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1 Elections

The 2021 GHP election closed on 14 November. The winners were William Brooks, Federico Santa Maria Technical University, as Vice Chair, Jamie Dunlop, Brookhaven National Laboratory, as Secretary/Treasurer, Martha Constantinou, Temple University, as Member-at-Large and Axel Schmidt, George Washington University, as Early Career member of the executive. We welcome them to the Executive Committee and thank the other candidates for their willingness to run. We also thank the Nominating Committee for providing an excellent slate of candidates for the election.

The 2021 Nominating Committee was:

<table>
<thead>
<tr>
<th>Nominating Committee</th>
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<tbody>
<tr>
<td>Garth Huber (Chair)</td>
</tr>
<tr>
<td><a href="mailto:huberg@uregina.ca">huberg@uregina.ca</a></td>
</tr>
<tr>
<td>John Arrington</td>
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<tr>
<td><a href="mailto:jarrington@lbl.gov">jarrington@lbl.gov</a></td>
</tr>
<tr>
<td>Susan Gardner</td>
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<td><a href="mailto:svg@pa.uky.edu">svg@pa.uky.edu</a></td>
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<tr>
<td>Spencer Klein</td>
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<td>Fred Olness</td>
</tr>
<tr>
<td><a href="mailto:olness@smu.edu">olness@smu.edu</a></td>
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</table>

Elections will be held for three posts in the GHP Executive (Vice Chair, Secretary-Treasurer, Member-at-Large and Student/Early Career Member) in 2022. Ian Cloët (Past Chair), Alexey Prokudin (Member-at-Large), and Axel Schmidt (Early Career Member) will have completed their terms. The Early Career Member has a one year term so the Executive will welcome a new member in this position every year.

We urge GHP members now to begin considering whom they would like to see filling the three open positions in 2022 and encourage members with ideas to contact the Chair of the Nominating Committee and pass on their suggestions. There is strength in diversity and so the Executive would like to see nominations from across the entire spectrum of GHP’s membership.

Our rules state that: the Committee shall recommend to the Executive Committee for approval at least two candidates for each open position; the slate of candidates will be balanced as much as possible to ensure demographic diversity and wide representation amongst the various fields of physics included in the GHP’s membership; the Nominating Committee shall be chaired by the immediate Past Chair.

In 2022, the Chair of the Nominating Committee will be

Ian Clöet
iclöet@anl.gov

and shall include four members in addition to its Chair, one of whom shall be appointed by the APS.

Attracting and serving a diverse and inclusive membership worldwide is a primary goal for APS. In calling for nominations, we wish to remind you how important it is to give full consideration to qualified women, members of underrepresented minority groups, and scientists from outside the United States.

In addition, as now stated on the GHP Executive Committee page, nominees and award and office holders are expected to meet standards of professional conduct and integrity as described in the APS Ethics Guidelines https://www.aps.org/policy/statements/19_1.cfm.
Violations of these standards may disqualify people from consideration or lead to revocation of honors or removal from office.

2 Membership

![Graph showing membership trends](image)

Figure 1: Solid line – GHP membership, absolute value, with “2022” representing the APS Official Count at the beginning of 2022; dashed – DNP membership normalized to GHP’s value in 2005 (2812 → 304); and dot-dashed – DPF membership normalized to GHP’s 2005 value (2448 → 304).

The GHP membership, after declining for five years, increased to 504 members at the start of 2020, thanks to dedicated efforts of the Executive Committee in 2019. There was significant growth in 2020 and 2021 and the GHP begins this year with 628 members. Given the large User Groups associated with RHIC, Jefferson Lab, Fermilab, EIC, and more, we hope for continued growth in the future. If any members are interested in assisting the Executive Committee in its efforts, please circulate this newsletter to your colleagues and students working in hadron physics and explain the benefits of becoming a member of the GHP. Current APS members can add units online by following a link on the GHP web page https://engage.aps.org/ghp/home. We also encourage members to post copies of the promotional slide we have prepared at conferences or include it in talks. The slide, shown in the November 2019 newsletter, is available by request from ghpexec@anl.gov.

The GHP is also the only Topical Group that currently has a Dissertation Award for outstanding students in hadron physics. We are one of the few Topical Groups holding a biennial meeting, which is very well attended by the broad hadronic physics community. To ensure that the significant impact of GHP continues, it is crucial to sustain and grow our GHP.
membership.

Unit membership is now $10, of which the GHP receives $5 from the APS. The remainder stays with the APS and covers the many services they provide. The APS has also provided additional support to the GHP, e.g., the last five GHP meetings have been co-located with the APS April meeting which results in substantial savings. With this support we can be an active force for hadron physics. GHP membership fees are used to assist with expenses such as travel for the winner of the GHP Dissertation Award see Sec. 4; the organization of meetings such as the forthcoming GHP 2021; the preparation and publication of manuscripts that support and promote the GHP’s activities; and participation in those fora that affect and decide the direction of basic research.

If a Topical Group has a membership of 3% or more of the APS members, it can apply to become a Division. The Soft Matter Topical Group transitioned to Division status in 2019, after only 4 years. There are currently thirteen Topical Groups, with the Topical Group on Data Science established in 2019. With the new members joining last year, GHP is now seventh in size and at 1.3% of APS membership. Of the Divisions, Nuclear Physics and Particles & Fields have most overlap with the GHP membership. We typically share invited session sponsorship with DNP at the April meeting but have also partnered with the Divisions of Astrophysics and Computational Physics in invited sessions.

Of our members, 60% are regular or senior members while 35% are in the student or early career category. (Lifetime members, which exist at all levels aside from students, make up 4.8% of the membership.) In terms of gender diversity, based on those who specified a gender identity, 17.8% of members identify as female while 0.2% identified as non-binary.

3 Fellowship

The Executive Committee would like to remind the GHP membership that each year the APS allocates a number of Fellowship Nominations to a Topical Group. That number is based primarily on membership. The rubric excludes student members and current Fellows in the membership count to obtain eligible members. Since we are again above 500 members, we are allocated TWO Regular nominations for 2022.

The instructions for nomination may be found at http://www.aps.org/programs/honors/fellowships/nominations.cfm

The entire process is now online.

Note that one does not have to be a Fellow to nominate a colleague for Fellowship.

A few things to know before proceeding, however. One must:

- Ensure the nominee is a member of the Society in good standing as well as a member of GHP. The online site will do this for you but it’s best to check beforehand, to save yourself time or get your nominee to join APS and GHP.

- A nomination requires a sponsor and a co-sponsor. During the online nomination process, you will be required to provide details for a co-sponsor. After you complete a nomination, the co-sponsor will be notified by EMail. It would be best to coordinate with the co-sponsor beforehand.

- In addition to the nomination letters, you will require supporting letters, that will need
to be uploaded to the APS web site. Two letters of support are sufficient. Individuals
providing letters of support do not have to be members of the APS, however the sponsor
and co-sponsor should be APS members.

- The nomination process should be complete prior to GHP’s deadline:

  **Wednesday 1st June 2022**

The APS will subsequently forward the nominations to the GHP Fellowship Committee,
chaired by the GHP Vice-Chair, William Brooks.

**Fellowship Committee**

William Brooks (*Chair*)

william.brooks@usm.cl

Dmitri Kharzeev
dmitri.kharzeev@stonybrook.edu

Barbara Pasquini
barbara.pasquini@unipv.it

Karl Slifer
karl.slifer@unh.edu

The Executive urges members of GHP to nominate colleagues who have made advances in
knowledge through original research and publication or made significant and innovative
contributions in the application of physics to science and technology. They may also have
made significant contributions to the teaching of physics or service and participation in the
activities of the Society. The diversity of the Fellow candidates should reflect the GHP as a
whole, both in terms of gender and in terms of physics interests.

4 Dissertation Award

This award recognizes outstanding early-career scientists who have performed original research
in the area of hadronic physics.

The APS Topical Group on Hadronic Physics presents the award annually, consisting of
$1,500, a certificate, up to $1,500 in travel reimbursement, and a registration waiver to receive
the award and give an invited talk at the biennial meeting of the Topical Group on Hadronic
Physics.

This award was established in 2011 with support from Jefferson Science Associates, LLC (the
management contractor for Jefferson Lab), Brookhaven National Laboratory, Universities
Research Association (the management contractor for Fermi National Accelerator Lab), and
the members and friends of the Topical Group on Hadronic Physics. The award was
permanently endowed in 2021 with the support of the Center for Frontiers in Nuclear Science
and additional support from the friends of this Topical Group.

Following the current GHP bylaws, the Dissertation Award committee for the 2023 award will
comprise

Dave Gaskell
gaskelld@jlab.org

*and four other members appointed by the Chair, with the approval of the Executive Committee.*

More information on the nomination deadline and the committee for the 2023 Award will be
forthcoming.
GHP Program at the APS April Meeting, 2022

Hybrid
https://april.aps.org

GHP is allocated two invited sessions at the April meeting. We often organize joint sessions with other units, in order to raise our profile by increasing the number of sessions sponsored by the GHP. (The maximum currently possible via this method is four.)

The program committee for the 2022 APS April meeting is

<table>
<thead>
<tr>
<th>GHP Program Committee</th>
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<tbody>
<tr>
<td>Dave Gaskell ((Chair))</td>
<td><a href="mailto:gaskelld@jlab.org">gaskelld@jlab.org</a></td>
</tr>
<tr>
<td>Shujie Li</td>
<td>Simonetta Liuti</td>
</tr>
<tr>
<td><a href="mailto:shujie@jlab.org">shujie@jlab.org</a></td>
<td><a href="mailto:sl4y@virginia.edu">sl4y@virginia.edu</a></td>
</tr>
<tr>
<td>Derek Teaney</td>
<td>Ramona Vogt</td>
</tr>
<tr>
<td><a href="mailto:derek.teaney@stonybrook.edu">derek.teaney@stonybrook.edu</a></td>
<td><a href="mailto:rlvogt@lbl.gov">rlvogt@lbl.gov</a></td>
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The Program Committee has prepared an excellent program for the April 2022 meeting. There will be two invited sessions co-sponsored with DNP and one standalone GHP invited session. There will be five GHP sponsored mini-symposia (three of which co-sponsored with DNP) - three of the mini-symposia will highlight physics from the invited sessions.

This year, the GHP received 62 abstracts for the April meeting, the largest of any topical group taking part in the April meeting. GHP has 5 contributed sessions, in addition to the mini-symposia.

The GHP invited and contributed program is listed here. Note that the meeting time zone will be Eastern Standard Time. All times are EST.

5.1 GHP invited:

DNP/GHP: Nucleon Structure at Large \(x\)
Session B03, Saturday 9 April 10:45-12:33, Chair: Shujie Li (LBNL)

- Aurore Courtoy (Instituto de Física, UNAM) *Overview of Quark Distributions at Large \(x\)*
- Eric Christy (Jefferson Lab) *New Results on Nucleon Structure in the Valence Quark Region at Large Bjorken-\(x\)*
- Xiaochao Zheng (UVa) *Polarized Nucleon Structure at Large \(x\)*

GHP: Mini-Symposium: Nucleon Structure and PDFs at Large \(x\)
Session D09, Saturday 9 April 13:30-15:18, Chair: Dave Gaskell (Jefferson Lab)

- Invited Speaker: Arun Tadepalli (Jefferson Lab) *Recent Results in Nucleon Structure at Large \(x\)*

GHP: Implications of the Instrumentation on the Physics Reach of EIC
Session G04, Sunday 10 April 8:30-10:18, Chair: Ramona Vogt (LLNL/UC Davis)
• Christoph Montag (BNL) *EIC Accelerator Design*
• Tanja Horn (CUA) *EIC Central Detector Requirements*
• Alexander Jentsch (BNL) *EIC Far Forward Detector Design*

**GHP: Mini-Symposium: Detector Design and Development for EIC**
Session K07, Sunday 10 April 13:30-15:06, Chair: Shujie Li (LBNL)

- Invited Speaker: Brandon Kriesten (UVa) *Overview of Physics Accessible at EIC*

**:DNP/GHP: Mini-symposium: Multidimensional Structure of Hadrons IV**
Session L11, Sunday 10 April 15:30-16:57, Chair: Aurore Courtoy (Instituto de Física, UNAM)

**GHP/DNP: Implications of the Isobar Run**
Session S04, Monday 11 April 13:30-15:18, Chair: Rosi Reed (Lehigh University)

- Jinfeng Liao (Indiana U) *Most Wanted: Chiral Magnetic Effect*
- Aihong Tang (BNL) *Overview of the Experimental Results on the CME signal*
- Prithwish Tribedy (BNL) *Results on charge correlations with respect to the reaction plane from STAR*

**GHP/DNP: Mini-Symposium: From QCD Matter to Dynamical Correlations in Heavy Ion Collisions**
Session Y12, Tuesday 12 April 13:30-15:30, Chair: Derek Teaney (Stony Brook U.)

- Invited Speaker: Scott E Pratt (Michigan State U.) *Overview of Recent Developments in Heavy Ion Collisions*

**DNP/GHP: Mini-Symposium: The Upcoming Experimental Program at RHIC Run 23 and LHC Run 3**
Session Z12, Tuesday 12 April 15:45-17:45, Chair: Ramona Vogt (LLNL/UC Davis)

- Invited Speaker: Sevil Salur (Rutgers) *New Horizons for Jet and Heavy Flavor Measurements*

### 5.2 GHP contributed sessions:

**GHP: Nucleon Structure and Nucleon Spin**
Session L07, Sunday 10 April 15:45-17:45, Chair: Simonetta Liuti (UVa)

**GHP: Hadron Spectroscopy and Exotics I**
Session T07, Monday 11 April 15:30-17:12, Chair: Phiala Shanahan (MIT)

**GHP: Hadron Spectroscopy and Exotics II**
Session W07, Monday 11 April 17:45-19:21, Chair: Dave Gaskell (Jefferson Lab)

**GHP: Light Mesons and Baryons**
Session Y07, Tuesday 12 April 13:30-15:06, Chair: Rosi Reed (Lehigh University)

**GHP: Hadronic Physics: General**
Session Z07, Tuesday 12 April 15:45-17:33, Chair: Derek Teaney (Stony Brook U.)

**GHP: QCD and Hadron Physics**
Session Z15, Monday 19 April 15:45-17:33, Chair: Dave Gaskell (Jefferson Lab)
Note that there are also several other invited and contributed sessions at the APS April meeting that are likely to be of interest to GHP members. Of note are invited sessions sponsored by the DNP including a few focused on broadening participation in Nuclear Physics, a mini-symposium (with several sessions) focused on the Multidimensional Structure of Hadrons, as well an EIC-related invited session.

6 Contributed Reports

NB. We would be pleased to receive input from GHP membership, in particular from people at labs with hadron physics programs who are willing to prepare input and clear it with their lab’s leadership. The following contribution should serve as a template.

6.1 RHIC Run 22

(Communicated by Jamie Dunlop – dunlop@bnl.gov.)

Spring greetings from Long Island! While we have already sprung forward in New York, the 2022 RHIC run this year is about physics in the forward direction. This is the first RHIC run with the completed Forward Upgrade to the STAR experiment. This year’s run focuses on using the collision of protons polarized transverse to their traveling direction, at the highest energies available at RHIC (~255 GeV per beam to produce a $\sqrt{s}$ of 510 GeV), to explore the 3-dimensional polarized structure of the proton. Results from this run will be complementary to and extremely valuable in interpreting future results from the Electron Ion Collider.

But first, 2021. The 2021 RHIC run was the final run of the Beam Energy Scan Phase 2, a campaign to map the QCD phase diagram along the axis of baryon density in a search for a possible critical point. This campaign required upgrades to both the accelerator and the STAR detector to increase precision by an order of magnitude relative to the first Beam Energy Scan, in which tantalizing hints were seen. The 2021 run focused on the most challenging energy, the lowest energy at which beams can be collided at RHIC, using the full power of RHIC’s Low-Energy Electron Cooling and other upgrades to focus the beams and maximize luminosity delivered to the detector. The system worked beautifully, at the highest level expected, allowing STAR to reach its primary statistical goals in rapid time. This allowed for a major extension of the fixed target program, both at a few energies with $\sqrt{s_{NN}}$ overlapping with data sets taken in collider mode, and with a very large dataset at the lowest $\sqrt{s_{NN}}$ (3 GeV) for studies of hypernuclei. In addition, data was taken with d+Au and O+O collisions at $\sqrt{s_{NN}} = 200$ GeV to probe in detail, using the extended acceptance of the upgraded STAR detector, the structure of flow phenomena in small systems.

After a summer shutdown in which the final components of the STAR Forward Upgrade were installed, the 2022 RHIC run began in late November 2021. The STAR Forward Upgrade consists of a calorimeter system, provided as an NSF MRI, combined with a tracking system with silicon and gaseous (small Thin Gap Chambers) components, covering the forward region. This system was rapidly commissioned and taking physics-quality data in December. This upgrade, combined with previous upgrades to the rest of the STAR detector, will enable unprecedented reach in the 2022 RHIC Run for studies of phenomena associated with transversely polarized beams. These measurements, when compared to world data and especially future measurements at the EIC, will test the applicability of universality and
fragmentation in the measures of the 3-dimensional structure of the proton.

The accelerator is also using the 2022 RHIC Run to further explore a novel scheme for cooling hadron beams, Coherent electron Cooling, a technology which has potential to rapidly cool the beams for the EIC. This experiment seeks to establish the principle, using the RHIC complex as a testbed.

The upgrades to the RHIC detectors are almost complete. The sPHENIX detector is on schedule to take first data in 2023, launching RHIC’s final campaign to probe the scales of the Quark-Gluon Plasma using jets and quarkonia. sPHENIX’s Outer Hadronic Calorimeter has been fully installed around the superconducting solenoid originally used in the BaBAR experiment, and the other components are in their final stages of construction and installation. RHIC is currently on track to reap the fruits of recent investments in upgrades to produce the physics these upgrades were built to access.

6.2 Light-Cone 2021: Physics of Hadrons on the Light Front

(Communicated by Yongseok Oh yohphy@kmu.ac.kr and Chueng Ji crji@ncsu.edu)

The LIGHT CONE 2021 workshop is part of the series of Light-Cone meetings established under the auspices of the International Light Cone Advisory Committee (ILCAC), Inc. (http://www.ilcacinc.org). The 2021 meeting, as the ones before it, followed the objectives of ILCAC, Inc.: “to advance research in quantum field theory, particularly light-cone quantization methods to the solution of physical problems”, and “to assist in the development of crucial experimental tests at hadron facilities”.

The 2020 edition of the Light Cone conference was postponed to 2021 edition because of the pandemic and took place on Booyoung Hotel & Resort in Jeju island of Korea, from November 29 to December 4, 2021. A detailed description of all aspects of the conference can be found on the webpage https://indico.cern.ch/e/LC2021. In particular, the scientific program, timetable and talks can be found at https://indico.cern.ch/event/938795/timetable/#20211128.detailed and the names of all members of the international advisory committee and the local organizing committee can be found at https://indico.cern.ch/event/938795/page/20690-committees.

The conference was supported in part by generous funding from the Asia Pacific Center for Theoretical Physics (APCTP, https://www.apctp.org/), Center for High Energy Physics of Kyungpook National University, Samsung Science & Technology Foundation through Yonsei University as well as Jefferson Laboratory.

This year’s McCartor Fellowship awardees were selected last year and new selection for 2021 was not performed. The awardees selected in 2020 are three promising young physicists: Dr. Patrick Barry, who is currently a postdoc at Jefferson Lab (USA); Dr. Jiangshan Lan, who is currently a postdoc at Institute of Modern Physics, Chinese Academy of Sciences (China); Dr. Simone Rodini, who is currently a postdoc at the University of Regensburg (Germany). All three awardees participated in the LC2021 remotely due to the pandemic situation and presented their recent research works in the Ceremonial Session of the McCartor Awards.

Because of the pandemic situation, the conference was held in the hybrid format. The conference gathered 231 registered participants including 38 in-person participation and 193 online participants from 28 countries. The program included 12 plenary sessions (for a total of
49 invited talks + 2 contributed talks), 10 parallel sessions (for a total of 71 contributed talks), and the McCator session (for 3 awardees talks).

The topics of the scientific program were organized in the following categories:

- **Physics Topics**
  - Electroweak scatterings with nuclear targets
  - Few- and many-body physics
  - Finite temperature and density QCD
  - Hadron structure and parton physics
  - High-energy experiments
  - Hypernuclei
  - Meson and baryon (N*) resonances
  - Neutrino physics
  - Nuclear structure and nuclear matter
  - Physics of electron-ion colliders
  - Physics of B factories
  - Quarkonia
  - Spin physics
  - XYZ and exotic hadrons

- **Theoretical and Experimental Tools**
  - Coupled channels models
  - Effective field theories
  - Lattice field theory
  - Light-front field theories
  - Phenomenological models
  - Present and future facilities

The conference was opened by the welcome remarks of Yunkyu Bang, the President of APCTP and the opening talk of Chueng Ji (North Carolina State Univ., From Instant to Light-Front: Opening LC2021). Because of the wide time zone of the online participants, sessions were allocated mostly based on the time zone of the speakers. During the McCartor session, the McCartor awardees presented their works: Simone Rodini (Univ. of Regensberg, Lensing function relation in hadrons), Patrick Barry (Jefferson Lab., State-of-art extraction of pion parton distributions), and Jiangshan Lan (IMP, Light meson structure on BLFQ). Before their presentations, Chueng Ji and Stan Brodsky (ILCAC Board of Directors) gave a short address about the history and objectives of the McCartor Fellowships.

The conference addressed new frontiers and challenges in QCD, both in experiment and in theory. Recent light-front theory was discussed by S. Brodsky (SLAC, Novel properties of hadron physics derived from holographic light-front QCD), X. Ji (Univ. Maryland, Light-front quantization as an effective field theory), J. Vary (Iowa State Univ., Basis light front quantization – progress and prospects), S. Glazek (Univ. Warsaw, Elementary example of exact effective-Hamiltonian computation), B. L. G. Bakker (Vrije Univ., Compton Scattering
on 4He: Kinematical Features), X. Zhao (IMP, Positronium structure from light-front QED Hamiltonian), M. Burkardt (New Mexico State Univ., Zero modes and the vacuum), W. Polyzou (Univ. of Iowa, Simple light front quark models), J. Hiller (Univ. Idaho, A nonperturbative perspective on the light-front vacuum), P. Mannheim (Univ. Connecticut, Light-front quantization from then until now), G. Eichman (LIP, Going to the light front with contour deformations), and A. Radyushkin (ODU, Pseudodistributions: PDFs Off the Light Cone). Lattice calculations were discussed by J.W. Chen (National Taiwan Univ., Nucleon parton distributions from lattice QCD).

Hadron structure was discussed by J. Qiu (JLab, A new class of exclusive processes to better measure the x-dependence of Das and GPDs), W. Malnitchouk (JLab, QCD analysis of pion parton distributions), C. Lorce (Ecole Polytech., Frame Dependence of Relativistic Charge Distributions), H.-C. Kim (Inha Univ., Abel tomography: charge and energy-momentum tensor densities of the nucleon), S. Kumano (KEK, Novel hadron physics by structure functions of spin-1 hadrons), K. Semenov-Tian-Shansky (PNPI, Photon-to-Nucleon Transition Distribution Amplitudes and Backward Time-like Compton Scattering), I. Cloet (Argonne, Origins of the proton mass), G. Miller (Univ. Washington, Confinement in two-dimensional QCD and the infinitely long pion), F. Aslan (Univ. Connecticut, Foundations of the parton model description of TMDs), V. Mokeev (JLab, Advances in Exploration of the Nucleon Resonance Spectrum and Structure), and B.-G. Yu (KAU, Parton structures in backward photo/electroproduction of meson). Other phenomenology was discussed by E. Hiyama (Tohoku Univ., Recent progress of hypernuclear physics), T. Sato (Osaka Univ., Resonance in Coupled Channel Reactions), C. Carlson (William & Mary, Higher-spin baryon photoproduction with twisted photons), and S.-I. Nam (Pukyong Nat. Univ., Canonical approach for extreme QCD).

Experimental studies on current facilities were discussed by F. Kunne (Univ. Paris, Results from the COMPASS experiment at CERN), S. Sekman (Kyungpook National Univ., Current Highlights and Future Prospects from CMS), M. Corradi (INFN, Highlights from ATLAS and future plans), N. Sparveris (Temple Univ., Generalized polarizabilities of the proton: overview and new results), Y. Kwon (Yonsei Univ., Recent results on baryon structures and dark sector searches at Belle and Belle II), H. Noumi (Osaka Univ., Spectroscopic study of quark dynamics in baryons at J-PARC), S. Nicolai (CNRS, Deeply virtual Compton scattering on the neutron with CLAS12 at Jefferson Lab), H. Schmieden (Univ. Bonn, The BGOOD experiment at ELSA and multi-quark structures in the uds-sector), N. Sahoo (Shandong Univ., Jet physics program at RHIC), and V. Burkardt (JLab, Mechanical properties of the proton).

Future experimental facilities and research plans were discussed by K.-T. Brinkman (JLU Giessen, Fair physics with PANDA), Z.-E. Meziani (Argonne, The SoLID science program in Hall A at Jefferson Lab), H. Avakian (JLab, 3D structure of the nucleon: from JLab12 to JLab24), O. Hen (MIT, Nucleon structure modification from tagged DIS measurements at JLab and the EIC), S. Diehl (Giessen and Univ. Connecticut, Experimental TDA program at FAIR, JLab and J-PARC), R. McKeown (JLab, Future opportunities with CEBAF upgrades), J. Friedrich (TU Muenchen, Hadron physics with AMBER at CERN), A. Deshpande (Stony Brook Univ., Status and prospects of the Electron Ion Collider), and Y. Kim (Sejong Univ., Potential contribution of Korean groups for the EIC). The conference was closed by the talk of Craig Roberts (Nanjing Univ., Challenges and opportunities in hadron physics). The next meeting LC2022 will be held at Gatchina, Russia, September 12-16, 2022.
7 Forthcoming Hadron Physics Meetings

Meetings of interest to GHP’s membership are listed on: https://sites.google.com/lbl.gov/hadronic-physics-conferences/home. If there is a meeting you feel should be included, please send the appropriate information to John Arrington (jarrington@lbl.gov).

- Quark Matter 2022: the XXIXth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions (Kraków, Poland, 4-10 April 2022) https://qm2021.syskonf.pl/
- DIS2022: XXIX International Workshop on Deep-Inelastic Scattering and Related Subjects (Santiago de Compostela, Spain, 2-6 May 2022) https://indico.cern.ch/event/1072533/
- QCD Evolution 2022 (Charlottesville, VA, USA 9-22 May 2020) https://discovery.phys.virginia.edu/research/groups/qcd22/
- HUGS 2022: the 37th annual Hampton University Graduate Summer program at Jefferson Lab (Newport News, VA, USA and hybrid, 30 May - 17 Jun 2022) https://www.jlab.org/education/hugs
- Parity-Violation and other Electroweak Physics at JLab 12 GeV and Beyond (Virtual, 27 Jun - 1 Jul 2022) https://sites.google.com/uw.edu/int/programs/22-81w
- 2022 CTEQ Summer School on QCD and Electroweak Phenomenology (Pittsburgh, PA, USA, 6-16 Jul 2022) https://www.physics.smu.edu/scalise/cteq/schools/summer22/
- 23rd Real Time Conference (RT2022) (Virtual, 1-5 Aug 2022) https://indico.cern.ch/event/1109460/
- The XIVth Quark confinement and the Hadron spectrum conference (Stavanger, Norway, 1-6 Aug 2022) https://www.ux.uis.no/confxiv/
- Gordon Research Conf. on Photonuclear Reactions: Frontiers in Nuclear and Hadronic Physics (Holderness, NH, USA, 7-12 Aug 2022) https://www.grc.org/photonuclear-reactions-conference/2022/
- CIPANP 2022: 14th international conference on the Intersections of Particle and Nuclear Physics (Lake Buena, FL, USA, 29 Aug - 4 Sep 2022) https://agenda.hep.wisc.edu/event/1644/overview
- QNP2022 - The 9th International Conference on Quarks and Nuclear Physics (TBD, 5-9 Sep 2022) https://indico.jlab.org/event/344/

GHP members might also be interested in other conferences and workshops listed at the following sites:

- ECT* ... www.ectstar.eu
• INT . . . www.int.washington.edu/PROGRAMS/programs_all.html

• JLab . . . www.jlab.org/conferences

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