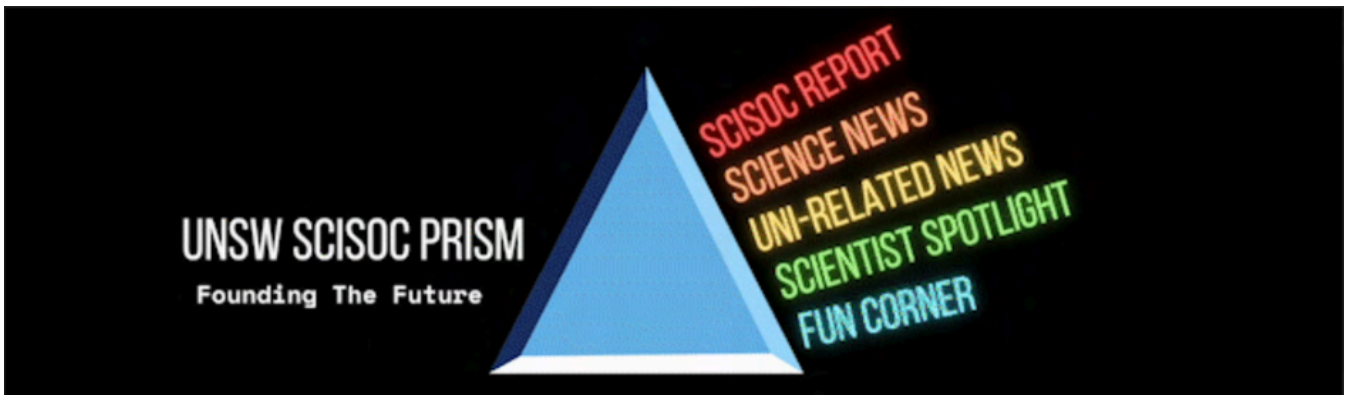
SCISOC

UNSW

TOMORROW'S FUTURE SCIENTISTS



WELCOME TO OUR

Monthly Newsletter

As we move into June, SCISOC would like to wish all students the very best as the semester begins to reach its midpoint. With final assessments, projects, and exams just around the corner

What better way to take a well-earned break than by diving into SCISOC's very own newsletter... PRISM!

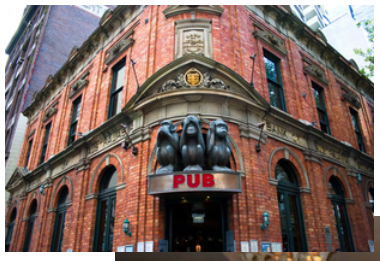
This month's edition showcases the fantastic work of our Publications Subcommittee, bringing you the latest updates from across SCISOC. You'll also find fascinating developments from the world of science, as well as useful university tips and resources to help you finish the semester strong.

Happy reading, and best of luck with your studies!



ALL IN AFTER DARK PUBCRAWL

On Friday 12 June, 7PM till late, SciSoc took over Sydney nightlife for one of the biggest social events of the term — the annual Pub Crawl: “All In After Dark.”
Inspired by Casino Royale, attendees arrived dressed in red, black, and gold, fully committing to the theme and setting the tone for a night of high stakes, high energy, and even higher chaos.





THE LINE UPPPPP

Three Wise Monkeys

The night began at Three Wise Monkeys, where groups assembled, wristbands went on, and the first round of introductions broke the ice. The atmosphere quickly shifted from quiet anticipation to full pub crawl energy as the night officially kicked off.



Sanctuary Hotel

Sanctuary Hotel marked the mid-crawl peak, with strong drinks and even stronger competition:

- $13 Long Island Iced Teas
- $3 pool tables

Between pool games, group photos, and constant movement between tables, this stop delivered peak social energy.





Scary Canary

The final stop turned the night into a full-scale dance floor takeover:

- Free entry
- Shot specials
- $8 drinks
- Live DJ set

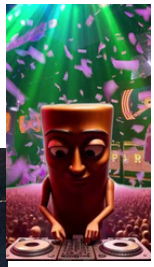


With the DJ keeping the energy high, Scary Canary delivered a packed dance floor and a finale that kept people there well into the early hours.

Afterparty — WAO Superclub

For those still standing, the night didn't end there. The SciSoc crowd continued on to WAO Superclub, where the energy carried well into the early hours. What started as a structured pub crawl turned into a full-night takeover, with the dance floor staying busy long after the official stops ended.







Thank You

A huge thank you to everyone who attended and made the night such a success. Special appreciation goes to the SciSoc socials team for organising venues, coordinating logistics, and keeping everything running smoothly from start to finish.

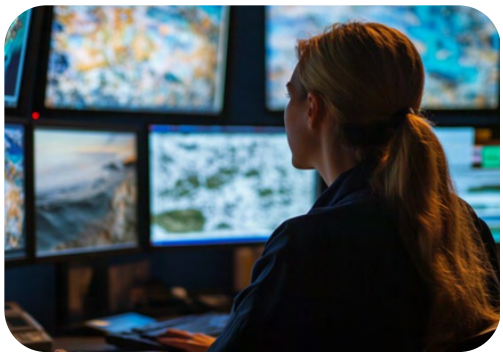


The Next Generation of Weather Forecasting

How AI is chaninging the way we predict storms

How Does AI Predict Weather?

Traditional weather forecasting relies on complex physics-based computer models that require powerful supercomputers. AI models learn from decades of satellite images, radar observations, and historical weather records to recognize patterns.



- **Pattern Recognition**: AI compares current atmospheric conditions with millions of past weather events to predict future changes.
- **Faster Predictions**: AI-generated forecasts can be produced in minutes instead of hours.
- **Improved Accuracy**: Researchers found that AI performs especially well in forecasting heavy rainfall, hurricanes, and heat waves.

The Benefits

- **Earlier Warnings**: More accurate forecasts give people additional time to prepare for floods, storms, and hurricanes.
- **Disaster Management**: Governments can plan evacuations and emergency responses more effectively.
- **Agriculture**: Farmers receive better rainfall predictions, helping them manage irrigation and crop protection.



The Challenges

Although AI is improving weather forecasting, scientists emphasize that it still has limitations.

1. **Data Quality**: AI depends on high-quality weather observations from satellites and monitoring stations.
2. **Extreme Events**: Rare weather phenomena may not appear often enough in training data, making them harder to predict.
3. **Human Oversight**: Meteorologists are still essential for interpreting AI forecasts and communicating risks to the public.

The growing use of AI in weather forecasting shows how computer science, mathematics, and atmospheric science work together to solve real-world problems. While AI cannot replace meteorologists, it serves as a powerful tool that helps protect lives, reduce disaster impacts, and improve our understanding of Earth's changing climate



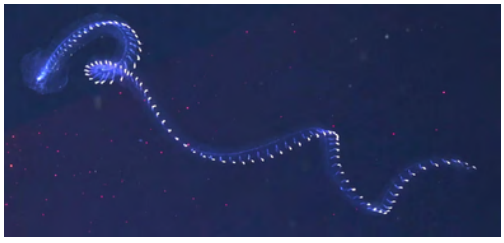
Uncovering New Species in the Deep Ocean

How scientists discovered 31 previously unknown marine animals in just two weeks

Scientists recently completed a deep-sea expedition off the coast of Brazil and discovered 31 new marine species in one of the least explored parts of Earth's oceans. The mission demonstrates how much of our planet's biodiversity remains unknown and highlights the importance of ocean research.







Why Explore the Deep Sea?

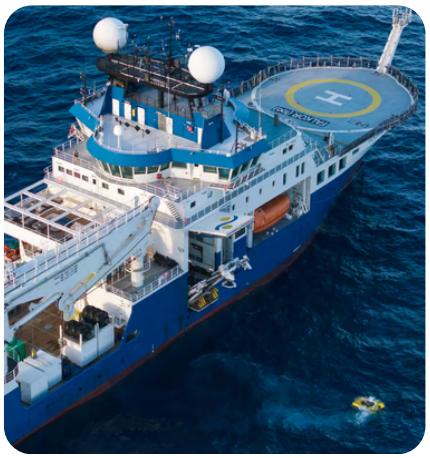
The deep ocean is Earth's largest habitat, yet scientists have explored only a small fraction of it.

- **New Species**: Researchers identified previously unknown jellyfish, comb jellies, amphipods, worms, and other microscopic organisms that have never been documented before.
- **Advanced Technology**: Scientists used a high-resolution 3D microscope aboard the research vessel to examine living organisms almost immediately after collection.
- **Biodiversity**: Every new species helps scientists understand how marine ecosystems function and how life has adapted to extreme ocean environments.

Why Is the Deep Ocean Hard to Study?

Although the discoveries are exciting, exploring the deep sea presents several challenges.

1. **Extreme Pressure**: Water pressure thousands of meters below the surface can crush ordinary equipment.
2. **Darkness**: No sunlight reaches these depths, so researchers rely on specialized cameras and lights.
3. **Remote Locations**: Research expeditions require advanced ships, robotic vehicles, and international collaboration, making them expensive and time-consuming.



The Student Takeaway: Why It Matters

Learning about these organisms improves our understanding of biodiversity, climate processes, and the health of our oceans. It also shows how modern technology allows researchers to explore environments that were once impossible to study.



Decoding the Peptide craze:

Separating biochemical signaling from marketing hype

The term **"peptide"** is currently undergoing a massive rebranding. Once confined to the pages of organic chemistry and endocrinology textbooks, these amino acid chains are now the center of a "wild west" wellness industry. A recent deep dive by *Scientific American* explores why these molecules are so promising, yet so poorly understood by the public.



The Biochemistry: Why Peptides?

Peptides are the body's natural messengers. Unlike full proteins, which have complex 3D folding patterns, peptides are short, flexible, and highly specific in their binding.

- Mechanism of Action: They function by binding to specific cell-surface receptors (often G protein-coupled receptors), triggering intracellular signaling cascades.
- The Appeal: Because they are natural signaling molecules, they are often perceived as "safer" or "more natural" than synthetic drugs.
- Therapeutic Potential: There are currently over 80 peptide-based drugs approved by the FDA, including treatments for type 2 diabetes, osteoporosis, and multiple sclerosis.



The Challenge: Pharmacokinetics and Stability

If peptides are so effective, why aren't they all available as simple pills? The Scientific American report highlights several major physiological hurdles:

1. Proteolysis: The human digestive system is designed to break down peptides into individual amino acids for nutrition. This means most peptides have zero oral bioavailability.
2. Short Half-Life: Once in the bloodstream, peptides are rapidly cleared by the kidneys or degraded by enzymes (peptidases).
3. The Delivery Problem: To make peptides work, scientists must "mask" them with fatty acids or enclose them in protective coatings to prevent premature breakdown.

The Student Takeaway: A Lesson in Bioavailability

The peptide craze is a perfect case study in pharmacodynamics. A molecule can be incredibly potent in a petri dish *(in vitro)* but completely useless if it cannot reach the target tissue in a stable form *(in vivo)*.



BECOME A MAHJONG MASTER!

How do I Play?

Mahjong is a strategic tile game usually played by four players. The goal is to be the first to form a winning hand of 14 tiles using sets such as triples, sequences, and a pair. Players take turns drawing and discarding tiles while trying to complete their hand and prevent opponents from doing the same. Skill, memory, and strategy are key to success.



How to *Really* Play (Tactics)

Despite what people may think, mahjong is more than just luck, it's a game of strategy and observation, so here are some tactics for you to beat your opponents:

1. **Watch Discards:** Pay attention to the tiles your opponents throw away. This can reveal what hand they are building and which tiles are safer for you to discard.
2. **Balance Offense and Defense:** If an opponent looks close to winning, focus on discarding safer tiles rather than aggressively chasing your own hand.
3. **Keep Flexible Hands:** Avoid committing too early to one strategy. Keeping multiple possible tile combinations gives you more options as the game develops.





GREATEST MAHJONG MOMENTS OAT

Crazy Rich Asians Showdown

The final mahjong face-off between Rachel Chu and Eleanor Young is absolutely iconic. By counting tiles and intentionally giving up a winning hand, she delivers the ultimate power move: proving her worth while leaving Eleanor completely speechless.





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Pubs Play Mahjong!!

2007 World Mahjong Finals

The final rounds of the 2007 World Mahjong Championship marked a historic moment for competitive mahjong being effectively Mahjongs version of a 1st world cup final. After days of intense competition, China's Li Li claimed the title and became the first officially recognised World Mahjong Champion.

