


CURRICULUM VITAE

Title	DR.	First Name	MOHD SHAFI	Last Name	BHAT
Designation	Postdoctoral Fellow				Photograph
Address for Correspondance	Department of Geosciences, 2080 Beard Eaves Coliseum, Auburn University, Auburn, AL 36849, United States				
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Fathers Name	Gh. Qadir Bhat				
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Category	Open Merit				
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Qualifications	B. Sc., M.Sc., M.Tech., Ph.D.				
National Level Examinations Qualified	CSIR-UGC-NET (Lectureship), GATE (Graduate Aptitude Test in Engineering)				
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Reviewer of Journals	Palaeontology, Journal of Vertebrate Paleontology, Journal of Paleontology, Historical Biology, PlosOne, Palaeontologia Africana, Journal of Anatomy				

Research Interests

- Vertebrate palaeontology
- Bone histology of extant and extinct vertebrates
- Geometric morphometrics
- Gondwana stratigraphy
- Isotope biogeochemistry
- Archaeological fossil records

Academic Qualifications

Examination	Board/University	Subjects	CGPA/ Percentage
Ph.D	Indian Institute of Technology Kharagpur	Vertebrate Paleontology	Awarded
M. Tech.	Indian Institute of Technology Kharagpur	Earth System Science and Technology	7.64 (CGPA)
M. Sc.	Aligarh Muslim University, Aligarh, India	Applied Geology	73.08
B. Sc. (Hons.)	Aligarh Muslim University, Aligarh, India	Geology	63.06
12 th	Jammu and Kashmir Board of School Education	Physics, Chemistry, Biology, English	61.33

Professional Employment

Job-Title	University / Institution	Year
Postdoctoral Fellow	Auburn University, Auburn, Alabama, USA	January 2024 – Present
Lecturer	University of Kashmir, Srinagar, Jammu & Kashmir, India	May 2022 - December 2023
Postdoctoral Fellow	University of Cape Town, Cape Town, South Africa	October 2018 - March 2021

Thesis Completed

Degree	Title of the thesis	Date of Enrollment	Date of Award	University / Institution
Ph.D	A new assemblage of vertebrate microfossils from India: a window on Late Triassic biodiversity and palaeobiogeography	24-July-2012	20-July-2018	Indian Institute of Technology Kharagpur
M. Tech.	Seasonal and interannual sea surface temperature variation in the Andaman Sea	19-July-2010	15-Sept. 2012	Indian Institute of Technology Kharagpur
M. Sc.	Epistominids from Jurassic rocks of Kutch and their biostratigraphic significance	1-August-2007	24-July-2009	Aligarh Muslim University

Research Statement

I am interested in fossil vertebrate evolution using their morphology (taxonomy) and bone microstructure (histology) to reconstruct palaeobiology (e.g. feeding mechanism, growth regimes, lifestyle adaptations, and evolutionary trends) and palaeoecology. The reconstruction of life-history trajectories of fossil animals is difficult to determine because the relative age and ontogenetic status of fossils is hard to obtain from anatomy and/or morphometry alone. My research integrates multiple analytical tools (e.g., gross anatomy and morphology, bone microanatomy and histology, and numerical methods such as statistics) to uncover differential growth patterns of tetrapods. My future research interests are shaped by the emerging trends in bone microstructural studies. I am especially intrigued about how bone growth varies among different elements of the skeleton and how this allometry has contributed to the evolution of animal diversity and lifestyle adaptations. I am especially interested in developing my research skills further by integrating cutting-edge research techniques like micro-CT imaging or synchrotron scanning and/or biogeochemical methods (e.g. stable isotopic signatures of extinct animals and their modern analogs) that would allow three dimensional analyses of past life and help us to understand the dietary behaviors of extinct animals and their interactions with surrounding environments.

Postdoctoral Research Project (s) Completed

Title of the project	Name of Supervisor (s)	University
Growth and life history of freshwater turtles (Testudines: Cryptodira): a bone histological approach	Dr. Thomas M. Cullen	Auburn University
Bone histology of dinocephalians (Therapsida, Dinocephalia): palaeobiological and palaeoecological inferences	Prof. Anusuya Chinsamy-Turan	University of Cape Town
Life history of tortoises from archaeological or open-air sites of South Africa: implications for palaeobiology, palaeoecology, and palaeobiogeography	Prof. Anusuya Chinsamy-Turan & Prof. John Parkington	University of Cape Town

Achievements and Awards

- **Awarded postdoctoral fellowship** for two years by Department of Geosciences, College of Sciences and Mathematics, Auburn University, Auburn, Alabama, United States.
- **Awarded postdoctoral fellowship** for two years and six months by DST–NRF, Centre of Excellence in Palaeosciences (Genus), University of the Witwatersrand, Johannesburg, South Africa.
- **Teaching assistantship** from Indian Institute of Technology Kharagpur, Kharagpur, India from July–2017 to January–2018.
- **Awarded full financial assistantship** by Indian Institute of Technology Kharagpur to attend conference on the topic “Multivariate analyses reveal a new assemblage of diverse and small archosauriforms (Reptilia, Diapsida) from the Upper Triassic of India” in the *European Geosciences Union General Assembly* from 23rd–28th April 2017 held in Vienna (Austria) under order reference number “**MS/B–1(177)/2014/2715 dated 09/06/2014**” issued on 17/03/2017.
- **Best Poster Presentation** “First record of small archosauriform teeth from the Late Triassic Tiki Formation of India and its implications on radiation of early dinosaurs”. *Research Scholar’s Day*, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, Karagpur, India, March 2016.
- **Institute Research Fellowship** from Ministry of Human Resorce and Development at Indian Institute of Technology Kharagpur for 5 years (July/2012–July/2017).
- **All India Rank 62 in Joint CSIR–UGC Test** for Junior Research Fellowship and Eligibility for lectureship (NET) Dec. 2010.
- **All India Rank 152** in Geology, Graduate Aptitude Test in Engineering (GATE) 2010.
- Awarded **University Merit Scholarship** based on competitive exam for a period of 2 Years from **2007–2009** by Aligarh Muslim University, Aligarh.

Teaching Experience

- 10th May 2022 – 30th December 2023: Teaching of the following courses at the Department of Earth Sciences, University of Kashmir, Srinagar, J&K, India (Postgraduate/Masters level).
 - Palaeontology (**GL20102-CR**)
 - Palaeontology Lab (**GL20102-CR**)
 - Life Through Time (**GL20210–Open Elective**)
 - Igneous Petrology (**GL20201–CR**)
 - Igneous Petrology Lab (**GLP20201–CR**)
 - Stratigraphy (**GL20304-CR**)
 - Exploration and Mining Geology (**GL20401-CR**)
- 4th April 2022–9th May 2022: Teaching of the following courses at the Degree College Sopore, University of Kashmir (Undergraguate level).
 - Sedimentary and Economic Geology (**Sub. No. GL320C–Geology**)
 - Sedimentary Geology and Ore Study Lab (**Sub. No. GL320C–Practical**)

- 2013–2016: Teaching Assistant of the following courses at the Department of Geology and Geophysics, Indian Institute of Technology Kharagpur
 - Palaeontology Lab (**Sub. No. GG29003**)
 - Applied Palaeontology Lab (**Sub. No. GG49012**)
 - Micropalaeontology Lab (**Sub. No. GG59010**)

Participation in Meeting's Organization

- Member of the organizing committee of the 6th *International Symposium on Palaeohistology* (Pune, India). Organizers: Deccan College Postgraduate and Research Institute, Deemed University, Pune between 22nd March–24th March 2022.
- Member of the organizing and scientific committee of the 5th International Symposium on Palaeohistology (Cape Town, South Africa). Organizers: Palaeobiology Research Group, University of Cape Town between 31 July–4th August 2019.

Additional Training Undertaken

- Geological Fieldwork at Jodhpur and Chittorgarh (Rajasthan), and adjoining area to study Aravalli, Delhi and Vindhyan Supergroups (March - April 2023).
- Introduction to Geometric Morphometrics. February 4th – 6th, 2019. University of Cape Town. Teacher: Jesus Marugán Lobón (Universidad Autónoma de Madrid).
- Fieldwork for systematic sampling, collection and excavation of vertebrate fossils from the Gondwana sediments of the Rewa Gondwana Basin, a sub-basin of the Son-Mahanadi basin, Madhya Pradesh, 2012–2017.
- Course work on English for Technical Writing from Indian Institute of Technology Kharagpur in 2012.
- Geological Fieldwork at Dehradun (Uttarakhand) and its adjoining area to study different stratigraphic successions of Lower, Middle and Upper Siwaliks. The sedimentary, tectonic and structural features and different types of contacts and boundary faults were studied in detail.
- Geological Fieldwork at Udaipur (Rajasthan), and adjoining area to study Aravalli, Delhi and Vindhyan Supergroups.
- Mine visits at Zawar Mala Underground Mines and Jhamarkotra open cast mines, Rajasthan to study the various types of mining processes.

Extra-Curricular Activities

- **Second Senate Member** (SSM) for *Madan Mohan Malaviya Hall of Residence*, Indian Institute of Technology Kharagpur, 2012–2014.
- **President.** *Earth Science Study Circle*, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, 2012–2013.
- **Winner**, Inter Block Cricket tournament for DSK Block of Madan Mohan Malaviya Hall of Residence, Indian Institute of Technology Kharagpur, 2011–2012.

- **Runner up** at Inter Hall Cricket for Madan Mohan Malaviya Hall of Residence, Indian Institute of Technology Kharagpur, 2011–2012.
- **District level U-19 Cricket for Boys Higher Secondary, Sopore**, held at Degree College Baramulla (Boys) from 02/11/2002 to 07/11/2002 organized by Youth Services and Sports, Government of Jammu and Kashmir.
- **U-19 Cricket** from Boys Higher Secondary, Sopore, held at H. S. S. Sopore (Boys) from 09/08/2002 to 13/08/2002 organized by Youth Services and Sports, Government of Jammu and Kashmir.

Publications ([Citations](#) – 212)

Published Papers

17. **Bhat, M.S.**, & Cullen, T.M. 2024. Growth and life history of freshwater chelydrid turtles (Testudines: Cryptodira): A bone histological approach. *Journal of Anatomy* 00, 1–24. <https://doi.org/10.1111/joa.14130> (Category Quartile: **Q2**-Anatomy and Morphology; **Impact Factor 1.8**; Wiley-Blackwell Publishing Ltd for Anatomical Society. ISSN: 1469-7580).
16. **Bhat, M.S.**, Datta, D., Ray, S., & Datta, P.M. 2023. A new clevosaurid (Lepidosauria: Rhynchocephalia) from the Upper Triassic of India. *Journal of Vertebrate Paleontology* <https://doi.org/10.1080/02724634.2023.2232833> (Category Quartile: **Q2**-Palaeontology; **Impact Factor 1.6**; Taylor & Francis for the Society of Vertebrate Paleontology. ISSN: 1937-2809).
15. **Bhat, M.S.**, Chinsamy, A., & Parkington, J. 2023. Bone histology of Neogene angulate tortoises (Testudines: Testudinidae) from South Africa: palaeobiological and skeletochronological implications. *Royal Society Open Science* 10: 230064. <https://doi.org/10.1098/rsos.230064> (Category Quartile: **Q1**-Multidisciplinary; **Impact Factor 2.9**; The Royal Society, United Kingdom. ISSN: 2054-5703).
14. **Bhat, M.S.**, Shelton, C.D., & Chinsamy, A. 2022. Bone histology of dinocephalians (Therapsida, Dinocephalia): palaeobiological and palaeoecological inferences. *Papers in Palaeontology* 8: e1411. <https://doi.org/10.1002/spp2.1411> (Category Quartile: **Q1**-Palaeontology; **Impact Factor 2.3**; The Palaeontological Association, Wiley-Blackwell, United Kingdom. ISSN: 2056–2802).
13. **Bhat, M.S.**, Shelton, C.D., & Chinsamy, A. 2021. Bone histology of the graviportal dinocephalian therapsid *Jonkeria* from the Middle Permian *Tapinocephalus* Assemblage Zone of the Karoo Basin of South Africa. *Acta Palaeontologica Polonica* 66 (4): 705–721. <https://doi.org/10.4202/app.00872.2021> (Category Quartile: **Q2**-Palaeontology; **Impact Factor 1.8**; Institute of Paleobiology, Polish Academy of Sciences. ISSN: 1732–2421).
12. **Bhat, M.S.**, Shelton, C.D., & Chinsamy, A. 2021. Inter-element variation in the bone histology of *Anteosaurus* (Dinocephalia, Anteosauridae) from the *Tapinocephalus* Assemblage Zone of the Karoo Basin of South Africa. *PeerJ* 9:e12082. <https://doi.org/10.7717/peerj.12082> (Category Quartile: **Q2**-Multidisciplinary Sciences; **Impact Factor 2.3**; O'Reilly and SAGE. ISSN: 2167–8359).
11. **Bhat, M.S.**, Chinsamy, A., & Parkington, J. 2021. Histological investigation of burnt bones: a case study of angulate tortoises from the archaeological site, Diepkloof Rock Shelter, Western Cape, South Africa. *International Journal of Osteoarchaeology* 31 (5): 742–757. <https://doi.org/10.1002/oa.2986> (Category Quartile: **Q2**-Anthropology; **Impact Factor 1.1**; John Wiley & Sons Ltd. ISSN: 1099–1212).

10. **Bhat, M.S.,** Ray, S., & Datta, P.M. 2021. New cynodonts (Therapsida, Eucynodontia) from the Late Triassic of India and their significances. *Journal of Paleontology* 95 (2): 376–393. <https://doi.org/10.1017/jpa.2020.95> (Category Quartile: Q3-Palaeontology; Impact Factor 1.3; The Paleontological Society, United States of America. ISSN: 0022–3360).
9. Ray, S., **Bhat, M.S.,** & Datta, P.M. 2021. First record of varied archosauriforms from the Upper Triassic of India based on isolated teeth, and their biostratigraphic implications. *Historical Biology* 33 (2): 237–253. <https://doi.org/10.1080/08912963.2019.1609957> (Category Quartile: Q3-Palaeontology; Impact Factor 1.4; Taylor & Francis Group. ISSN: 1029–2381).
8. **Bhat, M.S.,** & Ray, S. 2020. A record of new lungfishes (Osteichthyes: Dipnoi) from the Carnian (Upper Triassic) of India. *Historical Biology* 32 (3): 428–437. <https://doi.org/10.1080/08912963.2018.1499020> (Category Quartile: Q3-Palaeontology; Impact Factor 1.4; Taylor & Francis Group. ISSN: 1029–2381).
7. **Bhat, M.S.,** Chinsamy, A., & Parkington, J. 2019. Long bone histology of *Chersina angulata*: Interelement variation and life history data. *Journal of Morphology* 280 (12): 1881–1899. <https://doi.org/10.1002/jmor.21073> (Category Quartile: Q2-Anatomy and Morphology; Impact Factor 1.5; Wiley Periodicals, Inc. ISSN: 1097–4687).
6. Rakshit, N., **Bhat, M.S.,** Mukherjee, D., & Ray, S. 2019. First record of Mesozoic scroll coprolites: classification, characteristics, elemental composition and probable producers. *Palaeontology* 62 (3): 451–471. <https://doi.org/10.1111/pala.12409> (Category Quartile: Q1-Palaeontology; Impact Factor 2.5; The Palaeontological Association; Wiley-Blackwell UK. ISSN: 1475–4983).
5. **Bhat, M.S.,** Ray, S., & Datta, P.M. 2018. A new assemblage of freshwater sharks (Chondrichthyes: Elasmobranchii) from the Upper Triassic of India. *Geobios* 51 (4): 269–283. <https://doi.org/10.1016/j.geobios.2018.06.004> (Category Quartile: Q2-Palaeontology; Impact Factor; 1.6; Elsevier, Netherlands. ISSN: 0016–6995).
4. Rakshit, N., **Bhat, M.S.,** Ray, S., & Datta, P.M. 2018. First report of dinosaurian claws from the Late Triassic of India. *Palaeoworld* 27 (2): 179–187. <https://doi.org/10.1016/j.palwor.2018.01.001> (Category Quartile: Q2-Palaeontology; Impact Factor 1.7; Elsevier, Nanjing Institute of Geology and Palaeontology, China. ISSN: 1875–5887).
3. **Bhat, M.S.,** Ray, S., & Datta, P.M. 2018. A new hybodont shark (Chondrichthyes, Elasmobranchii) from the Upper Triassic Tiki Formation of India with remarks on its dental histology and biostratigraphy. *Journal of Paleontology* 92 (2): 221–239. <https://doi.org/10.1017/jpa.2017.63> (Category Quartile: Q3-Palaeontology; Impact Factor 1.2; The Paleontological Society, United States of America. ISSN: 0022–3360).
2. **Bhat, M.S.** 2017. Techniques for systematic collection and processing of vertebrate microfossils from their host mudrocks: a case study from the Upper Triassic Tiki Formation of India. *Journal of the Geological Society of India* 89 (4): 369–374. <https://doi.org/10.1007/s12594-017-0617-8> (Category Quartile: Q3-Geosciences, Multidisciplinary; Impact Factor 1.2; Springer, Switzerland. ISSN: 0974–6889).
1. Ray, S. **Bhat, M.S.,** Mukherjee, D., & Datta, P.M. 2016. Vertebrate fauna from the Late Triassic Tiki Formation of India: new finds and their biostratigraphic implications. *Journal of Palaeosciences (previously published as The Palaeobotanist)* 65 (1): 47–59.

Conferences Abstracts

9. **Bhat M.S.**, & Cullen, T.M. 2024. Bone histology and life history of freshwater turtles (Testudines: Cryptodira). *Society of Vertebrate Palaeontology 84th Annual Meeting*, October 30 – November 2, 2024, Minneapolis, Minnesota, USA, p. 00–00.
8. **Bhat, M.S.**, Shelton, C.D., & Chinsamy, A. 2022. Bone histology provides fresh insights into the biology of basal therapsids. 6th *International Symposium on Palaeohistology* 22nd March – 24th March 2022, Pune, India, p. 20.
7. **Bhat M.S.**, Chinsamy, A., & Parkington, J. 2020. Bone histology and life history of fossilised angulate tortoises (Testudines: Testudinidae) from South Africa. *Society of Vertebrate Palaeontology 81st Annual Meeting*, November 1–5, 2021, p. 58–59.
6. **Bhat M.S.**, Chinsamy, A., & Parkington, J. 2020. Effect of fire on the bone histology of tortoise bones from a 45-65 ka old archaeological site from South Africa. *TaphCon*, virtual meeting between 19th November – 20th November 2020. Abstract Volume, p. 21.
5. **Bhat M.S.**, Chinsamy, A., & Parkington, J. 2019. Limb bone histology of *Chersina angulata* from South Africa: comments on inter-element variation and life history strategy of the species. 5th *International Symposium on Palaeohistology* 31 July – 4th August 2019, Cape Town, South Africa, p 25.
4. **Bhat, M.S.**, Ray, S., & Datta, P.M. 2017. Multivariate analyses reveal a new assemblage of diverse and small archosauriforms (Reptilia, Diapsida) from the Upper Triassic of India: 19th *EGU General Assembly*, EGU2017, proceedings from the conference held 23–28 April 2017 in Vienna, Austria., p.18516.
3. **Bhat, M.S.** 2016. First record of small archosauriform teeth from the Late Triassic Tiki Formation of India and its implications on radiation of early dinosaurs. *Research Scholar's Day*, Department of Geology and Geophysics, IIT Kharagpur, March 2016., p. 21.
2. **Bhat, M.S.**, Ray, S., & Datta, P.M. 2015. Small archosauriform teeth from the Late Triassic of India: implications on early radiation of the dinosaurs. *XXV Indian Colloquium on Micropaleontology and Stratigraphy*, Aurangabad, India, Abstract Volume, p. 70–71.
1. **Bhat, M.S.** 2015. A new and diverse Late Triassic fish assemblage from India. *International Conference on Current Perspectives and Emerging Issues in Gondwana Evolution* at Lucknow, India, February 2015, p. 22.

References

- (1) **Current Post-Doctoral Supervisor: Dr. Thomas Cullen**, Assistant Professor, Department of Geosciences, 2055 Beard Eaves Coliseum, Auburn University, Auburn, AL 36849, United States (Email: tmc0093@auburn.edu). Ph: +1 (334) 844-4934.
- (2) **Former Post-Doctoral Supervisor: Prof. Anusuya Chinsamy-Turan**, Professor, Department of Biological Sciences, University of Cape Town, Cape Town 7701, South Africa (Email: anusuya.chinsamy-turan@uct.ac.za). Ph: +27 (0) 216503604.

- (3) **Former Post-Doctoral Co-supervisor: Prof. John Parkington**, Professor, Department of Archaeology, University of Cape Town, Private Bag X3, Rondebosch 7701, South Africa (Email: john.parkington@uct.ac.za). Ph: +27 (0) 21 650 4662.
- (4) **Ph.D. Supervisor: Prof. Sanghamitra Ray**, Professor, Department of Geology and Geophysics, Indian Institute of Technology Kharagpur, Kharagpur 721302 India (Email: sray@gg.iitkgp.ernet.in). Ph: +91 3222-283394.

Declaration

I hereby declare that the details furnished above are true to the best of my knowledge and belief. I will be responsible for all the information provided and bear the responsibility for the correctness.



Mohd Shafi Bhat