Sayantan Ghosh

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Education

- Ph.D. Geology, Univ. of Oklahoma (OU), Norman, OK, USA *Aug. 2013 - Dec. 2017*
- M.S. Petroleum Engineering, Univ. of Oklahoma (OU), Norman, OK, USA *Aug. 2011 - Aug. 2013*
- B.S. Mechanical Engineering, Brigham Young Univ. (BYU), Provo, UT, USA *Sept. 2007 - Apr. 2011*

Work, Research, and Teaching Experience

Assistant Professor (Petroleum Engineering): IIT(ISM), Dhanbad, India *Dec. 2021-Current*

- Theory courses taught: **a)** Geology for Petroleum Engineers, **b)** Reservoir Geomechanics, **c)** Petroleum Resource Management & Project Evaluation, **d)** Research Methodology, **e)** Petroleum Environmental Management, **f)** Fundamentals of Carbon Sequestration
- Practical courses taught: **a)** Formation Evaluation (well log analysis), **b)** Enhanced Oil Recovery, **c)** Petroleum Product sTesting, **d)** Petroleum Production Engineering, and **e)** Process Engineering
- Mentored several BTech and MTech students on their class research projects
- Taught an NPTEL course on Petroleum Formation Evaluation
- Taught two GIAN lectures on Natural and Induced Fractures in Tight Reservoirs
- Taught a Karmayogi course on Petroleum Environmental Management
- Signed an MOU with Rara Energy (Abu Dhabi, UAE) on behalf of IIT(ISM) Dhanbad for technical collaboration on various geological and petroleum engineering topics

Assistant Professor (Petroleum Engineering and Earth Sciences): UPES, Dehradun, India *Jan. 2021-Nov. 2021*

- Taught Petroleum Geomechanics, Petroleum Production Logging (Cased-Hole Logging), and Artificial Lift Technology theory courses
- Mentored 3rd year/ 4th year undergraduate students with project work

Postdoctoral Fellow (Petrophysics and Reservoir Characterization)**:** Univ. of Houston, TX, USA *Aug. 2019-Sept. 2020*

- Prepared a core plug acquisition program and selected appropriate laboratory tests for the required task
- Performed well log corrections and reconstructed missing log zones
- Built petrophysical models using well log and core data for a mature oil field for EOR/IOR
- Wrote reports, memos, and reviews on topics including regular and special core analysis, fluid contact movements, suggested well perforations, and reservoir pressure trends
- Taught well log analysis and facies modeling on Techlog and Petrel to a class of fifteen graduate students for a reservoir management course
- Guided two M.S. students in Master's thesis writing

R&D Geoscientist (Structure & Geomechanics)**:** Anadarko Petroleum, Woodlands, TX, USA *Jan. 2018-July 2019*

- Divided a shale, sand, and carbonate sequence of interest into several rock types(using k-means) based on mechanical and stress properties using Interactive Petrophysics Software
- Described a method to correct well log mechanical rock properties to static properties using laboratory triaxial and ultrasonic velocity experimental results
- Automated tectonic stress calculations in different wells to be used for hydraulic fracturing and wellbore-stability calculations by writing a Visual Basic Routine
- Distributed aforementioned rock types into a reservoir volume using various geostatistical algorithms
- Identified relationships between rock texture, depositional environment, and stress-dependent rock types using core photographs from various wells

Research Assistant (Res. Geomech., Petrophysics)**:** OU Inst. of Reservoir Char., Norman, OK, USA *Aug. 2013-Dec. 2017*

- Established timing/mechanism of successive formation of different natural fracture sets in the Woodford Shale and adjacent formation using cross-cutting relations, X-ray diffraction, SEM/EDS, and thin section studies of collected rock matrix and associated cement
- Determined the mechanical rock properties of the Woodford Shale and bounding formations comprising carbonates and shales using well logs and DFIT data
- Built Discrete Fracture Network (DFN) models for stage-wise hydraulic fracture simulation on FracMan based on above observations/calculations; validated model with field microseismic data
- Used the above models to predict the stimulated reservoir volumes under scenarios of different well positions,

horizontal stress magnitudes, natural fracture permeability values, natural fracture connectivity, and net pressures

Intern (Petrophysics)**:** British Petroleum (BP), Houston, TX, USA *May 2014-Aug. 2014*

- Selected relevant well files, organized, depth shifted, and spliced logs from seven deep-water wells producing from carbonate rocks located in Santos Basin in offshore Brazil
- Assessed reservoir quality based on porosity, permeability, water saturation, clay content, and net pay using Techlog Software
- Integrated petrophysical data from logs to formation pressure data and fluid type for each well
- Predicted reservoir quality in a non-DST interval based on NMR free fluid and porosity data
- Analyzed variation of formation pressure, API, and GOR in the basin using several wells in different fields

Research Assistant (Petrophysics, Core Testing)**:** OU Core Char. Center, Norman, OK, USA *Aug.2011-Aug. 2013*

- Conducted long-term flow tests through various types of proppant packs to measure permeability decay and change in fluid chemistry; identified the type of diagenetic minerals deposited on proppant/shale
- Estimated variation in directional mechanical rock properties (anisotropy) in various rock types by measuring P and S wave velocities in three directions and calculating Thomsen parameters
- Determined grain density, mineralogy, porosity, and permeability of shale and other lithologies using FTIR, EDS, NMR, LPP and AP-608 machines
- Analyzed elastic properties and hardness of rock cuttings using a nano-indenter

Teaching Assistant (Statics)**:** BYU Civil Eng. Dept., Provo, UT, USA *Aug. 2010-Dec. 2010*

- Assisted a group of 75 students on test/homework problems, and conducted exam reviews

Teaching Assistant (Ordinary/Applied Partial Differential Eq.)**:** BYU Math Dept., Provo, UT, USA *Aug. 2009-Dec. 2009*

- Assisted a group of 30 students on test/homework problems, and conducted exam reviews

Software

Petrel, Techlog, Interactive Petrophysics, GOHFER, FracMan, AutoCAD

Consultancies Performed

Oilmax Energy (Mumbai, India)

- Estimation of gas content and prospect evaluation of exploratory CBM block: SR-ONHP(CBM)-2022/6 (Co-CI; INR 1,52,220) *Nov. 2024*

ERGO Exergies Technologies Inc. (Montréal, Canada)

- Ultimate and proximate analyses for the proposed underground coal gasification (UCG) pilot operations in the Kasta West project (CI; INR 1,31,688) *Oct. 2024*
- Ultimate and proximate analyses for the proposed underground coal gasification (UCG) pilot operations in the Gare Palma Sector-1 Project (CI; INR 1,12,100) *Aug. 2024*

Externally Funded Projects

- **Essar Oil and Gas Ltd.** (Durgapur, India)
  Prospect Evaluation of Deep Coal Seams of CBM fields under Raniganj East Block (Co-PI; INR 95,60,000) *Oct. 2026-Current*

Training and Workshop Attended

1. **GIAN course on *Inverse Methods and Machine Learning: Applications in Geosciences*** *June 2025*
2. **Oil and Natural Gas Corporation (ONGC):** Ahmedabad, India (1 month) *June 2022*
   - Attended field jobs on open hole logging, cement bond long/variable density logging, and well perforation
   - Attended introductory training on well logging tools
   - Attended field jobs on hydraulic fracturing, gravel packing, coiled tubing, pre fracturing acidization, and well cleaning using Nitrogen
   - Delivered presentation on hydraulic fracturing and suggested steps for improvement
3. **Workshop on *Petroleum Resource Management System*** (organized by DGH in partnership with DeGolyer and MacNaughton, USA): New Delhi, India (Two days) *Jan 2022*
4. **GIAN course on *Global Seismology*** (Two weeks) *May 2022*

Administrative Work at IIT(ISM) Dhanbad

- Hostel warden — *July 2024-June 2026*
- Faculty-in-charge of Training & Placement (Petroleum Engineering) — *July 2022-March 2026*
- Petroleum production engineering lab in charge — *May. 2022-Current*
- Coordination committee member of IIT(ISM) seismological observatory — *May. 2022-Apr. 2024*
- Scrutineer of Masters and Doctorate admission applications — *Apr. 2022*
- Scrutineer of Bachelor admission documents — *Apr. 2022*
- Registration committee member for annual alumni reunion and industry interaction — *Feb. 2023, 2024*
- Purchased proppant permeability machine through tendering process for department undergraduate laboratories — *2024-2025*

Journal and Conference Leadership

- **Associate Editor: SEG/AAPG** Interpretation (Subsurface characterization journal) — *March 2025-Current*
- Organized a special issue on critical mineral exploration for SEG/AAPG Interpretation — *April 2026-Current*
- **Co-organizer:** Three-Day Workshop on Application of AI/ML in the Oil Industry at IIT(ISM) campus — *Feb. 2026*
- **Technical Committee Chair**: American Rock Mechanics Association/Discrete Fracture Network and Engineering (ARMA/DFNE) Conference (Seattle, WA, USA) — *June 2018*
- **Associate Editor**: Petroleum and Petrochemical Engineering Journal — *Feb. 2018-Current*
- **Panelist:** Discussion on oil and gas disasters (UPES, Dehradun, India) — *Oct. 2021*
- **Poster Competition Judge** (UPES, Dehradun, India) — *Apr.2021*
- **Judge and mediator in debate competition** — *Sept. 2024*

Journal and Technical Conference Paper Reviewership

- MDPI Applied Sciences — *June 2023-Current*
- MDPI Sustainability — *May 2023-Current*
- Iranian Journal of Earth Sciences — *Jan 2023-Current*
- Journal of Structural Geology — *July 2022-Current*
- Marine and Petroleum Geology — *Apr 2021-Current*
- AAPG Bulletin — *Mar 2019-Current*
- Interpretation Journal (Society of Exploration Geophysics) — *Sept 2017-Current*
- Acta Geophysica — *July 2019-Current*
- Geological Journal — *Aug 2019-Current*
- Current Journal of Applied Science and Technology — *Apr 2019-Current*
- ARMA/DFNE Conference — *Mar. 2018*

Journal Publications

1. Sen S., **Ghosh*** S., 2026. Geomechanical characterization of the Jurassic Dunlin Group and implications for geological sequestration – Study from Northern Lights CO2 storage site, Norwegian continental shelf. ***Journal of Applied Geophysics*** 255(2026) 106564
2. Altaher Z.A., **Ghosh* S**. 2026. Geometrical, Topological, and Connectivity Assessment of Coal Seam Cleat Networks: An Example of Barakar Formation from the Tisra Mine, Jharia Coalfield, India. ***Turkish Journal of Earth Sciences***.
3. Altaher Z.A., **Ghosh S.**, Mukherjee M.K., 2026. Control of lineaments on the distribution of hazardous coal fire zones in Jharia coalfield, Eastern India. ***Natural Hazards*** 122 (326)
4. Altaher Z.A., Kumar V., **Ghosh S*.** 2026. Data-Driven Prediction of Natural Fracture Abundance in Coal: Insights from the Barakar Formation in the Indian Gondwana Basin. ***Journal of the Geological Society of India*** 102 (9) : 1234–1243. *https://doi.org/10.17491/jgsi.2026.174598*
5. Hocine B., Sen S., **Ghosh S.**, Baouche R., Chaouchi R., 2026. Tectonic stress state and geomechanical characterization of the Triassic and Devonian reservoirs in north Berkine Basin, Algeria – Framework for reservoir exploitation strategies. ***Episodes***. *https://doi.org/10.18814/epiiugs/2026/026007*
6. Mahata D.K., **Ghosh S.**, Nair P.V. **2026**. Gas hydrate-related pore pressure prediction in the frontier Bay of Bengal. ***Interpretation*** 15 (1), SA15-SA27
7. Sen S., **Ghosh S.**, Aydin H., Bozkurt C.N., Sukru M., 2026. Geomechanical modelling and critically stressed fracture analysis for geothermal resource management – A study from the Menderes metamorphic basement, Gediz Graben, Türkiye. ***Rock Mechanics and Rock Engineering***. *https://doi.org/10.1007/s00603-026-05507-x*
8. Kumar V., **Ghosh* S.**, Maiti S., 2026. Ensemble machine learning based horizontal permeability prediction and hydraulic flow unit characterization of the Hugin Sandstone. ***Petrophysics*** 67 (04), 760–780. *https://doi.org/10.30632/PJV67N4-2026a5*

9. Suman P., **Ghosh* S.**, Joshi D., 2026. Role of well configuration and CO2 injection on CBM production using geomechanically coupled flow simulations: An example of Jharia coalfield. ***International Journal of Oil, Gas and Coal Technology***.
10. Madam V.K., **Ghosh S.**, Balikram A., 2026. Prediction of critical drawdown pressures for the onset of sand production using conventional triaxial tests: A case study of Himmatnagar Sandstone. ***Petroleum & Petrochemical Engineering Journal***
11. **Ghosh S.**, Yang Z.Y., Li HH, Wu J.Y., 2025. Mechanical behavior assessment of a deep geological repository in the Kinmen Granite using Particle Flow Code. ***Geomechanics and Geoengineering: An International Journal***. *https://doi.org/10.1080/17486025.2025.2592661*
12. Farouk S., Sen S., **Ghosh S.**, Mandal P.P., 2025. In-situ stress state of the Shushan Basin, Western Desert, Egypt – Implications for developing tight Cretaceous and Paleozoic reservoirs. ***Arabian Journal for Science and Engineering***, 1-21. *https://doi.org/10.1007/s13369-025-10766-x*
13. Altaher Z.A., **Ghosh. S.**, Mukherjee M.K., Rajpoot A., 2025. The influence of mineralogy and geomechanical properties on the development of natural fractures in coal bearing strata and its implications: An example from Barakar Formation, Eastern India. ***International Journal of Earth Sciences*****,** *114***,** *1377–1396 (2025). https://doi.org/10.1007/s00531-025-02541-y*
14. Farouk S., Sen S., Sarhan M.A., Fathy M., Fagelnour M., El-Kahtany K., **Ghosh S.**, 2025. Formation evaluation and geomechanical modeling of the Middle Jurassic Lower Safa reservoir of the Shushan Basin, Western Desert, Egypt – Implications for reservoir development and completion optimization. ***Petroleum Geoscience,*** *31(4): petgeo2025-004. https://doi.org/10.1144/petgeo2025-004*
15. Mandal PP., Aljuaydi HAS., Sarmadivaleh M., Rezaee R., **Ghosh S.**, 2025. Impact of in-situ stress perturbation and weak overburden on wellbore stability: Pluto gas field, Northwest Shelf, Australia. ***Interpretation,*** *14(1), SA1-SA18. https://doi.org/10.1190/INT-2024-0158.1*
16. **Ghosh S.**, Kumar S., Chakravarty A., Hooker J., 2025. Analysis of slope failure using finite element method: A case study of the Dehradun region, India. ***Journal of the Geological Society of India,*** *101 (7), 1013–1019. https://doi.org/10.17491/jgsi/2025/174199*
17. Kumar V., **Ghosh S.**, 2025. An amalgamation of Clustering and Random Forest algorithms for P-wave velocity log prediction: A Volve field case study. ***Interpretation****, 13(3), T547-T560. https://doi.org/10.1190/INT-2024-0106.1*
18. Jape N., Datchanamurti, **Ghosh S.**, 2025. A Brief Review of Wellbore Stability in Coal Beds: Technological Improvements and Challenges. ***Petroleum & Petrochemical Engineering Journal,*** *9(1), 1-8*
19. Rasool Y., Agrawal M., Shams R., **Ghosh S.**, Singh D. 2024. Evaluation of Seismic Hazard for northeastern Bihar (India): A Deterministic Approach. ***Indian Geotechnical Journal***, 55(2025), 3308–3326. https://doi.org/10.1007/s40098-024-01126-x
20. Kumar V., **Ghosh S.**, 2024. Estimation of vertical permeability of Hugin sandstone from petrophysical well logs using ensemble methods – An enhanced machine learning approach. ***Arabian Journal for Science and Engineering****, 50, 4943-4961. https://doi.org/10.1007/s13369-024-09446-z*
21. Sharma SK., Rani A., Bakhariya H., Kumar R., Tomar D., **Ghosh S.**, 2024. The Role of IoT in Optimizing Operations in the Oil & Gas Sector: A Review. ***Transactions of the Indian National Academy of Engineering*** *(9), 293-312. https://doi.org/10.1007/s41403-024-00464-9*
22. Taghichian A., Hashemolhosseini H., **Ghosh S**., Zaman M., Baghbanan A., Alireza E., 2023. Optimal core trip velocity ranges for major US shale plays. ***International Journal of Petroleum Science and Technology***, *17(1), 13-59*
23. **Ghosh S**., Joshi D., Kiran R., Agrawal M., Chakraborty S.S., Yadav R., Kumar A., 2023. A review of reservoir oil-water transition zone characterization and potential recovery methods. ***Geopersia***, *13 (2), 323-336. DOI: 10.22059/GEOPE.2023.350783.648689*
24. Aghaei H., Penkov G.M., Solomoichenko D.A., Toorajipour A., Petrakov D.G., Jafarpour H., **Ghosh S**., 2023. Density-dependent relationship between changes in ultrasonic wave velocities, effective stress, and petrophysical-elastic properties of sandstone. ***Ultrasonics****, 132 (2023), 106985. https://doi.org/10.1016/j.ultras.2023.106985*
25. **Ghosh S.**, Kumar S., Khare S.K., Pandey S.K., 2022. Stability assessment of Siwalik rock slopes – A case study from Dehradun area, Uttarakhand, India. ***Journal of the Geological Society of India,*** *98 (2022), 1737–1744*
26. **Ghosh S.**, Zargar Z., Bose S., Thakur G., 2022. Lessons learned from the integrated multifarious study of a poorly performing yet great quality oil reservoir: An example from Assam Basin, India. ***Petroleum Science and Technology****, 40(17), 2101–2122. https://doi.org/10.1080/10916466.2022.2038202*
27. **Ghosh S.**, 2022. A review of basic well-log interpretation techniques in highly deviated wells. ***Journal of Petroleum Exploration and Production Technology****, 12 (2022), 1889–1906. https://doi.org/10.1007/s13202-*

021-01437-2

28. Aghaei H., **Ghosh S**., Behrgani K., 2020. Example of applied outcrop analysis and its significance as an analogue for surrounding giant gas-fields; case study of Kuh-e-Surmeh region, southwestern Iran; ***Ore and Energy Resource Geology***, *5, 100010*
29. Milad B., **Ghosh S**., Slatt R.M., Marfurt K.J., and Fahes, M., 2020. Practical Aspects of Upscaling Geocellular Geological Models for Reservoir Fluid Flow Simulations: A Case Study in Integrating Geology, Geophysics, and Petroleum Engineering Multiscale Data from the Hunton Group; ***Energies***, *13 (7). https://doi.org/10.3390/en13071604*
30. **Ghosh S.**, Busetti S., and Slatt R.M., 2019. Analysis and prediction of stimulated reservoir volumes through hydraulic fracturing: Examples from western Arkoma Basin; ***Journal of Petroleum Science and Engineering***, *182 (2019), 106338. https://doi.org/10.1016/j.petrol.2019.106338*
31. **Ghosh S.** and Slatt R.M.; Tectonic joint size, abundance, and connectivity: Examples from Woodford Shale and HuntonLimestone, 2019; ***Shale Shaker***, *70(3), 112-136*
32. **Ghosh S.**, Galvis-Portilla H.A., Klockow C.M., and Slatt R.M., 2018. An application of outcrop analogues to understanding theorigin and abundance of natural fractures in the Woodford Shale; ***Journal of Petroleum Science and Engineering***, *164 (2018), 623-639. https://doi.org/10.1007/s13202-021-01437-2*
33. Alrefaee H., **Ghosh S**., and Abdel-Fattah M., 2018. 3D seismic characterization of the polygonal fault systems and its impact onfluid flow migration: An example from the Northern Carnarvon Basin, Australia; ***Journal of Petroleum Science and Engineering***, *167 (2018), 120-130. https://doi.org/10.1016/j.petrol.2017.11.073*
34. **Ghosh S.**, Hooker J.N., Bontempi C.P., and Slatt R.M., 2018. High-resolution stratigraphic characterization of natural fracture attributes in the Woodford Shale, Arbuckle Wilderness and US-77D Outcrops, Murray County, Oklahoma; ***Interpretation***, *6(1), SC29-SC41. https://doi.org/10.1190/INT-2017-0056.1*
35. Milad B., **Ghosh, S.**, and Slatt R.M., 2018. Comparison of rock and natural fracture attributes in karsted and non-karsted HuntonGroup Limestone: Ada and Fittstown area, Oklahoma; ***Shale Shaker***, *69 (2), 70-86*
36. **Ghosh S.**, Milad B., Prasun S., and Ghosh S.S., 2018. Origin and Characterization of Joints in Sedimentary Rocks: A Review; ***Petroleum & Petrochemical Engineering Journal***, *2 (5), 1-12*
37. Prasun S. and **Ghosh S.**, 2018. A new analytical model of ultimate water cut for light oil reservoirs with bottom-water; ***Journalof Oil, Gas and Petrochemical Sciences***, *1 (3), 74-81*

Full Paper Conference

1. Farouk S., Sen S., **Ghosh S.**, 2025. Geomechanical evaluation of the Pliocene El Wastani clastic reservoir from a deepwater gas field, Nile Delta. ***ARMA-IGS-2025-0016***. *https://doi.org/10.56952/IGS-2025-0016*
2. Sharma P., **Ghosh S.**, Joshi N., Srivastava D.K., 2023. Natural fracture parameterization and connectivity in Rohtas Limestone, Vindhyan Basin, Central India. ***AIP Conference Proceedings***, *2855 (1), 40004*
3. **Ghosh S.**, Sharma S., Kukreti A., Das S., Saini D., Rawat A., 2023. A comparative study of potentially productive Indian shale plays. ***AIP Conference Proceedings***, *2855 (1), 40001*
4. Sen D., Chowdhury D., Mandal PP., **Ghosh S.**, 2023. An Automated Python Script-Based Platform for CCS Screening Feasibility of Subsurface Geological Formations. ***Society of Petroleum Geophysicists, India,*** *14 (2023), 1-5*
5. Sharma P., **Ghosh S.**, Tandon A., 2022. Study of CO_2 injection in a depleted oil reservoir using geomechanically coupled and non-coupled simulation models. ***Materials Today: Proceedings***, *57 (4), 1805-1512*
6. Patidar A.K., **Ghosh S.**, Thakur N.K., Sharma A, Baliyan A, 2021. A review and comparative analysis of effectively functionalized eco-friendly and biodegradable nanoparticle-based additives for drilling muds. ***Material Today: Proceedings***, *57 (4), 1598-1604*
7. Milad B., **Ghosh S.**, Suliman M., Slatt R.M., 2018. Upscaled DFN models to understand the effects of natural fracture properties on fluid flow in the Hunton Group tight Limestone; ***Unconventional Resource Technology Conference***, 1-6; College Station, TX, USA
8. **Ghosh S.**, Rai C.S., Sondergeld C.H., Larese R.E., 2014. Experimental investigation of proppant diagenesis; ***SPE/CSUR Unconventional Resource Conference***, 1-23; Calgary, AB, Canada

Oral Conference

- **Ghosh, S.**; Multiscale natural fracture dimensions in the Woodford Shale, 2017. ***AAPG Southwest SectionMeeting***; 1-18; Midland, TX, USA
- **Ghosh, S.**, Busetti, S; Prediction of hydraulic fracture damaged zone geometries in the Woodford Shale in ArkomaBasin using discrete fracture network models, 2017. ***AAPG Southwest Section Meeting***, 1-25; Midland, TX, USA

PhD Scholars Guided/Guiding

Full time:

1. ***V. Kumar*** : Guiding from 18-08-2023 (Presubmission completed) (Guide)
2. ***Z. Abdelwahed Altaher Ali Ahmed*** : (Presubmission to be completed in 2026) (Guide)
3. ***Md. A Raza***: Guiding from 01-11-2024 (Co-Guide)

Part time:

1. ***S. Sen*** : Guiding from 03-07-2024 (Guide)
2. ***D.K. Mahata*** : Guiding from 03-07-2024 (Guide)

MTech Scholars Guided/Guiding

1. ***P. Suman***: Completed (2022-2024)
2. ***B. Ram***: Completed (2023-2025)
3. ***V. Hirenkumar***: Completed (2023-2025)
4. ***Datchanamurthi:*** Completed (2024-2026)
5. ***N. Jape:*** Completed (2024-2026)
6. ***K.V. Mahesh:*** Ongoing (2025-2027)
7. ***R.* Chanam:** Ongoing (2026-2028)
8. ***P.* Vaishnav:** Ongoing (2026-2028)

Google Scholar

https://scholar.google.com/citations?user=MuLUpQoAAAAJ&hl=en&oi=ao

LinkedIn

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