USEDAT: USA-Europe Data Analysis Training Worldwide Program, 2019 ed.

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USEDAT School & Workshop. USEDAT: USA-Europe Data Analysis Training School is a Multi-center Trans-Atlantic initiative offering hands-on training focused in both Introduction to Experimental Data Recording (NMR, MS, IR, 2DGE, EEG, etc.) and/or posterior Computational Data Analysis (Machine Learning, Complex Networks, etc.). We made emphasis on applications in for Cheminformatics, Bioinformatics, Medicinal Chemistry, Nanotechnology, Systems Biology, Biomedical Engineering, etc. The school also promotes training and knowledge of ethical and legal regulatory issues (GDPR, REACH, OECD, FDA, etc.) about data use and data protection in chemistry and biomedical research. The school is directed to researchers and students worldwide. The initiative joins various sister summer schools, workshops, boot camps, hands-on training courses, and/or capstone courses of universities in United States and Europe. This includes courses and research workshops offered/chaired by professors of Miami Dade College (MDC), University of North Carolina at Chapel Hill (UNC), North Dakota State University (NDSU), Tulane University New Orleans, Saint Thomas University (STU), and West Coast University (WCU) Miami, in United States and courses offered by professors / researchers of University of Coruña (UCD), EMBL-EBI European Bioinformatics Institute, United Kingdom, University of the Basque Country (UPV/EHU), Ikerbasque, Basque Foundation for Science, and other European centers.

USEDAT School & Workshop Participation. The professors and students interested on USEDAT are welcome to submit their research works to be published in USEDAT School Workshop and/or in any other of the MOL2NET workshops associated to the school. For in-site participation contact the coordinators of the different courses or the general coordinator. For participation in the workshops, click submit to send the title and abstract of your communication. After that, wait to receive after approval email. Next, write your communication using the following [USEDAT Template.doc] file to write your communications, after that save a .pdf file and upload. Almost all schools have workshops published by the MOL2NET Conference series (see details at follows). The professors, researchers, and students interested on this workshop are also welcome to participate in the international network of courses offered by USEDAT program. The students of the program can visit one or more of the universities to receive personalized training. It may include introduction to experimental techniques (NMR, EEG, MS, HPLC, 2DGE, etc.) for data acquisition. However, the main focus is on computational algorithms (ML, AI, ANN, SVM, LDA, Deep Learning, SQL, Python, etc.) for data analysis in Chemistry (All), Biotechnology, Nanotechnology, Biomedical Engineering, etc. See all benefits for students and professors bellow.

USEDAT School Enrollment. Enrollment is free of cost (no fees) for almost all USEDAT hands-on training courses, this include training of Summer school students, training/tutoring of PhD, MSc, and Degree students, training of visiting professors, post-doctoral researchers, sabbatical professors, etc. However, USEDAT students/professors obtain financial support to cover indirect costs (traveling, insurance, living, and other indirect costs) from institutions like MSCA Europe Commission, EMBL-EBI United Kingdom, FCT Portugal, NSF China, COLCIENCIAS Colombia, SENESCYT Ecuador, CONACYT, DELFIN Program México, Fundación Carolina, and PANELFIT H2020 Europe Commission Projects, etc. Note: enrollment fees, bench fees, or similar fees, may apply in some few specific courses of non-public entities, contact coordinators of the specific course for more details if you have doubts about it.

USEDAT vs. Regular University Courses. USEDAT hands-on training courses, per se, are free of cost. USEDAT training courses are equivalent to summer schools, boot camps, and other forms of complementary teaching. The USEDAT school courses involve hands-on personalized training, seminars, participation in workshops, visit to different centers, PhD, MSc students dissertation tutoring, etc. However, USEDAT training courses must not to be confused with regular teaching courses of university. USEDAT training courses serve as an introduction or introductory gate to some regular PhD, MSc, Capstone courses, of universities of Europe and USA. We help you to contact professors of these programs associated with us.

More specifically, USEDAT do not levies charges to students for tutoring/supervision of PhD, MSc, Degree students dissertation, thesis, or final project. However, students of regular PhD, MSc, Capstone university courses have have to pay enrollment tuition fees. These courses have their own admission process. If you decide to enroll in some of these courses related to our school please be aware of this difference. Please, see more details in our pages at [USEDAT Researchgate] and [USEDAT Facebook] social networks. If you are interested to enroll in one of the courses do not hesitate to contact directly Prof. Humbert Gonzalez-Diaz, (USEDAT Coordinator), IKERBASQUE Prof., University of The Basque Country (UPV/EHU) at: usedat.chair@gmail.com.

Lecturers and Collaborating Professors. People listed as collaborators and/or collaborating professors of the USEDAT school project are those who have: [i] acted as lecturer or coordinator of one of the courses; [ii] Acted as chairperson of one of the workshops, [iii] offered
institutional and/or hosting support, [iv] acted as tutor and/or have sent at least one student to participate in courses of other centers.

Professors/Collaborators [North America]:
- Prof. Jerzy Leszczynski, i,ii,iii,iv, Dir. Interdisc. Cent. for Nanotoxicity (ICN), Jackson State University (JSU), USA.
- Prof. David Quesada, (Dir. Dept. Mathematics) i,ii,iv, Prof. Terrace Fletcher, i,ii,iii, Miami Dade College (MDC), USA.
- Prof. Eugene Murato, i,ii,iii, Molec. Model. Lab, Univ. of North Carolina (UNC), Chapel Hill, USA.
- Assist. Prof. Matthew M. Montemore, i,ii,iv, Dept. Chem. and Biomol. Eng, Tulane University, New Orleans, USA.
- Prof. James Robert Green, i,ii,iv, Dept. of Systems and Comput. Eng., Carleton University, Canada.
- Dr. Subhash C. Basak, Natural Resources Research Institute, Univ. of Minnesota, Duluth, MN, USA.
- Prof. Maykel Cruz-Montenegro, i,ii,iii,iv, West Coast University (WCU), Miami, USA.
- Prof. Bakhtiyor Rasulev, i,ii,iii, North Dakota State University (NDSU), Fargo, USA.
- Dr. Shameer Khader, ii, Dept. Medical Informatics, Northwell Health, NY, USA.

USEDAT Professors/Collaborators [Europe]:
- Prof. Humbert Gonzalez-Diaz (USEDAT Coord.), i,ii,iii,iv, Prof. Sonia Arrasate, i,ii,iii,iv, Prof. Esther Lete (PhD Coord.), i,ii,iii,iv.
- Prof. Nuria Sotomayor (MSc Coord.), i,ii,iii, Prof. Fernando Plazaola (Dean), iii, Prof. Ma. Isabel Moreno (Dir. Dept.), i,ii,iii,iv.
- Dr. Alisuka Duardo (Fac. Law), i,ii,iii,iv, Univ. of The Basque Country (UPV/EHU), Leioa, Bilbao, Spain.
- Prof. Cristian R Munteanu, i,ii,iii,iv, Dept. Computation, University of Coruña (UDC), Coruña, Spain.
- Prof. Alejandro Pazos, i,ii,iii,iv, Dir. Dept. Computation, University of Coruña (UDC), Coruña, Spain.
- Prof. Christoph Kaleta, ii,iii,iv, Med. Systems Biology, Christian-Albrechts-Universität zu Kiel (CAU), Germany.
- Dr. Yasset Perez-Rivero, i,ii, European Bioinformatics Institute (EMBL-EBI), Cambridge, United Kingdom.
- Dr. Daniel J.V.A. Do Santos, iv, Faculty of Pharmacy, University of Lisbon (ULISBOA), Portugal.
- Prof. Gloria Castellano, i,ii,iv, (Dept. Dir.) Dept. Exp. Sci. and Mathematics, Catholic Univ. of Valencia (UCV), Spain.
- Prof. Francisco Torres, i,ii,iv, Institute of Molecular Science (ICMol), University of Valencia (UV), Valencia, Spain.
- Prof. Pedro L. Fernandez, i,ii,iii,iv, Bioinformatics Training Coordinator, Instituto Gulbenkian de Ciencia (IGC).

Professors/Collaborators [Other Regions]:
- Prof. Bairong Shen, i,ii,iii,iv, Exec. Dir., Inst. Systems Genetics, West-China Hospital, Sichuan University (SCU), China.
- Prof. Eduardo Tejera, i,ii,iv, Prof. Yunierkis Perez Castillo, i,ii,iii,iv, (Bio-Cheminformatics Group), Prof. Vinicio Armijos, iii,iv, MSc. Emilia Vasquez, i,ii,iii,iv, (Biotechnology), Universidad de Las Americas (UDLA), Quito, Ecuador.
- Prof. Marcus T Scotti, i,ii,iii, Dir. Cheminformatics Lab., Universidade Federal da Paraíba (UFPB), Brazil.
- Dr. Shaoxun Tang, i,ii,iv, Centre of Reg. Agro-Ecology, National Academy of Sciences, Beijing, China.
- Prof. Esvieta Tenorio-Borroto, i,ii,iii,iv, Universidad Autónoma del Estado de México (UAEM), Mexico.
- Prof. Boris Mederos, iii,iv, Dept. Phys. and Mathematics, Univ. Autónoma de Ciudad Juárez (UACJ), México.
- Prof. Piedad Gañan, iii,iv, Dr. Robin Zuluaga, iii,iv, Universidad Pontificia Bolivariana, Bogotá, Colombia.
- Prof. Ma. Del Rayo Camacho Corona, i,ii,iv, Autonomous University of Nuevo León (UNL), México.
- Prof. Ashok. K. Dubey, ii, Drug Discov. Lab., Netaji Subhas University of Technology, New Delhi, India.
- Prof. Kunal Roy, ii, Dept. of Pharmaceutical Technology, Jadavpur University, Kolkata, India.
- Assist. Prof. Rajeev K Singla, ii, K.R. Mangalam University, Gurgaon, Haryana, India.
- Prof. Amaury Pérez Martínez, ii,iii, Amazon State Univ. (UEA), Ecuador.

USEDAT Worldwide Training Programs. USEDAT hand-on training programs included several courses from many institutions worldwide. Courses are oriented to train the students in specific topics by working on a personalized research topic. In these projects the students perform a review and/or carry out an specific research involving use of ML, AI, Data Analysis and other techniques applied to an specific problem in Chemistry (All Branches), Biomedical Engineering, Medical Sciences, Biotechnology, Nanotechnology, Materials Sciences, etc. Some of the hand-on training courses are:


SRI MDC-STU Summer Research Institute. Summer Research Institute (SRI), Miami Dade College (MDC), Saint Thomas University (STU). Students Contact with
Researchers from NASA, University of Miami, Florida International University (FIU), Coordinator: Prof. David Quesada, Chair of Dept. of Mathematics, MDC, Wolfson Campus. Current Workshop: https://mol2net-05.sciforum.net/sri-11. Contact Email: dquesada@mdc.edu

CHEMINFO UNC Training, Chapel Hill, USA. USEDAT CHEMINFO Workshop and Training of UNC Chapel Hill Laboratory for Molecular Modeling, UNC Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, North Carolina 27599, United States. Coordinator: Assoc. Prof. Eugene Muratov, Ph.D., Email: murik@email.unc.edu, Current Workshop: https://mol2net-05.sciforum.net/cheminfo-01.

USEDAT TULANE Hands-on Training. Topics: Machine Learning, Computational Chemistry, Cheminformatics. Coordinator: Assist. Prof. Matthew M. Montemore, Chemical and Biomolecular Engineering, Tulane University, New Orleans, USA.


[Europe]: USEDAT UPV/EHU Training School. Coords: Prof. Humbert Gonzalez-Diaz (IKERBASQUE Prof.), Prof. Sonia Arrasate, Topics: Machine Learning, Data Analysis, Complex Networks, Systems Biology Cheminformatics, Bioinformatics, Computational Nanosciences, Workshop: https://mol2net-05.sciforum.net/usedat-07. Contact Email: usedat.chair@gmail.com

EMBL-EBI Training course. EMBL-EBI Training Course in Proteomics and Bioinformatics. Coord: Dr. Yasset Pérez-Riverol, EMBL-EBI, Cambridge, United Kingdom.


RNASA-IMEDIR UDC Summer School. IWMEDIC, Rnsa-Imedir, University of Coruña (UDC), Spain. Coordinators: Prof. Alejandro Pazos, Director Dept. of Computation, Prof. Cristian Munteanu, Dept. of Comput., FIC, UDC. Last Workshop: https://mol2net-04.sciforum.net/iwmedic-06.


USEDAT Schools Topics. The topics of the courses vary with the school but overall they are related to three main areas and their overlapping fields involving the technical, legal, and ethic aspects of experimental measurement, collection, storing, retrieval, analysis, and in general use of data: (0) Experimental methods (NMR, IR, HPLC, MS, EEG, 2DGE, etc.) used in Chemistry, Physics, Nanotechnology, Medicine, etc. to record data susceptible of posterior processing with data analysis techniques. (1) Computational Sciences, ICTs, Machine Learning, Artificial Intelligence, Big Data, Mathematics, Physics tools for Data Analysis and Modelling in science. (2) Applications of the previous methods to Cheminformatics, Chemistry (All Areas), Nanotechnology, Materials Sciences, Biophysics, Bioinformatics, OMICs, Biotechnology, Biomedical Engineering, Systems Biology, Complex Networks, and Social Networks. (3) Legal, Regulatory, and Bioethics issues in Machine Learning Applications and/or Biomolecular sciences, General Data Protection Regulation (GDPR) in research, Patenting of Drugs, Genome, Materials, and Copyright protection of Scientific software.

Benefits for Students. (0) Receiving training in Data Analysis, Machine Learning, Artificial Intelligence, Cheminformatics, Complex Networks, etc. (1) Development of a Personalized Research Project to study Experimental Results of Student Thesis and/or Public Data sets. (2) Publication of papers in a JCR-Indexed Journals, projects results are submitted to publication at the end of the course. (3) Publication of communications in MOL2NET Workshops in Miami Dade College, Univ. of Minnesota, NCU Chapel-Hill, USA; CNAM, Paris, France; UDC Coruña, Spain, etc. (4) Exploration of possible MSc/PhD topics for MSc/Degree Students.
USEDAT Students Academic Profile. Profs., Researchers, Graduated, and undergraduate students from Physics (Applied), Chemistry (All areas), Biology, Medicine, Biotechnology, Bioinformatics, Nanosciences, Polymer and Material Sciences, Biomedical Engineering, Computational Sciences, etc.

USEDAT School Courses Duration. Duration of training courses varies in different universities and for different students situations/perfile. Typical duration is: Sabbatical Profs., Post-Doc, and PhD Students (1 moth and upto 1 year), MSc Students (upto 2 months), Degree of Students (upto 4 months), Undergraduated and Capstone Course Students (variable), Delfin Program Students (1-2 months).

USEDAT Attendance Certificates. Depending on the course and/or university students receive different attendance certificates. Typical certificates are: (1) USEDAT UNC, MDC, WCU, UFPB, UDC, etc. Attendance Certificate, signed by school coordinators. (2) MOL2NET Conference Workshops Attendance Cert, signed by chairperson. (3) UPV/EHU ZTF-FCT Faculty Research Stay Attendance Cert. signed by dean. (4) UPV/EHU Dept. Research Stay Attendance Letter, signed by dept. directors. (5) CONACYT Internship Certificate (Delfin program students), signed by the coordinator.

USEDAT Professors Benefits. Some benefits for our collaborating professors and researchers are the following. (0) Teach/Sent out their students to be trained in Data Analysis, Machine Learning, Artificial Intelligence, Cheminformatics, Complex Networks, and Statistics, in aborad universities in USA and/or Europe. (1) Development of a Personalized Research Project to study Experimental Results of experimental projects in multiple areas. (2) Publication of papers in a JCR-Indexed Journals, projects results are submitted to publication at the end of the course. (3) Publication of communications in MOL2NET Workshops in Miami Dade College, Univ. of Minnesota, NCU Chapell-Hill, USA; CNAM, Paris, France; UDC Coruña, Spain, etc. (4) Exploration of possible co-direction (co-supervising) of MSc/PhD Thesis in UPV/EHU or UDC universities for professors from abroad who sent students to the school, including thesis dissertation only in UDC/UPV/EHU or co-tutelle thesis with double dissertation and title.

USEDAT Assoc. Conf. and Workshops
All students are invited to publish (open access and free of cost) their own short review papers and research communications with the results of their personal summer school training projects in different workshops in USA, Spain, Portugal, France, Brazil, etc. of the conference: MOL2NET, International Conference Series, MDPI SciForum, ISSN: 2624-5078, Basel, Switzerland, 2019. https://mol2net-05.sciforum.net

USEDAT Steering Committee. These are the members of the consulting committee of the USEDAT training program. They coordinate the interaction among the different schools, workshops, journal special issues editors and authors, etc.

Prof. Jerzy Leszczynski (Presidential Distinguished Fellow). Director CREST Interdisciplinary Center for Nanotoxicity (ICN), Jackson State University (JSU), Jackson, USA.

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