

LATIN AMERICAN JOURNAL OF PHYSICS EDUCATION

Volume 6, Suppl. I, August 2012

CONTENTS/CONTENIDO

Editorial	1-2
Papers/Artículos	
Low cost hands-on experiments for Physics teaching, Michael Vollmer, Klaus Peter Möllmann	3-9
Pupils explore magnetic and electromagnetic phenomena in CLOE labs, Marisa Michelini, Stefano Vercellati	10-15
Active learning of introductory optics: Strategies for the U.S. and the developing World, David R. Sokoloff	16-22
Changing the way teaching occurs in an American middle school, Gordon J. Aubrecht, II	23-26
Designing learning scenarios for a 3D virtual environment: The case of special relativity, C. de Hosson, T. Doat, I. Kermen, E. Parizot, J. M. Vézien	27-33
PhysTEC: Successful U.S. teacher recruitment and preparation model from AAPT and APS, David R. Sokoloff	34-38
Low-cost sensing to teach energy for everyone, Joel Rosenberg, Kevin Cuff	39-43
Simply atoms – atoms simply, Friedrich Herrmann, Michael Pohlig, Nelson Arias Ávila	44-48

continued/continuación

contents/contenido

Three chances for entropy, Michael Pohlig, Joel Rosenberg	49-58
Pleasure as a teaching tool, Héctor G. Riveros	59-62
International physics competitions for secondary school students – What can they learn?, Gunnar Tibell	63-68
Preliminary information on the consequences of the nuclear disaster at Fukushima, Gordon J. Aubrecht, II	69-74
The misconceptions on radiation and radioactivity, Toru, Suzuki	75-77
Energy, climate, science and sense, Gordon J. Aubrecht,	78-82
How scientists can try to change the minds of climate denialists, Gordon J. Aubrecht,	83-88
Validating a japanese version of the force concept inventory, Jun-ichiro Yasuda, Haruko Uematsu, Hideo Nitta	89-94
The Heureka Workshops – some “hints” for organizers of the non-traditional conference for physic teachers, Irena Dvorakova, Leos Dvorak	95-98
Active learning of physics: Synergy of teaching strategies, Paulo Godoy, Julio Benegas and Susana Pandiella	99-104

continued/continuación

contents/contenido

Hands-on, minds-on activities to construct the concept of energy in primary school: Experiments, games and group discussions, Cristina Mariani, Erica Laurenti, Federico Corni	105-111
Collaborative learning of quantum measurement with on-line software and Google Docs, Dean Zollman, Adrian Madsen	112-115
Measuring human perception and reaction time with rulers and Pulfrich pendulums, Alexander Kazachkov, Abraham Salinas Castellanos, Richard W. D. Nickalls	116-121
Teaching about the physics of medical imaging: Examples of research-based teaching materials, Dean Zollman, Dyan McBride, Sytil Murphy, Johannes v.d. Wirjawan, Nora Norvell	122-128
Physics for the area of biological sciences and health within STS context, Ana Flores Flores, María de los Ángeles Ortiz Flores, Pilar Segarra Alberú	129-132
The magic blower as a didactic element in learning the Bernoulli's law of hydrodynamic pressure in engineering students, Luis H. Barbosa	133-138
Eratosthenes' measurement of the Earth's radius in a middle school lab session, A. R. Mota, J. M. B. Lopes dos Santos	139-144
Free fall misconceptions: A comparison between science and non-science university majors, Eleanor Alma D. Jugueta, Clark Kendrick C. Go, Johanna Mae M. Indias	145-148
Science teachers' hypothetico-deductive skills: The pendulum problem, Patricia Sánchez Lizardi, Josefina Barrera Kalhil	149-152
Low-cost electrostatic experiments, Leoš Dvořák	153-158

continued/continuación

contents/contenido

Geometry and laboratory students, Bastien M. G. M., Castro P. J. J.	159-163
Development of learning strategies with the support of instructional instruments, Graciela Ramírez Olvera and Jorge Barojas Weber	164-167
Measuring g: An inexhaustible source of instruction and creativity, Alexander Kazachkov, Abraham Salinas Castellanos, Victor Kostyukov	168-174
Implications for teaching college physics in the development of creativity, Juan Carlos Ruiz Mendoza, César Mora, Nivia Álvarez Aguilar	175-178
Precession and nutation visualized, L. J. Villegas Vicencio, M. J. Larrañaga Fu, J. R. Lerma Aragón, R. Romo, J. Tapia Mercado	179-182
Simple and beautiful experiments by physics teachers and students in Japan, Junichiro Yasuda, F. Okiharu, M. Taniguchi, T. Uchida, N. Sugimoto, H. Hayashi, Y. Nariai, S. Yasue, H. Kogetsu, T. Hashimoto, T. Sasaki, K. Tokuda and H. Kawakatsu	183-187
The planetary motion and science history, Torres, Y. I. Arévalo, J. R. y González, M. H.	188-191
Evaluating an Interactive Lecture Demonstration implementation in a lab setting: An example from a collisions and momentum learning activity, Juan J. Velarde, Carolina Alvarado, Alejandro Mijangos	192-197
Pupils' ideas exploration on metal electrical transport models in the informal context of an hands-on exhibit, Fera Giuseppe, Micheline Marisa	198-207
Modifying high school students ideas about magnetic field concept, Irma de Jesús Miguel Garzón, Daniel Sánchez Guzmán	208-212

continued/continuación

contents/contenido

Electromagnetic induction for high school students: An historical approach, Mónica Pacheco Román	213-215
One or two magnets falling in a conductive pipe: On-axis and off-axis fall and the role of the pipe wall thickness, C. L. Ladera, G. Donoso and P. Martín	216-221
An alternative for the teaching and learning of the heat transmission topic with base in the directed research for high-school students, María de la Cruz Medina Ramos, Alfredo López Ortega y César Mora	222-225
An experience in learning in an open and online course on computational Physics at undergraduate level, Carlos Lizárraga Celaya, Sara Lorelí Díaz Martínez	226-230
Some experiences using ITC based course materials for teaching High School Physics at the Universidad Michoacana de San Nicolás de Hidalgo, México, Herolina Guzmán Cruz, Francisco Domínguez Mota, José Vega Cabrera	231-233
Use of virtual learning environment for teaching experimentation, Pablo Alejandro Lonngi Villanueva, María de los Dolores Ayala Velázquez	234-242
Palette knife a simple tool to enrich color in graph physics simulations, Broncio Aguilar Sanjuan, Saúl González Hernández, Marco A. Ramírez Moreno, and Carlos A. Vargas	243-247
Experimental physics through the Internet, Carlos García Torres and Jorge Barojas Weber	248-251
Gnuplot animations as a Physics teaching tool, Ananda Dasgupta	252-255

continued/continuación

contents/contenido

Leisure as a tool for learning sciences, Roa, F., González, M. H. y Torres, Y. I.	256-259
Modeling in Physics: A matter of experience?, María Elena Truyol, Zulma Gangoso, Vicente Sanjosé López	260-265
The effects of the application of cognitive strategies for problem solving and the implementation of Gowin's V in electric field point charges, Bolívar Cirilo Flores Nicolalde, Jorge Flores Herrera	266-269
Using the cellphone in an interactive lecture demonstration in the subject Vector Algebra, addition and subtraction of vectors, José Orozco Martínez, César Mora, Rubén Sánchez Sánchez	270-274
The 4MAT system applied to a blended-learning scenario, Claudia Rosado-Guzmán, Daniel Sánchez-Guzmán	275-279
Use of PBL in teaching the principles of dynamics in high school, Adela Téllez Felipe, A. López Ortega y César Mora	280-284
A tutorial-type activity to overcome learning difficulties in understanding graphics in kinematics, Santa Esmeralda Tejada Torres, Hugo Alarcon	285-289
Peer evaluation and teaching medical physics using remote response devices (clickers), Alberto Nájera, Enrique Arribas, Augusto Beléndez, José Manuel Villalba, Jorge Francés, María José García-Meseguer	290-295
Some activities on educational technology innovation in Physics, optics and telecommunications, Enrique Arribas, Augusto Beléndez, Alberto Nájera, Andrés Márquez, José Manuel Villalba, Sergi Gallego, Manuel Ortuño, Jorge Francés, Mariela L. Álvarez, Cristian Neipp, Inmaculada Pascual	296-300
<i>continued/continuación</i>	

contents/contenido

Influence of the epistemic beliefs on student success in basic Physics courses: An international comparison, Mrs. P. V. Ramani and Nageswar Rao Chekuri	301-311
Academic experiences of workshops of Natural Sciences aimed at teachers of junior high schools, Horta Rangel Francisco Antonio, Corona Fernández Javier, Ríos Becerra Juan Antonio, Mendoza Puga Luis Enrique	312-315
Attitudes of in-service physics teachers towards a constructivist professional development workshop, Silvia Tecpan, Genaro Zavala, Julio Benegas	316-320
Establishing common elements among some science education references as a resource to design a Didactics of Physics program for teachers' initial education, Olga Castiblanco, Roberto Nardi	321-325
MADEMS: A high school physics teachers master degree program, Jorge Barojas Weber, Pilar Segarra Alberú, María de los Ángeles Ortiz Flores and Mirna Villavicencio Torres	326-329
Interpretation and use of the image in high school physics courses, Guillermo Neumann, Pilar Segarra	330-334
Physics teachers' initial education and professional performance: What do future teachers have to say?, Fernanda Cátia Bozelli, Roberto Nardi	335-339
Inquiry and active learning for the teaching of science at the elementary school: A teacher training diploma course, Ada T. Méndez Moreno	340-343

continued/continuación

contents/contenido

Pedagogical practices carried out during an in-service teachers education project: Approaching history and philosophy of science to physics teaching, Sandra Regina Teodoro Gatti, Roberto Nardi	344-347
Investigating the effects of teacher training on learning physics, Azita Seyed Fadaei	348-351
Future brazilian teachers' imaginaries about physics teaching in adults' education, Andréa Cristina Souza de Jesus, Roberto Nardi	352-356
Force and motion conceptual evaluation for teachers in secondary school, Azita Seyed Fadaei	357-358
The students' view about what it is a scientist, Watanabe, Graciella; Watanabe Caramello, Giselle; Ribeiro, Renata; Gurgel, Ivã	359-363
Why does it seem that my students do not understand physics courses? Antonio Lara-Barragán Gómez	364-367
Atomic models evolution in Mexican high school students, Virgen Huerta, Pilar Segarra, María de los Ángeles Ortiz	368-371
The contribution of science museums to the physical concepts construction, González, M. H., Roa, F. y Torres, Y. I.	372-375
Experiences with a new scheme of assessment in a graduate institution in San Luis Potosi, Mexico. Case study, Arriaga Santos, Carlos A., Mata Salazar, Julio H., Alonso Álvarez, María A. Hernández Morales, Juan A.	376-380
Formative dimension of high school student from axiological potential of Physics at the UANL, Mexico, Juan Carlos Ruiz Mendoza, César Mora, Nivia Álvarez Aguilar	381-385

continued/continuación

contents/contenido

A proposal for the Natural Sciences teaching plan in the Mexican basic level schools, R. Espejel-Morales, M. L. Marquina-Fábrega, M. A. Martínez-Negrete, J. L. Morán-López, M. Núñez-Cabrera	386-389
Popularization of Physics – the Jamaican experience, Michael J. Ponnambalam	390-393
Use and misuse of the concept energy, Arnaldo González Arias	394-402
The beauty and power of symmetry in Physics, Michael J. Ponnambalam	403-406
A no cost method for finding the density of liquids, K. N. Chattopadhyay	407-409
Promoting formative assessment in high school teaching of Physics, Clemens Wagner and Andreas Vaterlaus	410-415
Motivating, guiding and assessing active learning in quantum physics, Jorge Barojas Weber and Manuel Martínez Jiménez	416-419
How to combine math, physics and real world in education: The case of SOGOSURI project in Uganda, Tatsuhiko Uchida, William Mugisa Kihire	420-424
Learn from past Japanese national strategy for education to produce scientists around the end of World War II, Tatsuhiko Uchida, Shuichi Iwatsubo	425-429
Quantitative analysis to the teaching of the rotational dynamics (Hypothesis test and survey), Carlos Andrés Collazos Morales, César Mora	430-435