



# EXTENDED ABSTRACT



**InViCCAD 2025**  
1<sup>ST</sup> INTERNATIONAL VIRTUAL COMPETITION OF CREATIVE  
ARTS & INNOVATIVE DESIGN IN TEACHING & LEARNING



# Design Innovation Academic Show 2025



Organized by



Fakulti  
Seni Lukis & Seni Reka  
Cawangan Kedah



اوسها تقوى موليا

Collaboration with



#perubahanluarbiasa  
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**EXTENDED  
ABSTRACT**

**Design  
Innovation  
Academic  
Show 2025**





DIAS 2025 (Design Innovation Academic Show) is all about "Transcending the Boundaries of Creativity: Innovation in Art & Design for 21st Century Education." This vibrant program shines a spotlight on how creativity and innovation are reshaping modern education.

It consists of three key components. First up is the Mindareka Design Show, an exhibition that showcases students' final year projects and creative designs, giving them a chance to connect with industry professionals and the wider community. Next, we have the Northern Innovation Academic Tour (NIAT), which takes participants on an academic adventure to select institutions and innovation centers in the northern region, aimed at promoting knowledge sharing and building strong academic and professional networks.

Finally, there's the 1st International Virtual Competition of Creative Arts & Innovative Design in Teaching & Learning (InViCCAID), a global competition that recognizes outstanding practices in teaching and learning by blending art, technology, and innovative design. But DIAS 2025 is more than just a talent showcase; it's a powerful platform for empowering both students and educators, while also strengthening collaborations between universities, creative industries, and global communities. With its inclusive and interdisciplinary approach, this initiative strives to spark relevant, competitive, and impactful ideas and innovations that truly benefit society and push the future of education forward.



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**D**esign  
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**A**cademic  
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**Prof. Dr. Roshima Haji Said**  
Acting Rector  
UiTM Kedah Branch

# Rector's Message

I am delighted to extend my heartfelt congratulations to the College of Creative Arts, UiTM Kedah Branch, for bringing MINDAREKA 2024 - Unleashing Your Visual Creativity to fruition. The triumphs of past MINDAREKA editions undoubtedly fueled the organization of this year's event, making MINDAREKA 2024 a reality.

MINDAREKA 2024 - Unleashing Your Visual Creativity stands as a testament to the dedication of students at the College of Creative Arts, UiTM Kedah Branch, providing them with a platform to showcase their final art projects. Beyond serving as a space for the exploration of fresh, innovative, and entrepreneurial concepts, this exhibition is poised to connect aspiring talents with potential clients and employers.

I extend my sincere gratitude to all participants whose enthusiasm and support have contributed to the success of MINDAREKA 2024 - Unleashing Your Visual Creativity. Their unwavering belief and commitment have truly brought this event to life, marking it as a resounding triumph!





# Head of Faculty Message

It is an honour to introduce DIAS 2025 – Design Innovation Academic Show, held under the theme “Transcending the Boundaries of Creativity: Innovation in Art & Design for 21st-Century Education.” This significant event reflects the faculty’s ongoing commitment to fostering a culture of innovation, critical thinking, and creative exploration among our students and academic community. As we navigate the complexities of the 21st century, it becomes increasingly clear that education must go beyond traditional boundaries to embrace multidisciplinary approaches that are both relevant and future-forward.

The three core components of DIAS 2025, Mindareka Design Show, Northern Innovation Academic Tour (NIAT), and the 1st International Virtual Competition of Creative Arts & Innovative Design in Teaching & Learning (InViCCAID) which is serve as vital platforms to highlight the convergence of design, technology, and pedagogy. These initiatives not only empower our students to showcase their talents and ideas, but also create opportunities for engagement with industry leaders, academic peers, and global collaborators. The Mindareka Design Show celebrates student creativity and innovation through compelling final year projects. NIAT fosters knowledge sharing and institutional partnerships through academic visits and exchanges, while InViCCAID offers international recognition for excellence in integrating art and design into teaching and learning.

I would like to express my deepest appreciation to the organising committee, faculty members, students, and strategic partners who have worked tirelessly to bring this programme to life. Your dedication and collaborative spirit have made DIAS 2025 a reality and a reflection of our shared vision for transformative education. It is my hope that this platform will continue to inspire meaningful dialogue, cultivate groundbreaking ideas, and spark a new wave of innovation that enriches both education and society.



**Mohamat Najib Mat Noor**  
Head of Faculty  
Faculty of Arts & Design  
UiTM Kedah Branch





***Industrial  
Design  
(Bachelor)***





## FERNGLOW | MICROSCOPIC INSPIRED WALL LAMP

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### ABSTRACT

**Fernglow** is an evocative wall lamp inspired by the delicate beauty of tear ferning crystal like patterns that form when human tears dry and are viewed under a microscope. This project transforms microscopic biological imagery into a poetic expression of emotion, using design as a bridge between science and human experience. Rooted in bio-design principles, Fernglow brings invisible natural phenomena into everyday life through functional art. The research began with direct microscopic observation of tear samples, capturing intricate branching patterns. These organic formations inspired engraved designs on an acrylic surface, chosen for its excellent light diffusion properties. When illuminated, the lamp casts soft, meditative shadows, evoking calmness and introspection. Beyond its visual appeal, Fernglow explores how biological structures particularly those tied to emotion can be meaningfully integrated into product design. Rather than focusing on the mechanical side of biology, the lamp highlights its expressive, sensory potential. By merging scientific visuals with artistic intent, it fosters a deeper emotional connection between the object and its user. Fernglow offers more than lighting; it presents a thoughtful, sensory experience that connects users to the unseen beauty of human biology, encouraging reflection, mindfulness, and a renewed appreciation for the natural world.

**Keywords:** Bio-design, Tear ferning, microscopic imagery, Human emotion, Organic pattern



## INTRODUCTION

In our fast-paced, tech-driven world, many of us are losing touch with nature and that inner peace we all crave. As technology takes the spotlight, design often prioritizes functionality and efficiency, leaving behind the essential elements of reflection and emotion. That's where Fernglow comes in, born from a desire to create a product that not only lights up a room but also resonates with our feelings and helps us reconnect with the natural beauty that lies within us.

Fernglow is a wall lamp that draws inspiration from the intricate patterns of tear ferning, which are revealed when dried human tears are examined under a microscope. These delicate formations are not just scientifically intriguing; they also carry deep emotional significance. They encapsulate moments of vulnerability and healing, serving as a reminder of the rich tapestry of human experience. This project takes those hidden patterns and transforms them into a design that is both artistic and emotionally engaging.

Crafted with a circular acrylic panel etched with the tear ferning design, Fernglow casts light in soft, organic shapes that create a soothing, meditative glow. The lamp brings to light what is usually unseen, turning it into a comforting presence that blends art, light, and nature into a serene moment of connection. With this bio design approach, Fernglow meets the demand for emotionally resonant products in contemporary interiors, encouraging users to pause, reflect, and draw inspiration from the subtle details that shape our lives.

MATERIALS AND METHODS

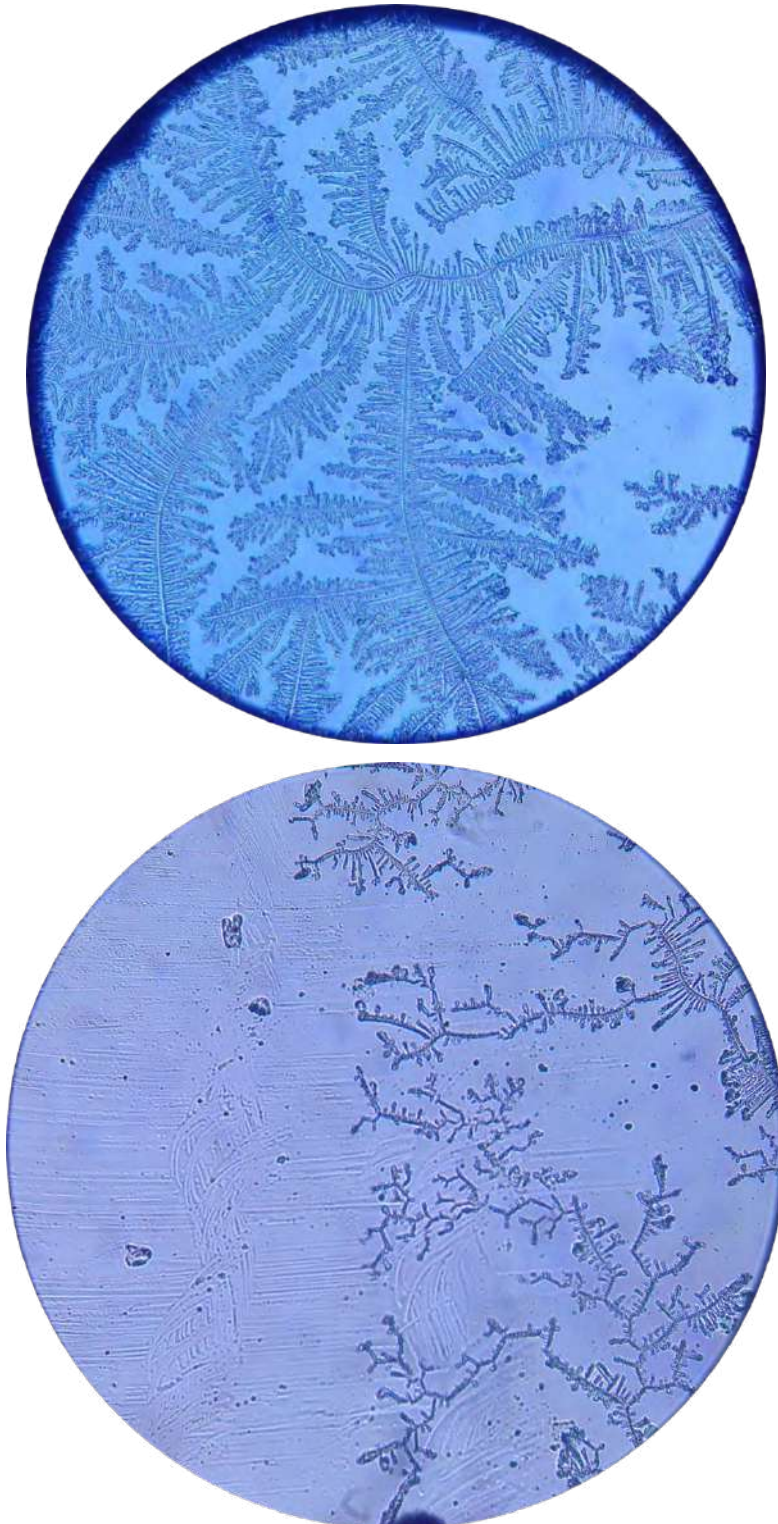


Figure 1.1 The Microscopic images Tear ferning under microscope



The journey of creating Fernglow kicked off with gathering and examining tear samples under a digital microscope. This hands-on approach allowed the researcher to capture the natural crystallization patterns that form in human tears as they dry. These intricate patterns, known as tear ferning, look like delicate branches or ferns and served as the inspiration for the lamp's visual design. The microscopy stage was crucial, not just for generating visual references, but also for exploring how emotions and biology can take shape in abstract, organic forms.

Once the visual motifs were documented, the next step was to bring them to life physically. The patterns were digitally traced and polished using graphic design software, then engraved onto a circular acrylic sheet that's 2 millimeters thick. Acrylic was chosen for its strength, clarity, and fantastic light-diffusing qualities. When illuminated from behind, the engraved surface captures and scatters the light, showcasing the fern-like shapes and creating a soft, ambient glow.

As for the construction, the lamp features a wall-mounted base that securely holds the acrylic panel. A warm LED light source is placed behind the panel to provide consistent and energy-efficient lighting. The simplicity of the design allows the engraved patterns to take center stage visually. Throughout the entire process, bio-design principles influenced the choice of materials and aesthetic decisions, ensuring that the final product was both emotionally impactful and functionally effective.

Fernglow embodies a thoughtful blend of biology, technology, and human experience, resulting in a sensory piece that harmonizes scientific observation with artistic design.

## **RESULTS AND DISCUSSION/FINDINGS**

The Fernglow wall lamp beautifully illustrates how microscopic imagery, particularly the tear ferning pattern, can spark emotionally resonant product design. By examining real human tears under a microscope, the researcher uncovered delicate, branching crystal formations that emerge as tears dry. These extraordinary shapes inspired the lamp's intricate engraved surface design.



Using acrylic as the primary material proved to be a smart choice, as it effectively diffuses light while showcasing the engraved patterns. When the lamp is lit, it casts a gentle, soothing glow that envelops the room in a serene atmosphere perfect for quiet reflection. The fern-like shapes, which are usually hidden from our view, come alive through the interplay of light and shadow, adding both visual intrigue and emotional richness to the environment.

Those who have experienced the lamp describe it as peaceful, intimate, and one-of-a-kind. This feedback highlights that biological imagery can do more than just beautify a space, it can foster a sense of connection and emotion. Instead of simply replicating nature's mechanics, Fernglow taps into the unseen beauty of biology to create a meaningful and personal experience.

The insights gained suggest that even the tiniest microscopic patterns can shape the way we design everyday items. By transforming tear ferning into a visual language, this project harmoniously blends science and emotion in a way that feels profoundly human. Fernglow is not just a practical lighting solution; it serves as a poetic reminder of how the smallest details in nature can inspire moments of tranquility and introspection.

## **CONCLUSION & RECOMMENDATION**

Fernglow was born out of a desire to bring back emotional connections that seem to be missing in many of today's lighting designs. It aims to show how something as intimate and personal as a tear can inspire a design that resonates with both our eyes and our hearts. By closely examining and experimenting with the tear's unique ferning pattern, it was transformed into a beautifully engraved form that comes alive when illuminated. The result showcases the incredible potential of bio-design to create not just objects, but experiences that hold meaning.

This project effectively illustrates how microscopic elements from biology can convey emotion, beauty, and a sense of connection in product design. Fernglow encourages us to take a moment to pause, reflect, and appreciate the hidden wonders found within our bodies and the natural world.

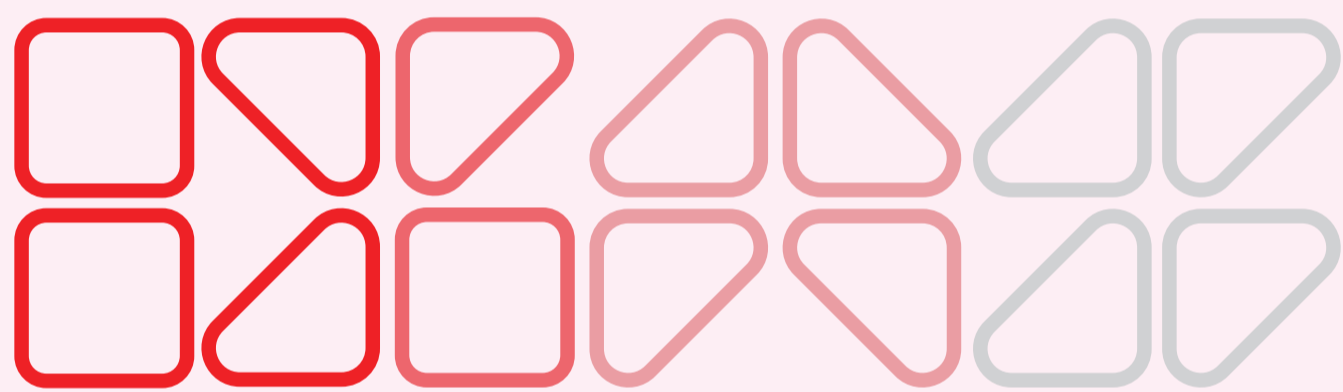


Looking ahead, it would be exciting to explore other biological inspirations or emotional cues that could be expressed through various materials and scales. Designers are invited to delve deeper into how unseen phenomena can shape our moods and environments. Fernglow serves as a prime example of how product design can transcend mere functionality to create something that is poetic, personal, and rooted in both science and emotion.

In the end, this project reminds us that even the tiniest patterns in nature can spark moments of tranquility and awe in our daily lives.

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