

BOGDAN A. DOBRESU – Curriculum Vitae (September 2026)

Email: bdob@fnal.gov
<http://home.fnal.gov/~bdob>

Address: Fermilab, Particle Theory Department
Batavia, IL 60510, USA

Current position

- Senior Scientist, Fermilab, since 2010.
- Performs research in theoretical particle physics (TeV scale physics, collider phenomenology, new particles and interactions, Higgs bosons, neutrinos, dark matter).
- Leader of the Particle Theory Group, Fermilab, since Aug. 2023.

Education

- Boston University, 1992 – 1997, Ph.D. in Physics; Advisor: Prof. Sekhar Chivukula; Dissertation: “Towards a natural theory of electroweak interactions”.
- University of Bucharest, Physics Department, 1987 – 1992; Diploma (equivalent to Master of Science) in Physics.

Research experience

- Fermilab, Particle Physics Division: Scientist (tenured position), 2005 – 2010;
Associate Scientist (tenure-track position), 2002 – 2005.
- Yale University, Department of Physics: Postdoctoral Research Scientist, 2000 – 2002.
- Fermilab, Theoretical Physics Department: Research Associate, 1997 – 2000.

Awards and recognition

- Fellow of the American Physical Society, since 2013.
- Granted External Collaborator status by the Hellenic Foundation for Research and Innovation, with fully-funded research visits to Democritus Institute, Greece, 2024 - 2025.
- Work featured in Fermilab Today (2006, 2015).
- Work mentioned in BBC top stories, National Geographic, The Telegraph, Der Spiegel, Symmetry Magazine, Discovery.com, physorg.com, physics.about.com (2010).
- Visiting scientist at the Annecy Particle Physics Laboratory, France, Apr.-May 2007.
- Award from the SUSY04 Organizing Committee towards participation in the 12th International Conference on Supersymmetry and Unification, KEK, Japan, 2004.
- Award from the Pacific Institute for Mathematical Sciences towards participation in the Workshop on “Braneworlds and Supersymmetry”, Univ. of British Columbia, 2002.
- Visiting scientist at Lawrence Berkeley National Laboratory, June 2002.
- NSF award towards participation in the Moriond conference, France, 2001.
- Goldhaber Prize, “in recognition of outstanding achievement by a first-year graduate student”, Boston University, 1994.

Professional activities

- Member of the APS DPF Program Committee, since 2025.
- Member of the Fermilab LDRD Committee, since 2024.
- Member of the Sakurai Prize Selection Committee, APS, 2021-2022.
- Member of the Fermilab Wilson Fellow Committee, 2018-2020.
- Chair of the Primakoff Award Committee, APS, 2018.
- Referee for Physical Review Letters, Physical Review D, Physics Letters B, Nuclear Physics B, Journal of High Energy Physics, European Physical Journal, Journal of Cosmology and Astrophysics, Journal of Physics G, Annals of Physics.
- Referee of grants and research proposals for the US NSF and DOE, the Natural Sciences and Engineering Research Council of Canada, the Swiss National Science Foundation, the Dutch Research Council.
- Chairman, Screening Committee, LHC Theory Initiative, 2009.
- Member of the Fermilab Awards Committee (2016-2019), Colloquium Committee (2005-2012), and the Topic-of-the-Week Seminar Committee at the LHC Physics Center (2014-2016).
- Member of the Fermilab Committee of Scientific Appointments (2012-2015), and the Fermilab Scientific Appointment Policy working group (2014).
- Member of the Fermilab Lederman Fellows Committee, 2007-2010.
- Member of the Review Committee of Fixed-Target Experiments, Fermilab 2003.
- Organizer of the Joint Experimental-Theoretical ('Wine & Cheese') Seminar at Fermilab, 2002-2006.

Mentoring and teaching activities

- Program Co-Director of the TASI summer school, Univ. of Colorado, 2013.
- Advisor of graduate students at Fermilab: Alessandro Russo (ETH Zurich) 2023 – 2024, Augusto Ghiotto (Columbia Univ.) 2015; Andrea Peterson (Univ. of Wisconsin) 2012 – 2013; Gordan Krnjaic (Johns Hopkins Univ.) 2010 – 2011; Sapta Bhattacharya (Brown Univ.) 2011.
- Lecturer on Physics beyond the Standard Model at the MITP Summer School (Germany 2016), the Swieca Summer School on Particle Physics and Field Theory (Brazil 2015), the European School of High Energy Physics (2011), the Magurele High Energy Physics School (Romania 2009), TASI (2008 & 2013), the Fermilab Academic Lectures (2007), the CTEQ Summer School (Univ. of Wisconsin, 2007).
- Lecturer on LHC Phenomenology at the LHC Physics Center (Fermilab, 2010 and 2014), CMS J-Term (Fermilab, 2008 and 2009), and at Brown Univ. (May 2010).
- Member of the Graduate Student Selection Committee, Fermilab, 2010 – 2013.
- Co-Director of the 1st CERN-Fermilab Hadron Collider Physics Summer School, 2006;
- Lecturer on Quantum Mechanics for Fermilab Saturday Morning Physics, 2002 – 2006.
- Member of the Thesis Awards Committee for the Universities Research Association, 2005 - 2007.

Organization of conferences and meetings

- Member of the Program Committee for the DPF26 Meeting of the APS Division of Particles and Fields (Fermilab, July 2026).
- Member of the Program Committee for the Global Physics Summit of the American Physical Society (Denver, Mar. 2026).
- Member of the International Advisory Committee, Light Dark Matter workshop, Italy, May 2017.
- Organizer of the Summer Visitor program, Theoretical Physics Dept., FNAL (since 2017).
- Member of the Scientific Organizing Committee for the workshop on “Lattice for Beyond the Standard Model Physics 2016”, Argonne, Apr. 2016.
- Co-organizer of the “Composite Higgs” Program at Fermilab, Oct.-Nov. 2015.
- Co-chair of the Organizing committee for the “BSM Higgs@LPC” workshop, Fermilab 2014.
- Convenor at the LHC Workshop, Univ. of Chicago, May 2012.
- Organizer of the LHC-TI meeting, Fermilab, Oct. 2009.
- Convenor at the Workshop on physics at the LHC (Les Houches, France, June 2007).
- Co-Chairman of the International Advisory Committee, CERN-Fermilab Hadron Collider Physics Summer School, CERN, 2007.
- Convenor at the TeV4LHC Workshops (Fermilab, BNL, CERN, 2004-2005).
- Convenor at the SUSY04 Conference (Tsukuba, Japan, June 2004).
- Organizer of the Workshop “From 0 to Z^0 : Electroweak Physics” (Fermilab, 2004).
- Organizer of the workshop “Electroweak symmetry breaking and TeV physics”, (Aspen 2001).
- Convenor at the “Thinkshop on top-quark physics for Run II” (Fermilab, Oct. 1998).

Outreach activities

- Wrote an article for the general public, “Mystery of the Hidden Cosmos” (with Don Lincoln), published in the Scientific American Magazine (featured on the front cover of the July 2015 edition), republished in the special edition “Physics at the Limits” (Dec. 2015), translated into more than 7 languages.
- Wrote an article for the general public on “Hidden interactions of quarks”, published in Fermilab Today, August 15, 2014.
- Contributed to the “Ask-a-scientist” activities at Fermilab, 2017.
- Scientific consultant to the Symmetry Magazine and the Fermilab Office of Communication.
- Interviewed on science programs broadcast on Radio Romania Cultural, 2009 and 2011.
- Lecture on “Higgs particle as a tool”, Boston University Alumni Reunion, Sept. 2012.

Colloquia given within Physics Departments and Institutes

- Univ. at Buffalo, Oct. 2025: “What’s inside the electron”
- Univ. of Illinois at Chicago, Oct. 2025: “What’s inside the electron”
- Fermilab, May 2025: “What’s inside the electron”
- National Center for Scientific Research, Athens, Greece, Oct. 2024: “Hiding places for new particles at the LHC”
- Indiana Univ., Oct. 2023: “What’s inside the electron”
- Illinois State Univ., Apr. 2023: “What’s inside the electron”
- Univ. of Illinois at Chicago, Nov. 2014: “Hidden interactions of quarks”
- Fermilab, Aug. 2014: “Hidden interactions of quarks”
- Univ. of Kentucky, Jan. 2014: “Hidden interactions of quarks”
- Indiana Univ. - Purdue Univ. Indianapolis, Oct. 2011: “Particles and interactions at the Large Hadron Collider”
- Northwestern Univ., Apr. 2009: “Mysteries of the TeV Scale”
- LAPP, Annecy, France, Apr. 2007: “Exploring New Physics at the LHC”
- Oklahoma State Univ., Sept. 2006: “Beyond the Four Forces of Nature”
- Univ. of Arizona, Tucson, Apr. 2006: “All Particles in More Dimensions”
- Univ. of California at Irvine, May 2005: “Beyond the Four Forces of Nature”
- Brown Univ., Mar. 2003: “Everything in More Dimensions”
- Washington Univ., Mar. 2002: “Acrobatics of the Vacuum”
- Univ. of Notre Dame, Feb. 2001: “Compact Dimensions”

Hour-long seminars given within High Energy Physics Groups

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| • Technical Univ. Munich (Oct. 2025). | • Brookhaven National Lab. (2001, June 2015); |
| • Karlsruhe Institute of Technology (Oct. 2024). | • Univ. of Washington (Mar. 2002, May 2015); |
| • Univ. of Cincinnati (Apr. 2023). | • Univ. of California, Irvine (1999, Mar. 2015); |
| • Univ. of Wisconsin (2005, Feb. 2013, Oct. 2021); | • NorthWestern Univ. (Mar. 2014); |
| • Univ. of Notre Dame (Feb. 2000, Feb. 2020). | • Univ. of California, Davis (Mar 2010, Apr. 2013); |
| • Caltech (Jan. 1997, Dec. 2018). | • Argonne National Lab (Oct. 2009; Feb. 2013); |
| • Univ. of Padova (June 2017); | • Univ. of Kansas (Dec. 2013); |
| • CERN (Mar. 2017); | • Univ. of Illinois at Chicago (Oct. 2013); |
| • Univ. of Minnesota (Feb. 2003, Nov. 2016); | • Fermilab W&C seminar (Feb. 2013); |
| • Virginia Tech (Apr. 2016); | • Harvard Univ. (1996, Mar. 2004; Nov. 2011); |
| • Invisibles Network (Jan. 2016); | • Cornell Univ. (May 2011); |
| • ATLAS diboson group (Nov. 2015); | • Brown Univ. (May 2010); |
| • Yale Univ. (Jan. 2002, Apr. 2010, Nov. 2015); | • MIT (Mar. 2001, Feb. 2002; Apr. 2010); |
| • Univ. of Michigan (Nov. 2009, Oct. 2015); | • SLAC (Apr. 1998, Oct. 2000; Mar. 2010); |
| • Univ. of Maryland (2010; Oct. 2014, Sep. 2015); | • Wayne State Univ. (Nov. 2009); |

Hour-long seminars given within High Energy Physics Groups – continued

- Univ. of Chicago (2007, Mar. 2009; Dec. 2010);
- Columbia Univ. (Mar. 1999, Feb. 2009);
- Southern Methodist Univ. (Feb. 2009);
- Tsinghua Univ., Beijing (Oct. 2008);
- UC Berkeley (1998, Sept. 2001; Feb. 2008);
- Michigan State Univ. (Jan. 2004; Apr. 2008);
- Oklahoma State Univ. (Sep. 2006);
- LAPTH Annecy, France (May 2007);
- Johns Hopkins Univ. (Oct. 2004; Feb. 2008);
- Syracuse Univ. (Apr. 2006);
- Univ. of Arizona, Tucson (Apr. 2006);
- Ohio State University (Mar. 2006);
- Tohoku University, Japan (Mar. 2006);
- Univ. of Toronto, Canada (Oct. 2005);
- Univ. of California, Los Angeles (June 2005);
- CEA-SPhT, Saclay, France (Apr. 2005);
- Univ. of Delaware (Oct. 2004);
- Univ. of Florida (Jan. 2003);
- Iowa State Univ. (Oct. 2002);
- Univ. of Pittsburgh (Mar. 2002);
- Washington Univ., Saint Louis (Mar. 2002);
- SUNY Stony Brook (Feb 2000; Nov 2001);
- Univ. of California, Santa Cruz (Sept. 2001);
- Boston Univ. (Nov. 2000; Mar. 2001);
- Univ. of Pennsylvania (Jan. & Nov. 2000);
- Univ. of Illinois UIUC (Oct. 1999);
- Indiana Univ. (May 1999);
- Purdue Univ. (Oct. 1997);
- Univ. of California, San Diego (Jan. 1997);

Talks given at recent conferences

- Invited talk at the “Agentic AI for BSM Event Generation” Workshop (Sep. 2026): ”AI for Theorists”;
- Invited talk at the “Lepton-Photon” International Conference, Madison, Wisconsin (Aug. 2025): ”Multi-jet probes of new particles at the LHC: theory input”;
- Talk at the “Lepton-Photon” Conference, Madison, Wisconsin (Aug. 2025): “A theory of quark and lepton compositeness”;
- Invited talk at the CMS B2G Workshop, Fermilab (May 2025): “Exotic signatures of vectorlike quarks”;
- Invited talk at the “US LHC Users Association” meeting, Fermilab (Dec. 2023): “Theory perspective”.
- Invited talk at the ATLAS IFIN-HH Group meeting, Magurele, Romania (May 2023): “Probes of ultraheavy particles”;
- Invited talk at the CMS B2G Workshop, CERN (Apr. 2023): “Probes of ultraheavy particles”;
- Plenary talk at the “CMS Week” meeting, CERN-online (Mar. 2020): “Exploring the laws of nature at the LHC”;
- Invited talk at the “Picosecond timing” meeting, Univ. of Chicago (Mar. 2018): “New physics signatures at hadron colliders”.
- Invited talk at the “Dibosons and multileptons” meeting of the ATLAS Exotics group, CERN (Nov. 2017): “Higgs-photon resonances and other nonstandard signals ”.
- Invited talk at the US ATLAS Workshop, Argonne (Aug. 2017): “New high- p_T probes of non-standard physics”.
- Invited talk at the “BOOST” conference, Buffalo, NY (July 2017): “Boosted signatures of new particles”.

- Invited talk at the “New Physics Interpretations at the LHC 2” workshop, Argonne (April 2017): “Heavy Vector Resonances”.
- Invited talk at the “Digging Deeper at LHC Run II” workshop, University of Pittsburgh (Feb. 2017): “From dijet resonances to exotic signals at the LHC”.
- Invited talk at the “Beyond the Standard Model” workshop, Michigan Center for Theoretical Physics (Oct. 2016): “Vectorlike fermions and new gauge bosons”.
- Invited talk at the “Multi-boson interactions” conference, Univ. of Wisconsin (Aug. 2016): “Theories beyond the Standard Model and final states with W, Z and Higgs bosons”.
- Invited talk at the “Emerging New Physics” Workshop, University of Oregon (May 2016): “A W' near 2 TeV and right-handed neutrinos”.
- Invited talk at the “Dark Sectors” workshop, SLAC (April 2016): “Dark matter beams”.
- Invited talk at the Fermilab Users’ Meeting (June 2015): “LHC - Theory connection”.
- Invited talk at the “Lattice for Beyond the Standard Model” workshop, Lawrence Livermore National Lab (June 2015): “Composite Higgs models from top quark dynamics”.
- Invited talk at the CMS “Beyond Two Generations” Event, LHC Physics Center (Oct. 2014): “Signals with heavy quarks”.
- Invited talk at the “LPC turns 10” Symposium (July 2014): “LPC-Theory Connection”.
- Invited lecture at the CMS Data Analysis School, Fermilab, (Jan. 2014): “Theorist’s view on the 14 TeV run of the LHC”;
- Invited talk at the PITT-PACC Workshop, Univ. of Pittsburgh (Nov 2013): “Composite Higgs”.
- Plenary talk, D0 Collaboration Meeting, Fermilab (Oct. 2013): “Beyond the Standard Model”.
- Invited talk at the Workshop on “Exotic Top Partners”, Fermilab (Sept. 2013): “Theoretical overview of vectorlike quarks”.
- Invited talk at the “Users Meeting”, Fermilab (June 2013): “Frontiers of the Standard Model and beyond”.
- Invited talk at the Particle Data Group meeting, LBNL-online (June 2013): “ Z' and W' bosons”.
- Invited talk at the “Low-mass Higgs Meeting”, CERN-online (Feb. 2013): “Higgs total width and coupling spans”.
- Invited talk at the “LHC Workshop in the Higgs Era”, Univ. of Chicago (Nov. 2012): “Higgs total width and coupling spans”.
- Plenary talk at the International Conference on High-Energy Physics, Melbourne, Australia (July 2012): “Beyond the SM: theoretical status”.
- Invited talk at the Workshop on “LHC Theory”, University of Melbourne (July 2012): “Properties of some Higgs boson”.
- Invited talk at the Workshop on “Strongly coupled physics”, ICTP Trieste, Italy (Jan. 2012): “Massive color-octet bosons”.
- Invited talk at the Conference on “LHC first data”, Univ. of Michigan (Dec. 2010): “Beyond the Standard Model with bottom and top quarks”.
- Plenary talk at the Planck International Conference, CERN (May 2010) “Uplifted supersymmetric Higgs region”.
- Talk at the Muon Collider Physics Workshop, Fermilab (Nov. 2009), “Tests of the uplifted Higgs region”;

- Plenary talk at the National Conference on the Physics of Particles and Fields, Passa Quatro, Brazil (Sep. 2009), “Exploring new physics at the LHC”.
- Plenary talk at the International Conference on TeV Particle Astrophysics, Beijing, (Sep. 2008), “LHC and WIMPs”.
- Invited talk at the Workshop on New Physics beyond the Standard Model, KITPC, Beijing (Oct. 2008), “What do we know about physics at the electroweak scale?”.
- Invited talk at the Santa Fe workshop on LHC physics (July 2008), “Quark and lepton masses from top loops”.
- Invited talk at the Duke Collider Workshop (Duke Univ., May 2008), “New physics at the LHC”.
- CMS J-Term (Fermilab Jan. 2008 and Jan. 2009), “Opportunities for early discoveries at the LHC”;
- Invited talk at the Radcliffe seminar on Higgsless Models (Cambridge, Massachusetts, Aug. 2008), “Quark and lepton masses”.
- Invited talk at the Winter Conference on Electroweak Symmetry Breaking (Aspen, Jan. 2007), “Theory of quark and lepton masses”.
- Invited talk at the International Conference on “Colliders to Cosmic Rays” (Tahoe City, California, Feb. 2007): “Origin of electroweak symmetry breaking”.
- Invited talk at the Topical Meeting on Physics at the LHC (Harish-Chandra Research Institute, India, Dec. 2006): “Resonances at hadron colliders”;
- Invited talk at the Workshop on “Particle Theory in Anticipation of the LHC” (Aspen, Aug. 2006): “Resonances from cascade decays”;
- Invited talk at the CDF Collaboration Meeting (Elba Island, Italy, Apr. 2006): “Extra dimensions and new gauge bosons”;
- Invited talk at the Collider Workshop (Argonne, May 2006): Resonances from two universal extra dimensions;
- Invited talk at the International Workshop on “Mass Origin and Supersymmetry” (Tsukuba, Japan, Mar. 2006): “News from Universal Extra Dimensions”;
- Invited talk at the KEK Theory Meeting on “Particle Physics Phenomenology” (KEK, Japan, Mar. 2006): “Six-Dimensional Standard Model”;
- Muon Collider Workshop (Fermilab, Feb. 2006): “Pushing the energy frontier”;
- Invited talk at the Workshop on New ideas beyond the standard model (College of William & Mary, Williamsburg, Virginia, Oct. 2005): “Resonances from universal extra dimensions”;
- Invited talk at the Workshop on New Approaches to Electroweak Symmetry Breaking (Aspen, July 2005): “Collider signatures of extra dimensions”;
- Invited talk at the Tevatron Connection meeting (Fermilab, June 2005): “Theoretical Perspective”;
- Invited talk at the Workshop on Physics at TeV Colliders (les Houches, France, May 2005): “Universal Extra Dimensions”;
- Summary talk of the Physics Landscapes session at the TeV4LHC Workshop (Brookhaven National Lab, Feb. 2005): “Physics Landscapes”;
- Lecture at the Northwestern Workshop on Z' bosons (Evanston, Illinois, Nov. 2004): “Theories with Extended Gauge Sectors”.

- Proton Driver Workshop (Fermilab, Oct. 2004): “High- p_T physics opportunities”;
- Beyond Higgs Workshop (Santa Fe, New Mexico, Aug. 2004): “ Z' , γ' ”;
- Talk at the 12th International Conference on Supersymmetry and Unification of Fundamental Interactions, SUSY 04 (Tsukuba, Japan, June 2004): “Invisible gauge bosons”;
- Talk at the APS April Meeting (Denver, May 2004): “Recent developments in model building”;
- Invited talk at the Theory Institute on Supersymmetry, Extra Dimensions, and Higgs Bosons (Argonne, May 2004): “New Massless Gauge Bosons”;
- Invited talk at the International Workshop on Weak interactions and neutrinos (Lake Geneva, Wisconsin, Oct. 2003): “Electroweak symmetry breaking and extra dimensions”;
- Invited talk at the Fermilab Users’ Meeting (June 2003): “Theory”;
- Invited talk at the Workshop on Braneworlds and Supersymmetry (Vancouver, Canada, July 2002): “Universal Extra Dimensions”;
- Plenary talk at the Pheno Symposium (Madison, Wisconsin, Apr. 2002): “Electroweak Symmetry Breaking and Extra Dimensions”;
- Plenary talk for the Working group on electroweak symmetry breaking, at the Summer Study on the Future of Particle Physics (Snowmass, July 2001): “Models with a c “Composite Higgs boson””;
- Invited talk at the XXXVIth Rencontres de Moriond Conference on ElectroWeak Interactions and Unified Theories (Les Arcs, France, Mar. 2001): “Universal Extra Dimensions”;
- Invited talk at the Winter Conference on Particle Physics at the Millennium (Aspen, Jan. 2001): “Top Quark Physics Beyond the Standard Model”;
- Plenary talk at Thinkshop 2 - Top-Quark Physics for Run II & Beyond (Fermilab, Nov. 2000): “The Top-quark Above the Standard Model”;
- Plenary talk at the 5th International Linear Collider Workshop (Fermilab, Oct. 2000): “Unscrambling New Models”;
- Conference on Physics Beyond Four Dimensions (ICTP Trieste, Italy, July 2000): “Minimal electroweak symmetry breaking”;
- International Conference on Supersymmetries in Physics, SUSY2K (CERN, June 2000): “Non-standard Higgs decays in the Next-to-Minimal Supersymmetric Standard Model”;
- Invited talk at the Theoretical Institute on SUSY and Higgs (Argonne, Illinois, May 2000): “Higgs Phenomenology in the NMSSM”;
- Talk at the Pheno 2000 Conference (Univ. of Wisconsin, April 2000): “Higgs boson decays into CP-odd scalars”;
- Plenary talk at the Workshop on the Physics and Detectors of Future e^+e^- Colliders (LBNL, March 2000): “Probing a composite Higgs boson”.
- Plenary talk at the Workshop on New Strong Dynamics at the TeV-scale (Fermilab, April 1999): “New colors at the TeV-scale”;
- Invited talk at the Winter Conference on Particle Physics (Aspen, Colorado, Jan. 1999): “Higgs compositeness and the Top Condensation Seesaw Theory”;
- Invited talk at the DPF’99 Conference (Los Angeles, Jan. 1999): “Higgs compositeness from top dynamics”.

Bogdan A. Dobrescu – Publications (September 2026)

Dobrescu has 84 published articles on Particle Physics. He also wrote over 20 papers in conference proceedings and technical reports. These publications have been cited more than 11600 times.

Dobrescu also authored two reviews in the 2008 Review of Particle Physics (RPP), and then updated and expanded them in the 2010–2026 editions. These RPP editions, written with about 200 coauthors (Particle Data Group), have been cited more than 68000 times.

Journal Articles

- [A.1] “Axion-like particle at the 10 GeV scale: Higgs decays to wide jets and photons,”
B. A. Dobrescu and S. Roy, arXiv:2608.18506 [hep-ph].
- [A.2] “Octet scalars shaping LHC distributions in 4-jet final states”.
B. A. Dobrescu and M. H. Fieg, SciPost Phys. **20**, 087 (2026), arXiv:2511.09632 [hep-ph].
- [A.3] “Multi-top signals of vectorlike quarks at the LHC”.
E. Bernreuther and B. A. Dobrescu, JHEP **12**, 47 (2025), arXiv:2508.14960 [hep-ph].
- [A.4] “Quark-universal $U(1)$ breaking scalar at the LHC”.
L. Armbruster, B. A. Dobrescu and F. Yu, JHEP **02**, 093 (2026), arXiv:2506.06068 [hep-ph].
- [A.5] “Ultraheavy diquark decaying into vectorlike quarks at the LHC”.
I. Duminica, C. Alexa, I. M. Dinu, B. A. Dobrescu and M. S. Filip, Phys. Rev. D **111**, no.11, 115025 (2025), arXiv:2503.17031 [hep-ph].
- [A.6] “Composite quarks and leptons with embedded QCD”.
B. Assi and B. A. Dobrescu, Phys. Rev. D **112**, no.7, 075005 (2025), arXiv:2501.11607 [hep-ph].
- [A.7] “TeV-scale particles and LHC events with dijet pairs”.
B. A. Dobrescu, JHEP **06**, 113 (2025), arXiv:2411.04121 [hep-ph].
- [A.8] “Mutually elusive: vectorlike antileptons and leptoquarks”.
I. Bigaran, B. A. Dobrescu and A. Russo, Phys. Rev. D **109**, no.5, 055033 (2024), arXiv:2312.09189 [hep-ph].
- [A.9] “Vectorlike leptons and long-lived bosons at the LHC”.
E. Bernreuther and B. A. Dobrescu, JHEP **07**, 079 (2023), arXiv:2304.08509 [hep-ph].

- [A.10] “Proton decay from quark and lepton compositeness”.
B. Assi and B. A. Dobrescu, JHEP **12**, 116 (2022), arXiv:2211.02211 [hep-ph].
- [A.11] “New physics searches at kaon and hyperon factories”.
E. Goudzovski, *et al.* (64 authors), Rept. Prog. Phys. **86**, 016201 (2023), arXiv:2201.07805 [hep-ph].
- [A.12] “Quark and Lepton Compositeness: A Renormalizable Model”.
B. A. Dobrescu, Phys. Rev. Lett. **128**, no.24, 241804 (2022), arXiv:2112.15132 [hep-ph].
- [A.13] “Dijet and electroweak limits on a Z' boson coupled to quarks”.
B. A. Dobrescu and F. Yu, Phys. Rev. D **109**, no.3, 3 (2024), arXiv:2112.05392 [hep-ph].
- [A.14] “Diophantine equations with sum of cubes and cube of sum”.
B. A. Dobrescu and P. J. Fox, Commun. Number Theory and Physics **16**, 401 (2022), arXiv:2012.04139 [math.NT].
- [A.15] “Chiral Abelian gauge theories with few fermions”.
D. B. Costa, B. A. Dobrescu and P. J. Fox, Phys. Rev. D **101**, no.9, 095032 (2020), arXiv:2001.11991 [hep-ph].
- [A.16] “LHC probes of the 10 TeV scale”.
B. A. Dobrescu, arXiv:1912.13155 [hep-ph].
- [A.17] “General solution to the U(1) anomaly equations”.
D. B. Costa, B. A. Dobrescu and P. J. Fox, Phys. Rev. Lett. **123**, no.15, 151601 (2019), arXiv:1905.13729 [hep-th].
- [A.18] “Ultraheavy resonances at the LHC: beyond the QCD background”.
B. A. Dobrescu, R. M. Harris and J. Isaacson, [arXiv:1810.09429 [hep-ph]].
- [A.19] “Collider Tests of the Renormalizable Coloron Model”.
Y. Bai and B. A. Dobrescu, JHEP **1804**, 114 (2018); arXiv:1802.03005 [hep-ph].
- [A.20] “Minimal $SU(3) \times SU(3)$ symmetry breaking patterns”.
Y. Bai and B. A. Dobrescu, Phys. Rev. D **97**, 055024 (2018); arXiv:1710.01456 [hep-ph].
- [A.21] “Higgs-photon resonances”.
B. A. Dobrescu, P. J. Fox and J. Kearney, Eur. Phys. J. C **77**, 704 (2017); arXiv:1705.08433.

- [A.22] “Exotic signals of vectorlike quarks”.
B. A. Dobrescu and F. Yu, J. Phys. G **45**, 08LT01 (2018), arXiv:1612.01909 [hep-ph].
- [A.23] “Multi-step production of a diphoton resonance”.
B. A. Dobrescu, P. J. Fox and J. Kearney, J. Phys. G **44**, 065003 (2017); arXiv:1605.08772.
- [A.24] “Dark matter beams at LBNF”.
P. Coloma, B. A. Dobrescu, C. Frugiuele and R. Harnik, JHEP **1604**, 047 (2016); arXiv:1512.03852 [hep-ph].
- [A.25] “Signals of a 2 TeV W' boson and a heavier Z' boson”.
B. A. Dobrescu and P. J. Fox, JHEP **1605**, 047 (2016); arXiv:1511.02148 [hep-ph].
- [A.26] “Right-handed neutrinos and the 2 TeV W' boson”.
P. Coloma, B. A. Dobrescu and J. Lopez-Pavon, Phys. Rev. D **92**, 115023 (2015); arXiv:1508.04129 [hep-ph].
- [A.27] “Heavy Higgs bosons and the 2 TeV W' boson”.
B. A. Dobrescu and Z. Liu, JHEP **1510**, 118 (2015); arXiv:1507.01923 [hep-ph].
- [A.28] “A W' boson near 2 TeV: predictions for Run 2 of the LHC”.
B. A. Dobrescu and Z. Liu, Phys. Rev. Lett. **115**, 211802 (2015), arXiv:1506.06736.
- [A.29] “Leptophobic boson signals with leptons, jets and missing energy”.
B. A. Dobrescu, arXiv:1506.04435 [hep-ph].
- [A.30] “GeV-scale dark matter: production at the Main Injector”.
B. A. Dobrescu and C. Frugiuele, JHEP **1502**, 019 (2015); arXiv:1410.1566 [hep-ph].
- [A.31] “Composite Vectorlike Fermions”.
B. A. Dobrescu and C. T. Hill, Phys. Lett. B **738**, 150 (2014); arXiv:1409.1528 [hep-ph].
- [A.32] “Interpretations of anomalous LHC events with electrons and jets”.
B. A. Dobrescu and A. Martin, Phys. Rev. D **91**, no. 3, 035019 (2015); arXiv:1408.1082.
- [A.33] “Hidden GeV-scale interactions of quarks”.
B. A. Dobrescu and C. Frugiuele, Phys. Rev. Lett. **113**, 061801 (2014); arXiv:1404.3947.
- [A.34] “ W' signatures with odd Higgs particles”.
B. A. Dobrescu and A. D. Peterson, JHEP **1408**, 078 (2014); arXiv:1312.1999 [hep-ph].

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