R8B Innovation Expo

SCORE International Virtual Conference May 16-20, 2022

Global Stage for Young Innovators Challenge

Pronosti sciplinary Learning & Advanced Study ONORING BOB BLOCK



We believe that Dr. Raymond T. Yeh's patience and introspection in his career as an educator and researcher, and Mr. Bob Block's achievements in transdisciplinary innovation, patents, technology development covering many domains, will inspire and ignite the imagination of the students, and instill a love of learning allowing them to be innovators and young entrepreneurs. These are the foundational cornerstones on which the **R&B TD Research Institute** is built.





BOB BLOCK--A DEEP THINKER Internationally Known Innovator and Entrepreneur

Robert S Block (Bob) is one of the Founders of the United States Sports Academy, an accredited university of sport which offers bachelor's, master's and doctoral degrees. He was the first Chairman of the Board and remained a Board member for more than 40 years. Bob is the inventor and creator of many US and International patents, trade secrets, and copyrights including patents relating to: Enterprise Management Systems and Attribute Groups, Information Labeling, Signal Control, Terrestrial and Satellite Distribution Systems, Real-Time Subscriber Billing Systems, Pay-Per-View, Parental Control, English Language Education, Solar Technologies and devices relating to Interoperability of incompatible radios. In addition to many of Bob's inventions being

licensed to myriad consumer electronics manufacturers, which have influenced entertainment, sports, information and education services and more, his work with interoperability has been acknowledged by and honored with a Commendation by the U.S. Coast Guard for helping save more than 33,000 lives in the wake of the Katrina disaster of 2005. Bob was the Founder of one of the country's largest advertising agencies. He developed groundbreaking software for comparing and analyzing the station prices and ratings, resulting in a competitive advantage. Bob's pioneering efforts in computer software, communications, energy and entertainment industries, including contributions to commercial and pay-television, cellular telephone systems, interoperability, solar panel efficacy and more have had a world-wide effect. Bob is the Founder and Chairman of 3D Business Tools. 3DBT develops business enterprise software based on his book, Whole Business Thinking, which addresses the needs of corporate decision makers, executives, managers, entrepreneurs and business owners who seek to understand and improve their company's financial performance and effectiveness. Bob Block has been a supporter of the Academy of Transdisciplinary Learning & Advanced Studies (ATLAS) and has been a Fellow of the ATLAS for more than nine years.



SCORE

Students Collaboration Objective for Research Enhancement (SCORE) through international partnerships, is a virtual student information exchange platform for collaborative online international learning. Through SCORE, students connect with peers in other countries to discuss global complex issues. The platform allows students to form teams to address these global problems. Students will also be exposed to a wide ranging pool of subject matter experts for which they can call upon as mentors to help them think broadly about solutions to the problems at hand. Encouraging students to utilize global research collaboration will build cultural understanding and communication skills, while enhancing new knowledge generation. Thus opening possibilities to their exploration of the widening boundaries of international transdisciplinarity collaboration and universal knowledge sharing to the benefit of all peoples; giving people the ability to provide better solutions to global problems now facing the world.

Theme of the Conference

If you dream to be an innovator and young entrepreneur, take up the challenge to propose innovative solutions to some of the world's toughest engineering and social challenges facing mankind in the 21st century: A Transdisciplinary Strategy for Global Sustainability.

Transdisciplinarity is a practice of acquiring new knowledge and practice to improve our understanding of complex issues thereby generating both a more integrative and universal solution to support an issue of importance to society.

Identify top student talent from universities around the world and inspire them to become innovators and young entrepreneurs.

Students Collaboration Objective for Research Enhancement (SCORE) through International Partnerships R

Transdisciplinary Team Cooperation



Global Stage for the Young Innovators Challenge

The ATLAS R&B Institute Innovation Expo (IE) aims to host senior and graduate level college students from around the world; offering students an opportunity to showcase their projects in the format of a technical conference. The IE expects to create a unique environment by providing students a conference-like platform to showcase their abilities to possible recruiting companies through the technical presentation of their innovative projects. The main goal of the Innovation Expo International Conference is to create a platform for students to showcase their abilities to employers while providing companies access to top upcoming student talent from universities across the world. All the abstracts of the projects will be listed under the expo program and the program will be distributed to attending companies.

Student teams will work together to develop their design projects and submit them online to the R&B

TD Research Institute. Conference program will also consist of competitively selected invited talks, papers and poster presentations emphasizing the theme of the conference.

Young Innovators Challenge Call is Eligible for Projects:

- That are developed by young innovators (college undergraduate & graduate students)
- That impacts the research development of artificial intelligence and machine-learning, robotics, nanotechnology, 3-D printing, genetics, medicine, and biotechnology and other technologies which cause widespread disruption to labor markets
- That also offer solutions to any of the United Nations Sustainable Development Goals
- That provides impactful innovations addressing societal concerns
- Any other innovative projects that provides transformative insights and tangible outcomes

Intellectual Property

All right and title to any Intellectual Property covered in an admission rests with the submitting team.

Submissions are Invited under the Categories of:

- Product Innovation: If the project idea has a tangible outcome
- Service Innovation: If the project innovation is more social impact based on intangible elements
- **Rural Innovation:** If the project ideas under this category are expected to add new environmental, economic, or social value to rural life
- Best Scientific TD Papers: Technology that will change our lives (papers from academic and non-academic researchers) on Healthcare and medicine; Space travel; Robots in space; Self-driving cars; Flying cars; Application of solar panel technology; 3D printing; Artificial intelligence; Recycling & re-engineering; Global collaboration; Internet of things, and more...



Prizes

There are three prizes under each category (First Place: \$6,000, Second Place: \$4,000, and Third Place: \$2,000). A total of twelve prizes (\$48,000) to be won (winners will be responsible for the tax of their cash award earning). Winners also will receive an R&B Institute Innovation Award plaque. The advisor of each winning project also will receive a special ATLAS R&B Innovation Award. The award winning scientific papers and student project narratives and team profile will be uploaded to the R&B Institute website to be displayed perpetuity giving visibility and exposure to the winners (www.rb-tdinstitute.org).

Publication

Accepted student projects will be published in Open Access ATLAS proceedings. All other TD scientific papers will be reviewed by the Program Technical Committee. Competitively selected papers will be published in the Transdisciplinary Journal of Engineering & Science. Also they will be published as a chapter in a book by ATLAS. Research papers must be original and not published elsewhere. For more information see www. theatlas.org.

Topics of Interest

Scientific TD papers may include, but are not limited to papers addressing some of today's most urgent global challenges, such as health care, climate change, poverty reduction, cyber security, diversity, immigration, the impact of technological changes on future jobs, social innovation in the era of career displacement, the role of disruption, planning for the 22nd century, education for the convergent future. Papers with a transdisciplinary perspective are highly encouraged.

Conference Registration Fees

Conference registration will be free and will be open to the public.

Pre-Conference Seminars, Workshops, and Lectures

Pre-Conference seminars, workshops, and lectures will be half-day (about 2 hours) research and learning sessions that will take place before the 2022 R&B

Innovation Expo International Conference. These seminars will help students master the skills they need to excel in today's competitive workplace and support the development of their design project.

In 2021 and 2022, four consecutive seminars / lectures will be held to cover:

- Transdisciplinary (TD) modules deal with transdisciplinary integration of generic knowledge and tools for dealing with scientific and socially complex problems that exist at the interfaces of disciplinary boundaries. The knowledge learned from TD modules will help the students not only with product design and development but also to solve complex problems focusing on societal needs such as: environment, human health, natural disasters, sustainability, etc. (see www. rb-tdinstitute.org).
- Transdisciplinary tools used in many fields including: product development, project management, many engineering disciplines, design of organization, sustainable development, social issues, environmental issues, and others across many industries including automotive, aerospace, telecom, semiconductor, defense, transportation, energy, healthcare, agriculture, and more (see www.rb-tdinstitute.org).

Important Deadlines

- September 1, 2021: Abstracts submission of projects and papers.
- September 15, 2021: Abstract accept or reject notification to authors.
- December 31, 2021: Draft paper submission.
- January 28, 2022: Acceptance of the projects and papers.

R&B TD Research Institute 2021-2022 Pre-Conference Activities: Preparing Students for the Innovative Projects





Rest 2020-2021 TD researchinstitutedistinguishedlectureseries

Peter J.

MD-PhD

Dr. Roderick J. Lawrence 2020 PhD



Dr. Roderick J. Lawrence graduated from the Faculty of Architecture and Town Planning at the University of Adelaide (Australia) with First Class Honours. He has a Master Degree from the University of Cambridge (England) and a Doctorate of Science from the Ecole Polytechnique Fédérale, Lausanne, (Switzerland). In 1999 he was nominated Professor in the Faculty of Economic and Social Sciences at the University of Geneva. He was promoted to Honorary Professor in October 2015. He was also Honorary Adjunct Professor at the University of Adelaide (2017-2020), and Adjunct Professor at the Institute for Environment and Development (LESTARI) at the National University of Malaysia (UKM) from 2011 to 2019. He was Visiting Professor at the Institute for Global Health at the United Nations University (UNU-IIGH) from 2014 to 2016. He was founding Director of the Certificate for Advanced Studies in Sustainable Development at the University of Geneva from 2003 until 2016, and Director of the Global Environmental Policy Program (GEPP) from 2010 until 2016. Since 2017 he has been Invited Professor at the Swiss Universities Doctoral School on Inter- and Trans-disciplinary Research.

Talk Title: Complexity of COVID-19: Transdisciplinary Responses

The propagation of the coronavirus SARS-CoV-2 and the health, economic and social impacts of Covid-19 are complex, emergent and unpredictable. This pandemic should be considered as a societal challenge that is a test for systemic thinking and concerted actions in the context of uncertainty. Here we describe the virtuous relations between three prerequisite conditions - multilevel governance; knowledge and types of resources; and individual and collective behaviors - that should be combined in transdisciplinary responses by concerted action at local and national levels.

Peter J. Whitehouse MD-PhD is an academic geriatric neurologist, cognitive neuroscientist and environmental bioethicist. He is also Intergenerative transdisciplinary designer and activist whose fields of study include cognitive/brain health, integrated health care, intergenerational learning, interprofessional practice, deep bioethics, organizational aesthetics, narrative epistemology, transmedia performance arts, and play.

2021

Talk Title: A New Beginning and Old Endings: Transdisciplinary Movement in Intergenerative Education Creating Glocal Stages for the Young (and Older) Designers and Innovators

As we enter the Anthropocene and transform civilization towards Cosmodernity, we need our precious and powerful human imagination to address the wicked challenges we face ahead. Environmental deterioration, due to climate change and pollution, and associated social injustice, political unrest, health crises, and economic devastations ask us to explore deeply what it means to be humans in community and in Nature, as contributors to sustainable civilizations. Education is key but designed with new imagination and infused with innovation. Learning is a source of spiritual vitality and enchantment in an emerging post-secular world full of new materialism. Building relationships across generations, disciplines, ethnicities, and sources of faith will be essential. Intergenerativity is a new (eco) social construction for such efforts inspiring us to go "between to go beyond." Reimagining our relationships to other living creatures and Nature itself will be critical. The arts will help us imagine new worlds of possibilities, as they have since the beginning of our species. The Humanities need to be less self-centered. Assuming Big History and Deep Time orientations will give us important senses of perspective. We need to wise up and design a course for the future. We will illustrate these ideas using InterHub which is part of the Presencing Institute's Global Activation of Intention and Action program.

Global TD Learning Studio Preparing students for a changing job landscape



During the year of 2021-2022, four presentations will be given on the subjects shown in this figure, each accompanied by a small group discussion.



Dr. Atila Ertas is a professor of Mechanical Engineering at Texas Tech University. Dr. Ertas has many years of experience in teaching transdisciplinary design courses. He is the author/co-author of over 190 technical papers that cover many engineering technical fields. His textbooks include: The

Engineering Design Process (co-author with J. Jones, 1993, 1996), Prevention through Design (PtD): Transdisciplinary Process (2010), Engineering Mechanics and Design Applications: Transdisciplinary Engineering Fundamentals (2011), Transdisciplinarity Engineering Design Process (2018), and Managing System Complexity through Integrated Transdisciplinary Design Tools (co-author with U. Gulbulak, 2020).



Workshop Co-Facilitators



Dr. Kristin Bodiford is Principal of Community Strengths. She serves as a Senior Advisor at HelpAge USA and Senior Fellow at Generations United. Kristin is an adjunct professor at Dominican University School of Social Work and research affiliate at Portland State University Institute on Aging. She is also a Taos Institute Associate.

Kristin holds a Ph.D. from Tilburg University and an MBA from the University of California, Davis.



Dr. Celiane Camargo-Borges is faculty at Breda University of Applied Sciences in the Netherlands. She is also a Board Member at the Taos Institute. She holds a Ph.D. from her native Brazil, at the University of Sao Paulo. Celiane is a lecturer, researcher and practitioner working at the interface of psychology, health/wellbeing, community building, education, process

design and organizational development.

About the Workshop

Workshop Title

Using Principles of "Designing Research" to Co-Create Solutions Addressing the United Nations Sustainable Development Goals.

Workshop Description

This workshop will explore how we might apply "Designing Research" principles to co-create solutions that address United Nations Sustainable Development goals.

Designing Research is a way of understanding and approaching inquiry. It acknowledges complexity, bringing to research the metaphor of living systems – open, complex, dynamic, and fluid, as an alternative to more conventional scientific approaches that might hold a metaphor of seeing the world as a machine with linear and cause-effect rationalities.

In this workshop, we will explore how Designing Research focuses on the co-creation of knowledge and practices that are useful, that support generative change, and that intimately connect research to practice. Having the word "designing" before research connects knowledge development as actionable and puts research into practice.

The following principles will be shared as resources for co-creating solutions to the UN SDGs and other social issues we face globally.

- Designing research as relational and collaborative
- Designing research as useful and generative
- Designing research as organic and dynamic
- Designing research as engaging complexity and multiplicity

FOR MORE INFORMATION

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2022 R&B Innovation Expo SCORE International Conference Panel Session: How to Create TD Global Super Structure

Transdisciplinary approach through computational and transdisciplinary thinking

Transdisciplinary processes stand on computational and communicational media. Transdisciplinary science and technology provide the necessary infrastructure to migrate and navigate among diverse disciplines, cultures, demographics, economic boundaries, and problems; between the advantaged and disadvantaged communities; between educational opportunities and disparities.

> Creates highways and infrastructures between theoretical, technological and social boundaries by making us aware of the problems of narrow specializations and prepares us for eventual migration as technology continues to change.



Creates collective intelligence through collective impact

TD Global Super Structure: To transition to such a vision requires an organization that can provide the necessary infrastructure to direct the research and develop the methods for integrative science and engineering.

Source: A. Ertas, "personal communication and discussion" with Prof. Ramamoorthy, 1/7/2008.

Computational Thinking and Communication (CTC) emphasizes the virtual spaces supported by silico environments to develop interfaces between disciplines. CTC not only would create highways between disciplines but also links them (via infrastructure) to capture ideas from many disciplines and create common platforms and roadways between them.

International Conference Organizing Committee



Honorary Conference Chairman

Prof. hon Roderick J. Lawrence, D.Sc., Geneva School of Social Sciences (G3S), the University of Geneva, SWITZERLAND

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