

MiniCurriculum Vitae

Personal Data:

Name: Vicente Arturo Romero Zaldivar.

Titles obtained: Bachelor Degree in Computer Science, MSc in Applied Mathematics.

Post-grade courses:

2003.- Dot Net and Web Services. Professor Dr. Miguel Katrib Mora. University of La Habana (UH), Ciudad de la Habana, Cuba.

2002.- Cryptography. Professors Dr. Pedro Arco and MSc. Mildrey Carbonell. University Central of Las Villas (UCLV). Santa Clara, Cuba.

2001.- Network administration with Linux. Professor Ing. Jesús Aneiros. University of Cienfuegos (UCF) Cienfuegos, Cuba.

International Congress:

Title: New Features of the OPScript Language.

Authors: Vicente Arturo Romero Zaldivar, Dr. Jon Ander Elorriaga Arandia, Dr. Mateo Lezcano

Congress: Third International Workshop on Authoring of Adaptive and Adaptable Educational Hypermedia at the 12th International Conference on Artificial Intelligence in Education (AIED 2005). University of Amsterdam. The Netherlands.

Title: OPScript: The Language for the Educational Browser YADBrowser.

Authors: Vicente Arturo Romero Zaldivar, Dr. Mateo Lezcano Brito, Dr. Jon Ander Elorriaga Arandia.

Congress: 6^o Simposio Internacional de Informática Educativa. University of Extremadura, España. 2004.

Title: The educative browser YADBrowser and its script language OPScript.

Authors: Vicente Arturo Romero Zaldivar, Dr. Mateo Lezcano Brito, Dr. Jon Ander Elorriaga Arandia.

Congress: II Congreso Internacional de Tecnologías y Contenido Multimedia. Tecnología y aplicaciones Web. Palacio de las Convenciones, Ciudad de La Habana, Cuba. 2004.

Title: Biblioteca GraphicalSpriteKernel (GSK): Implementación de una arquitectura de tres modelos para crear multimedia educativa.

Author: Vicente Arturo Romero Zaldivar.

Congress: III Conferência Internacional de Tecnologías de Informação e Comunicação na Educação e 5.^o Simpósio Internacional em Informática Educativa. Centro de Competência Nónio Século XXI da Universidade do Minho. Portugal. 2003.

Publications:

2005. - **Title:** YADBrowser: A Browser for Web-Based Educational Applications.

Authors: Vicente Arturo Romero Zaldivar, Jon Ander Elorriaga Arandia, Mateo Lezcano Brito.

Journal: *Journal of Educational Multimedia and Hypermedia* (2005) **14**(2), 129-149.

2005. - **Title:** Prediction of Intestinal Epithelial Transport of Drug in (Caco-2) Cell Culture from Molecular Structure using *in silico* Approaches During Early Drug Discovery.

Authors: Yovani Marrero Ponce, Miguel A. Cabrera Pérez, Vicente Arturo Romero Zaldivar, Marival Bermejo Sanz, Dany Siverio Mota, Francisco Torrens.

Journal: *Internet Electronic Journal of Molecular Design* 2005, 4, 124-150.

2005. - **Title:** Protein linear indices of the 'macromolecular pseudograph α -carbon atom adjacency matrix' in bioinformatics. Part 1: Prediction of protein stability effects of a complete set of alanine substitutions in Arc repressor.

Authors: Yovani Marrero Ponce, Ricardo Medina Marrero, Juan A. Castillo Garit, Vicente Romero Zaldivar, Francisco Torrens, Eduardo A. Castro.

Journal: *Bioorganic & Medicinal Chemistry* 13 (2005) 3003-3015.

2005. - **Title:** Atom, atom-type, and total nonstochastic and stochastic quadratic fingerprints: a promising approach for modelling of antibacterial activity.

Authors: Yovani Marrero Ponce, Ricardo Medina Marrero, Francisco Torrens, Yamile Martinez, Vicente Romero Zaldivar, Eduardo A. Castro.

Journal: *Bioorganic & Medicinal Chemistry* 13 (2005) 2881-2899

2005. - **Title:** Reflexiones y experiencias sobre la dirección de grupos científicos estudiantiles dedicados a la producción de software.

Authors: Vicente Arturo Romero Zaldivar, Oscar Luis Muñoz.

Journal: *Revista Cubana de Educación Superior* (2005) Vol. XXV No. 1 (2), 91-106.

2004. - **Title:** Nucleic Acid Quadratic Indices of the "Macromolecular Graph's Nucleotides Adjacency Matrix. Modeling of Footprints after the Interaction of Paromomycin with the HIV-1 Ψ -RNA Packaging Region.

Authors: Yovani Marrero Ponce, Delvin Nodarse, Humberto González Díaz, Ronal Ramos de Armas, Vicente Arturo Romero Zaldivar, Francisco Torrens, Eduardo A. Castro.

Journal: *Int. J. Mol. Sci.* 2004, 5, pp. 276-293. 2004.

2004. - **Title:** 3D-Chiral quadratic indices of the “molecular pseudograph’s atom adjacency matrix” and their application to central chirality codification: classification of ACE inhibitors and prediction of b-receptor antagonist activities.
Authors: Yovani Marrero Ponce, Humberto González Díaz, Vicente Arturo Romero Zaldivar, Francisco Torrens, Eduardo A. Castro.
Journal: Biorganic & Medicinal Chemistry 12 (2004) pp. 5331-5342.
2004. - **Title:** A new topological descriptors based model for predicting intestinal epithelial transport of drugs in caco-2 cell culture.
Authors: Yovani Marrero Ponce, Miguel A. Cabrera Pérez, Vicente Arturo Romero Zaldivar, Humberto González Díaz, Francisco Torrens.
Journal: J Pharm Pharmaceut Sci 7(2) pp. 186-199, 2004
2004. - **Title:** Protein Quadratic Indices of the “Macromolecular Pseudograph’s α -Carbon Atom Adjacency Matrix”. 1. Prediction of Arc Repressor Alanine-mutant’s Stability.
Authors: Yovani Marrero Ponce, Ricardo Medina Marrero, Eduardo A. Castro, Ronal Ramos de Armas, Humberto González Díaz, Vicente Arturo Romero Zaldivar, Francisco Torrens.
Journal: Molecules 9 pp. 1124–1147, 2004.
2003. - **Title:** Experiencias sobre la creación de multimedia con grupos de estudiantes en la Casa del Software de la Universidad de Cienfuegos.
Authors: Vicente Arturo Romero Zaldivar
Journal: Revista Cubana de Educación Superior Vol. XXIII, Nro. 2, pp. 48-52, 2003.
2002. - **Title:** SpriteKernel: Herramienta para el desarrollo de multimedia.
Author: Vicente Arturo Romero Zaldivar
Book Chapter: La telemática y su aplicación en la educación a distancia y en la informatización de la sociedad. Tomo I, pp. 49-54 (2002).

Investigations developed:

Mathematical Models for predicting drugs and macromolecules properties. Thesis exposed to obtain the Master in Applied Mathematics. The focus of the investigation was the definition and implementation of mathematical models for the calculus of molecular descriptors. These models allow predicting the chemical activity of a given drug without synthesizing it first.

Softwares developed:

2005. OPScript IDE. This application is an integrated development environment for the language OPScript. This language has several features which differentiate it from traditional ones. This language has been created for the development of Web applications. The language is object oriented, has new operations on classes like additions to classes which permits adding new members at execution time to a given class. Also it has a new concept called “verbal” communication between objects that allows the communication between objects which has minimum knowledge between them. This kind of communication allows also the objects in the relationship to change at any time, the change can be for example the substitution of one object for a completely different object, nevertheless the communication can continue. Current work on this project is directed to features to allow automatic code generation, to save time and effort and to allow people with less knowledge of a given technology or language to develop applications efficiently. The fundamental characteristics of this language has been published or accepted for its publication in several congress and journals.

2004 - 2005. High Level of the Infusion Pump. This software has been developed as a project between the Central Institute of Digital Investigations (ICID) and the University of Informatics Sciences. It must connect with a pump that controls the flow of liquids to a given patient. The software shows the events occurred during a period of time.

2004 - 2005. Tutorial for the Desfibrilador 2.0. This software has been developed as a project between the Central Institute of Digital Investigations (ICID) and the University of Informatics Sciences. This software is an educational application developed with a programming language created by myself, named OPScript. The application is been used to teach doctors how to use the Desfibrilador 2.0, an equipment created in ICID to help in the treatment of heart pathologies by electrical discharges.

2003 - 2004. Educational Browser “YADBrowser”. This browser along with its script language OPScript are been used with success in the development of educational applications. The browser has several differences with traditional browsers, for example its object model, adapted to educational applications, its script language called OPScript which is an object oriented language, and another difference is the facility the browser offers to persist information in its working memory.

2002. GraphicalSpriteKernel. Software for the production of multimedia, it has been applied with success in the University of Cienfuegos for the development of a great number of multimedia applications, around 20 up to now.

2001. Software TOMOCOMD, it is an application for drug design. The software allows predicting the activity of a drug against a given illness without synthesizing it first, reducing this way the cost of the development of a new drug. This software is been used in the University Central of Las Villas (UCLV). Results obtained using this software has been published in various papers appeared in important journals.

Programming Languages: Experience in C, C++, Object Pascal, C#, Visual Basic, Java, JavaScript.