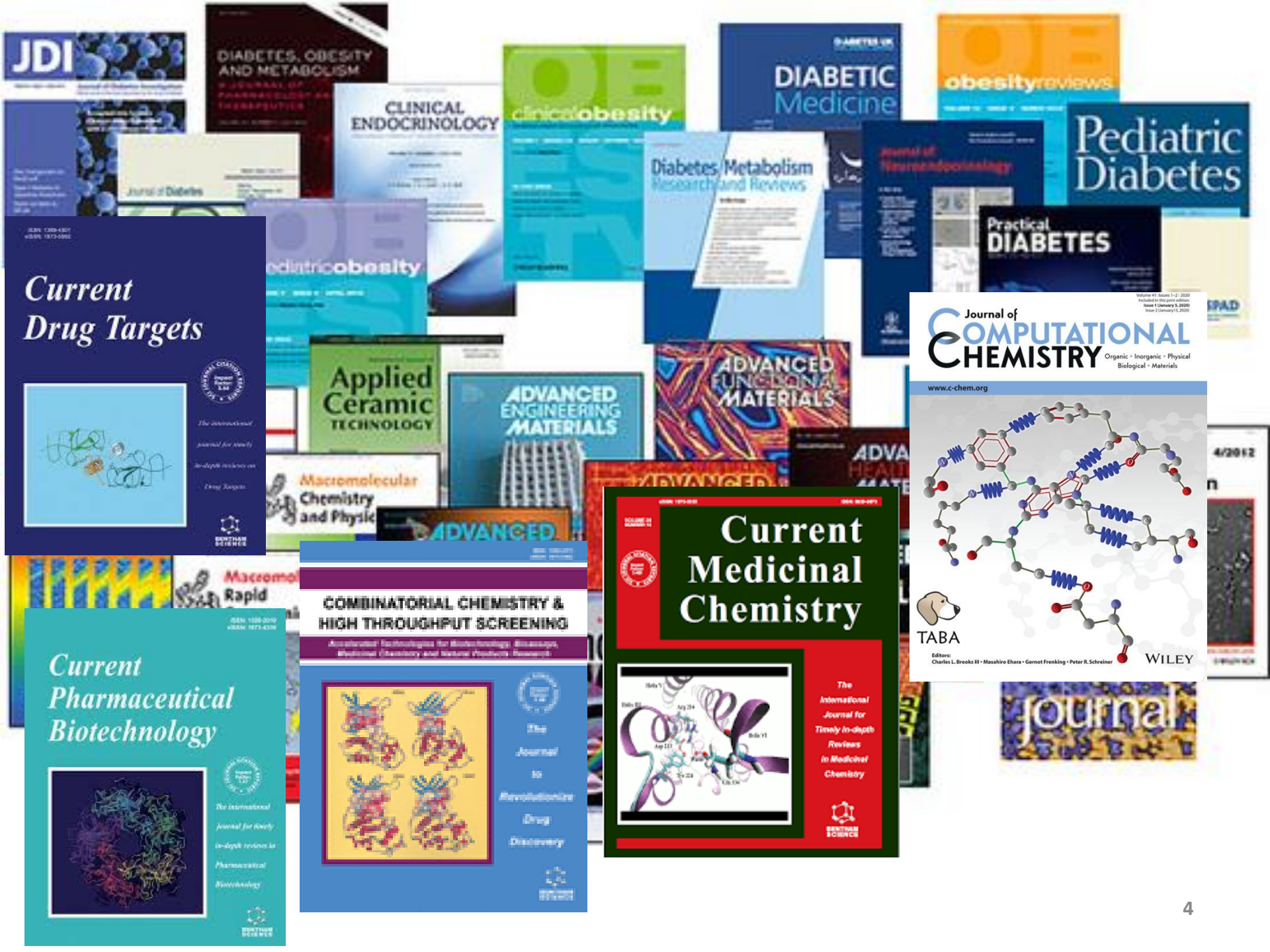
Estude o texto “Artigos Científicos. Fatos e Fatores de Impacto” disponível no link: [https://azevedolab.net/resources/Artigos\\_cient%C3%ADficos.pdf](https://azevedolab.net/resources/Artigos_cient%C3%ADficos.pdf) .

Após o estudo do texto, responda as questões no final da apresentação.



Uma descoberta científica necessita ser comunicada para que ocorra a difusão dos novos conhecimentos. Até o século XIX, a grande maioria das novas descobertas era comunicada por meio de livros. A publicação da teoria da evolução se deu por meio da publicação do livro “A Origem das Espécies” de Charles Darwin. Com o aumento da taxa de crescimento de novas descobertas, novos canais mais dinâmicos foram necessários. Os principais meios de divulgação da informação científica atualmente são os periódicos científicos (ou revistas científicas) (“journals”). De uma forma geral, podemos dizer que hoje temos milhares de periódicos científicos nas mais diversas áreas do conhecimento humano, como os destacados no próximo slide.





# Current Drug Targets



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# Current Pharmaceutical Biotechnology



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# COMBINATORIAL CHEMISTRY & HIGH THROUGHPUT SCREENING

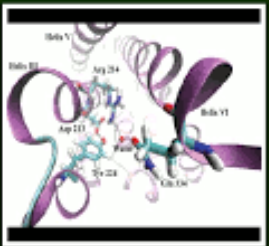
Accelerated Technologies for Biotechnology, Biomedicine, Molecular Chemistry and Natural Products Research



The Journal to Revolutionize Drug Discovery



# Current Medicinal Chemistry



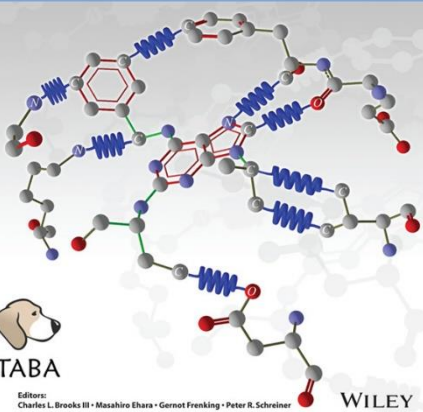
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# Journal of COMPUTATIONAL CHEMISTRY

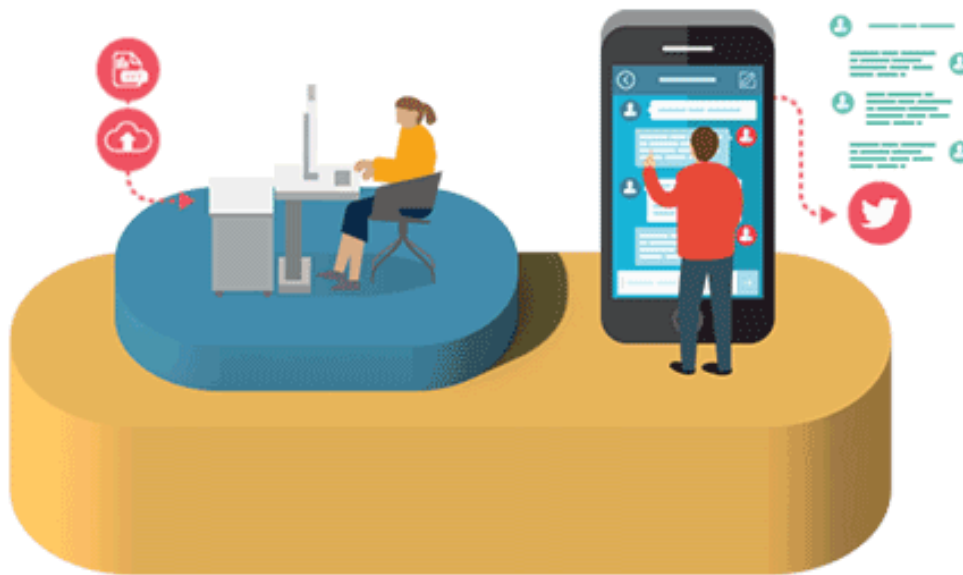
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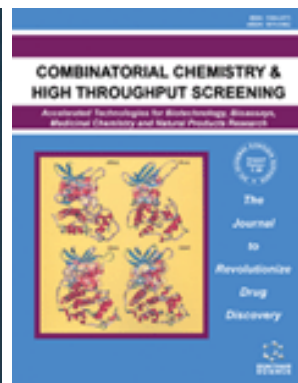
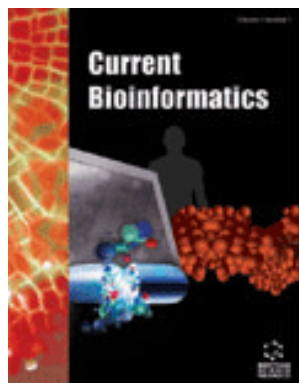
- 1) Supondo que a análise dos resultados confirme só parcialmente as suas hipóteses, qual seria a sua abordagem nesta situação?
- 2) Como você acredita que são realizadas as análises dos resultados dos experimentos?
- 3) No fluxograma apresentado, considere uma área científica específica e liste os tipos de experimentos que vocês espera encontrar tipicamente nesta área. Identifique área.
- 4) Escolha uma área das ciências naturais e liste pelo menos três descobertas científicas relevantes da área. Identifique a área.



Prof. Azevedo is Frontiers Section Editor (Bioinformatics and Biophysics) of the Current Drug Targets, section editor (Bioinformatics in Drug Design and Discovery) of the Current Medicinal Chemistry, section editor (Combinatorial/Medicinal Chemistry) for the Combinatorial Chemistry & High Throughput Screening, member of the editorial board of Current Bioinformatics, and editor of Docking Screens for Drug Discovery (Methods of Molecular Biology)(Springer Nature). He is also member of the editorial board of PeerJ, PeerJ Physical Chemistry, Organic & Medicinal Chemistry International Journal, and section editor in chief (Bioinformatics) of the Bioengineering International. He graduated in Physics (BSc in Physics) from the University of São Paulo (USP) in 1990. He completed a Master Degree in Applied Physics also from the USP (1992), working under the supervision of Prof. Yvonne P. Mascarenhas, the founder of crystallography in Brazil. His dissertation was about X-ray crystallography applied to organometallics compounds (De Azevedo Jr. et al., 1995). During his PhD, he worked under the supervision of Prof. Sung-Hou Kim (University of California, Berkeley), on a split Ph.D. program with a fellowship from Brazilian Research Council (CNPq)(1993-1996). His PhD was about the crystallographic structure of CDK2 (De Azevedo Jr. et al., 1996). His current position is coordinator of the Structural Biochemistry Laboratory at Pontifical Catholic University of Rio Grande do Sul (PUCRS). His research interests are interdisciplinary with two major emphases: molecular simulations and protein-ligand interactions. He published over 190 scientific papers about protein structures and computer models to assess intermolecular interactions involving biomolecules and potential ligands (H-index: 37, RG Index > 41.0). These publications have over 4900 citations in the Web of Science (Publons h-index: 37), more than 5600 citations in the Scopus (h-index: 41), and over 7100 citations in the Google Scholar (h-index: 44).

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The screenshot shows the Facebook profile page for 'azevedolab.net'. At the top, there is a navigation bar with the Facebook logo and login fields for 'Email ou telefone' and 'Senha', with an 'Entrar' button and a link for 'Esqueceu a conta?'. Below the navigation bar is a left sidebar with menu items: 'Página inicial', 'Sobre', 'Fotos', 'Website', 'Vídeos', 'Publicações', and 'Comunidade'. The main content area features a 'Fotos' section with a large schematic flowchart titled 'Schematic Flowchart for Application of Bioinformatics Tools to Discover Drugs Against COVID-19'. The flowchart illustrates a process starting with 'Protein Structures of SARS-CoV-2', leading to 'Selection of Targets of SARS-CoV-2' and 'Protein-Ligand Binding Affinity Databases'. It then branches into 'Machine Learning' (involving 'IC50' and '3D Structures') and 'Molecular Docking'. The 'Machine Learning' path leads to 'Selection of the Machine-Learning Models', which then leads to 'Virtual Screening' (using 'ZINC Database') and 'Selection of the Best Hits (Potential New Drugs Against COVID-19)'. Below the flowchart are three smaller images: a book cover for 'TOP DOWNLOADED PAPER 2019-2019' by Walter Filgueira de Azevedo, Jr., a book cover for 'CHEMICAL BIOLOGY & DRUG DESIGN', and a movie poster for 'ALIEN'. To the right of the main content, there are three sections: 'Azevedolab' (Ciência, tecnologia e engenharia em Porto Alegre, Rio Grande do Sul, Sempre aberto), 'Comunidade' (97 pessoas curtiram isso, 97 pessoas estão seguindo isso), and 'Sobre' (Pontifical Catholic University of Rio Grande do Sul (PUCRS) (5,61 km), 90619-900 Porto Alegre, Rio Grande do Sul, Como chegar, +55-53535555, azevedolab.net, Ciência, tecnologia e engenharia).

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Darwin, Charles, 1809-1882. (1859). On the origin of species by means of natural selection, or preservation of favoured races in the struggle for life. London :John Murray.

Dennis D. How to Read Scientific Papers Quickly & Efficiently. Disponível em: <<https://medium.com/@drewdennis/how-to-read-scientific-papers-quickly-efficiently-e7030c4018fa>>. Acessado em 06 de junho de 2020.

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