Sergei V. Chekanov

Subjects: Physics, Particles & Fields

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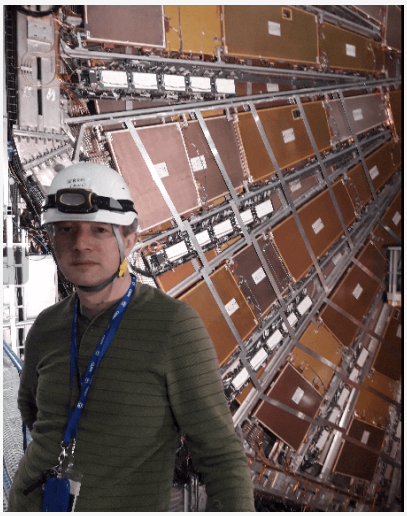
physicists science synchronicity

Basic Information



Name: Sergei V. Chekanov
(Jun 1969–)

Birth Location:	Minsk, Belarus
Title:	Scientist
Affiliation:	Argonne National laboratory
Honors:	Founder of the jwork.org handwiki.org portals

1. Introduction

Sergei V. Chekanov (born 1969 in Minsk, Soviet Union then Belarus) is a Belarussian-American particle and experimental physicist. He published several books on computations and data analysis [1][2] . He obtained his master degree in theoretical physics in 1992 from the Belarusian State University (Minsk, Belarus) and entered a Ph.D. position at the Academy of Science of Belarus. His main Ph.D. topic was the theory of Quantum chromodynamics (1992-1995). He holds a Ph.D in experimental particle physics from the Radboud University Nijmegen, The Netherlands (1998). As a particle physicist, he worked at DESY laboratory (Hamburg, Germany), CERN laboratory (Geneva, Switzerland) and at Argonne National Laboratory (USA).

2. Professional Activity

In 2020, Dr. S. V. Chekanov was ranked #113 in his discipline according to the H-index, corresponding to a top 30 position among Russian-speaking physicists [3]. According to several metrics of the AD scientific index, Dr. S.V. Chekanov is ranked #40 - #100 (depending on the index type) in the United States [4]. Dr. S.V. Chekanov works in the field of particle physics at the Argonne National Laboratory. He was a member of the L3 experiment/CERN, ZEUS experiment/DESY and ATLAS experiment/CERN international experiments. According his publication records in ORCID [5], he co-authored about 200 professional papers (most of them are published in peer-reviewed journals) and other articles, including a dozen of experimental papers from large-scale particle-colliding experiments. In 2022 - 2024, he led a group of scientists at the Large Hadron Collider to publish a first article in [[particle physics]] where the entire collision events from the LHC collider were converted into "replicas" with the help of a deep neural network (autoencoder), and then searches for new physics phenomena [6] [7].

3. Software

S.V.Chekanov led and implemented several large-scale software projects for high-energy particle physics, such as HepSim Monte Carlo repository [8] for collision events, Jas4pp analysis framework for particle physics [9]. As a software designer, S.V.Chekanov he wrote two books on numerical and statistical [10] computations based on the Java (programming language) and Jython programming languages[1] [2] and the usage of Java scripting languages. He is a primary creator of the project called DataMelt [11] for numeric computation, statistics, symbolic calculations, data analysis and data visualization. He is also known for promoting open-source scientific computing for science and education as a founder of the jWork.ORG community portal [12].

S.Chekanov is a founder, primary designer and maintainer of the HandWiki encyclopedia (launched in Oct 2019)[13] on computing, science, technology and general knowledge. This encyclopedia uses an alternative publication policy compared to what is used in Wikipedia. Handwiki has more than 10,000 categories dedicated to science and technology. HandWiki is non-for-profit and non-commercial.

Since 2020 Dr. S.V.Chekanov was a lead developer for the non-for-profit organization called Knowledge Standards Foundation (KSF) [14] which was founded by Wikipedia ex-founder Larry Sanger. As a member of the KSF, he explored the technical design and software implementations of the Encyclosphere which is expected to unite all world's online encyclopedias. He is the main developer of the Encycloreader web site for the KSF [15].

4. Philosophical Works

In July 2024, S. Chekanov published a book titled "The Designed World of Information: Unveiling the Incredible Realm Beyond" [16]. This work explores the concept of synchronicity, first introduced by Carl Jung, and proposes a method for estimating the probability that synchronicity arises from pure chance and randomness. The book concludes that the synchronicity effect can be seen as evidence for the existence of God, although it does not dismiss the simulation theory. Where science falls short of providing definitive answers, this book offers insights

that illuminate our consciousness and its relationship with the informational reality shaping the events and processes of our world. The original text is also available in Russian [17].

The material from Dr. Chekanov's book was used as the foundation for the YouTube channel Designed World, which features short video stories presented in the style of Scientific Neo-Romanticism. This emerging aesthetic emphasizes a fusion of scientific understanding with an emotional connection to nature, exploring the roles of consciousness, spirituality, imagination, and creativity in the age of informational reality. Dr. Chekanov was the principal author of all scripts for the channel's videos. The accompanying music tracks were composed by Australian artist Scott Buckley. Over time, this distinctive narrative and visual approach, Scientific Neo-Romanticism, became closely associated with Dr. Chekanov's book.

Further Reading

Webpage of Dr. S.V.Chekanov: https://jwork.org/chekanov/

References

1. Sergei V. Chekanov. Scientific Data Analysis using Jython Scripting and Java; Springer Nature: Dordrecht, GX, Netherlands, 2010; pp. 600.
2. Sergei V. Chekanov. Numeric Computation and Statistical Data Analysis on the Java Platform; Springer Nature: Dordrecht, GX, Netherlands, 2016; pp. 710.
3. The H-index of the top Russian-speaking physicists.. The H-index of the top Russian-speaking physicists.. Retrieved 2025-3-28
4. AD scientific index of S.V. Chekanov.. AD index. Retrieved 2025-3-28
5. ORCID iD 0000-0001-7314-7247. ORCID iD records. Retrieved 2025-3-28
6. Machine learning could help reveal undiscovered particles within data from the Large Hadron Colli der. By By Savannah Mitchem . Press Release | Argonne National Laboratory (2024). Retrieved 2025-3-28
7. Machine learning could help reveal undiscovered particles within data from the Large Hadron Colli der. Phys. Org. Retrieved 2025-3-28
8. S.V.Chekanov. HepSim: a repository with predictions for high-energy physics experiments. *Advances in High Energy Physics*. **2015**, *ID 136093*, 7.

9. S.V. Chekanov, G. Gavalian and N. A. Graf. Jas4pp - a Data-Analysis Framework for Physics and Detector Studies. *Comp. Physics. Comm.*. **2021**, *262*, 107857.
10. Sergei V. Chekanov. The Designed World of Information: Unveiling the Incredible Realm Beyond; IngramSpark & ErmisLearn, ISBN: 979-8-9906428-3-6, 979-8-9906428-2-9: USA, 2024; pp. 466.
11. DataMelt - Computation and Visualization Platform for Scientists, Engineers and Students. DataMelt . Retrieved 2025-3-29
12. jWork.ORG programming portal. jWork.ORG. Retrieved 2025-3-28
13. HandWiki - Wiki Encyclopedia of Knowledge. HandWiki.org. Retrieved 2025-3-28
14. The team of "The Knowledge Standard Foundation". The Knowledge Standard Foundation. Retrieved 2025-3-28
15. Encycloreader of the KSF - a web application for searching multiple online encyclopedias at once. Encycloreader. Retrieved 2025-3-28
16. Sergei V. Chekanov. The Designed World of Information: Unveiling the Incredible Realm Beyond; ISBN: 979-8-9906428-3-6, eBook ISBN: 979-8-9906428-2-9, Eds.; IngramSpark/ErmisLearn: USA, 2024; pp. 466.
17. С. В. Чеканов. Неслучайный мир информации: Невероятная реальность за гранью нашего мира; ISBN-13 ： 979-8990642812, Eds.; IngramSpark/ErmisLearn: USA, 2024; pp. 477 .