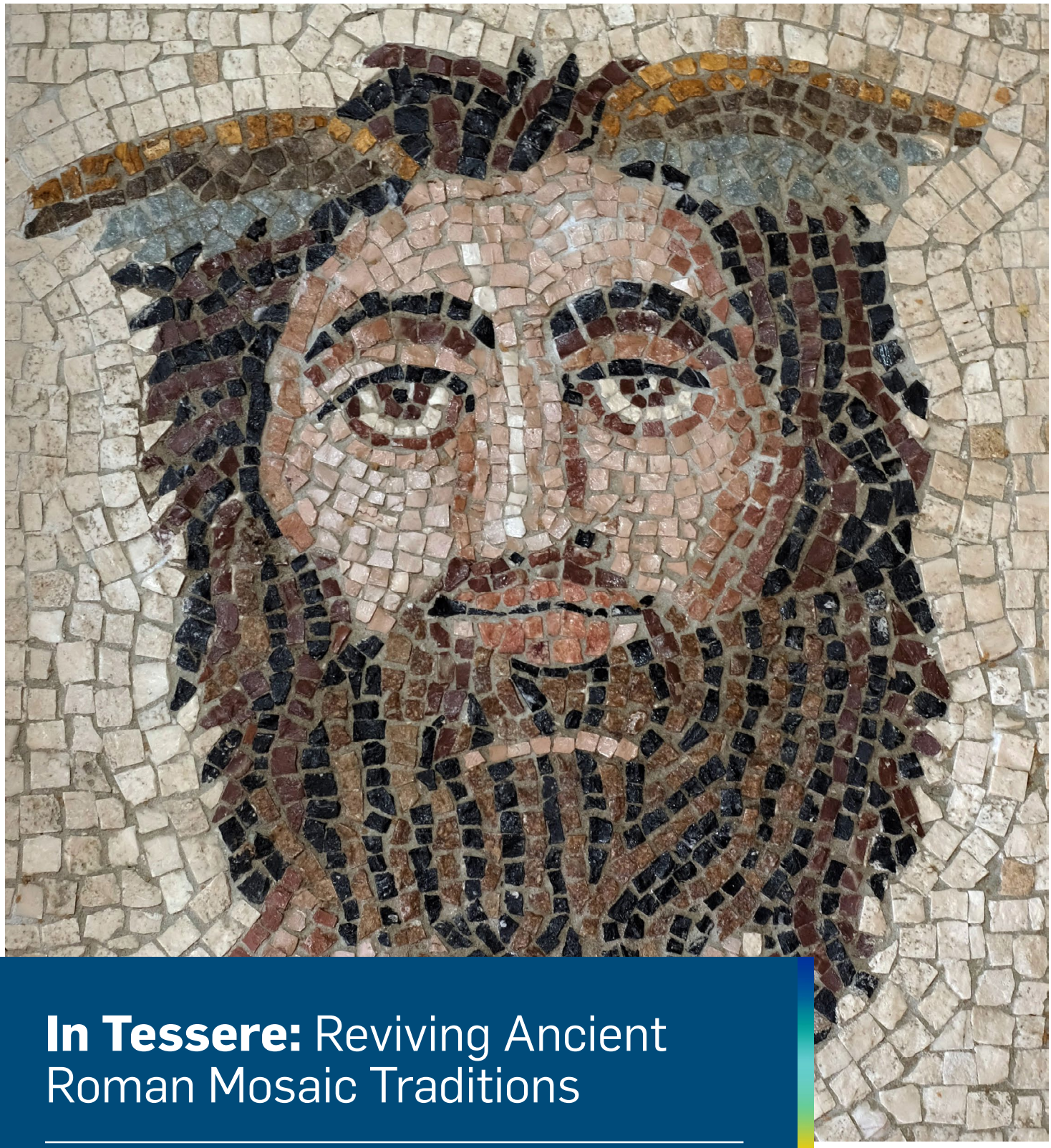

In Tessere: Reviving Ancient Roman Mosaic Traditions

Raphael Karanikos

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International Specialised Skills Institute

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The Fellow sincerely thanks The Italian Australian Foundation for providing funding support for the ISS Institute and for this Fellowship.

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- Jim Bachor - Professional Mosaic artist

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The Fellow would like to thank his husband, Nic, whose support, love and care made this fellowship possible. Thanks are also extended to his father, Sam, and sister, Bryana, for their constant encouragement.

This report, and the work that follows, is dedicated to the memory of the Fellow's mother, Gina Milicia, who encouraged and inspired him to live as she did: as an artist.

02
About the Fellow

Raphael Karanikos (artist name: Raphy) is a ceramic artist based in Fitzroy North, Melbourne, working at the intersection of traditional craft, identity and contemporary storytelling. Deeply influenced by the ceramic craft practices of the Mediterranean, Karanikos' work explores the resonance between cultural heritage and personal mythology.

He has completed three solo exhibitions and exhibited across Australia, Europe and Mexico. He has participated in major group shows including NGV Design Week, and his work has been shown at CRAFT Victoria, where he recently presented a duo exhibition titled Trees and Animals. Karanikos has been a three-time finalist in the Midsumma & Australia Post Art Prize and was selected for a residency at ARTA Ceramica in Mexico.

This Fellowship represents a formal and rigorous deepening of Karanikos' mosaic practice, which had previously developed through self exploration and experimentation using found materials. Through immersive training in Italy and direct engagement with traditional Roman techniques, he has sought to reframe mosaic not only as a historical artform but as a living practice with contemporary cultural relevance.

Figure 1. Fellow in Narni

Karanikos' previous exhibitions include:

- Trees and Animals, CRAFT Victoria – Duo Show with Stephen Benwell (April 2025)
- Midsumma People's Choice Award, Winner (2025)
- The Mediterranean Exchange, Bundoora Homestead – Solo Exhibition (September 2024)
- A Night Out in Naarm, CRAFT, Melbourne – Solo Exhibition (April 2024)
    - A series of six sculptural vessels depicting scenes from a silly night out in Melbourne. Displayed in the Vitrine Gallery at CRAFT.
- HARD, NGV Melbourne Design Week – Group Show (May 2024)
- Midsumma & Australia Post Art Prize, Finalist – Art Prize (January 2024)
    - Award recognising outstanding queer artists who are Australian residents.
- Two Residencies, a Teapot and a Nudist Beach, Ypres, Belgium – Duo Show with Joi Murugavell (January 2024)
- Caballos // HORSES, ARTA Ceramica, Mexico City – Solo Show (November 2023)
    - Exhibition of work created during an artist residency in Mexico, exploring horse iconography and queer identity.
- Midsumma & Australia Post Art Prize, Finalist – Art Prize (January 2023)
- BONGSIBITION, Unassigned Gallery – Solo Exhibition (January 2023)
    - A subversive celebration of the bong as a symbol of resilience and cultural identity.
- STI's I've Had: A Ceramic Journey to Queer Sexual Health, Nabe Studios – Solo Exhibition (July 2022)
    - Surrealist ceramic vessels exploring the experience of accessing sexual health services as a young queer person

03
Executive Summary

This report documents the outcomes of an international skills development fellowship undertaken by Raphael Karanikos. The project was supported by the ISS Institute and the Italian–Australian Foundation. Titled In Tesserae: Reviving Ancient Roman Mosaic Traditions, the project involved in-depth technical training in traditional mosaic practices at the In Tessere Scuola di Mosaico in Narni, Italy, under the guidance of master mosaicist Tiziana Mondini.

The aim of the fellowship was to investigate and acquire traditional Roman mosaic techniques, including the Ravenna method (lime putty technique), the direct method and the indirect method, with a particular focus on how these historical practices can inform contemporary artmaking in Australia. The fellowship also examined the practicalities of mosaic production, such as material preparation, large-scale execution, transportation, adhesion, sealing and restoration.

In addition to technical training, the Fellow spent weekends travelling across Italy and Tunisia, visiting major Roman mosaic collections housed in archaeological museums and historic sites. These included visits to institutions in Rome, Sicily, Naples, Ravenna and the Bardo Museum in Tunis, among others. This extensive fieldwork offered the opportunity to analyse ancient mosaics in situ, observe regional stylistic differences and gain a deeper appreciation for historical context, preservation challenges and aesthetic evolution.

The Fellow also conducted interviews with mosaic artists in both Italy and Australia. These conversations provided insight into how ancient techniques are interpreted and adapted in contemporary practice. They enriched his understanding of mosaic not only as a technical discipline but as a living tradition shaped by community, geography and purpose.

Key outcomes include:

- A comprehensive understanding of the history and theory of mosaic
- Technical mastery of classical Roman methods of execution
- Practical skills in cutting, laying and finishing tesserae in both marble and smalto
- Firsthand experience in working on small- and large-scale mosaics, including modular methods
- Knowledge of safe and appropriate materials for interior and exterior application
- Critical visual research of Roman mosaics across Italy and Tunisia
- A growing network of mosaic practitioners, educators and institutions

Key Recommendations:

- Investment in formal mosaic education pathways in Australia
- Integrate mosaic into more civic and public art projects

- Promote education and awareness about traditional mosaic practices and materials to build understanding of the craft and its cultural significance.

These insights will inform future knowledge-sharing efforts, including exhibitions, teaching, and advocacy to reintroduce mosaic as a living and contemporary artform in Australian craft and design communities.

This project has deepened the Fellow's understanding of mosaic as an historically rich and highly structured craft discipline, distinct from general tiling or assemblage. The fellowship revealed how the precision, rhythm and logic of mosaic, its andamento, or flow, offers fertile ground for contemporary experimentation when grounded in traditional technique.

The insights gained will directly inform the Fellow's own studio practice, as well as future plans to share this knowledge through teaching, workshops and exhibitions in Australia. By reviving these ancient skills in a contemporary context, this fellowship supports a broader mission: to reintroduce mosaic as a living, evolving artform within Australian craft and design communities.

Before the fellowship, Karanikos had been working with mosaic in an intuitive and self-taught way. While the work was creative and expressive, he realised he didn't yet understand the formal rules, materials or history of the tradition he was referencing.

This Fellowship was a chance to go back to the source, to study the methods used by the Romans and see how they are still being passed down today. Italy is one of the few places in the world where these techniques are still taught in a traditional, hands-on way.

By learning directly from a master mosaicist and seeing ancient mosaics up close, Karanikos was able to deepen his technical skill, reconnect with the roots of the craft and start thinking about how these traditions can be used in a contemporary context.

He hopes to bring this knowledge into his own art practice in Australia and share it with others, helping keep the craft alive while also finding new ways to make it relevant now.

Fellowship Timeline (Jan–June 2025)

January – March 2025

- Researched Roman mosaic history and traditional techniques.
- Investigated mosaic schools across Italy.
- Selected In Tessere Scuola di Mosaico in Narni for in-depth training.

April 2025

April 1: Began 2-month training at In Tessere in Narni.

Week of April 1–5:

- Mosaic theory and introduction to core principles: andamento, fuga, sdoppiamento, and tessere.
- Practised cutting marble by hand.
- Began first mosaic: Fish skeleton.

April 6–7 (Weekend):

- Travelled to Naples.
- Visited the National Archaeological Museum and Galleria Umberto.

Week of April 8–12:

- Finished fish skeleton mosaic.
- Developed concept and reference material for Venus Selfie mosaic.

April 13–14 (Weekend):

- Visited Museo Nazionale Palazzo Massimo, Rome.

Week of April 14–19:

- Began Venus Selfie mosaic using the Ravenna method.

April 26 (Weekend):

- Visited Herculaneum and mosaics at Napoli train stations.

May 2025
April 30:

- Completed Venus Selfie mosaic.

May 2–4 (Weekend):

- Travelled to Ravenna.
- Visited churches and major Byzantine mosaic sites.

Week of May 6–9:

- Created star mosaic using direct method.
- Completed wave pattern mosaic using indirect method.

May 9:

- Began Hermes face mosaic (direct method, small tesserae).

May 16:

- Attended Vatican Museums Micromosaic Exhibition opening as part of In Tessere school.

May 17 (Weekend):

- Visited Centrale Montemartini and Capitoline Hill museums in Rome.

May 19–20:

- Completed Hermes face mosaic.
- Continued with shading and expression studies.

May 21:

- School excursion to Il Giardino dei Tarocchi (Tarot Garden).

May 22–26:

- Travelled to Tunisia:
  - May 23: Bardo Museum, Tunis
  - May 24: El Djem amphitheatre and mosaic museum
  - May 25: Sousse Archaeological Museum
  - May 26: Returned to Rome

June 2025
Week of May 27 – June 1:

- Created final mosaic: Man wading through water (exploring distortion and movement).
- Finished and cleaned all mosaic works.
- Concluded coursework.

June 1:

- Completed Fellowship and training at In Tessere.

Figure 2. In Tessere school of mosaic

04
Fellowship Learnings

I received funding to travel to Italy to study mosaics. In preparing for the fellowship, I researched a number of mosaic schools across the country. Most were located in Ravenna, which is widely known as the world capital of mosaics. However, I realised that many of these schools were geared towards short-term visitors, offering brief introductory courses aimed at tourists. I was seeking something deeper and more professional.

Eventually, I found a two-month professional course at the In Tessere School of Mosaic in Narni, a small town about an hour outside of Rome. The course covered the three main methods of mosaic production: the Ravenna method, the direct method and the indirect method, along with instruction in adhesives, costing, application techniques and other practical skills required to become a professional mosaicist. I worked with my mentor, Kay Schlesinger, and we agreed that this would be the most beneficial option. Given how labour-intensive mosaic work is, the extended timeframe was essential.

The fellowship covered the cost of the course and my accommodation for the full two months I spent studying in Narni. The course was conducted entirely in Italian, which added a layer of difficulty. While I have a general grasp of the language, learning highly specialised vocabulary and instructions in a second language was a rewarding challenge that deepened the overall experience.

I arrived in Narni and began the course the very next day. Jet-lagged and exhausted, I found the first week overwhelming. We began with theory: what is a mosaic, and what is not? I showed my teacher, Tiziana, some of my previous work and she immediately corrected me, “those weren’t mosaics, they were collages”. I quickly learned that mosaics must follow four core rules: andamento (line), fuga (space between tesserae), sdoppiamento (doubling of lines) and tessere (the tiles themselves). The first week was spent practising these principles: cutting marble by hand with the martellina and tagliolo, shaping tesserae to the correct dimensions, and drawing out lines by hand. It was intensely physical and mentally exhausting, and by the end of each day I would almost fall asleep at the desk.

The school hours were rigorous, 8.30 am to 6.00 pm, Monday to Friday. Due to the train schedule, I would arrive by 7.50 am and spend the entire day at the studio. On weekends, I travelled around Italy to visit mosaic collections in museums and ancient sites. These excursions were just as valuable as my classroom learning, offering real-world context and artistic inspiration.

In the first week, I practised cutting the tiles by hand into the standard Roman mosaic shape: 1 cm x 1 cm x 0.5 cm. I also practised drawing tesserae by hand to better understand how to follow the four principles. Once I demonstrated competence, I moved on to laying actual tiles and started my first mosaic: a skeleton of a fish. In Roman times, kitchens and dining areas often featured mosaics of food remnants, such as fish bones, fruit peels, and so on. The fish skeleton was deceptively simple but challenged me to apply everything I had learned so far. One of the most difficult parts was executing the

Figure 3. Mosaic exercises

Figure 4. Cutting the marble

linea di contorno, a line around the subject made with tesserae the same colour as the background. The fish's segmented structure made this especially difficult, but I managed to complete it in around three days to a week.

After finishing the fish skeleton, my teacher encouraged me to develop my own original mosaic. I was fascinated by classical depictions of Venus at her toilet, a motif found frequently throughout Roman art and revived during the Renaissance. I was particularly inspired by the idea of modernising this theme. I envisioned Venus taking a selfie with an iPhone instead of holding a mirror, a contemporary twist on the eternal idea of vanity. I decided to replace Venus with a male figure, somewhat resembling myself.

Together with my teacher, we assembled the reference image using fragments from mosaic books in the school's library: a body, a face that resembled mine, and an arm raised in the right position. We photoshopped a phone into his hand. Tiziana was not impressed. She said, "You are too Australian to understand why this is a problem. Roman mosaics are perfect. You cannot modernise them. It's sacrilegious." But I was determined. I wanted to see how an ancient technique could be used to comment on contemporary life.

We decided to use the Ravenna method for this piece, due to the complexity of the figure and the need for ongoing adjustment. The Ravenna method, which uses lime putty, remains malleable throughout the process. This allows for edits and refinements, which are essential when working on highly detailed figurative mosaics. (See Appendix for a detailed breakdown of this method.)

Tiziana warned me, "This is your second mosaic, and you're trying to scale a mountain." Other staff even tried to dissuade me. But I was motivated by the limited timeframe and the scale of the challenge. The piece took two and a half weeks to complete. It measured approximately 80 x 45 cm and depicted a muscular male figure taking a selfie with two cherubs.

This piece tested all my skills, especially in rendering the human form and delicate facial expressions. My first cherub was clumsy, but the second came together much more fluidly. I completed its face in just a few hours. When I finally finished, my mentor patted me on the back and said, “You scaled the mountain. Well done.”

After finishing the large figurative mosaic of the modern Venus, I travelled to Ravenna for the weekend. Though Byzantine mosaics are not usually my aesthetic preference, their scale and use of colour were awe-inspiring. I was particularly drawn to the way star patterns were used in mosaic ceilings and backgrounds. When I returned to Narni, I created a small, precise mosaic of a star using the direct method. It was an exercise in control, symmetry and efficiency. I wanted to prove I could make a technically strong mosaic quickly.

From there, I experimented with wave-pattern borders commonly seen in Roman mosaics, using colour gradients to create a three-dimensional effect. I used the indirect method for this piece. I enjoyed working with this technique. Because the adhesive is simply flour and water, it allows for easy adjustments and a clean, efficient process. I completed the entire work in one day.

My teacher then challenged me to create a detailed face. We selected a reference image of Hermes from a book of North African mosaics. I used very small tesserae (0.5 cm × 0.5 cm × 0.5 cm), working with the direct method and applying cement in stages. While the mosaic came together well, I had difficulty capturing the proportions of the face due to a few early alignment errors. The eyes did not quite achieve the expression of the original. Still, it was a valuable technical study in precision, shading and facial construction, even if it did not fully succeed.

One of the most extraordinary experiences of the fellowship came when our school, In Tessere, was invited to the opening of a new wing at the Vatican Museum dedicated entirely to micromosaics. Micromosaics are an intricate art form that originated in Italy during the 18th and 19th centuries. They are created using extremely fine tesserae, often as small as grains of sand, and are typically used in table-top panels, jewellery and religious objects. Unlike architectural mosaics, micromosaics require surgical precision and extreme patience. The level of detail achieved is extraordinary. Some pieces resemble paintings at first glance.

It is rare for anyone to be invited to an event like this. Because In Tessere is a leading mosaic school in the region and located near Rome, we were extended the honour of attending. My teacher, Tiziana, drove me to the Vatican herself. We received VIP entry to the Vatican Museums, something very few people experience. The event included three lectures on micromosaic history and conservation. The Director of the Vatican Museums, Dr Barbara Jatta, gave a keynote speech. She described micromosaic as “a uniquely Italian art form,” a powerful reminder of how deeply this tradition is embedded in the country’s identity.

To be there, surrounded by conservators, historians and international experts, while representing In Tessere and also Australia as part of this Fellowship, was one of the most profound moments of the entire experience. It reinforced how rare and meaningful this opportunity was. Even in its smallest form, mosaic carries enormous cultural weight.

Throughout my time in Italy, I also visited major mosaic collections whenever possible. In Rome, I explored the Capitoline Museums and Centrale Montemartini. In Naples, I visited the National Archaeological Museum, which houses the mosaics of Pompeii and Herculaneum, including the iconic Neptune and Amphitrite piece. These visits were crucial for understanding Roman mosaics within their historical and architectural context, especially when viewed in situ or alongside other artefacts from daily life.

As mentioned, I also spent time in Ravenna, widely known as the City of Mosaics. Even the street signs there are mosaicked. The city’s identity is built around its Byzantine mosaic heritage. I visited the MAR (Museo d’Arte della Città di Ravenna), which hosts a fascinating exhibition of contemporary mosaic. In the 1950s, the Ravenna Mosaic Society launched a

Figure 5. Completed fish mosaic

revival of the medium by collaborating with painters like Chagall, Guttuso and Sironi. These artists produced paintings that were translated into mosaic by skilled artisans, bridging fine art and traditional craft. This shift from mosaic as preservation to mosaic as artistic innovation resonated deeply with me. It offered a model that could be applied in Australia, where mosaic remains under-recognised but is ripe with potential for collaboration and creative reinterpretation.

During my time at school and while travelling in Italy, one place kept coming up again and again: Tunisia. Most of the books in the school's library, as well as the reference images I found online, pointed there. Once part of the Roman Empire, Tunisia was consistently recommended by my teachers and the texts I studied. Many of the sources I drew from in my own mosaic work were Tunisian publications. When I saw that flights were just $150 each way, I booked the trip.

Tunisia holds the world's richest collection of Roman mosaics. I visited three major museums: the Bardo Museum in Tunis, the Sousse Museum, and the El Djem Museum. The Bardo, only recently reopened after the 2015 terrorist attack, houses an unparalleled collection. I was moved to tears walking through its halls, overwhelmed by the scale and abundance. Walls, floors, even entire

rooms were completely covered in mosaics. Unlike Italian museums, which often display fragments, the Bardo offers a fully immersive experience. El Djem stood out for its in-situ mosaics and for its striking representations of the Roman Empire as female busts: Africa, Rome, Asia and Sicily. In Sousse, I was stunned to come face to face with the original mosaic that inspired the head in my Venus piece. Being able to look at what inspired me up close was truly surreal, I remember when I first looked at the reference it felt unachievable, but seeing it in the museum I could understand the way in which it was created and I knew I could now do it too. What once felt impossible now felt within reach.

The Tunisian museums were nearly empty, allowing for focused, uninterrupted study. Unlike the crowded Italian museums, I had the space and quiet to observe and learn up close. This trip became one of the major highlights of the fellowship. I feel incredibly fortunate to have had the time and flexibility to include it. Looking back, I do not think the fellowship would have been complete without it.

After Tunisia, I returned to school and completed one final small mosaic inspired by what I had seen. I copied a mosaic of a fisherman wading through water. This was a fun challenge, as I had to use alternating blue lines through the fisherman's leg to create the illusion that he was standing in the water. This final piece was followed by some more theoretical lessons on adhesion and sealing, which concluded my time at the school.

The two months I spent at the In Tessere School of Mosaic were transformative. The time, rigour and cultural immersion changed the way I understand both mosaic and my own art practice. I left Italy with new techniques, a deeper appreciation for tradition and a richer connection to the ancient craft that has shaped so much of the Mediterranean's visual language. It was hard to say goodbye to Tiziana and the rest of the staff. I had grown very close to them. I assured them I would keep them updated on everything I made once I was back home and continuing my practice.

Figure 6. Draft of Venus piece

Figure 7. Example of correct Roman style placement

05
Recommendations

The Australian mosaic industry is small, and according to leading mosaic artist and head of the Australian Mosaic Association, Helen Bodycomb, it is also rapidly ageing. In a recent phone interview, Bodycomb reflected that “the community is in real need of younger artists coming up and taking on the craft.” After visiting the MAR Museum in Ravenna and seeing their contemporary mosaic exhibition, it became clear how European artists are pushing the boundaries of what constitutes a mosaic. Many works take sculptural or highly abstract forms and depart significantly from Roman and Byzantine tradition.

While this experimentation is exciting, it also highlighted something unique about the Australian context. Because mosaic is still a relatively underexposed medium here, particularly in its Roman form, Australian mosaicists have a rare opportunity. Rather than needing to reinvent the medium, we can reinvigorate it. Australia is in a position to lead a kind of mosaic renaissance that returns to the source. Just as Renaissance artists in Italy revisited classical Greek and Roman forms, such as Botticelli’s Birth of Venus, Australian artists could revisit the ancient mosaic language not as pastiche, but as a foundation for new stories grounded in our own time.

Roman mosaics told stories of daily life, mythology, aspirations and desires. There is no reason contemporary Australian artists could not do the same. What do our struggles, our triumphs, our mythologies look like? What would they look like rendered in stone, marble and lime putty? The act of adopting and adapting this ancient Mediterranean tradition could become a powerful gesture of cultural storytelling. In the same way that post-war Italian migrants brought their coffee machines to Melbourne and transformed the city into a global capital of café culture, perhaps the same could happen with mosaic. We have done it with food, coffee and fashion. There is no reason we could not do it with one of Italy’s most ancient art forms.

There is also an exciting shift occurring in contemporary design. After decades of minimalist dominance, with clean lines, grey tones and blank spaces, there is a clear move towards the bespoke, the handmade and the richly detailed. This is evident not just in private homes and hospitality venues, but also in public infrastructure. A standout example is Callum Morton’s tile work in the new Sydney Metro stations. It is bold, intricate and site-specific. As Melbourne continues its own rail expansion, this presents a major opportunity for mosaic to play a role in civic design. From train stations to hotels, cafés and shopfronts, designers and architects are increasingly embracing the decorative again. Mosaic has a real place in this moment, and Australia is ready for a reawakening of the medium.

However, for this to happen, the foundations need strengthening. There are currently no formal mosaic education pathways at universities or art schools in Australia. While small classes exist, they often do not teach the traditional techniques that define the Roman style, such as andamento, fuga, and other structural principles. In Melbourne, for example, the most well-known class is run by Mosaics by Merryl,

but this is more akin to a paint-and-sip night than a rigorous training in mosaic technique.

Figure 8. Progress of Venus piece

Figure 9. Completed Venus piece

Australia needs investment in serious, skills-based mosaic education. This could be achieved by integrating mosaic as an elective within university fine arts programs, or by supporting smaller schools or studios that teach in the Roman method, as is done in Italy. These schools should focus on the principles of Roman mosaic: precision, craftsmanship and storytelling. They should also be accessible to emerging artists looking to expand their practices. With the right institutional support, mosaic could become a vital new strand of Australian visual culture.

Figure 10. Example of star mosaics in Ravenna

Figure 11. Completed star mosaic

Figure 12. Close up of eye of Hermes

Figure 13. Beginning Hermes mosaic

06
Other Considerations

While the mosaics I studied in Italy and Tunisia are undeniably beautiful, it is important to acknowledge the human cost behind many of these masterpieces. A significant portion of large-scale mosaics in the Roman Empire was created through slave and labourer exploitation.

During my field study at El Djem, I learned that mosaic artists, who were usually skilled artisans, were often paid wages comparable to ordinary tradesmen such as bakers. Much of the physical, backbreaking work involved in preparing mosaic floors, such as grinding stones to level surfaces, was performed by enslaved or coerced workers. In Sicily, for example, at Villa Romana del Casale, there is a mosaic scene depicting slaves being whipped. It is a stark reminder of who actually shaped these floors.

The mosaic industry was stratified. Skilled mosaicists might earn modest wages and occasionally sign their work, but most labourers remained anonymous. Whether intentionally or not, their identities were erased. As a result, the scale and grandeur of many Roman mosaics, including rooms, villas and entire estates, cannot be replicated today without substantial labour resources that would not be ethically or financially feasible.

This history should inform how we approach mosaic today. Future Australian mosaic projects, whether in private homes, public installations or commercial spaces, must recognise that we are creating under radically different values and resources. We rely on fair pay, ethical labour and respect for craftsmanship. We are not relying on exploitation. We will never replicate the scale of ancient Roman mosaics, and that is entirely acceptable. What we can do is create meaningful, sustainable work that honours both the tradition and the human hands behind it.

Figure 14. Examples of micro mosaics at the Vatican Museum

07

Case Study: Jim Bachor (USA)

Contemporary Mosaic Artist and Public Art Innovator

Jim Bachor is a mosaic artist based in Chicago, USA, known internationally for his unconventional use of ancient mosaic techniques in contemporary public artworks. Specifically, he is known for his series of pothole mosaics. His practice offers a compelling example of how traditional Roman methods can be adapted with modern materials, themes, and audiences in mind.

Bachor's journey into mosaics began unexpectedly after a trip to Pompeii, where a tour guide pointed out a Roman mosaic and explained:

"Marble and glass don't fade. So that art looks essentially the way the artist intended 2,000 years ago. It blew me away that you could do something that has the potential to last well after you're gone and would be reflective, maybe, of your personality and the things you find interesting."

The idea that a material could preserve artistic intention over millennia was a turning point. He later studied in Ravenna, Italy, where he learned the ancient double-reverse technique and has since translated that knowledge into a distinctly modern practice.

He began embedding mosaics in potholes in 2013, starting with a broken patch of road outside his home. Frustrated by the city's repeated failed repairs and driven by the durability of mosaic, Bachor installed his first work directly into the pavement. What began as a quirky, self-funded side project rapidly gained attention and became his signature practice. "Everyone hates potholes," he told me.

Figure 15. Example of Jim Bachor's work

Figure 16. Example of Jim Bachor's work

"But everyone likes ice cream or flowers." His work juxtaposes infrastructure failures with joyful imagery, creating what he calls "unexpected grins."

While the aesthetic of his pothole works is playful and graphic, the underlying techniques are rigorous. Bachor uses the Ravenna method, constructing mosaics face-down on a bed of oil-based modelling clay. This is a material that he credits as "life-changing." This clay, unlike traditional lime putty, "doesn't dry, doesn't need to be covered, and holds detail beautifully." He emphasized its importance for making efficient, flexible studio practice possible, particularly when working on site-specific public installations.

Bachor's views on mosaic as an undervalued art form echo concerns I've encountered in Australia. "It's considered craft, and I'm always fighting against that," he said. At the same time, he recognises the social and gendered histories behind the term.

Though he trained in classical methods, Bachor's subject matter deliberately avoids traditional religious or geometric themes. "So many mosaics look the same," he explained. "I wanted to drag this ancient art form into the 21st century." His work proves that mosaic can engage with current social contexts while maintaining integrity with its historical roots.

Figure 17. Example of Jim Bachor's work

Figure 18. Example of Jim Bachor's work

08
Impact

Personal Impact

This trip held deep personal meaning for me. Growing up in Melbourne with Italian and Greek heritage, I often felt disconnected from my cultural roots. Assimilation felt safer. Being funded to travel to Italy, to immerse myself in the language and traditions, and to be formally supported to pursue art felt incredibly validating.

The course was entirely in Italian, which added a layer of difficulty, but it also pushed me to connect more deeply with my heritage and with those around me. On a personal note, my late mother, who was one of Australia's leading photographers, was a huge supporter of my creative journey. I know she would have been proud of the work I have done during this fellowship.

The experience was demanding, both physically and mentally. The long hours, intense focus and unfamiliar environments were challenging, but the experience was also profoundly moving. I did not expect to be so affected by the mosaics themselves. In several museums, I was brought to tears by their beauty, craftsmanship and cultural resonance. I fell in love with mosaic more than I ever expected to, and I left with a renewed sense of purpose and pride.

Professional Impact

Professionally, this fellowship has entirely shifted the direction of my artistic career. I began my journey as a ceramic artist. I return as a fledgling mosaicist.

This was not a casual or introductory exploration. It was rigorous, immersive and traditional training in Roman mosaic techniques at a professional level. As outlined in this report, the mosaic sector in Australia is small, and educational opportunities are scarce. Having received this training in Italy places me in a rare and unique position. I am one of the only contemporary Australian artists to have travelled abroad to formally study traditional mosaic at its source.

This experience has opened up an entirely new trajectory for me. I now have the knowledge, skills and lived experience to contribute meaningfully to the mosaic sector in Australia. This contribution will be not just through making, but also through advocacy, education and exhibition. It is my intention to continue building on what I have learned and to help foster the kind of mosaic culture in Australia that I experienced in Italy.

This fellowship has not only transformed my craft. It has also clarified my purpose as an artist.

Knowledge Sharing Plan

The Fellow is committed to sharing the knowledge gained through the fellowship with the Australian arts and design community. The following initiatives are planned:

Workshops & Classes (Late 2025 – 2026)

- Partner with organisations like CRAFT Victoria, artist-run studios, and regional galleries to offer workshops in traditional Roman mosaic techniques
- Introductory and advanced modules, including andamento, cutting techniques, and historical methods (Ravenna, direct, indirect)
- Collaborate with the Mosaic Association of Australia and New Zealand (MAANZ) to deliver workshops and learning opportunities to their members

Talks & Symposiums

- Join MAANZ as a member
- Present a talk with MAANZ and at their next national symposium, scheduled for 2026 in Brisbane

Exhibition Outcomes

- Integrate mosaic works into upcoming exhibitions
- Use curatorial framing to highlight technical processes, cultural lineage, and the adaptation of traditional techniques in contemporary art contexts

Long-Term Goal

- Establish a dedicated studio in Melbourne focused on the art of mosaic
- Run regular workshops, training programs and research initiatives focused on the Roman method and its contemporary application

Figure 19. Example of Tunisian mosaic

Figure 20. Example of Tunisian mosaic

Figure 21. The Fellow with the Venus reference

Figure 22. The Fellow with pieces from In Tessere

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Appendices

Appendix A: Materials and Adhesives

Choosing the right materials and adhesives is essential for the longevity, strength, and appearance of a mosaic. Different settings — indoor, outdoor, floor, wall — require different products, and not all adhesives work with every substrate or technique.

Types of Materials

- Marble
  - Natural, porous, and soft in colour.
  - Traditional and widely used in Roman mosaics.
  - Can be cut using a martellina and tagliolo or a marble cutting machine.
- Smalto
  - Artificial glass made in Venice.
  - Rich, vibrant colour and shiny finish.
  - Very strong and durable — ideal for adding depth or highlights.
- Ceramic
  - Includes cotto (terracotta), used indoors.
  - Gres (harder ceramic) is suitable for outdoor use.
- Ciottoli
  - Natural pebbles or stones.
  - Often used in decorative or historical pavements.
  - Must be sorted by size for even application.

Adhesives & Glues

- Ultralite S2
  - A flexible adhesive suitable for both interior and exterior applications.
  - Can be used as both a primer and a binder.
- Ultra Mastic
  - A flexible adhesive for a range of surfaces.
  - Particularly good for wall-mounted pieces and panels that may move slightly.
- Keralastic
  - Highly flexible, professional-grade adhesive.
  - Ideal for surfaces that experience movement or temperature changes.
- Colla Perla Zurigo
  - A traditional rabbit-skin glue, used in the Ravenna method.

- Can be prepared strong (over heat in a bain-marie) or weak (soaked in water).
- Used to temporarily hold gauze to the surface of a mosaic before mounting.

Appendix B: The Ravenna Method (Lime Putty Technique)

This method was taught at In Tessere mosaic school in Narni and is one of the most faithful to Roman tradition. It uses lime putty as a temporary base and allows the artist to work with precision before transferring the mosaic to its final surface.

Preparing the Base

- Lime putty is made from aged limestone and must be prepared 1 to 2 days in advance.
- Spread 2 to 3 cm of putty onto a slab of eraclit (a breathable support board). The consistency should feel like fresh clay.
- On a sheet of pergamino argento (silver tracing paper), trace your design in red permanent marker. Then flip the sheet and trace the reverse with a water-soluble pen.
- Align the reverse side onto the lime putty and press it down gently to transfer the design onto the putty.

Placing the Tesserae

- Follow the transferred drawing and place the tesserae directly into the soft lime putty.
- Because the putty remains workable for a long time, this method allows for precise adjustments and clean lines.

Gluing and Backing the Mosaic

Once the mosaic is complete, a special adhesive is used:

- Mix Colla Perla Zurigo (a glue made from boiled rabbit skin) in a double boiler.
    - For a strong glue, melt the pearls fully over heat.
    - For a weaker glue, add water over heat.
- Test the glue by dipping your fingers in — if they stick together, it is ready.
- Lay a piece of cotton gauze over the mosaic, bunching it slightly in places.
- Brush on the glue generously to saturate the gauze. Add a second layer and repeat.
- Let it dry for 2 days to 1 week.

Lifting and Transferring

- Once dry, use a flat paint scraper to separate the mosaic from the board.
- Flip the mosaic gauze-side down and scrape away all the dry lime putty.
- Lay fibreglass mesh on the back and apply cement.
- Let it cure for at least 2 more days, then flip it face-up.
- Pour boiling water over the gauze to loosen the glue, then remove the gauze gently.
- Rinse thoroughly with hot water to clean the surface.

Grouting (Optional)

- Grouting is required for mosaics used on floors.
- For wall pieces, it is optional and depends on aesthetic preference.

Appendix C: Indirect Method

The indirect method is often used for mosaics that must be perfectly flat, such as floors, tabletops or transportable panels.

Step-by-Step Process

1. Draw your design at full scale and lay silver tracing paper over it.
2. Flip any directional elements in the design to account for reversal.
3. Create a flour-and-water paste and use it to glue

each tessera face-down onto the tracing paper.

4. Once dry, apply fibreglass mesh to the back and coat with adhesive or cement.
5. Let it dry completely, flip it face-up, and wash away the paper and paste.

Advantages

- Produces a perfectly flat surface
- Ideal for floors or works that will be transported
- Allows time for adjustments before final mounting

Considerations

- The work is done in reverse, so planning is crucial
- Requires practice to visualise the final image while working backwards

Appendix D: Direct Method

The direct method is intuitive and commonly used for walls, sculptures or irregular surfaces.

Step-by-Step Process

1. Draw the design to scale and protect it with plastic film.
2. Lay fibreglass mesh over the design.
3. Apply adhesive to small areas and begin placing tesserae right side up.
4. Press and align the tesserae as you go.
5. For large works, divide into sections using thin strips of plastic to prevent the sections from sticking together.
6. Mount the finished sections to the final base using adhesive and weight for pressure.

Advantages

- Simple and fast
- Good for curved or 3D surfaces
- Allows direct visual feedback during creation

Limitations

- Surface may not be perfectly flat
- More adjustments are needed to maintain consistency

Appendix E: Adhesives and Sealants

Adhesives

1. Cement-based adhesive

Commonly used for permanent wall and floor installations. Provides strong, weather-resistant adhesion. Applied with a trowel or spatula in small sections.

2. Flour-and-water paste

A simple, natural paste used in the indirect method to hold tesserae to paper temporarily. It washes away easily after the mosaic is flipped.

3. Colla Perla Zurigo

Traditional rabbit-skin glue used in the Ravenna method. Brushed over cotton gauze to hold the surface of the mosaic in place while lifting. Reversible with boiling water. Strength can be adjusted by diluting or warming the glue.

4. PVA and general-purpose adhesives

Occasionally used in contemporary or hobbyist settings, but not suitable for archival or outdoor works due to lower durability and non-reversibility.

Sealants and Conservation Materials

1. Grout sealant

Used after grouting to protect porous areas from moisture and staining. Important for mosaics in bathrooms, kitchens or outdoors.

2. Marble or stone sealant

Applied to natural stone tesserae to reduce absorption and maintain colour. Oil- or solvent-based and should be tested in small areas before full application.

3. Waterproofing membranes

Used underneath mosaics in exterior or wet

environments to protect the structure from water infiltration.

4. Paraloid B-72

An acrylic resin used in professional conservation. Dissolved in acetone or ethanol and applied to fragile areas or porous materials. It forms a stable, reversible seal that does not yellow over time. Common in museum and archaeological practice. Should be used sparingly and in ventilated environments.

Appendix F: Attaching to a Base

Once your mosaic is complete whether made by the direct, indirect, or Ravenna method, it needs to be securely mounted to its final surface. This process must be done with care to ensure durability, proper adhesion, and a level finish.

Step-by-Step Process

1. Spray the base with water

- Lightly dampen the surface to help the cement bond better.

2. Apply a thin layer of cement

- Press a small amount of cement into the base to act as a primer layer.

3. Spread a generous amount of cement

- Apply a thicker, even layer of cement across the base.

4. Use a toothed scraper

- Comb through the cement with a notched trowel to create grooves. This ensures better grip and bonding.

5. Place the mosaic carefully

- Align it precisely before pressing down. This step is critical. Once it's pressed into the cement, it's difficult to shift.

6.Press out air

- Press down firmly and use a flat tool or your hands to push out any air bubbles trapped underneath.

7. Weigh it down

- Place a piece of timber over the mosaic and add a heavy weight on top to keep pressure evenly distributed.
- Leave it to set overnight.

Appendix G: Working in Sections

Large mosaics can't always be created in one piece, they need to be made in sections and assembled later. How you divide the work depends on the method you're using and the final shape and surface.

General Principles

- Always plan your sections before starting.
- Avoid splitting the mosaic in straight lines. This can draw unwanted attention to the joins.
- Instead, break the design along natural lines, shadows, or curves in the image. Irregular or jagged divisions help hide the seams.

For the Direct Method

1. Draw your design at scale.
2. Mark the section lines clearly.
3. When you reach the edge of a section, place a thin strip of plastic between the tesserae to create a break.
4. Cut the mesh at the separation line.
5. Continue working on the next section, one piece at a time.
6. After the adhesive dries, you'll be able to separate the sections cleanly for transport or mounting.

For the Indirect Method

1. Work up to the edge of your planned section.
2. Wait at least 30 minutes for the flour-and-water paste to dry slightly.

3. Then cut along the section line and start on the next area.
4. This small pause allows the paste to firm up so that the previous section doesn't shift when continuing.

Appendix H: Sealing a mosaic

Sealing a Mosaic

Sealing is an important step in protecting a finished mosaic, especially when working with marble or other porous materials. It helps preserve colour, prevents staining, and provides a barrier against wear and weather over time.

When to Seal

- Sealing is optional for indoor wall mosaics but highly recommended.
- It is essential for mosaics used in high-contact or outdoor environments, such as floors, tabletops, and exterior walls.
- Grouting may also require sealing afterward, depending on the material used.

Materials

- Paraloid B-72 – a conservation-grade acrylic resin commonly used in mosaics and stone preservation.
- Acetone – used to dilute the Paraloid for easier application.

Process

1. Mix the solution

- Combine a small amount of Paraloid B-72 with acetone to create a thin, brushable sealant.

2. Apply to the surface

- Paint the mixture directly onto the finished mosaic.
- Apply evenly and ensure full coverage, especially in gaps and textured areas.

3. Let it dry completely

- Allow the sealant to dry thoroughly before grouting or handling.

4. Reapply every 8–10 years

- Sealing should be repeated every 8 to 10 years to maintain the protective layer and vibrancy of the materials.

Benefits

- Protects the surface from marks and moisture.
- Brightens the colour of marble and natural stone.
- Extends the life of the mosaic, especially in public or outdoor settings.

Appendix I:

Finishing Techniques

Once a mosaic has been mounted and sealed, there are several optional finishing steps depending on the desired look and context. These include grouting, sanding, sealing, and even ageing the surface to mimic antique mosaics.

Finishing a Marble Mosaic

1. Sanding (Optional)

- Use a grinder to gently sand the surface of the mosaic.
- This can help level uneven tesserae and give a polished look.
- Take care not to over-sand, especially on soft or porous stones.

2. Sealing

- Apply Paraloid B-72 mixed with acetone, as detailed earlier.
- Let dry fully before proceeding.

3. Grouting (Optional)

- Grouting is essential for floor or pavement mosaics for strength and safety.
- For wall-based or art mosaics, it's a personal or aesthetic choice.
- Use a neutral tone or one that enhances the design.

4. Ageing with Bitumen (Optional)

- To create an aged, antique effect, apply bitumen after the piece has dried.
- Use sparingly. It will darken and stain the surface slightly.
- Follow with another thin layer of Paraloid B-72 to seal and protect.

5. Final Sealing (Again)

- After bitumen or grouting, you can apply a final sealing coat if needed.
- This ensures a uniform finish and long-term protection.

Sourcing Materials in Australia

Authentic materials used in Roman-style mosaics can be difficult to source locally, but the following suppliers and substitutes are recommended:

Marble & Stone

- Marble yards and tile yards across Australia are the most accessible sources of offcuts and stone slabs suitable for cutting into tesserae. These include local fabricators, stone suppliers, and recycling centres.

Smalti (Glass Mosaic Tiles)

- Smalti Australia (NSW): Distributor of Orsoni smalti from Venice
- Mosaic Bazaar Australia (SA): Distributor of Morassutti Eco Smalti from Spilimbergo in Italy

Tools

- Tessera Tools (Online): Martellina, tagliolo and accessories
- Domus Tile Suppliers and specialist Italian tool importers
- eBay.com.au and alibaba.com

Adhesives & Cement

- National Tiles and Mapei Australia: Carry Ultralite S2, Keralastic, and a variety of compatible cements and grouts
- Bunnings: Basic PVA and flour for the indirect method
- Bowens: Fibreglass mesh and building materials more suitable than Bunnings for mosaic backing

Lime Putty

- Oil-based modelling clay may be used as a contemporary alternative to lime putty for certain stages of the Ravenna method

Substitutions may be required due to availability, but the Fellow continues to test combinations of local materials and will publish findings in future workshops and online resources. due to availability, but the Fellow continues to test combinations of local materials and will publish findings in future workshops and online resources.

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Glossary of Terms

Andamento

Italian for “movement” or “flow.” In mosaic, it refers to the visual rhythm and directional layout of tesserae, guiding the eye through curves, outlines and background fields.

B-72 (Paraloid)

A clear, reversible acrylic resin used in conservation. Typically dissolved in acetone or ethanol, it strengthens fragile materials or acts as a protective sealant in mosaics and archaeological work. It is stable, non-yellowing and used professionally for ethical restoration.

Colla Perla Zurigo

A traditional Italian glue made from rabbit skin, used in the Ravenna method. It adheres gauze to the front of a mosaic before lifting and transferring. It can be reversed by applying hot water.

Direct Method

A mosaic-making technique where tesserae are placed right-side-up directly onto the final surface or a mesh backing. It is intuitive and allows the artist to see the image as it is constructed.

Eraclit

A breathable, textured board used as a base in the Ravenna method. It supports lime putty and allows airflow for drying.

Fibreglass mesh

A flexible, woven backing used in both direct and indirect methods to stabilise mosaics during construction and transfer. It adds structural support.

Flour-and-water paste

A simple, reversible glue made by boiling flour and water. Used in the indirect method to temporarily fix tesserae to tracing paper.

Fuga

The intentional spacing between tesserae. Consistent fuga is essential for visual coherence and structural integrity in traditional Roman mosaics.

Grout sealant

A liquid sealant used to protect grouted areas from moisture and staining. Commonly applied after installation for functional and aesthetic preservation.

In situ

Latin for “in place.” Refers to artworks, including mosaics, that remain in their original architectural location.

Indirect Method

A method in which tesserae are glued face-down onto tracing paper. The mosaic is then backed, flipped and cleaned. Commonly used for floors or transportable panels where flatness is crucial.

Lime putty

A malleable, slow-drying base made from slaked lime and water. Used in the Ravenna method to temporarily hold tesserae in place for detailed work.

Linea di contorno

An outline or contour line made with tesserae, often in the same colour as the background, used to subtly define the edge of a figure or shape.

Martellina

A traditional mosaic hammer with a flat and pointed head. Used with a tagliolo to split and shape tesserae by hand.

Micromosaic

A highly intricate form of mosaic that originated in Italy in the 18th and 19th centuries. Micromosaics are composed of extremely small tesserae, often made from coloured glass, and are typically used in jewellery, devotional objects and table-top panels. They are constructed with such precision that the final surface can resemble a painting. This art form requires exceptional technical skill and patience and is considered a uniquely Italian cultural tradition.

Modular mosaic

A large mosaic assembled in smaller sections or panels for ease of transport and installation. Common in public or architectural settings.

Paraloid (see B-72)

A conservation-grade acrylic resin used to stabilise or seal surfaces in mosaic and stone preservation.

Pergamino argento

Silver tracing paper used to transfer designs onto lime putty in the Ravenna method. Drawings are reversed and printed using water-soluble markers.

Putty (lime putty)

The working surface in the Ravenna method. It retains moisture and flexibility, allowing for detailed manipulation of tesserae before setting.

Ravenna Method

A historical mosaic technique in which tesserae are placed face-up into lime putty on a temporary board. Once complete, the mosaic is lifted and transferred to a final support using glue, gauze and cement.

Sealant

A protective liquid applied to mosaics after installation. Used to resist water, staining or erosion. Options include grout sealants, stone sealers and conservation-grade materials like Paraloid.

Smalti

Richly coloured, opaque glass tiles used historically in Byzantine mosaics. Smalti are hand-cut and reflective, adding depth and vibrancy to mosaics.

Tagliolo

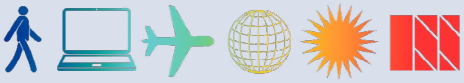
A steel chisel used in tandem with the martellina to split and shape tesserae.

Tessera (plural: tesserae)

A small tile, usually a cube, used to construct a mosaic. Tesserae can be made from marble, stone, ceramic, smalti or other materials.

Venus at her toilet

A recurring classical art motif depicting the goddess Venus in acts of grooming or vanity. Reinterpreted in the Fellow's contemporary mosaic with reference to selfie culture.



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