

**Preliminary program of the INT workshop**  
**“Physics at a High Energy Electron Ion Collider”**

Institute for Nuclear Theory, Seattle

October 19-23, 2009

Organizers: D. Boer, M. Diehl, R. Venugopalan, W. Vogelsang

**Monday October 19**

**Session Chair:** R. Milner

9:00 - 9:30	G. Sterman	Theory perspective on EIC physics
9:40 - 10:10	E. Aschenauer	Physics measurements for a staged EIC
10:20 - 10:40	Coffee	
10:40 - 11:00	V. Ptitsyn	EIC Accelerator Design - I
11:10 - 11:30	A. Bogacz	EIC Accelerator Design - II
11:40 - 12:00	M. Lamont	EIC Detector Issues
12:10 - 13:30	Lunch break	

**Session Chair:** E. Kinney

13:30 - 13:50	T. Ullrich	How EIC can address open questions from the RHIC Heavy Ion program
14:00 - 14:20	E. Sichtermann	How EIC can address open questions from the RHIC Spin program
14:30 - 14:50	C. Weiss	Nuclear physics with the 12 GeV Upgrade of JLab
15:00 - 15:30	Coffee	
15:30 - 15:50	T. Horn	EIC@JLab - a medium energy collider taking nucleon structure beyond the valence region
16:00 - 16:20	W. Gradl	The Electron Nucleon Collider at FAIR
16:30 - 16:50	B. Cole	LHeC
17:00 - 18:30	Discussion	Discussion Leaders: H. Montgomery (Jlab) and S. Vigdor (BNL)

## Tuesday October 20

**Session Chair:** S. Vigdor

9:00 - 9:30	J. Blümlein	Status of unpolarized parton distribution functions and $\alpha_s(M_Z^2)$
9:40 - 10:10	tba	Helicity Structure of the Nucleon
10:20 - 10:50	Coffee	
10:50 - 11:20	S. Kumano	Determination of nuclear PDFs in the EIC era
11:30 - 12:00	C. Pisano	Delineating the photon content of the proton at the EIC
12:10 - 13:30	Lunch break	

**Session Chair:** R. Ent

13:30 - 14:00	M. Strikman	Theory of leading twist shadowing focusing on predictions for LT nuclear pdfs at small x
14:10 - 14:40	J. Qiu	High Twist Effects in e+A collisions
14:50 - 15:20	Coffee	
15:20 - 15:50	K. Tuchin	Coherent vs incoherent diffractive hadron production
16:00 - 16:30	F. Yuan	Semi-inclusive DIS and Saturation
16:40 - 17:00	Break	
17:00 - 18:30	Discussion	

## Wednesday October 21

**Session Chair:** A. Deshpande

9:00 - 9:30	C. Marquet	Exclusive vs diffractive vector meson production in Nuclei
9:40 - 10:10	T. Lappi	Coherent and Incoherent Nuclear Diffraction
10:20 - 10:50	Coffee	
10:50 - 11:20	H. Kowalski	The J/ $\Psi$ way to nuclear structure
11:30 - 12:00	F. Gelis	Factorization and universality in the non-linear small-x regime
12:10 - 13:30	Lunch break	

**Session Chair:** D. Boer

13:30 - 14:00	Y. Kovchegov	Running coupling corrections to small x evolution
14:10 - 14:40	J. Bartels	Small x and Reggeon Field Theory
14:50 - 15:20	Coffee	
15:20 - 15:50	W. Marciano	Parity Violating Electron-Hadron Interactions: Past, Present and Future
16:00 - 16:30	K. Kumar	Electroweak physics with EIC - experimental prospects
16:40 - 18:00	Discussion	
19:30 - ...		Workshop dinner

**Thursday October 22**

**Session Chair:** M. Diehl

9:00 - 9:30	M. Ramsey-Musolf	Electroweak physics with EIC-theory prospects
9:40 - 10:10	NN	tba
10:20 - 10:50	Coffee	
10:50 - 11:20	B. Kopeliovich	Production of hadrons and direct photons with large transverse momentum
11:30 - 12:00	C. Ciofi degli Atti	Coherence and nucleon correlations in nuclear diffraction
12:10 - 13:30	Lunch break	

**Session Chair:** R. Venugopalan

13:30 - 14:00	D. Mueller	Generalized Parton Distributions - I
14:10 - 14:40	M. Burkardt	Generalized Parton Distributions - II
14:50 - 15:20	Coffee	
15:30 - 16:00	V. Guzey	Nuclear GPDs at an EIC
16:10 - 18:00	Discussion	

## Friday October 23

### Session Chair: V. Guzey

- 9:00 - 9:30 M. Stratmann Fragmentation Functions - overview  
9:40 - 10:10 X.-N. Wang Fragmentation functions in e+A and implications for A+A
- 10:20 - 10:50 Coffee
- 10:50 - 11:20 A. Accardi Parton propagation and fragmentation at the EIC  
11:30 - 12:00 W. Brooks Microscopic Studies of Parton Propagation and Hadron Formation
- 12:10 - 13:30 Lunch break

### Session Chair: E. Aschenauer

- 13:30 - 14:00 A. Metz What can one learn about TMDs from semi-inclusive DIS?  
14:10 - 14:40 X. Jiang Spin-flavor decomposition and practical considerations for EIC
- 14:50 - 15:20 Coffee
- 15:20 - 15:50 L. Gamberg Transverse Structure of the Nucleon - Modeling TMDs & the EIC  
16:00 - 16:30 J.-p. Chen Transverse Spin and Transverse Momentum Dependent Structure
- 16:40 - 18:00 Summary and Outlook (Leaders: A. Deshpande+R. Milner)