

# An Application for ePIC Membership

## ePIC Collaboration Meeting

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**BNL, 2<sup>nd</sup> May 2026**

- ECTP founded in 2011, [UNESCO-TWAS](#) as "[Center of Excellence in the South](#)" currently collaborating with [MPD@NICA](#).
- Affiliation to [ACU](#) and federation with various research teams associated with partner institutions.



Cairo University



AIN SHAMS UNIVERSITY



ZEWAIL CITY  
 ESTABLISHED 2000  
 INAUGURATED 2011



SOUTH VALLEY UNIVERSITY



The Abdus Salam  
 International Centre  
 for Theoretical Physics



twas  
 unesco  
 The World Academy  
 of Sciences

THE WORLD ACADEMY OF SCIENCES  
 for the advancement of science in developing countries



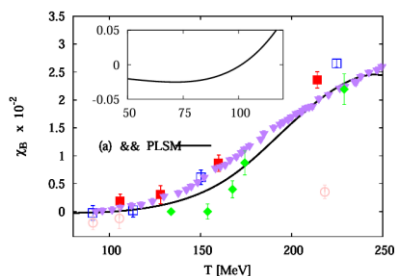
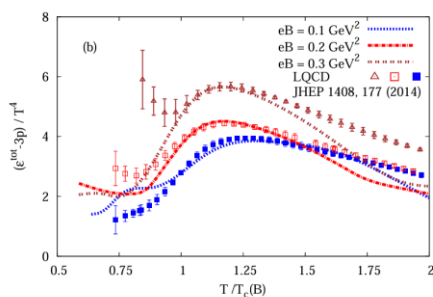
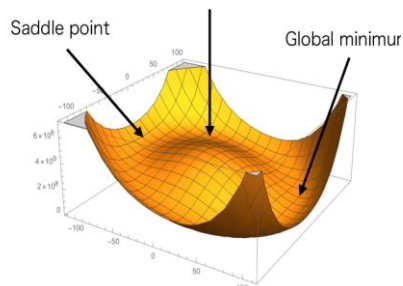
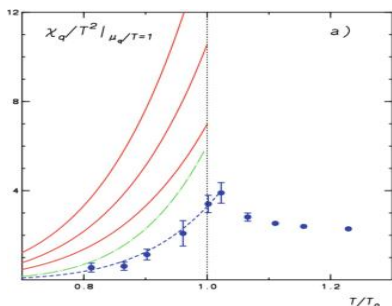
FIAS Frankfurt Institute  
 for Advanced Studies



- LHC at CERN (2013-2016)

- NICA JINR (2012 - ...)

## Expertise



## ePIC

**Physics Problem**

**What ePIC Measures**

**Physical Problem**

Strong force dynamics

Confinement & hadronization

Explain origin of visible mass

Precision QCD

Exclusive processes

Validate and refine QCD theory

Hadronization

Fragmentation

Connect partons to observed particles

## Statistical Thermal Models

Effective dof and Hadronization at vanishing chemical potential

## QCD-like Effective Models

Color Deconfinement, Hadronization, and Nuclear modifications of parton distributions including perturbative and nonperturbative QCD predictions.

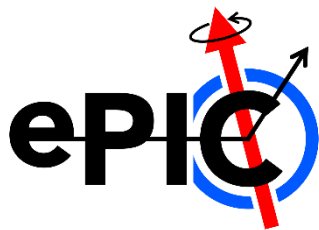
Studies of exclusive processes of vector meson production

## Hadronization & Jet Physics WG

Fragmentation functions,  
Jet substructure in e+p and e+A,  
Cold nuclear matter effects

## Diffraction & Exclusive Processes WG

DVCS, vector meson production  
Imaging via generalized parton distributions (GPDs)  
Coherent vs. incoherent diffraction in nuclei



# EIC Papers Signed

White Paper on EIC Theory Alliance

**The case for an EIC Theory Alliance: Theoretical Challenges of the EIC**

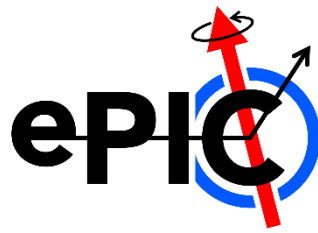
e-Print: [2305.14572](https://arxiv.org/abs/2305.14572) [hep-ph]

**Precision studies of QCD in the low energy domain of the EIC**

*Prog.Part.Nucl.Phys.* 131 (2023) 104032

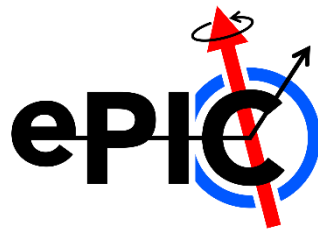
e-Print: [2211.15746](https://arxiv.org/abs/2211.15746) [nucl-ex]

**Thank You**



# Team Members

<b>PI:</b>	Abdel Nasser Tawfik	(ACU)	
<b>Members:</b>	Ashraf Al-Sherif	(ACU)	Professor
	Nourhan Mahmoud	(Assiut U.)	Student
	Maha Maher	(Sohag U.)	Student



# Funds to be Allocated

## U.S.-Egypt Science and Technology Joint Fund

### Collaborative Research Grants

Grants intended to foster research collaboration between Egyptian and U.S. scientists

Up to \$200,000 USD maximum for each country's research team

Up to 2-3 years in duration

### Junior Scientist Development Visit Grants

Short-term, research training visits for Egyptian researchers to U.S. institutions

Up to a maximum of \$25,500 USD

Up to nine months in duration



EGYPT-US COOPERATION GRANT : COLLABORATIVE RESEARCH

US-EGYPT EARLY CAREER VISITOR PROGRAM