



# Symposium on Contemporary QCD Physics and Relativistic Nuclear Collisions



College of Physical Science and Technology  
Central China Normal University, Wuhan, China  
November 9 – 11, 2019

## Scientific Program (Building 9, 409)

### Saturday, November 9 Registration and Arrival Day

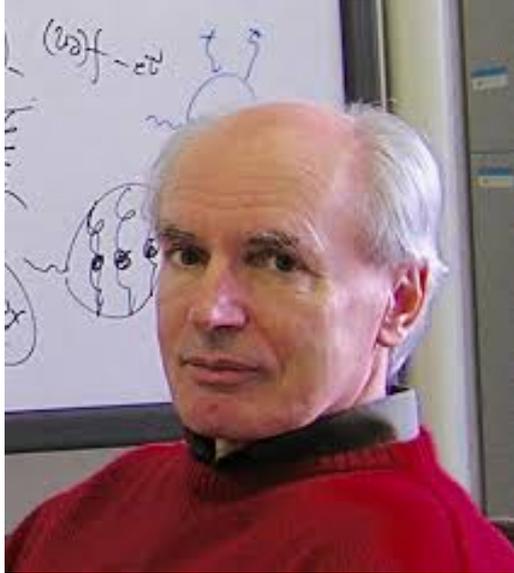
### Sunday, November 10

#### *Session-1 Chair: Enke Wang*

- 8:40 – 8:50 Welcome Address (Nu Xu, on behalf of LOC)  
8:50 – 9:00 Welcome Address (Ben-Wei Zhang, on behalf of CCNU)
- 9:00 – 9:30 Peter Braun-Munzinger (GSI)  
*“Hadronization and the QCD phase boundary”*
- 9:30 – 10:00 Edward Shuryak (Stony Brook)  
*“Quark-gluon plasma: trends and friends”*
- 10:00 – 10:30 Frithjof Karsch (Bielefeld )  
*“The chiral phase transition in (2+1)-flavor QCD”*
- 10:30 – 11:00 Coffee Break

#### *Session-2 Chair: Johanna Stachel*

- 11:00 – 11:30 Raju Venugopalan (BNL)  
*“Universality in strong fields: the curious case of Colored Glass and Black Holes”*
- 11:30 – 12:00 Jean-Yves Ollitrault (Saclay)  
*“Revealing QCD thermodynamics in ultrarelativistic nuclear collisions”*
- 12:00 – 12:30 Dirk Rischke (Frankfurt)  
*“Why FRG flow is hydrodynamic flow”*
- 12:30 – 14:00 Lunch Break



**Jean-Paul Blaizot** studied at Ecole Normale Supérieure in Paris. He received his PhD in 1977 from the University of Paris and was awarded a permanent research position at CNRS, the largest governmental research organization in France. He was a postdoctoral fellow at the Niels Bohr Institute in Copenhagen, Denmark (1977-1979) and then a Visiting Assistant Professor at the University of Illinois at Urbana-Champaign, USA (1980-1982).

Jean-Paul has made important contributions to a variety of fields throughout his career. His wide ranging achievements in physics were honored in 1997 by the Jean-Ricard prize, the most prestigious award of the French Physical Society. In 2009, he received the "Hans Jensen Award" from the University of Heidelberg, and shortly after, in 2010, an Advanced Research Grant from the European Research Council for the project "Strongly coupled QCD matter".

He was the director of the Institute of Theoretical Physics in Saclay, France, from 1998 to 2004, and the director of The European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT\*) in Trento, Italy, from 2004 to 2008.

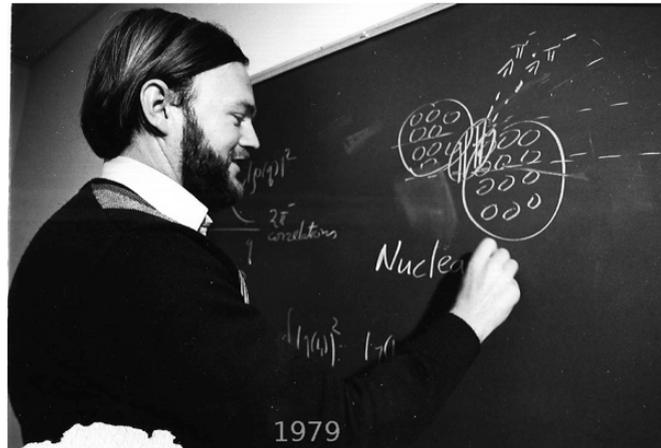
## Sunday, November 10

*Session-3 Chair: Gergely Gabor Barnafoldi*

- 14:00 – 14:30 Azwindinni Muronga (Nelson Mandela Univ)  
*“Higher order relativistic dissipative fluid dynamics for nucleus-nucleus collisions and astrophysical processes”*
- 14:30 – 15:00 Tetsufumi Hirano (Sophia Univ)  
*“Dynamical core-corona initialization and its application to hadron chemistry”*
- 15:00 – 15:30 Jorge Noronha (UIUC)  
*“Viscous fluid dynamics in strong gravitational fields”*
- 15:30 – 16:00 Li Yan (Fudan)  
*“Hydrodynamization of QGP: from kinetic theory to moment equations”*
- 16:00 – 16:30 Coffee Break

*Session-4 Chair: Bjorn Schenke*

- 16:30 – 17:00 Edmond Iancu (Saclay)  
*“Parton showers and jet quenching in heavy ion collisions”*
- 17:00 – 17:30 Jamal Jalilian-Marian (Baruch)  
*“Saturation: from early days to more recent developments”*
- 17:30 – 18:00 Yoshitaka Hatta (BNL)  
*“Odderon in the Color Glass Condensate”*
- 18:30 – 21:00 **Symposium Banquet** (Departure at 18:00)
- Toast Speech Robert Pisarski (BNL)  
*“Three Kings”*



**Miklos Gyulassy** received his B.A. (1970) and Ph.D. (1974) from University of California Berkeley. He was then a postdoctoral fellow from 1974-1976 with W. Greiner at University of Frankfurt, where his interests turned to the theory of high density nuclear matter and the phenomenology of relativistic nuclear collisions. From 1976 to 1992, he worked at Lawrence Berkeley National Laboratory (LBNL), first as a postdoctoral research associate (76-78), then as a Divisional Fellow (78-81) and as a Senior Scientist (81-92). He moved to Columbia University as a Professor of Physics since 1993 and became a Professor Emeritus of Physics since 2016. He is also the Bian Peng Chair Visiting Professor at Central China Normal University since 2015.

Miklos has made many pioneering and influential contributions to the entire field of heavy ion collisions. Miklos has received significant recognition during his career. He received an Alexander von Humboldt Senior U.S. Scientist award in 1986 and a E.O. Lawrence Memorial award from DOE in 1987. He is a Fellow of the American Physical Society and a foreign member of the Hungarian Academy of Science. He was a recipient of the 2015 Hungarian Government Order of Merit Officer's Cross. He served on NSAC during 1986-1990 and participated in the 1983 and 1995 NSAC nuclear science long-range planning committee. He has served on numerous advisory committees for national labs, for journals and for international conferences.

In 2015, his outstanding contributions to the field of relativistic nuclear collisions were honored by the APS T. W. Bonner Prize in Nuclear Physics (jointly with Howard Wieman), *“For developing foundational experimental and theoretical tools to enable and guide generations of experiments in relativistic heavy ion physics. The combination of experiment and theory led to the initial discoveries at RHIC, ongoing precision studies of the properties of hot nuclear matter, and to exploration of the nuclear matter phase diagram.”*

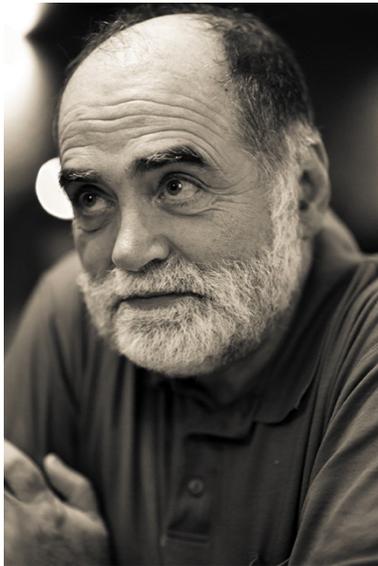
## Monday, November 11

### *Session-5 Chair: Teiji Kunihiro*

- 8:45 – 9:15      Horst Stoecker (FIAS/GSI)  
*“MAGIC - Matter, Astrophysics, Gravitational waves  
and Ion Collisions”*
- 9:15 – 9:45      Dmitri Kharzeev (Stony Brook & BNL)  
*“The chiral magnetic effect: from heavy ions to quantum computers”*
- 9:45 – 10:15      Krzysztof Redlich (Wroclaw)  
*“Polyakov loop and QCD magneto-thermodynamics”*
- 10:15 – 10:45      Coffee Break

### *Session-6 Chair: Xin-Nian Wang*

- 10:45 – 11:15      Yacine Mehtar-Tani (BNL)  
*“Jet evolution and wave turbulence in QCD media”*
- 11:15 – 11:45      Soeren Schlitting (Bielefeld)  
*“Hydrodynamic attractors, initial state energy and  
particle production in relativistic nuclear collisions”*
- 11:45 – 12:15      Zi-Wei Lin (East Carolina Univ)  
*“Flows from parton cascade”*
- 12:15 – 12:45      William Horowitz (Cape Town)  
*“Weak and Strong Coupling QCD in Small Systems”*
- 12:45 – 14:00      Lunch Break



**Larry D McLerran** received BS (1971) and PhD (1975) degrees from the University of Washington. He was a postdoctoral fellow at MIT (1975--1978), and SLAC (1978--1980), Assistant and Associate Professor at the University of Washington (1980--1984), a member of the permanent scientific staff at Fermilab (1984--1988), and a Professor at University of Minnesota, (1988--2000), where he was the first director of the William Fine Theoretical Physics Institute (1989--1992). In 1999, he became a Senior Scientist and Group Leader (1999-2004) of the Nuclear Theory Group at BNL. He was subsequently Head of theory at the RIKEN-BNL Research Center (RBRC) until 2015. In 2016, Larry moved from BNL to the University of Washington, where he is Director of the National Institute for Nuclear Theory (INT).

Larry has made a number of seminal contributions through the course of his career. Larry's awards include the Alfred Sloan Fellowship, the Alexander Humboldt Prize, the Hans Jensen Prize of the University of Heidelberg, an Honorary PhD and the Liu Lian Shou Professorship at Central China Normal University in Wuhan, and an honorary doctorate from Jagiellonian University in Krakow, Poland. In addition to his creative accomplishments, Larry has demonstrated noteworthy scientific leadership and mentorship. As director of the Fine Theoretical Physics Institute at the University of Minnesota, Larry played a key role in recruiting outstanding Russian scientists to Minnesota and elsewhere after the fall of the Soviet Union. As Group Leader of the BNL Nuclear Theory Group, Larry transformed it into a world class group. As theory group leader of the RIKEN-BNL Research Center (RBRC), Larry played a major role in the hiring and training of outstanding young scientists both in the US and worldwide; he continues these efforts as Director of the INT.

In 2015, his outstanding contributions to the field of QCD theory and relativistic nuclear collisions were honored by the APS Herman Feshbach Prize in Theoretical Nuclear Physics, *“For his pioneering contributions to our understanding of quantum chromodynamics at high energy density and laying the theoretical foundations of experimental ultrarelativistic heavy ion collisions. His work has been a crucial guide to experiments at RHIC and LHC, and he has mentored a generation of young theorists”*.

## Monday, November 11

*Session-7 Chair: Nu Xu*

- 14:00 – 14:30 Kenji Fukushima (Tokyo)  
*“Quarkyonic, and Whatelse?”*
- 14:30 – 15:00 Jan Pawłowski (Heidelberg)  
*“On the phase structure and dynamics of QCD”*
- 15:00 – 15:30 Heng-Tong Ding (CCNU)  
*“Charm and beauty in deconfined plasma from lattice QCD”*
- 15:30 – 16:00 Vladimir Skokov (NCSU)  
*“Finding oddity in Color Glass”*
- 16:00 – 16:15 Jean-Paul Blaizot  
Miklos Gyulassy  
Larry McLerran  
*“Concluding Remarks”*
- 16:15 *End of the Symposium*

### Organizing Committee

*Defu Hou*  
*Jinfeng Liao*  
*Feng Liu*  
*Jean-Yves Ollitrault*  
*Raju Venugopalan*  
*Xin-Nian Wang*  
*Nu Xu*

*Ya Ma (event secretary)*  
*Qiang Yuan (event secretary)*