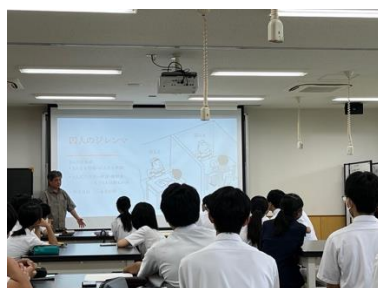


## Kyuyo SSH Activity Record 2023 (October)

### Advanced Science Training (Mathematics) (October 4, 2023, Wednesday)

On October 4th, we had the honor of hosting Associate Professor Yasukazu Yamashiro from the Faculty of Education at the University of the Ryukyus as a guest lecturer. He conducted a special lecture on mathematics. During this session, he introduced algebraic methods for analyzing the Rubik's Cube and game theory to learn strategic thinking. Particularly in the section on game theory, students actively engaged in learning through a practical example of the "Prisoner's Dilemma," gaining hands-on experience with mathematical principles. Through this practical approach, students understood how mathematical theories are applied in everyday life and decision-making, deepening their interest in mathematics.



### SS Science and Mathematics Exploration II / International Exploration II Midterm Presentation Event (October 5, 2023, Thursday)

On October 5th, the Science and Mathematics Department's "SS Science and Mathematics Exploration II" and the International English Department's "International Exploration" jointly conducted a midterm presentation event. Starting this academic year, both departments combined their efforts, resulting in a dynamic presentation where various research topics, regardless of their field, were presented. The event generated enthusiastic discussions and questions from diverse perspectives. First-year high school students also participated in the presentation, providing them with insights for selecting their own research areas.



**Science and Mathematics / International Exploration II Coordinators Meeting (October 10, 2023, Tuesday)**

On October 10th, a joint coordinators' meeting for Science and Mathematics / International Exploration II was held. The meeting involved a review of the preparations and operations for the upcoming presentation event. After the event, coordinators exchanged information on the post-presentation guidance they would provide. Additionally, there was a lecture from the SSH Research and Development Department to coordinators on "Guidance for Scientific Inquiry."

<p><b>発表会の振り返り (10分)</b></p> <p>1. SSHでの振り返りシート (事前準備)</p> <p>発表したところ          1. 発表が通順の順路に沿って進められたか？          2. 発表の目的が達成されたか？</p> <p>質疑応答のところ          ①質疑の項目に答えること          ・発表の目的が達成し、通順だった良かったか？ (質疑の次の通達で)          ・生活の場や工作の場などから、(質問を誘っている)          ・ボスターの質疑は毎日行なった          ・質問の場を設けたこと、質問に回答できなかった</p> <p>②質疑の場を設けること          ・質問したいというグループがやり取りし合っている？ 質問がある？          ・1. 自身の質問、希望したい、生活の場や工作の場から質問する          ・2. 質疑をしながら進めながら進める(1. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. </p>
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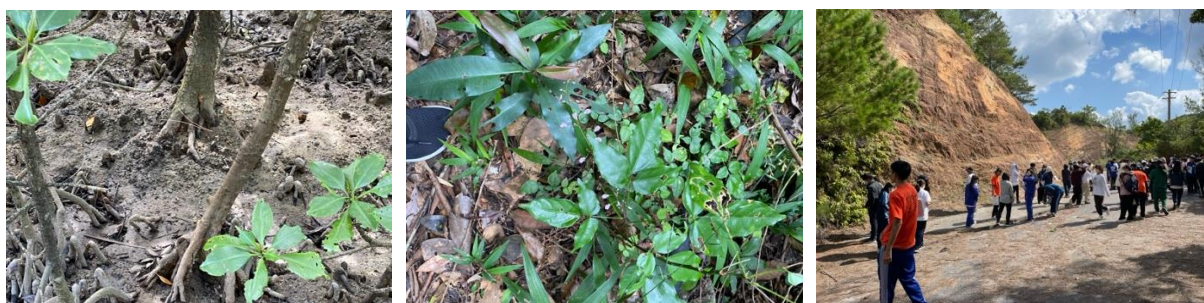
## Advanced Science Training (Chemistry) (October 11, 2023, Wednesday)

On October 11th, we had the privilege of hosting Professor Toshiaki Teruya from the Faculty of Education at the University of the Ryukyus. He delivered a lecture on the field of chemistry, focusing on the benefits of Nobiletin, a component of Shikwasa (a type of citrus fruit). During the lecture, a student expressed their thoughts, stating, "In solving one problem, you often run into the wall of another problem, so it's necessary to consider things from various perspectives." This feedback reflects the student's understanding of the complexity of research and the need to approach it from multiple angles.



### **Science Outdoor Field Trip (October 13, 2023, Friday)**

On October 13th, all first-year classes from the Science and Mathematics Department and the International English Department participated in an outdoor field trip. At Mount Nago, students observed distinctive vegetation in the northern region of Okinawa Island. At the lateral folds of the Kaya Formation, they were awestruck by the impressive folding of sand-mud interbeds. In the mangrove forest of Kesashi, students observed plant communities, including Hirugi, and explored the fish species inhabiting these communities. This experience deepened their understanding of the flora and fauna from brackish water to terrestrial ecosystems.



### **Advanced Science Training (Information Science) (October 16, 2023, Monday)**

On October 16th, we had the honor of hosting Professor Takeo Okazaki from the Faculty of Engineering at the University of the Ryukyus. He delivered a lecture on "Data Science." The lecture covered the basics of what data science is, explaining in detail how to analyze actual data. Professor Okazaki introduced real data and meticulously clarified the process of data analysis. Furthermore, during the explanation of the meaning of the mathematical formulas used in statistics, both students and teachers were visibly engrossed in the lecture.



### **Science and Mathematics / International Exploration I Coordinators Meeting (October 17, 2023, Tuesday)**

On October 17th, a joint coordinators' meeting for Science and Mathematics / International Exploration I was conducted. Coordinators reflected on the content of each round, the materials used, and the preparations and operations. They discussed improvements for the next academic year. Additionally, there were explanations about the categorization of fields scheduled for November and discussions on how to guide students in considering themes after the fields are divided.

## Interdisciplinary Class in Collaboration with OIST (Physics and English) (October 19, 2023, Thursday)

On October 19th, we conducted interdisciplinary classes in collaboration with the Okinawa Institute of Science and Technology Graduate University (OIST). In the physics class, OIST doctoral students conducted experiments and lectures on thermodynamics in English. In the English class, as a pre-learning activity for the physics class, students learned specialized terms in the field of thermodynamics. In a post-learning session, they discussed how to apply the theories and techniques learned in the physics class to society in English.



## Advanced Science Training (Biology) (October 19, 2023, Thursday)

On October 19th, we had the pleasure of welcoming Professor Ayaka Agarie from the Okinawa Regional Collaboration Promotion Organization at the University of the Ryukyus. She gave a lecture on "Research on the Male-Biased Sex Ratio in the Sugi-Oshiro Ant and its Causes." Additionally, she discussed the career formation of women in the STEM fields, and many female students participated in the lecture with keen interest.



## The Second SSH Operational Guidance Committee Meeting (October 20, 2023, Thursday)

On October 20th, the second SSH Operational Guidance Committee meeting was held. The committee provided advice on designing project evaluations, considering strengthened collaboration with the University of the Ryukyus and curriculum rubrics in the context of the third phase planning, especially in scenes like staff training.

<Agenda>

- ① Explanation of the School's Initiatives
- ② Progress of the Third-Phase Application
- ③ Review of the Midterm Presentation Event, etc.

