



Dr. David Michael South

ATLAS Computing Co-Coordinator

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Date of Birth: 18.01.1977
Languages: English, German

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Employment

- **Staff Scientist, DESY-Hamburg** since Feb 2013
- **Research Associate, DESY-Hamburg** Jul 2010 – Jan 2013
- **Research Associate, Technische Universität Dortmund** Jan 2007 – Jun 2010
- **Research Fellow, DESY-Hamburg** May 2003 – Dec 2006

Professional Experience

- **Current positions**
 - ATLAS Computing Co-Coordinator Oct 2023
 - IRIS-HEP Steering Board Member Oct 2023
 - Rucio Advisory Board Member Apr 2023
 - ATLAS International Computing Board Member Oct 2012
 - H1 Physics Board Member Jul 2012
- **Former positions, activities and responsibilities**
 - ATLAS Distributed Computing Coordinator 2019 – 2023
 - ATLAS Monte Carlo Production Coordinator 2017 – 2019
 - Chair of ATLAS Panel on Analysis Preservation 2015 – 2017
 - Chair of DESY National Analysis Facility User Committee 2014 – 2023
 - ATLAS Data Reprocessing Coordinator 2014 – 2017
 - Chair of LHC Physics Discussions at DESY 2013 – 2021
 - ATLAS Conditions Database Coordinator 2011 – 2014
 - DESY Data Preservation Group Leader 2010 – 2017
 - DPHEP Working Group Convener on Data Preservation Models 2009 – 2017
 - H1 Computing and Software Coordinator 2008 – 2012
 - H1 Analysis Software Project Convener 2007 – 2009
 - H1 Rare and Exotics Physics Working Group Convener 2006 – 2012
 - H1 Run Coordinator 2005 – 2007
 - Supervision of DESY Summer Students 2005 – 2006
 - On call for the HERA Transverse Polarimeter 2004 – 2005
 - On call for the H1 LAr Calorimeter, Forward Tracker and Forward Muon Detector 2003 – 2007
 - H1 control room shifts, including as shift leader 2000 – 2007
- **Conference and workshop roles**
 - Lead Organiser of WLCG/HSF Workshop, DESY-Hamburg 2024
 - Lead Organiser of ATLAS Software and Computing Week, DESY-Hamburg 2018
 - Convener of Track 9: Security, Policy, Outreach at the CHEP 2016 Conference 2016
 - Convener of the Electroweak and Searches Working Group at the DIS 2012 Conference 2012
 - Lead Organiser of the 1st Workshop on Data Preservation in HEP, DESY-Hamburg 2009
 - Convener of the Electroweak and BSM Working Group at the DIS 2008 Conference 2008

Education

- **Ph.D in High Energy Physics** University of Manchester, UK 1999 – 2003
 - Thesis title: Events with Isolated Leptons and Missing Transverse Momentum in $e^{\pm}p$ Collisions at HERA
 - Supervisor: Prof. Dr. Robin Marshall FRS
 - Subject of first year report: MC Studies for a NC based Supernova Neutrino Detector
- **M.Phys in Physics and Astrophysics 2.1(Hons.)** University of Manchester, UK 1995 – 1999
 - Courses including particle physics, nuclear physics, quantum mechanics, relativity, astrophysics, astronomy, cosmology, thermodynamics and statistics
- **Secondary Education** King Edward VI School, Morpeth, UK 1990 – 1995
 - 4 GCE A-levels in Mathematics (A), Physics (A), Chemistry (B), General Studies (A)
 - 10 GCSEs including English (A), English Literature (A), Mathematics (A), Sciences (AA), History (A)

Journal Publications

I have over a thousand peer-reviewed publications, the majority with the ATLAS and H1 Collaborations. Those listed below are papers I have either written or made a significant contribution to.

- G. Aad *et al.* [ATLAS Collaboration], “Total Cost of Ownership and Evaluation of Google Cloud Resources for the ATLAS Experiment at the LHC”, *Comput. Soft. Big Sci.* **9** (2025) 2 [arXiv:2405.13695].
- G. Aad *et al.* [ATLAS Collaboration], “Software and Computing for Run 3 of the ATLAS Experiment at the LHC”, *Eur. Phys. J.* **C85** (2025) 234 [arXiv:2404.06335].
- T. Basaglia *et al.* [DPHEP Collaboration], “Data Preservation in High Energy Physics – DPHEP Global Report 2022”, *Eur. Phys. J.* **C83** (2023) 795 [arXiv:2302.03583].
- D. M. South and M. Turcato, “Review of Searches for Rare Processes and Physics Beyond the Standard Model at HERA”, *Eur. Phys. J.* **C76** (2016) 336 [arXiv:1605.03459].
- F. D. Aaron *et al.* [H1 Collaboration], “Inclusive Deep Inelastic Scattering at High Q^2 with Longitudinally Polarised Lepton Beams at HERA”, *JHEP* **1209** (2012) 061 [arXiv:1206.7007].
- F. D. Aaron *et al.* [H1 Collaboration], “Search for Contact Interactions in ep Collisions at HERA”, *Phys. Lett.* **B705** (2011) 52 [arXiv:1107.2478].
- F. D. Aaron *et al.* [H1 Collaboration], “Search for First Generation Leptoquarks in ep Collisions at HERA”, *Phys. Lett.* **B704** (2011) 338 [arXiv:1107.3716].
- F. D. Aaron *et al.* [H1 Collaboration], “Search for Lepton Flavour Violation at HERA”, *Phys. Lett.* **B701** (2011) 20 [arXiv:1103.4938].
- F. D. Aaron *et al.* [H1 and ZEUS Collaborations], “Events with an Isolated Lepton and Missing P_T and Measurement of W Production at HERA”, *JHEP* **1003** (2010) 035 [arXiv:0911.0858].
- F. D. Aaron *et al.* [H1 Collaboration], “Events with Isolated Leptons and Missing P_T and Measurement of W Production at HERA”, *Eur. Phys. J.* **C64** (2009) 251 [arXiv:0901.0488].
- A. Aktas *et al.* [H1 Collaboration], “Tau Lepton Production in ep Collisions at HERA”, *Eur. Phys. J.* **C48** (2006) 699 [hep-ex/0604022].
- A. Aktas *et al.* [H1 Collaboration], “Search for Single Top Quark Production in ep Collisions at HERA”, *Eur. Phys. J.* **C33** (2004) 9 [hep-ex/0310032].
- V. Andreev *et al.* [H1 Collaboration], “Isolated Electrons and Muons in Events with Missing Transverse Momentum at HERA”, *Phys. Lett.* **B561** (2003) 241 [hep-ex/0301030].

Conference Proceedings, Papers and Articles

- D. Cameron, M. Lassnig, and D. South, “ATLAS Distributed Computing Evolution: Developments and Demonstrators Towards HL-LHC”, *CHEP 2023, EPJ Web Conf.* **295** (2024) 04034.
- F. Barreiro *et al.*, “Accelerating Science: The Usage of Commercial Clouds in ATLAS Distributed Computing”, *CHEP 2023, EPJ Web Conf.* **295** (2024) 07002.
- M. Borodin *et al.*, “Updates to the ATLAS Data Carousel Project”, *CHEP 2023, EPJ Web Conf.* **295** (2024) 01054.
- A. Forti *et al.*, “Evolution of ATLAS Analysis Workflows and Tools for the HL-LHC Era”, *vCHEP 2021, EPJ Web Conf.* **251** (2021) 02002.
- A. Forti *et al.*, “Running Folding@Home Covid-19 Simulations on ATLAS Resources”, *vCHEP 2021, EPJ Web Conf.* **251** (2021) 02003.
- D. Britzger *et al.*, “Preservation Through Modernisation: The Software of the H1 Experiment at HERA”, *vCHEP 2021, EPJ Web Conf.* **251** (2021) 03004 [arXiv:2106.11058].
- S. Amerio *et al.*, [DPHEP Study Group], “Status Report of the DPHEP Study Group: A Global Effort for Sustainable Data Preservation in High Energy Physics”, arXiv:1512.02019.
- M. Borodin *et al.*, “Big Data Processing in the ATLAS Experiment: Use Cases and Experience”, *Proc. Comp. Sci.* **66** (2015) 609.

- M. Borodin *et al.*, “Unified System for Processing Real and Simulated Data in the ATLAS Experiment”, DAMDID 2015 [arXiv:1508.07174].
- D. Krucker *et al.*, “Data Preservation for the HERA Experiments at DESY using dCache Technology”, CHEP 2015, J. Phys. Conf. Ser. **664** (2015) 042029.
- R. W. Jones, D. M. South and K. Cranmer, “ATLAS Data Preservation”, CHEP 2015, J. Phys. Conf. Ser. **664** (2015) 032017.
- K. Cranmer *et al.*, “Analysis Preservation in ATLAS”, CHEP 2015, J. Phys. Conf. Ser. **664** (2015) 032013.
- D. Ozerov and D. M. South, “A Validation Framework for the Long Term Preservation of HEP Data”, CHEP 2013, [arXiv:1310.7814].
- P. Kostka, A. Polini and D. M. South, “A New Detector for Deep Inelastic Physics”, HEP-EPS 2013, [arXiv:1310.3170].
- D. M. South, “DPHEP: From Study Group to Collaboration”, DIS 2013 and HEP-EPS 2013, [arXiv:1309.7868].
- P. Kostka, A. Polini and D. M. South, “The LHeC Detector”, DIS 2013, [arXiv:1308.6241].
- D. M. South, “Search for First Generation Leptoquarks at HERA”, ICHEP 2012, [arXiv:1302.3378].
- D. M. South, “Search for Lepton Flavour Violation at HERA”, ICHEP 2012, [arXiv:1302.3380].
- D. M. South, “The DPHEP Study Group: Data Preservation in High Energy Physics”, ICHEP 2012, [arXiv:1302.3379].
- D. M. South, A. Weiler and H. Yoo, “Summary of the Electroweak and Searches Working Group”, DIS 2012, [arXiv:1208.1468].
- D. M. South and M. Steder, “The H1 Data Preservation Project”, CHEP 2012, [arXiv:1206.5200].
- D. M. South, “Data Preservation and Long Term Analysis in High Energy Physics”, CHEP 2012, [arXiv:1206.5198].
- Z. Akopov *et al.*, [DPHEP Study Group], “Status Report of the DPHEP Study Group: Towards a Global Effort for Sustainable Data Preservation in High Energy Physics”, [arXiv:1205.4667].
- R. Kogler, D. M. South and M. Steder “Data Preservation in High Energy Physics”, ACAT 2011, arXiv:1111.2788.
- D. M. South, “Search for Lepton Flavour Violation at HERA”, DIS 2011, [arXiv:1108.1134].
- D. M. South, “Data Preservation in High Energy Physics”, CHEP 2010, [arXiv:1101.3186].
- D. M. South, “Multi-Leptons at HERA”, ICHEP 2010, [arXiv:1011.5776].
- D. M. South, “Isolated Leptons and Single Top at HERA”, DIS 2010, [arXiv:1006.4077].
- D. M. South, “High Q^2 Measurements at HERA”, Lake Louise Winter Institute 2010, [arXiv:1005.5729].
- T. Brooks *et al.*, [DPHEP Study Group], “Data Preservation in High Energy Physics”, [arXiv:0912.0255].
- C. Diaconu and D. M. South, “Study Group Considers How to Preserve Data” CERN Cour. **49N4** (2009) 21.
- D. M. South, “Isolated Lepton and Multi-Lepton Production at HERA”, HEP-EPS 2009, [arXiv:0909.2957].
- D. M. South, “Data Preservation and Long Term Analysis in HEP”, 44th Rencontres de Moriond on QCD and High Energy Interactions, [arXiv:0907.1586].
- D. M. South, “Searches for New Physics at H1”, ICHEP 2008, [arXiv:0809.5010].
- D. M. South, “Single W and Anomalous Top Production at HERA”, Photons@LHC 2008, Nucl. Phys. Proc. Suppl. **179** (2008) 29 [arXiv:0806.0069].
- C. P. Hays, M. Kramer, D. M. South and A. F. Zarnecki, “Summary of the Electroweak and BSM Working Group”, DIS 2008, arXiv:0809.0679.
- D. M. South, “Isolated Leptons and Missing P_T at HERA”, HEP-EPS 2007, J. Phys. Conf. Ser. **110** (2008) 072041 [arXiv:0709.4433].
- D. M. South, “New H1 Results on Isolated Leptons and Missing P_T at HERA”, DIS 2006, [hep-ex/0607020].

- D. M. South, “Searches for New Physics in ep Scattering at HERA”, 41st Rencontres de Moriond on Electroweak Interactions and Unified Theories, [hep-ex/0605119].
- D. M. South, “Searches for New Physics at HERA”, Hadron Structure and QCD 2005, [hep-ex/0602028].
- D. M. South, “SUSY Searches at H1”, DIS 2005, AIP Conf. Proc. **792** (2005) 599.
- D. M. South, “Events with High P_T Leptons and P_T^{miss} and Anomalous Top at HERA”, DIS 2004, Kosice Inst. of Exp. Phys. (2004) 1023.

Seminars and Invited Talks

- ATLAS Google Project: Total Cost of Ownership 2024
PUNCH Lunch (online)
- ATLAS Distributed Computing: Current Activities, Future Plans and Fighting Covid-19 2020
Rydberg Seminar, Lund University, Sweden (virtual)
- Data Preservation in High Energy Physics 2016
Helmholtz Workshop on the Non-thermal Universe, Erlangen, Germany
- Data Preservation in High Energy Physics (Keynote) 2011
DaLi 2011 Workshop at ICDE 2011, Hanover, Germany
- Data Preservation and Long Term Analysis in HEP 2010
DESY-Zeuthen, TU Dortmund, Physikalisches Institut Bonn, Brookhaven National Laboratory
- Isolated Leptons at HERA: An Unsolved Mystery 2007
Technische Universität Dortmund, Germany
- Methods and Techniques in HEP and Analysis using H100 2006
DESY Student Seminar, Hamburg, Germany

Plenary Talks

- Total Cost of Ownership and Evaluation of Google Cloud Resources for ATLAS *ATLAS Talk*
CHEP 2024, Krakow, Poland October 2024
- Data Preservation and Long Term Analysis in High Energy Physics *DPHEP Talk*
CHEP 2012, New York City, USA May 2012
- Summary of the Electroweak and Searches Working Group *Conference Summary Talk*
DIS 2012, Bonn, Germany March 2012
- Data Preservation in High Energy Physics *DPHEP Talk*
CHEP 2010, Taipei, Taiwan October 2010
- W/Z Boson Physics from HERA *H1 and ZEUS Talk*
The Physics of W and Z Bosons, Brookhaven National Laboratory, USA June 2010
- High Q^2 Measurements at HERA *H1 and ZEUS Talk*
Lake Louise Winter Institute 2010, Alberta, Canada February 2010
- Data Preservation and Long Term Analysis in HEP *DPHEP Talk*
44th Rencontres de Moriond (QCD), La Thuile, Italy March 2009
- Single W and Anomalous Top Production at HERA *H1 and ZEUS Talk*
Photons@LHC 2008, CERN, Switzerland April 2008
- Summary of the Electroweak and BSM Working Group *Conference Summary Talk*
DIS 2008, London, UK April 2008
- Searches for New Physics in ep Scattering at HERA *H1 and ZEUS Talk*
41st Rencontres de Moriond (EW), La Thuile, Italy March 2006
- Searches for New Physics at HERA *H1 and ZEUS Talk*
Hadron Structure and QCD 2005, St. Petersburg, Russia September 2005

Parallel Session Talks

- R&D in ATLAS Distributed Computing towards HL-LHC *ATLAS Talk*
CHEP 2023, Norfolk, USA May 2023
- Running Folding@Home Covid-19 Simulations on ATLAS Resources *ATLAS Talk*
vCHEP 2021 (virtual) May 2021
- The DPHEP Collaboration *DPHEP Talk*
HEP-EPS 2013, Stockholm, Sweden July 2013
- The LHeC Detector *LHeC Talk*
DIS 2013, Marseille, France April 2013
- DPHEP: From Study Group to Collaboration *DPHEP Talk*
DIS 2013, Marseille, France April 2013
- Search for First Generation Leptoquarks at HERA *H1 Talk*
ICHEP 2012, Melbourne, Australia July 2012
- Search for Lepton Flavour Violation at HERA *H1 Talk*
ICHEP 2012, Melbourne, Australia July 2012
- The DPHEP Study Group: Data Preservation in High Energy Physics *DPHEP Talk*
ICHEP 2012, Melbourne, Australia July 2012
- Search for Lepton Flavour Violation at HERA *H1 Talk*
DIS 2011, Newport News, USA April 2011
- Multi-Leptons at HERA *H1 and ZEUS Talk*
ICHEP 2010, Paris, France July 2010
- Isolated Leptons and Single Top at HERA *H1 and ZEUS Talk*
DIS 2010, Florence, Italy April 2010
- Isolated Lepton and Multi-Lepton Production at HERA *H1 and ZEUS Talk*
HEP-EPS 2009, Krakow, Poland July 2009
- Searches for New Physics at H1 *H1 Talk*
ICHEP 2008, Philadelphia, USA August 2008
- Isolated Leptons and Missing P_T at HERA *H1 and ZEUS Talk*
HEP-EPS 2007, Manchester, UK July 2007
- New H1 Results on Isolated Leptons and Missing P_T at HERA *H1 Talk*
DIS 2006, Tsukuba, Japan April 2006
- SUSY Searches at H1 *H1 Talk*
DIS 2005, Madison, USA April 2005
- Events with High P_T Leptons and P_T^{miss} and Anomalous Top at HERA *H1 Talk*
DIS 2004, Strbske Pleso, Slovakia April 2004

Workshop and Review Talks

- ATLAS Computing Towards HL-LHC *ATLAS Talk*
WLCG Workshop, Lancaster, UK November 2022
- LHC Status, Schedule and Computing *LHC Talk*
92nd DESY PRC Open Session (virtual) November 2021
- H1 Data Preservation Status and Perspectives *H1 Talk*
DPHEP Collaboration Meeting (virtual) March 2021
- ATLAS Data Preservation: Plans and Activities *ATLAS Talk*
DPHEP Collaboration Meeting, CERN, Switzerland January 2015
- A Validation Framework for the Long Term Preservation of HEP Data *DESY-DPHEP Talk*
LOPS 2014, Chicago, USA March 2014
- The HERA Inheritance: Lessons Learned from Data Preservation at DESY *DESY-DPHEP Talk*
8th Workshop on Data Preservation in HEP, CERN, Switzerland January 2014
- Data Preservation Activities at DESY *DESY-DPHEP Talk*
7th Workshop on Data Preservation in HEP, CERN, Switzerland March 2013

- Data Preservation Activities at DESY
6th Workshop on Data Preservation in HEP, CPPM, France *DESY-DPHEP Talk*
November 2012
- Data Preservation Activities at DESY
5th Workshop on Data Preservation in HEP, Fermilab, USA *DESY-DPHEP Talk*
May 2011
- HERA Data Preservation Activities
70th DESY PRC Open Session, DESY-Zeuthen, Germany *DESY-DPHEP Talk*
October 2010
- Data Preservation Activities at DESY
4th Workshop on Data Preservation in HEP, KEK, Japan *DESY-DPHEP Talk*
July 2010
- H1 Data Preservation Status
3rd Workshop on Data Preservation in HEP, CERN, Switzerland *H1 Talk*
December 2009
- H1 Status Report
68th DESY PRC Open Session, DESY-Hamburg, Germany *H1 Talk*
November 2009
- H1 Data Preservation Status
2nd Workshop on Data Preservation in HEP, SLAC, USA *H1 Talk*
May 2009
- H1 Analysis and Computing Model
1st Workshop on Data Preservation in HEP, DESY-Hamburg, Germany *H1 Talk*
January 2009
- H1 Status Report
60th DESY PRC Open Session, DESY-Hamburg, Germany *H1 Talk*
November 2005

Posters

- DPHEP: From Study Group to Collaboration
PV 2013, Frascati, Italy *DPHEP Poster*
November 2013
- A Validation Framework for the Long Term Preservation of HEP Data
CHEP 2013, Amsterdam, Netherlands *DESY-DPHEP Poster*
October 2013
- A New Detector for Deep Inelastic Physics
HEP-EPS 2013, Stockholm, Sweden *LHeC Poster*
July 2013
- The H1 Data Preservation Project
CHEP 2012, New York City, USA *H1 Poster*
May 2012
- Data Preservation in High Energy Physics
ACAT 2011, London, UK *DPHEP Poster*
September 2011
- Physics Results from the H1 Experiment at HERA
Lepton Photon 2005, Uppsala, Sweden *H1 Poster*
July 2005
- Physics Results from the H1 Experiment at HERA
Lepton Photon 2003, Fermilab, USA *H1 Poster*
August 2003