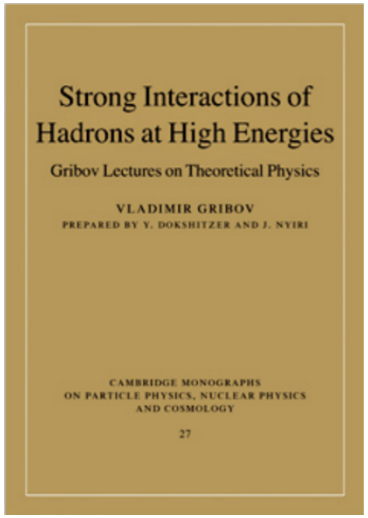
2017 International Summer Workshop on Reaction Theory

INDIANA UNIVERSITY

The 2017 International Summer Workshop on Reaction Theory is dedicated to Vladimir N. Gribov (1930-1997)

Vladimir Naumovich Gribov received his Ph.D. in theoretical physics in 1957 from the Physico-Technical Institute in Leningrad, and be came the head of the Theory Division of the Particle Physics Department in 1962. From 1971, when the Petersburg (Leningrad) Institute for Nuclear Physics was organized, Gribov led the Theory Division of the Institute. In 1980 he became Head of the particle physics section of the Landau Institute for Theoretical Physics, Moscow. From 1981 he regularly visited the Research Institute for Particle and Nuclear Physics in Budapest where he was a scientific adviser until his death in 1997. Vladimir Gribov was one of the leading theoretical physicists of his time, who made seminal contributions in quantum electrodynamics, neutrino physics, non-Abelian field theory, and, in particular, the physics of hadron interactions at high energies.



Sponsors

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Indiana University

INDIANA UNIVERSITY
COLLEGE OF ARTS AND SCIENCES
Bloomington

DEPARTMENT OF PHYSICS
INDIANA UNIVERSITY
College of Arts and Sciences
Bloomington

Welcome Remarks

- **Adam Szczepaniak**
  Professor of Theoretical Physics, Indiana University
  Director of the joint Indiana University/Jefferson Lab Physics Analysis Center (JPAC)

- **Jim Musser**
  Associate Dean for Natural and Mathematical Sciences and Research College of Arts and Sciences
  Professor of Physics, Indiana University

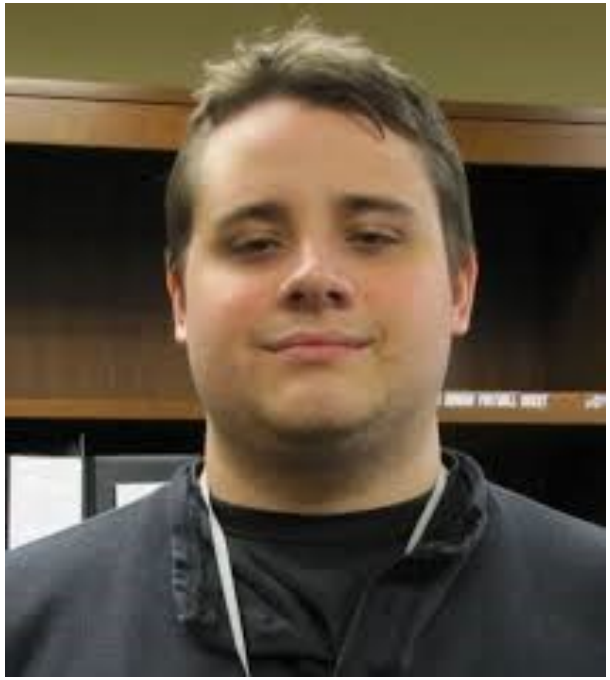
- **David Baxter**
  Chair, Department of Physics
  Professor of Physics, Indiana University

Welcome Remarks

- **Introduction of Teams and format of workshop**

Team 1 – Adam Szczepaniak
Alessandro Pilloni

Team 2 – Marc Vanderhaeghen
Andrew Jackura



Team 3 – Emilie Passemar
Mikhail Mikhasenko

Team 4 – José Pelaez
Adam Szczepaniak
Vincent Mathieu

Team 5 – Christian Weiss
Vincent Mathieu

Moya Wright – Workshop Coordinator

A few logistics……

8:00 am daily - Bus will leave Willkie South and return at end of lectures

Moya Wright – Workshop Coordinator

Food!

- Continuous coffee and tea available 8:15 am – 4:30 pm
- Water fountain in lounge
- Mid-morning and afternoon break snacks
- Lunch buffet in lounge (iced tea and iced water)

This week's activities

- **Monday**
  - 2:30 pm Introductions…
  - ~3:30 pm Coffee break
  - ~ 4:00 pm Bus returns to Willkie – drop off
  - Bus will continue to nearby supermarket for quick shopping trip and final return to Willkie

- **Tuesday**
  - Sign up for optional weekend activities

- **Wednesday**
  - Last day to sign up for optional weekend activities

- **Thursday**
  - 3:40 pm Bus leaves CEEM to Lilly Library
  - 4:00 – 5:00 pm Lilly Library
  - ~5:15 pm Bus leaves Lilly Library, continues to Willkie (or can walk to Willkie)

- **Weekend – optional excursions**

Saturday

10:00 am Bus leaves Willkie
Optional excursion to Nashville

"Little" Nashville, Indiana - arts and crafts colony - original watercolor paintings, sculptures, toys from yesterday, stained glass art, solid wood furniture, wood carvings, metal sculptures, pewter, handblown glass, custom jewelry, leather goods clothing, and more…

- **Brown County State Park**
  - Scenic drive through forestland
  - Lunch at Lodge
  - Optional after lunch – swim in indoor water park **$15.00** or hike easy-moderate trails near the Lodge
  - **Bus leaves ~2:00 pm, returns to Willkie 2:30 pm**

Saturday evening BBQ

- 6:00 pm Bus leaves Willkie
- BBQ at the home of Prof. Matt Shepherd
- ~10:00 bus departs, returns to Willkie at ~10:30 pm

Sunday -

Optional excursion to Bluesprings Caverns - $14.00

1:30 pm Bus leaves Willkie

An hour-long boat ride through these unique limestone caverns – the darkness is only illuminated by the light of the boat, home to several unique mammals and fish who have adapted to life in the darkness

~4:00 pm bus departs, returns to Willkie at ~4:30 pm

WEEK TWO

- **Wednesday, June 21 – Workshop Dinner at Uptown Restaurant**
  - 6:15 pm Bus leaves Willkie
  - No return bus as you might want to explore Downtown Bloomington

Today's lectures

Team 1
Adam Szczepaniak
Alessandro Pilloni

Chapter 1: Introduction

Symmetries of fundamental interactions

Relation between observables and reaction amplitudes