Hans J. Haubold and Arak M. Mathai

EXPLORING NEUTRINOS: ENTANGLEMENT, ENTROPY, AND FRACTIONAL CALCULUS

3. 1982 A.M. Mathai Centre for Mathematical and Statistical Sciences


Professor Dr. A.M. Mathai, Department of Mathematics and Statistics, McGill University, Montreal, Canada, and Director of the Centre for Mathematical and Statistical Sciences, Kerala, India.


R.W. John: 1978AN....299..225H (harvard.edu)

W.A. Fowler (Nobel Price 1983):

2. 1978 Einstein Centenary 1979 Berlin and Michelson Colloquium 1981 Potsdam

Dorothy Michelson Livingston, youngest daughter of Abert A. Michelson, opening the Michelson Colloquium in Potsdam, Germany, 27-30 April 1981.


E. Yasui: https://link.springer.com/article/10.1007/bf00412263

L. Pyenson: https://pubs.aip.org/aip/acp/article-abstract/179/1/42/747229/Michelson-s-first-ether-drift-experiment-in-Berlin?redirectedFrom=fulltext

1. 1974 Fractional quantum diffusion and solar neutrino entanglement entropy production

(solar neutrino problem: Solar physics, nuclear physics, neutrino physics) Potsdam, Germany


Professor Dr. Hans-Juergen Treder, former Director of the Astrophysical Observatory Potsdam, Germany, and the Albert Einstein Laboratory for Theoretical Physics, Caputh, Germany.

H.-J. Treder: https://adsabs.harvard.edu/full/1974an....295..169t
E. Gerth: https://articles.adsabs.harvard.edu/pdf/1983AN....304..299H
R. Davis Jr. (Nobel Price 2002):
Astrophysical Observatory Potsdam, Germany.

https://researchfeatures.com/nonadditive-entropies-generalising-boltzmanns-approach-thermodynamics/


https://researchoutreach.org/articles/exploring-neutrinos-entanglement-entropy-fractional-calculus/


Report summarizing research results of the period 1974 to 1988 (Meijer’s G-function, left hand) and Report summarizing research results of the period 1988 to 2018 (Fox’ H-function, right hand)

4. 1978 Michelson experiment and Hudson River school (history of), New York, USA

Headquarter of the United Nations at East River in New York.

https://researchfeatures.com/dorothy-michelson-livingston-personal-recollection/

5. 1988 Education in Space Science and Technology, New York. USA

A.M. Mathai Centre for Mathematical and Statistical Sciences and, subsequently,
Six UN-affiliated Regional Centres for Space Science and Technology Education (affiliated to the United Nations)

https://researchfeatures.com/promoting-global-education-teaching-research-space-science/
https://www.unoosa.org/pdf/publications/st_space_41E.pdf

- Africa, Nigeria (ARCSSTE-E)
- Africa, Morocco (CRASTE-LF)
- Latin America & Caribbean, Mexico & Brazil (CRECTEALC)
- Asia/Pacific, India (CSSTEAP)
- West Asia, Jordan (RCSSTEWA)
- Asia/Pacific, China (RCSSTEAP)
Linear Algebra and Probability and Statistics for teaching basic courses in the following five areas of space science and technology.

SATELLITE METEOROLOGY AND GLOBAL CLIMATE

SATELLITE COMMUNICATIONS

SPACE AND ATMOSPHERIC SCIENCE

REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS

GLOBAL NAVIGATION SATELLITE SYSTEMS
6. 1988 Research in Astronomy, Physics, Mathematics, United Nations New York, USA

Twenty UN/ESA/NASA/JAXA Workshops on Basic Space Science

01_India_a-ac-105-489-e_BSS_1_1991(not available online)
Proceedings: https://pubs.aip.org/aip/acp/issue/245/1

S. Chakravarty (India), W. Wamsteker (ESA), and a participant opening the 1991 workshop in India.
02_Columbia and Costa Rica_a-ac-105-530-e_BSS(not available online)

03_Nigeria_a-ac-105-560-add-1-e_BSS(not available online)
Proceedings: https://pubs.aip.org/aip/acp/issue/320/1

04_Egypt_a-ac-105-580-e_BSS(not available online)
Proceedings: https://link.springer.com/journal/10509/volumes-and-issues/228-1
Proceedings: https://link.springer.com/journal/11038/volumes-and-issues/70-1

7. 1993 Research in Astronomy, Physics, Mathematics, United Nations Vienna, Austria

Headquarter of the United Nations at Danube River in Vienna.
View from HJH’s office in 25th floor at UN Vienna International Centre across the Danube park and river, 2023.

05_Sri Lanka_A_AC.105_640-EN_BSS

T. Kogure, M. Kitamura, and astronomers from the Philippines in front of the observatory housing a telescope from Japan.

06_Germany_A_AC.105_657-EN_BSS_NEO
HJH meeting D.G. Wentzel (USA) during the IAU meeting in Japan 1997 for getting professional advice for developing astronomy programs in nations around the world.

08_Jordan_A_AC.105_723-EN_BSS
https://www.unoosa.org/oosa/oosadoc/data/documents/1999/aac.105/aac.105723_0.html

09_France_A_AC.105_742-EN_BSS

10_Mauritius_A_AC.105_766-EN_BSS
https://www.unoosa.org/oosa/oosadoc/data/documents/2001/aac.105/aac.105766_0.html
Group photo of the 2001 workshop in Mauritius.

11_Argentina_A_AC.105_784-EN_BSS_WSO_NEO_3_2002


WSO/UV, Argentina https://researchfeatures.com/spektr-uf-unlocking-secrets-uv/


Willem Wamsteker (ESA)
Group photo of the 2002 workshop in Argentina.

12_China_A_AC.105_829-EN_BSS


HJH, J. Davila (NASA), N. Gopalswami (NASA), and B. Thompson (NASA) meeting for discussions during the 2004 China workshop.
K. Sakurai, HJH, C. Tsallis, and A.M. Mathai discussing the status of the solar neutrino problem during the 2005 workshop in the United Arab Emirates.

Three principal contributors to the workshops from the very beginning in 1991: Mathai (mathematics), Tsallis (physics), Sakurai (astronomy)
Group photo of the 2006 workshop in India.


15_Japan_A_AC.105_902-EN_BSS_IHY_4__2007


Group photo of participants of the 2007 workshop in Japan.

16_Bulgaria_A_AC.105_919-EN_BSS_IHY

https://www.unoosa.org/oosa/oosadoc/data/documents/2008/aac.105/aac.105919_0.html

Group photo of the 2008 workshop in Bulgaria.
Fractional reaction and diffusion are two topics in classical and quantum statistical mechanics that invite the use of special functions of mathematical physics for closed form evaluation of respective differential equations.

Group photo of the 2009 workshop in the Republic of Korea.

K. Yumoto with his professional colleagues in front of the Space Weather Institute Japan.
19 Nigeria A AC.105_1018-EN_ISWI

https://www.unoosa.org/oosa/oosadoc/data/documents/2012/aac.105/aac.1051018_0.html

20 Ecuador A AC.105_1030-EN_ISWI_5_2012

https://www.unoosa.org/oosa/oosadoc/data/documents/2012/aac.105/aac.1051030_0.html

ISWI, Ecuador https://researchfeatures.com/remarkable-legacy-international-space-weather-initiative/

Proceedings: SUN and GEOSPHERE Vol.9, No.1 – 2014