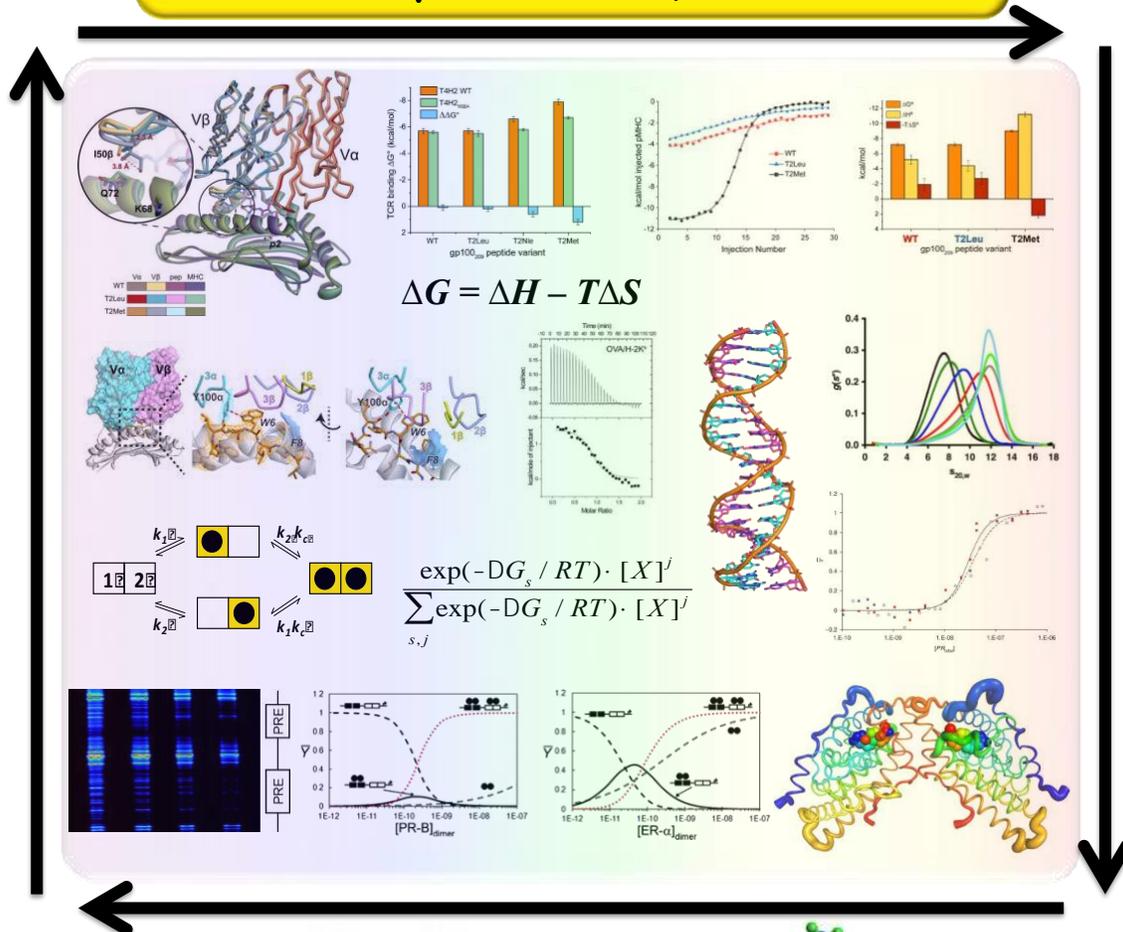


# $\Delta G_{ibbs}_{35}$

35<sup>th</sup> Annual  
Gibbs Conference on Biothermodynamics  
September 25-28, 2021



Organized by the Board of Directors  
Gibbs Society of Biological Thermodynamics  
With thanks to long-term sponsors Beckman Coulter Life Sciences,  
Edinburgh Instruments, Horiba Scientific, ISS, Jasco, Lumicks,  
Malvern Panalytical, NanoTemper, New England Biolabs & Wyatt Technology  
<https://www.gibbsociety.org/annual-conference>

# 35<sup>th</sup> Annual Gibbs Conference on Biological Thermodynamics

**Sept 25-28, 2021**

(held virtually, due to the COVID-19 pandemic)

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*Program cover highlights the research of Brian Baker (presenting the Keynote Lecture) and David Bain (presenting the Gary K. Ackers Lecture in Biological Thermodynamics).*

# The Gibbs Conference on Biological Thermodynamics

## History

Fall, 1986

Discussion of the discipline: Thermodynamics in Biological Systems.

The Gill residence in Vail, Colorado.

Gary Ackers, Wayne Bolen, Ernesto Freire, Stan Gill, Jim Lee.

February, 1987

Discussion of the discipline: Thermodynamics in Biological Systems.

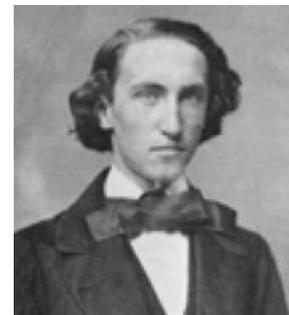
The Gumbo Shop, New Orleans, LA during the 31<sup>st</sup> Annual Biophysical Society Meeting.

Gary Ackers, Norma Allewell, Wayne Bolen, Ken Breslauer, Ken Dill, Ernesto Freire, Stan Gill, Jim Lee.

A history of the first ten years of the meeting was provided by Ackers GK and Bolen DW in the article entitled “The Gibbs Conference on Biothermodynamics: Origins and Evolution” published in *Biophysical Chemistry* 64 (1997) 3-5 (doi:10.1016/S0301-4622(96)02246-6).

An update is provided by Shea, MA, Correia, JJ, and Brenowitz, MD, entitled “Introduction: Twenty five years of the Gibbs Conference on Biothermodynamics” available in *Biophysical Chemistry* 159 (2011) 1-5 (doi:10.1016/j.bpc.2011.07.002).

Professor  
J.W. Gibbs



## Meetings

All in-person meetings have been held at the Touch of Nature Environmental Center associated with Southern Illinois University–Carbondale. From 1987 through 1993, all of the speakers in the scientific sessions were students or postdoctoral fellows. In 2020 and 2021, the meeting was held virtually because of the COVID-19 pandemic.

Year	Conference Organizers	Keynote Speakers
1987	Jim Lee and Wayne Bolen	<i>Philosophical Talks</i> by Gary K. Ackers and Ken Dill
1988	Gary Ackers and Michael Johnson	
1989	Susan G. Frasier and Michael Johnson	
1990	Michael Johnson and Marty Straume	
1991	Gary Ackers and Tim Lohman	Ernesto Freire
1992	Jim Lee and Tomasz Heyduk	Serge Timasheff and John Schellman
1993	Maurice Eftink and Glen Ramsay	Peter von Hippel and Julian Sturtevant
1994	Enrico Di Cera and Madeline Shea	Gary K. Ackers and Kathleen S. Matthews
1995	Kenneth P. Murphy and Michael D. Brenowitz	Victor Bloomfield and Mario Amzel
1996	Jonathan B. Chaires and Michael L. Doyle	J. Michael Schurr and Allen Minton
1997	Dorothy Beckett and Jack Correia	Adrian Parsegian
1998	Andy Robertson	David Draper
1999	Bertrand Garcia-Moreno E. and John Shriver	Wayne Bolen and Gary Ackers
2000	George Turner and Kim Sharp	Steve White

<b>Year</b>	<b>Conference Organizers</b>	<b>Keynote Speakers</b>
2001	Margaret A. Daugherty and Luis A. Marky	George Rose
2002	Michael Mossing and George Makhatadze	Rodney Biltonen
2003	Vince Hilser and Dick Sheardy	Jim Lee
2004	Doug Barrick and Kathleen Hall	Nacho Tinoco
2005	Trevor Creamer and Clay Clark	Carl Frieden
2006	Karen Fleming and Rohit V. Pappu	Madeline A. Shea and Timothy Lohman
2007	Brian M. Baker and Michael T. Henzl	Jamie Williamson
2008	Jannette Carey and David Bain	Dorothy Beckett and Ken Dill
2009	Nathan Baker and Liskin Swint-Kruse	Linda Jen-Jacobson
2010	Elisar Barbar and Vince LiCata	C. Nick Pace
2011	Gibbs Society Board of Directors Editors of Special Issue of <i>Biophysical Chemistry</i> Enrico Di Cera, Tim Lohman, Jack Correia	Bertrand Garcia-Moreno E.
2012	Aaron L. Lucius and Patricia L. Clark	Terry G. Oas
2013	James L. Cole and Aron W. Fenton	Doug Barrick
2014	Andrew B. Herr and Steven T. Whitten	Karen G. Fleming
2015	Ernesto J. Fuentes and James R. Horn	Rohit V. Pappu
2016	Sarah Bondos and Nick Fitzkee	Patricia Clark
2017	Scott Showalter and Ana-Maria Soto	Enrique de la Cruz
2018	Chiwook Park and David Draper	Kevin Plaxco
2019	Matthew Auton and Carlos Castañeda	Cathy Royer
2020	Roberto Galletto and Karen A. Lewis	Kathleen Hall
2021	Gibbs Society Board of Directors	Brian Baker

## The Annual Gary K. Ackers Lecture in Biothermodynamics

Since 2009, the Gibbs Society Board of Directors sponsors an annual lecture honoring the scientific contributions of Gary K. Ackers (1939-2011) to the field of Biological Thermodynamics.

<b>Year</b>	<b>Conference Organizers</b>	<b>Ackers Lecturer</b>
2009	Nathan Baker and Liskin Swint-Kruse	Michael Brenowitz
2010	Elisar Barbar and Vince LiCata	Timothy Lohman
2011	Gibbs Society Board of Directors	Madeline Shea
2012	Aaron L. Lucius and Patricia L. Clark	Enrico Di Cera
2013	James L. Cole and Aron W. Fenton	Bertrand Garcia-Moreno E.
2014	Andrew B. Herr and Steven T. Whitten	David E. Draper
2015	Ernesto J. Fuentes and James R. Horn	Walter S. Englander
2016	Sarah Bondos and Nick Fitzkee	Ken Dill
2017	Scott Showalter and Ana-Maria Soto	Dorothy Beckett
2018	Chiwook Park and David Draper	Jim Lee
2019	Matthew Auton and Carlos Castañeda	John "Jack" Correia
2020	Roberto Galletto and Karen A. Lewis	Doug Barrick
2021	Gibbs Society Board of Directors	David Bain

# Gibbs Society Governance

## Incorporation

In 2002, the Gibbs Society of Biological Thermodynamics incorporated in the Commonwealth of Virginia, under the guidance of Michael L. Johnson, then Treasurer of the Society. Articles of Incorporation and By-laws are available here: <https://www.gibbssociety.org/>

## Current Officers

President: Liskin Swint-Kruse, 2020 – 2021  
Past-President: Kathleen Hall, 2020-2021  
Vice President: Michael L. Johnson, 2010 – 2021  
President Elect: Aaron Lucius, 2020 – 2021  
Secretary: Andrew Herr, 2019 – 2022  
Treasurer: Aron Fenton, 2017 – 2022

## Board of Directors, listed alphabetically

Aron Fenton, Kathleen Hall, Andrew Herr, Vincent LiCata, Aaron Lucius, Madeline Shea, Liskin Swint-Kruse

## Past Presidents

2001-2002	Gary K. Ackers	2011-2012	Doug Barrick
2002-2003	J. Jack Correia	2012-2013	David L. Bain
2003-2004	D. Wayne Bolen	2013-2014	George I. Makhatadze
2004-2005	Madeline A. Shea	2014-2015	Patricia Clark
2005-2006	Dorothy Beckett	2015-2016	Vince LiCata
2006-2007	J. Brad Chaires	2016-2017	James Cole
2007-2008	Tim M. Lohman	2017-2018	Clay Clark
2008-2009	Luis A. Marky	2018-2019	Brian Baker
2009-2010	Bertrand Garcia-Moreno E	2020-2021	Kathleen Hall
2010-2011	Karen G. Fleming		

## Past Treasurer

2001-2011 Michael L. Johnson  
2011-2017 Jack Correia

## Past Secretary

2004-2013 Margaret A. Daugherty  
2013-2019 Liskin Swint-Kruse

## Committees and Other Contributions

Ackers Lecturer Selection Committee – Vincent J. LiCata, Chair (2021 -)

Gibbs Society Website Hosting

Chiwook Park and Sarah E. Bondos (2020 – present)

Registration and PayPal – Nick Fitzkee

Saturday Night Thermo Organizers

Karen Lewis, Vincent J. LiCata, Emery Usher, and Mithun Nag K. G.

Poster Session Organizers

Jim Horn, Tonya Zeczycki, Robb Welty, Whitney Bond, Tosha Laughlin, and Niyati Patel

## **Confidentiality Statement**

Please remember that the content of all presentations (both talks and posters) for this meeting are confidential material and may contain unpublished results. Abstracts will not be posted online.

Please ask permission from the authors before taking photos or screenshots of posters or poster material.

Please do not record or take screenshots of the talks, posters, or any presented material unless a speaker has given you express permission.

## **Code of Conduct**

The Gibbs Society of Biological Thermodynamics is committed to providing a safe and productive environment that fosters open dialogue and the exchange of scientific ideas, promotes equal opportunities and treatment for all participants, and is free of harassment and discrimination.

Harassment includes speech or behavior that is not welcome or is personally offensive, whether it is based on ethnicity, gender, religion, age, body size, disability, veteran status, marital status, sexual orientation, gender identity, or any other reason. It includes stalking, unnecessary touching, and unwelcome attention.

Behavior that is acceptable to one person may not be acceptable to another, so use discretion to be sure that respect is communicated. Harassment intended in a joking manner still constitutes unacceptable behavior. Anyone experiencing conduct that violates this Code should report this conduct to any member of the Gibbs Society.

# 13<sup>th</sup> Annual Gary K. Ackers Lecture in Biothermodynamics

2021 Lecturer – David Bain, University of Colorado Anschutz Medical Campus

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*This lecture honors the scientific contributions of Gary K. Ackers (1939-2011) to the field of Biological Thermodynamics. He served on the faculty at the University of Virginia, Johns Hopkins University and the Washington University School of Medicine. He was a Fellow of the Biophysical Society and was one of the founding organizers of the Gibbs Conference.*

*Gary demonstrated a lifelong commitment to the growth and development of an intellectual community of scholars devoted to furthering the field of biothermodynamics. Gary was an active member of the Biophysical Society throughout his career and served as President of the Society, as well as Organizer of the annual meeting. While on the faculty of the University of Virginia, he was a leader in the graduate biophysics training program. When on the faculty in the Department of Biology at the Johns Hopkins University, he conceived and organized the Institute for Biophysical Studies of Macromolecular Assemblies, a university-wide training program in molecular biophysics that has continued for decades. While at Johns Hopkins, he also played a leading role in the establishment of the Gibbs Conference on Biothermodynamics, an annual meeting organized to promote innovative development of biophysical principles applied to current problems in biology and to train the next generation of molecular biophysicists to tackle hard problems rigorously. After moving to St. Louis to chair the Department of Biochemistry and Molecular Biophysics at Washington University, he spearheaded a new graduate program in biophysics and hired many faculty who have joined the community of regular contributors to the Gibbs Conference.*

*Gary was a pioneer in the development of methods and application of principles of equilibrium thermodynamics to the study of linkage in complex macromolecular assemblies. Studies from his laboratory on the energetics of self-association and ligand binding in human hemoglobin proved unequivocally that the classic and elegant MWC model of intersubunit allostery was insufficient to explain cooperative oxygen binding: the position, as well as the number, of ligands matters. His contributions in this area greatly enhanced our understanding of the relationship between structure, energy and function in hemoglobin, and in multimeric allosteric systems in general. By probing ever more deeply into the molecular mechanism of cooperativity, he demonstrated a beautiful, useful, and general strategy for dissecting functional energetics in macromolecular assemblies.*

*His quantitative study of the interactions between proteins and nucleic acids in the bacteriophage lambda system included the development of quantitative DNase footprinting methods for measuring free energies of repressor-operator interactions. The footprinting assay remains an effective tool for measuring the extremely tight binding constants that are often encountered in site-specific interactions between proteins and nucleic acids. Those studies paved the way for similar methods to study protein-nucleic acid interactions in more complex systems, including time-resolved studies of the kinetics of RNA folding. Based on his experimental studies of phage lambda, his group developed statistical thermodynamic models to simulate the lysogenic-to-lytic growth switch: the series of macromolecular events that determine the fate of bacteriophage lambda during infection of *E. coli*. This work demonstrated how a complex biological function could be predicted quantitatively, strictly from the kinetics of transcription and translation, and the Gibbs free energy of interactions between the key macromolecular components in the genetic switch.*

*During Gary's early career, he developed methods to measure association constants in self-associating systems based on analytical gel permeation chromatography. Those methods have since become standard tools in the field. His group was also responsible for modifications of the cryo-gel electrophoresis methods, moving from applying them to hemoglobin to protein-DNA interactions. These contributions focused on developing the capacity to quantify intermediate states that are only transiently populated during the course of a biochemical process. His more than 200 articles and chapters changed our view of the molecular mechanisms that govern complex biochemical reactions.*

# GIBBS 2021 SCHEDULE

SATURDAY Sept 25	SUNDAY Sept 26	MONDAY Sept 27	TUESDAY Sept 28
<p><b>All times are CDT (UTC-5)</b></p>	<p><b>10:30 - 2:00</b></p> <p>PLATFORM SESSION I</p> <p>Take a short brain break</p>	<p><b>10:30 - 2:00</b></p> <p><b>ACKERS LECTURE &amp; PLATFORM SESSION III</b></p> <p>Take a short brain break</p>	
			<p><b>1:00 - 2:00</b></p> <p><b>Gibbs welcome Social Hour!</b></p>
<p><b>2:00 - 5:00</b></p> <p>POSTER SESSION 1</p>	<p><b>2:00 - 5:10</b></p> <p><b>KEYNOTE PLATFORM SESSION II</b></p>	<p><b>2:00 - 5:00</b></p> <p>POSTER SESSION 3</p>	<p><b>3:00 - 6:30</b></p> <p>PLATFORM SESSION V</p>
<p><b>6:00-8:15</b></p> <p>SATURDAY NIGHT THERMO and MORE</p>	<p><b>5:10-7:00</b></p> <p>Sunday Social and Dinner</p>	<p><b>5:00 - 6:00</b></p> <p>Monday Social and Dinner</p>	
	<p><b>7:00 - 10:00</b></p> <p>POSTER SESSION 2</p>	<p><b>6:00 - 8:30</b></p> <p>PLATFORM SESSION IV</p>	



Reminder: All Gibbs35 event times are listed in the Central (Carbondale) time zone.

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**Saturday ♦ September 25, 2021**  
**1:00 pm – 8:15 pm CDT (UTC -5)**

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## Welcome Social Hour

1:00 – 2:00 pm      *Multiple breakout rooms will be set up for informal discussions.  
Participants may move freely among the rooms.  
A Zoom meeting link for this event will be provided via email to all registrants.*

## Poster Session 1

2:00 – 5:00 pm      *A unique Zoom meeting link will be provided via email to all registrants.  
The listing of posters and authors is provided later in the program.*

## Saturday Night Thermo – Event for Trainees only

*(A separate Zoom link for this session will be sent to all who registered for SNT)*

Co-Organizers      Emery Usher, Penn State University  
Mithun Nag K. G., University of Texas at Arlington  
Vince LiCata, Louisiana State University  
Karen Lewis, Texas State University

6:00 – 7:00 pm      **Flash Talks by Students & Postdocs**

**pH-dependent stability of monomeric caspases**

**Isha Joglekar**, Clark lab, University of Texas at Arlington

**Interplay between protein stability, binding to ACE2 and escape from neutralizing antibodies shapes the evolution of SARS-CoV-2 receptor binding domain and dictates the emergence of new variants**

**Vaibhav Upadhyay**, Mallela lab, University of Colorado-Anschutz Medical Campus

**Investigating staphylococcal surface protein interactions with polystyrene surfaces**

**Radha Somarathne**, Fitzkee lab, Mississippi State University

**Long-range hidden structures determine the sensitivity of intrinsically disordered proteins**

**Feng Yu**, Sukenik lab, University of California Merced

**An in-silico study of the strand invasion mechanism of the yxjA guanine riboswitch**

**Elise White**, Chen lab, The RNA Institute at the University of Albany

**Probing the impact of molecular chaperones on the refoldability of the *E. coli* proteome**

**Philip To**, Fried lab, Johns Hopkins University

**Short Break**

7:15 – 8:15 pm      **Career Panel with Q&A and Open Discussion**

Speakers to be announced

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**Sunday ♦ September 26, 2021**  
**10:30 am – 10 pm CDT (UTC -5)**

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A Zoom meeting link for the meeting will be provided via email to all registrants.

- 10:10 am                    **Zoom link goes live**
- 10:30 – 10:35 am        **Opening Comments by Organizers: Andrew Herr, Cincinnati Children's Hospital**
- 10:35 – 10:40 am        **President's Welcome by Liskin Swint-Kruse, The University of Kansas Medical Center**

## **Platform Session I**

- Co-Moderator*            Kaila Fuller, Lucius Lab, University of Alabama at Birmingham  
*Co-moderator*            Kacey Mersch, Lohman Lab, Washington University in St. Louis  
*Zoom Host*                Aaron Lucius, University of Alabama at Birmingham
- 10:40 – 11:10 am        **How proteins interact with surfaces and why you should care**  
**Nick Fitzkee**, Mississippi State University
- 11:10 – 11:30 am        **Active RNA displacement during competition for the bacterial RNA chaperone Hfq**  
**Jorjeth Roca**, Woodson Lab, Johns Hopkins University
- 11:30 am – 12:00 pm    **The trade-off between thermostability and function in engineered DNA-binding proteins**  
**Michelle McCully**, Santa Clara University
- 12:00 – 12:10 pm        **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
- 12:10 – 12:30 pm        **The ClpX translocase and its application to the study of vectorial protein folding in vitro**  
**Iker Soto Santarriaga**, P. Clark Lab, University of Notre Dame
- 12:30 – 1:00 pm         **Temperature dependency of membrane transporter dimerization in membranes**  
**Janice Robertson**, Washington University in St. Louis
- 1:00 – 1:20 pm           **Computational design of a sensitive, selective phase-changing sensor protein for VX nerve agent**  
**Jim McCann**, Koder Lab, City College of New York
- 1:20 – 2:00 pm           **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.

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## Sunday ♦ September 26, 2021 - continued

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### Platform Session II

*Co-Moderator* Jas Banwait, Lucius Lab, University of Alabama at Birmingham  
*Co-Moderator* Isha Joglekar, Clark Lab, University of Texas at Arlington  
*Zoom Host* Aaron Lucius, University of Alabama at Birmingham

### 35<sup>th</sup> Annual Gibbs Conference Keynote Lecture

- 2:00 – 2:10 pm **Introduction to the 35<sup>th</sup> Annual Gibbs Conference Keynote Speaker**  
**James Horn**, Northern Illinois University
- 2:10 – 3:00 pm **Keynote Lecture**  
**Protein biophysics vs. the immune system, or why the fundamentals always matter**  
**Brian Baker**, University of Notre Dame
- 3:00 – 3:10 pm **Keynote Q&A**
- 3:10 – 3:20 pm **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
- 3:20 – 3:50 pm **MutSy-induced DNA conformational changes provide insight into its role in meiotic recombination**  
**Ishita Mukerji**, Wesleyan University
- 3:50 – 4:10 pm **AUC and SAXS as complementary tools to elucidate mechanistic details of Zn-induced protein assembly and amyloidogenesis**  
**Alexander Yarawsky**, Herr Lab, Cincinnati Children's Hospital Medical Center
- 4:10 – 4:20 pm **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
- 4:20 – 4:50 pm **When ribosome biogenesis goes wrong: Barriers to proper ribosome maturation**  
**Eda Koculi**, Johns Hopkins University
- 4:50 – 5:10 pm **Global conformational shifts act as a checkpoint in bacterial CP assembly**  
**Pushpa Itagi**, Deeds Lab, University of Kansas
- 5:10 – 5:20 pm **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.

### Sunday Social - Dinner Hour

5:10 – 7:00 pm *Breakout rooms will be set up for discussion.*

### Poster Session 2

7:00 – 10:00 pm *Zoom meeting links will be provided via email to all registrants.  
The listing of posters and authors is provided later in the program.*

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**Monday ♦ September 27, 2021**  
**10:30 am – 8:40 pm CDT (UTC -5)**

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### Platform Session III

*Co-Moderator* Amanda Jons, Bondos Lab, Texas A&M Health Science Center  
*Co-Moderator* Yan Sun, Brenowitz Lab, Albert Einstein College of Medicine  
*Zoom Host* Kathleen Hall, Washington University in St. Louis

#### 13<sup>th</sup> Annual Gary K. Ackers Lecture

- 10:30 – 10:40 am      **Introduction to the Gary K. Ackers Lecture in Biothermodynamics**  
Peggy Daugherty, Colorado College
- 10:40 – 11:30 am      **13<sup>th</sup> Annual Gary K. Ackers Lecture**  
**Steroid receptors and monoclonal antibodies: Dissecting the energetics of interacting systems**  
David Bain, University of Colorado Anschutz Medical Campus
- 11:30 – 11:40 am      **Ackers Lecture Q&A**
- 11:40 am– 11:50 pm      **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
- 11:50 – 12:10 pm      **The *E. coli* RecBCD nuclease domain regulates DNA binding and helicase activity, but not ssDNA translocation**  
Nicole Fazio, Lohman Lab, Washington University in St. Louis
- 12:10 – 12:40 pm      **Engineering linked-equilibria for enhanced protein binding (and stability)**  
James Horn, Northern Illinois University
- 12:40 am– 12:50 pm      **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
- 12:50 – 1:10 pm      **Aggregate measurements: Examining the relationship between local instability and self-association in an engineered Fibronectin type III domain**  
Julia Steckner, Meiering Lab, University of Waterloo
- 1:10 – 1:40 pm      **Intramolecular interactions modulate the RNA binding activity of LaRP6**  
Karen Lewis, Texas State University
- 1:40 – 2:00 pm      **Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.

#### Poster Session 3

- 2:00 – 5:00 pm      *A unique Zoom meeting link will be provided via email to all registrants.  
The listing of posters and authors is provided later in the program.*

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## Monday ♦ September 27, 2021 - continued

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### Monday Social - Dinner Hour

Zoom Host

Madeline Shea, Carver College of Medicine, University of Iowa

5:00 – 6:00 pm

*A Zoom meeting link for the entire evening session will be provided via email to all registrants. Breakout rooms will be open for discussion but closed at approximately 5:50 pm, prior to the start of platform session IV.*

### Platform Session IV

Co-Moderator

Frederico Freitas, Whitford Lab, UFTM/Northeastern University

Co-Moderator

Jenny Liu, Amaral/Keten Labs, Northwestern University

Zoom Host

Madeline Shea, Carver College of Medicine, University of Iowa

6:00 – 6:20 pm

**Expanding MPEX hydropathy analysis to account for electrostatic contributions to protein interactions with anionic membranes**

**Victor Vasquez-Montes**, Ladokhin Lab, University of Kansas Medical Center

6:20 – 6:50 pm

**Evolution of the caspase fold**

Clay Clark, University of Texas at Arlington

6:50 – 7:10 pm

**Structural basis of linker length and motif specificity in regulating assembly of dynamic LC8 multivalent complexes**

**Kayla Jara**, Barbar Lab, Oregon State University

7:10 – 7:20 pm

**Break:** Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.

7:20 – 7:40 pm

**Engineering a molecular trigger for HBV VLP disassembly**

**Caleb Starr**, Zlotnick Lab, Indiana University

7:40 – 8:10 pm

**Mitochondrial YME1L: Utilizing conformational dynamics to survive oxidative stress**

Justin Miller, Middle Tennessee State University

8:10 – 8:30 pm

**Protein stability and polyethylene glycols**

**Claire Stewart**, Pielak Lab, University of North Carolina at Chapel Hill

8:30 pm

**Meet the Speakers & Open Discussion:**

Multiple Zoom breakout rooms will be made available to allow follow-up with individual speakers and open discussion among conference participants.

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**Tuesday ♦ September 28, 2021**  
**3:00 pm – 6:30 pm CDT (UTC -5)**

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**Platform Session V**

<i>Co-Moderator</i>	Paul Campitelli, Ozkan Lab, Arizona State University
<i>Co-Moderator</i>	Daniel Montezano, Slusky Lab, University of Kansas
<i>Zoom Host</i>	<u>Aron Fenton</u> , University of Kansas Medical Center
3:00 – 3:20 pm	<b>Intrinsic DNA fluctuations at damaged sites implicated in stalling Rad4/XPC DNA repair protein and facilitating damage sensing</b> <b>Saroj Baral</b> , Ansari Lab, University of Illinois at Chicago
3:20 – 3:50 pm	<b>Assembly of multivalent IDP complexes in growth regulation</b> <b>Afua Nyarko</b> , Oregon State University
3:50 – 4:10 pm	<b>Fluoride channel Fluc dimerization and ion linkage</b> <b>Melanie Ernst</b> , Robertson Lab, Washington University in St. Louis
4:10 – 4:20 pm	<b>Break:</b> Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
4:20 – 4:40 pm	<b>Coupled FRET and SAXS experiments reveal hidden structure in intrinsically disordered proteins</b> <b>David Moses</b> , Sukenik Lab, University of California, Merced
4:40 – 5:10 pm	<b>A tale of two riboswitches: How RNA co-transcriptionally steers its folding pathways</b> <b>Alan Chen</b> , University of Albany
5:10 – 5:20 pm	<b>Closing Remarks - Gibbs Society President</b> <b>Aaron Lucius</b> , University of Alabama at Birmingham
5:20 – 5:30 pm	<b>Break:</b> Breakout rooms will be made available to facilitate further questions and discussion with individual speakers.
5:30 – 6:30 pm	<b>Social/Dinner Hour.</b> <i>A separate Zoom meeting link will be provided via email to all registrants. Breakout rooms will be set up for discussion.</i>

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**Friday ♦ October 1, 2021**  
**2:00 – 3:00 pm CDT (UTC -5)**

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2:00 – 3:00 pm	<b>Past Organizers Business Meeting.</b> <i>A separate Zoom meeting link will be provided via email to all event co-chairs and past conference organizers.</i>
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**◆ Poster Sessions ◆**  
**Saturday, Sunday, and Monday, September 25-27**

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*Organizers*                    **James Horn**, Northern Illinois University  
   **Tonya Zeczycki**, Brody School of Medicine, East Carolina University

*Trainee Organizers*        Suzette Pabit (Pollack Lab), Cornell University  
   Robb Welty (Walter Lab), University of Michigan  
   Whitney Bond (Zeczycki Lab), Brody School of Medicine, East Carolina University  
   Tosha Laughlin (Horn Lab), Northern Illinois University  
   Niyati Patel (Horn Lab), Northern Illinois University

Virtual Posters will be presented in Zoom breakout rooms. Details about how to join the poster session during Gibbs 35 will be sent to all conference registrants.

**Poster Session 1**  
**Saturday, September 25, 2021**

2:00 – 5:00 pm CDT (UTC -5)  
Presenting Authors: TBD

**Poster Session 2**  
**Sunday, September 26, 2021**

7:00 – 10:00 pm CDT (UTC -5)  
Presenting Authors: TBD

**Poster Session 3**  
**Monday, September 27, 2021**

2:00 – 5:00 pm CDT (UTC -5)  
Presenting Authors: TBD

## 35<sup>th</sup> Gibbs Conference on Biological Thermodynamics Sponsors

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