



## Goa University


### School of Biological Sciences and Biotechnology


#### Report of Invited Lecture on “When shells tell stories: Where Zoology meets Geology”

|   |   |
|---|---|
| <b>1. Title of the Event/Activity/program</b>                 | Invited Lecture on “When shells tell stories: Where Zoology meets Geology”  |
| <b>2. Date and Time</b>                                       | 13 <sup>th</sup> October 2025   |
| <b>3. Mode of conduct (Physical/Online)</b>                   | Physical  |
| <b>4. School/ Directorate/ Section</b>                        | School of Biological Sciences and Biotechnology, Zoology  |
| <b>5. Collaborating Agency/School/Directorate</b>             | —   |
| <b>6. Detail of the Resource Person (Brief biodata)</b>       | Ms. Tanya is currently a third-year PhD student at the Institute of Geological Sciences, Jagiellonian University, Krakow, Poland under the guidance of PhD supervisor- dr. Hab. Mariusz Kędzierski. Her research is focused on bivalve sclerochronology and sclerochemistry to reconstruct past environments, particularly within mangrove forest ecosystems, as a means to track anthropogenic influences on sensitive blue carbon environments. |
| <b>7. Number of Faculty attended/participated</b>             | 6 faculty   |
| <b>8. Number of Student attended / participated</b>           | 45 students of M.Sc. Zoology (Part I and Part II)   |
| <b>9. No. of external students/faculty/other participants</b> | --  |
| <b>10. The objectives of the Program/activity/event</b>       | The objective of the lecture was to expose students to the interdisciplinary nature of modern science, demonstrating how principles of biology,   |

|   |  |
|---|--|
|   | geology, and climate studies can come together to understand long-term environmental processes.  |
| <b>11. Description of the Program/activity/event</b>          | <p>A guest talk on “Sclerochronology: Assessing Seasonality and Climate Change through Shells of Bivalves” was organized in Zoology discipline, School of Biological Sciences and Biotechnology. The session was delivered by Ms. Tanya, a Research Scholar, who offered an engaging insight into how bivalve shells can serve as natural records of environmental change.</p> <p>Ms. Tanya began by emphasizing the importance of mangrove ecosystems, highlighting their crucial roles in carbon sequestration, preventing coastal erosion, and supporting diverse marine life. She explained that the loss of mangroves contributes to increased carbon emissions, global warming, biodiversity loss, and economic challenges for coastal communities. Major drivers of this decline include deforestation, land conversion, pollution, overexploitation, and climate change.</p> <p>Transitioning to her research, Ms. Tanya explained why bivalves serve as excellent indicators of environmental variation. Their shells grow in periodic bands or increments that act as natural “shell calendars,” with growth lines forming during resting phases. These bands can record environmental changes on annual, seasonal, or even hourly scales, often more distinctly than in other mollusks.</p> <p>She also discussed her research methods, which involve cross-sectioning bivalve shells to examine alternating white and dark growth bands. These patterns provide valuable information about the age of the bivalve and the environmental conditions it experienced. Ms. Tanya’s ongoing research focuses on species of the genus <i>Meretrix</i>, which she uses to reconstruct past climate patterns and seasonal variations.</p> <p>The session concluded with an interactive discussion on how sclerochronology bridges biology and climate science, offering valuable insights into long-term environmental change.</p> |
| <b>12. Benefit/Key outcomes of the Program/activity/event</b> | Attending the talk on “Sclerochronology: Assessing Seasonality and Climate Change through Shells of Bivalves” provided participants with a unique opportunity to understand how biological structures like bivalve shells can serve  |

|                            |  |
|----------------------------|--|
|                            | <p>as valuable archives of past environmental conditions. The session helped students appreciate the interdisciplinary connections between zoology, geology, and climate science, illustrating how these fields collectively contribute to the study of long-term ecological and climatic trends. Moreover, the talk enhanced awareness of advanced analytical approaches used in environmental research, encouraging students to think critically about how natural materials can be used to reconstruct seasonal variations, oceanographic changes, and climate patterns. Such exposure fosters scientific curiosity, broadens career perspectives, and builds a foundation for future research in marine ecology, paleoclimatology, and environmental monitoring.</p> |
| 13. Enclosures with report | Geo-tagged photos and attendance attached.   |

Signature:   
Name of coordinator: Dr. Preeti Pereira  
Designation: Assistant Professor  
Date: 28/10/25

PD (Zoology)   
Signature  
Dean/Director/Head  
Seal of the School/Directorate/University  
Dean of School of Biological Sciences  
& Biotechnology  
Goa University, Goa - 403206

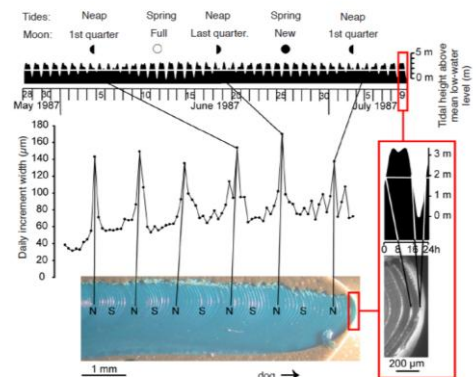


## Sclerochronology

The marine life equivalent of dendochronology



=









Activity: Invited Lecture on Sclerochronology

Date: 13/10/2025

| Sr. No. | Name                  | Discipline/School | Signature   |
|---------|-----------------------|-------------------|-------------|
| 1       | Samana Sapre          | Zoology           | Sapre       |
| 2       | Rhea Martins          | Zoology           | Martins     |
| 3       | Anisha De Souza       | Zoology           | De Souza    |
| 4       | Velika Desai          | Zoology           | Desai       |
| 5       | Tabassum Bepari       | Zoology           | Bepari      |
| 6       | Sidoni Paingankar     | Zoology           | Paingankar  |
| 7       | Sanjona Nath          | Zoology           | Nath        |
| 8       | Shefali Vaigankar     | Zoology           | Vaigankar   |
| 9       | Himanshu Kerkar       | Zoology           | Kerkar      |
| 10      | Shradha Pethker       | Zoology           | Pethker     |
| 11      | Harshad Vaigankar     | Zoology           | Vaigankar   |
| 12      | Sakshi Sharma         | Zoology           | Sharma      |
| 13      | Vaishnavi Bharti      | Zoology           | Bharti      |
| 14      | Pratishtha Say        | Zoology           | Say         |
| 15      | Viraj Vaigankar       | Zoology           | Vaigankar   |
| 16      | Shruya Khoryurekar    | Zoology           | Khoryurekar |
| 17      | Sakshi Sharma         | Zoology           | Sharma      |
| 18      | Samita Rebelo         | Zoology           | Rebelo      |
| 19      | Ambish C. Gaonkar     | Zoology           | Gaonkar     |
| 20      | Princia Castanha      | Zoology           | Castanha    |
| 21      | Shubby Fernandes      | Zoology           | Fernandes   |
| 22      | Juelia Vienna Pereira | Zoology           | Pereira     |
| 23      | Aakash Ashok Patil    | Zoology           | Patil       |
| 24      | Aparna A. Mandalekar  | Zoology           | Mandalekar  |
| 25      | Astrid Vienna Dias    | Zoology           | Dias        |
| 26      | Pooja Gawade          | Zoology           | Gawade      |
| 27      | Shadhi Chari          | Zoology           | Chari       |
| 28      | Manali Punalekar      | Zoology           | Punalekar   |
| 29      | Anshul Sinari         | Zoology           | Sinari      |
| 30      | Amruth Naik           | Zoology           | Naik        |
| 31      | Om Kurparkar          | Zoology           | Kurparkar   |
| 32      | Mamnat Seth           | Zoology           | Seth        |
| 33      | Jessica Furtado       | Zoology           | Furtado     |
| 34      | Deepasha Naik         | Zoology           | Naik        |
| 35      | Drisha Fernandes      | Zoology           | Fernandes   |
| 36      | Veena Narsule         | Zoology           | Narsule     |
| 37      | Khushi Sadekar        | Zoology           | Sadekar     |
| 38      | Shrawani Satandekar   | Zoology           | Satandekar  |
| 39      | Atharva A. Naik       | Zoology           | Naik        |



Activity: Limited lecture on Schizophrenia

Date: 13/10/2025

[illegible]