



2023 Zimanyi Medal

## ***Jozsef Zimanyi (1931 - 2006)***

Renowned Hungarian physicist; chair of Science Council of KFKI; Academician.

Hungarian representative on the CERN Council (1992 - 2004).

Széchenyi Prize (2000).



Pioneered the notions of hadrochemistry and quarkochemistry in quark matter research; and one of the pioneers of the use of the relativistic hydrodynamical model for nuclear collisions. Established Budapest heavy ion physics research school that is continued by his students.

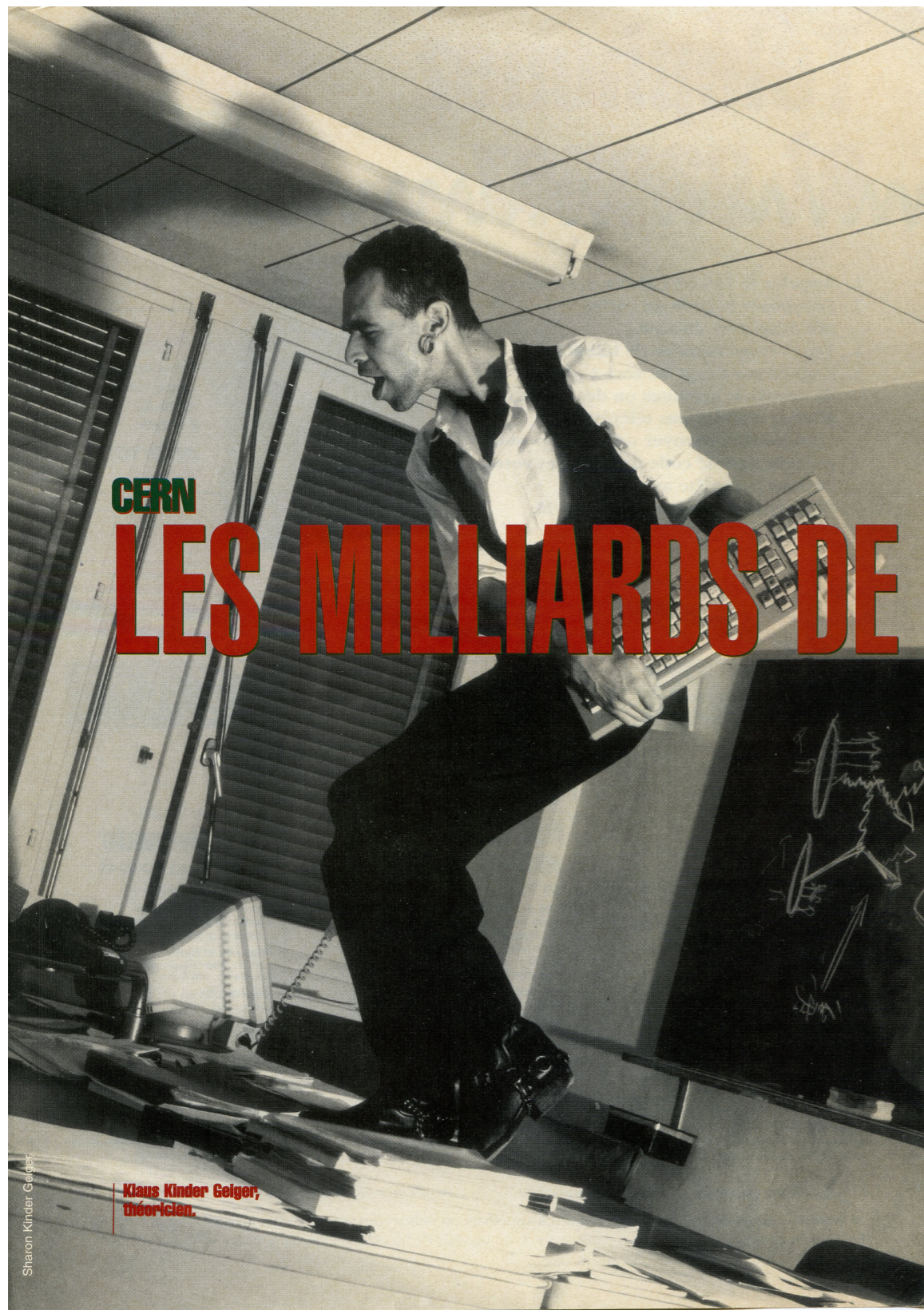
Zimanyi Medal award was established in 2011.

# Zimanyi Medal Rules

***The Zimanyi Medal is awarded to an outstanding young researcher working in heavy-ion physics theory. The research field is understood as generously wide, but it is oriented on Jozsef Zimanyi's life work. No distinction, neither positive nor negative, can be made on the ground of race, gender, or nationality.***

Anyone who left this field of research (even if only recently) cannot be awarded this medal. An awardee must not have completed the fortieth year after birth (exceed the age of 39) until the beginning of the Quark Matter conference at which the Medal is awarded. The award cannot be shared among several persons.

# Klaus Kinder-Geiger (1962 - 1998)



KKG died on 2 September 1998 aboard Swissair 111 en route from New York to Geneva.

PhD in Frankfurt, Postdoc at Duke and Univ. of Minnesota, CERN Fellow, and BNL staff.

Parton Cascade Model (VNI) based on RG improved pQCD; inspired the creation of the color glass condensate model.

“Klaus could best be described as unforgettable.” (A. De Rujula)

# Selection Process

## *The Selection Committee*

*Csörgő, Tamás (ZPF)*  
*Hannah Elfner (FIAS/GSI)*  
*Eskola, Kari (Jyväskylä)*  
*Fukushima, Kenji (Tokyo)*  
*Gale, Charles (Montreal)*  
*Grassi, Frédérique (Sao Paulo)*  
*Aleksi Kurkela (Stavanger)*  
*Lévai, Péter (Wigner Inst.)*  
*Ollitrault, Jean-Yves (Saclay)*  
*Rajagopal, Krishna (MIT)*  
*Ratti, Claudia (Houston)*  
*Sasaki, Chihiro (Wroclaw)*  
*Schenke, Björn (BNL)*  
*Velkovska, Julia (Nashville)*  
*Wang, Xin-Nian (CCNU)*  
*Wiedemann, Urs (CERN)*

*Mueller, Berndt (chair)*  
*Bíró, Tamás (Zimanyi Foundation)*

## **The Selection Process**

Nomination round (18 nominees, incl. 3 female)

1<sup>st</sup> voting round (2 votes each)  
→ short list (4 candidates)

2<sup>nd</sup> voting round (1 vote each)  
→ winner

## **Previous Winners**

2011 *Tetsufumi Hirano*  
2012 *Péter Petreczky*  
2014 *Tuomas Lappi*  
2015 *Chihiro Sasaki*  
2017 *Björn Schenke*  
2018 *Hannah Elfner*  
2019 *Aleksi Kurkela*  
2021 *Sören Schlichting*

# The Winner 2023



## **Gabriel Silveira Denicol**

2007 B.Sc. (UF Rio de Janeiro)

2009 M.Sc. (UF Rio de Janeiro)

2012 Ph.D. (GU Frankfurt)

2012-2015 Banting Fellow (McGill)

2015-2016 Postdoc (BNL)

2016- Assoc. Professor (UF Fluminense)

114 refereed publications

6,224 citations on INSPIRE-HEP

*h*-Index 41

# Primary Accomplishments

**G. S. Denicol**, H. Niemi, E. Molnar and D. H. Rischke,  
*Derivation of transient relativistic fluid dynamics from the Boltzmann equation*,  
Phys. Rev. D 85, 114047 (2012) [arXiv:1202.4551 [nucl-th]].  
518 citations

S. Ryu, J. F. Paquet, C. Shen, **G. S. Denicol**, B. Schenke, S. Jeon and C. Gale,  
*Importance of the Bulk Viscosity of QCD in Ultrarelativistic Heavy-Ion Collisions*,  
Phys. Rev. Lett. 115, 132301 (2015) [arXiv:1502.01675 [nucl-th]].  
342 citations

H. Niemi, G. S. **Denicol**, H. Holopainen and P. Huovinen,  
*Event-by-event distributions of azimuthal asymmetries in ultrarelativistic heavy-ion collisions*,  
Phys. Rev. C 87, 054901 (2013) [arXiv:1212.1008 [nucl-th]].  
290 citations

**G. S. Denicol**, T. Koide and D. H. Rischke,  
*Dissipative relativistic fluid dynamics: a new way to derive the equations of motion from kinetic theory*,  
Phys. Rev. Lett. 105, 162501 (2010) [arXiv:1004.5013 [nucl-th]].  
256 citations

**G. S. Denicol**, S. Jeon and C. Gale,  
*Transport Coefficients of Bulk Viscous Pressure in the 14-moment approximation*,  
Phys. Rev. C 90, 024912 (2014) [arXiv:1403.0962 [nucl-th]].  
179 citations

# The really important stuff

The 2023  
Zimányi Medal on Nuclear Theory




awarded to

*Gabriel Silveira Denicol*

and presented

at the Quark Matter 2023 Conference  
Houston, Texas, USA

For seminal contributions to our understanding of the microscopic origin of relativistic viscous hydrodynamics which now is a cornerstone of heavy-ion physics, as well as for the elucidation of the role of viscosities in the space-time evolution of QCD matter.

  
Prof. Tamás Sándor Bíró  
Chair of Zimányi Physics  
Foundation



  
Prof. Berndt Müller  
Chair of the Selection  
Committee

Wigner Research Centre for Physics

*Congratulations!*



Two thousand dollars

\$ 2000

For **Gabriel Silveira Denicol**

Who is the **Winner of Zimányi Medal 2023**