



THE INSTITUTE FOR ADVANCED PHYSICS

The Institute News

- 10th annual members' conference at Louisiana State University
- Mini conference on kid's physics book at LSU
- Meet IAP's new certified member: Doyl Dickel, Ph.D.
- The problem of our failing culture and its solution

Tenth Annual IAP Conference

Quantum Mechanics: Home of Many Mind Bending Ideas

by Ken Klenk, Ph.D., IAP Certified Member

The Tenth Annual Institute for Advanced Physics (IAP) Conference took place at **Louisiana State University** on July 25-28, 2012 close to the headquarters of IAP providing a unique opportunity for local Associate Members of the Institute and their families to participate in the conference activities which traditionally are focused on the research of and dialog between Certified Members and faculty. A highlight of this year's conference was a special session open to the public for the purpose of presenting a new book by **Dr. Anthony Rizzi**, *Story continues on page 2*



Pictured below a towering live oak tree, which generously populate the Louisiana State University campus in Baton Rouge, LA, are IAP members and faculty: (standing, from left to right) Dr. Anthony Rizzi, Dr. Jim Stoner, Fr. Neal Nichols, Dr. Dan Lejeune, Dr. Dan Welch, Dr. Murray Daw, John Baker, Anthony DiCarlo, (kneeling, from left to right) Dr. Ken Klenk, James Louviere, Stephen Strickland, Dr. Joe Martin, David Giroir, and Don Caffery (Don is not pictured).

My name is Daniel C. and I am a researcher in condensed matter physics based in Italy. I have read with great interest the excellent book from Prof. Rizzi named "The Science Before Science" which manages to reconcile in a clear and convincing way Thomism and modern science. For this reason I am now interested in buying these two texts: "Physics for Realists Mechanics" and "Physics for Realists Electricity and Magnetism"....

Best regards Daniel C., April 16, 2012

Annual conference story continued from page 1...

A Kid's Introduction to Physics (and Beyond), which was published just weeks before the conference. *See the related article in this newsletter.*

The focus of this year's conference was on the third textbook in the *Physics for Realists (PFR)* series: Quantum Mechanics. **Dr. Rizzi** presented his many new discoveries into the nature of quantum mechanics as well as a vision for the textbook that will present the material once it's all understood. **Dr. Murray Daw** explained the Bohm-DeBroglie formulation of quantum mechanics and his work with Dr. Rizzi on two interacting Gaussian waves. He covered Bohm/Debroglie's historical place and the insight it provides towards a more realistic interpretation of quantum phenomena than the classical Copenhagen view. However, further research of the approach is needed. Dr. Rizzi's talks included his uncovering of the ontological explanation of Lagrangian dynamics, as well as understanding Bell and EPR and Stochastic Electrodynamics and QM history, showing huge strides in understanding quantum mechanics.

Dr. Joe Martin discussed satellite experiments used to explore Mars. As, the over arching textbook theme is the Manned Mission to Mars, Dr. Martin's work provides ideas for the group to determine a special application theme for the Quantum textbook. This theme continues the theme used in the first and second books in this series: *PFR: Mechanics* and *PFR: Electricity and Magnetism*. **Dr. Ken Klenk** gave a summary of his research on the history of quantum mechanics presenting a timeline and an overview of the persons involved which is an important part of the *PFR* series.

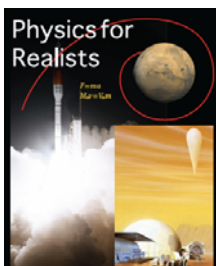
Of particular interest this year was a talk Dr. Rizzi gave entitled *The Scientism after Science* – a

survey of history showing how scientism has come into our culture; how our culture has not properly digested the great new scientific method that was discovered 400 years ago. He pointed out the major milestones along the way such as Descartes introducing what Rizzi called the quantilogical method (his contributions to mathematics) and Kant's scientific misread of the empiriological ideas of Newton and thus giving us a false *physica*. This leading finally, in today's world, to living with the consequences of this scientism which has worked its way from the halls of academia into the politics, laws, jurisprudence and everyday living in our world today.

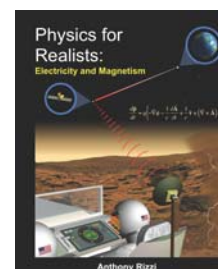
During the meeting, Dr. Rizzi recognized **Dr. James Stoner**, chairman of the political science department at LSU, who received a special service award for his 9 years of unwavering service to the Institute. Dr. Rizzi and Dr. Stoner also recognized **Dr. Stephen Stickland** who received his Certified Member certificate; **John Baker** who received his Associate Member certificate and also, **Dr. Ted Dickel** who received a certificate for becoming a Certified Member in absentia.

A student made the following remarks to Prof. Murray Daw after one of his Physics for Realists Electricity & Magnetism classes at Clemson University this fall: "I think this is the best way to teach physics. I really have learned a great deal. Some of the mathematical concepts I had learned in math courses, but now I'm understanding them for the first time. For example, I now know what the curl and divergence are. The textbook's explanation of Stokes' Theorem really helped me to understand it much better than I did after covering that subject in my math class. This is the way everyone should teach physics.

I know that some people don't like taking physics, but I really think that they would appreciate physics much better if they were to learn it this way."



ORDER *Physics for Realists*
 for your students or for your personal use:
Mechanics (Vol. I) \$95
Solutions Manual (Vol. I) for professors \$45
Electricity & Magnetism (Vol. II) \$90
Solutions Manual (Vol. II) for professors \$40
<http://www.iapweb.org/store/>



A Kid's Introduction to Physics (and Beyond)

Mini Conference at LSU

by Dan Welch, Ph.D., IAP Certified Member

The "Preamble of the Faith" has been all but forgotten. In this book, renowned physicist and Thomist, Dr. Anthony Rizzi, gives us, for the first time at the grade school level, this preamble in light of modern scientific thinking. It is the general framework for all of our knowledge given in simple terms, leading us from the things we see and hear as small children to the scientific method and finally proving the existence of God. It contains the basic general science needed to properly understand the material in any science text. As such, it should be read as an introduction to whatever science textbook your student is using. Without this background, the student is left without a big picture of how the facts he learns fit together and without a ground for his faith. Recommended for 7th through high school. (70 pages, 14 font, 6x8 soft cover).

On July 27, 2012, a group of 55 educators, parents, and children met at Louisiana State University for two and a half hours to hear from **Fr. Neal Nichols** and **Dr. Rizzi** the importance of and the contents of the book *A Kid's Introduction to Physics (and Beyond)* published by the Institute for Advanced Physics (IAP) and to engage in critical examination of that content and its purpose. It was an event quite remarkable since it was part of a four day conference devoted to the professional work of physics. Members of the Institute for Advanced Physics devoted a portion of their annual conference time to address the critical educational need of children: to know and understand the physical world. Are the words "critical need" an exaggeration? No, because it reaches to the very heart of physics, thus to the heart of modern science and the civilization in which it has arisen.

Dr. Anthony Rizzi authored the book to meet that large need, but at the point where it first arises –the foundational principles. He reminds us that reading-age children and young adults grasp these deepest principles of modern physics easily. Those adults who have struggled to understand the results-oriented equation intensive study of physics currently taught in high school may find this hard to grasp. It is these principles that the new book addresses. An example follows.

In his description of the chapters of the new book, Dr. Rizzi used the question "What is a physical thing?" that serves as the title for one chapter. One might expect this question to elicit quick response from anyone claiming to understand what "physical" means, but his

comments suggested that experience negates that expectation. I personally verified that in conversations during the weeks after the mini-conference. And the children's book's answer truly satisfies in its simplicity. One highly educated non-scientist I spoke with who has regularly pointed to his personal inability in science suddenly exclaimed, "I wish I had learned more physics!" I plan to give this book widely as a gift, and not just to kids.

In my discussions with conference participants following the event, there seemed to be a genuine sense that herein lay a beautiful chance for parents and children to grow together toward wisdom. That's an impressive achievement for a kid's book.

I wanted to write a big Thank You for your work regarding the mini-conference, and a very special Thank You (to the Lord, first!) for...The Kid's Introduction to Physics. I read it Sunday before Mass, and then passed it on to my daughter...for sure the book will be a topic of discussion the rest of our lives.

As a convert to the Church, I just keep finding more and more riches, the Institute for Advanced Physics included!!! Blessings, Julie A.



Connie Firner, a teacher with 34 years experience in public schools and Excellence in Teaching Award recipient, says: *This book is simply written in such a way that kids will enjoy reading it...they will discover how relevant and needed the book is to their understanding of the whole world and our place in it.*

IAP welcomes Doyl Dickel, new Certified Member



Doyl Dickel is a recent Ph.D. recipient from Clemson University. He was awarded his BS with honors in physics from the California Institute of Technology in 2007 and completed his dissertation, “Electrical Detection of Mechanical Resonance in Nanotubes and Semiconducting Nanowires” at Clemson in 2011. During his time at Clemson, he worked extensively with several aspects of low-dimensional carbon nanostructures, including their synthesis, mechanical and electrical properties, and defect analysis. He also worked to develop computational and theoretical methods to study heat conduction and phonon mode lifetimes in idealized insulators.

This fall, he begins as a Post-Doctoral researcher at the Karlsruhe Institute of Technology in Karlsruhe, Germany, where he will work to help develop the theory of continuum dislocation dynamics. Dr. Dickel looks forward to getting more involved in the important work of the Institute. Welcome aboard Dr. Dickel!

“The Great Catholic Science Textbook Debate: Can Science and Philosophy be Separated?”

By R.A. Bowen Professor of Physics at Clemson University and IAP Faculty **Murray S. Daw**

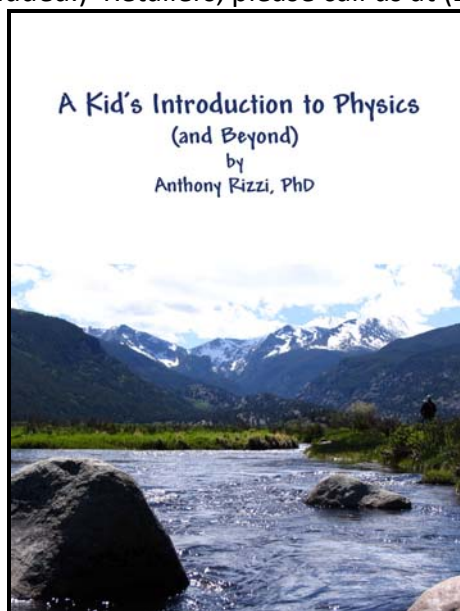
December 2011 issue of the *New Oxford Review*

<http://www.newoxfordreview.org/article.jsp?did=1211-daw>

How to order

A Kid's Introduction to Physics (and Beyond)

The book (6x8, 70 pages, 14 font, soft cover) may be purchased for \$12 plus s/h on the IAP web site at: <http://www.iapweb.org/store/kids> (credit card only). (If you are in Louisiana, PLEASE do not forget to click the appropriate selection to have the proper Louisiana tax included.) Retailers, please call us at (225) 667-0244 for discount rates on 10 or more copies.



[IAP's new book] "A Kid's Introduction to Physics (And Beyond)" is an excellent and sorely needed book. This book, for the first time, explains the physics that everyone needs to know to understand our place in this world. Because it starts at the beginning with the simple things that we all learn as children through the senses and builds to explain where modern science comes in and how important it is, it truly gives the reader a big picture view of his place in the modern world.

Furthermore, without the understanding given in this book, no Catholic can have a mature understanding of his Faith. Indeed, absent an understanding of the material in this book, his Faith is placed in real danger of being confused. It is a beginner's level summary of key aspects of a modern preamble to the Faith. I urge everyone to read and re-read it.

Fr. Benedict Ashley, O.P., Aquinas Institute, St. Louis University (emeritus)

The Problem of our Failing Culture and its Solution

Reintegration of the Modern Mind and its Science by Dr. Rizzi

As you know, IAP is tackling the core of our deep cultural problems, which is our science not being clearly grounded in the principles that every child knows. IAP is repairing the core of our culture by grounding its core thinking, modern science, in our knowledge of the physical things that we know directly through our senses. To give people insight into this deep need (which is currently only addressed by IAP), Dr. Rizzi here addresses the core of a question that has been in the news.

The idea that there is no truth has been steadily gaining ground since before the Enlightenment. Outside of the hard sciences, the idea is now current that pragmatism in every sphere, from business to within family life, is the only reality; what works is what's real. Even--in many areas one can say especially--within academia, expected functionary roles threaten to replace thoughtful activity. We are, it seems, much too busy to have time to determine what it is that actually works or what the goal of making things work is. Many have forgotten the question: will it make me happy? Philosophy, the feeling

continues, is an arm chair discipline that cannot really affect how one thinks and acts in the cold reality of the world; it is, at best, enjoyable mental work, a sort of mental equivalent of the Rubik's cube; namely, it's purely *academic*. You have your philosophy; I have mine. The only exception to the anti-truth fad seems to be science. Only those things that are thought to have been scientifically proven are considered to be true. And, even this has come under attack by so-called postmodernists and others.

[Click here to read more or go to this link:](http://IAPweb.org/articles/ReintegrationModernScienceWeb.pdf)
IAPweb.org/articles/ReintegrationModernScienceWeb.pdf

Anthony Rizzi, Ph.D., founder and Director of The Institute for Advanced Physics (an eight year old non-profit organization with Vatican backing), gained worldwide recognition in theoretical physics by solving an 80-year old problem in Einstein's theory. He has physics degrees from MIT and Princeton University. Prior to IAP, he was senior scientist at Cal-Tech's Louisiana LIGO and taught at LSU.