



**iiw**2020

**ON-LINE ANNUAL  
ASSEMBLY**

JULY 15/25

**WELDED ART  
PHOTOGRAPHIC EXHIBITION**

**THE ARTISTIC SOUL OF WELDING**

**DIGITAL COLLECTION**

# WELCOME

As IIW President, I warmly welcome you to the IIW Welded Art Photographic Exhibition.

Welded art provides a number of benefits to people. As a hobby, it helps improve the mental health of people, it is a wonderful tool to improve the image of welding and in many cases provides an income for people with the appropriate artistic skills.

Due to the Covid-19 pandemic, the International Institute of Welding (IIW) Board of Directors took the decision to cancel the IIW Annual Assembly in Singapore and replace it with an on-line version of the IIW Annual Assembly being held over the period 15 to 25 July 2020.

Fortunately, the IIW Welded Art Photographic Exhibition in 'virtual' mode is still a part of this. People enrolled for the on-line IIW Annual Assembly are able to enter a section where they can enjoy an accurate and complete Digital Collection of the exhibition and download it to peruse at their leisure. The Collection contains all the welded art photographic exhibits plus the write-ups on the artists and exhibits including contact details of each artist for further follow-up if required.

It is also our intention to load the booklet onto the IIW website for people around the world to view it and download it if they wish. We also encourage IIW Members and others to hold future exhibitions and competitions related to welded art including using these exhibits.



**MR. DOUGLAS R. LUCIANI**  
IIW President (2017-2020)



**INTERNATIONAL  
INSTITUTE  
OF WELDING**

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# ACKNOWLEDGEMENTS

People from around the world were invited to send in photographs of their welded art to be selected for display and we are pleased to say that 33 artists will be featured at this exhibition.

Exhibitors range from world renowned artists and sculptors, to hobbyists, part time business owners, researchers experimenting with newer processes such as additive manufacturing, a photographer bringing the viewer closer to the world of technology and welding from the perspective of fine art photography and an up-and-coming nine year old representing the face of the next generation.

I am a great believer in people having the attributes of enthusiasm and persistence to succeed and my dealings with all the artists featured showed me that all 33 of them have these attributes.

I would like to thank each exhibitor for their efforts in making the exhibition a success as well as Anna Luxardi, Barbara Rossi and Rosario Russo for their assistance in its organisation. I would like to encourage interested people to contact the artists directly by their email addresses or visit their websites.

IIW is interested in receiving feedback from people on ideas to improve the IIW Welded Art Photographic Exhibition concept for 2021 so please feel free to contact Chris Smallbone on [allbones@iinet.net.au](mailto:allbones@iinet.net.au) with your comments and ideas. This includes discussing possible involvement in the new categories as shown from page 56 onwards.



**MR. CHRIS SMALLBONE**  
Exhibition Organiser



**INTERNATIONAL  
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# WELDED ART EXHIBITS

WELDED ART  
PHOTOGRAPHIC EXHIBITION  

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THE ARTISTIC SOUL OF WELDING

# ANTOINE ARANDA (France)



Antoine is renowned for his work, having been involved with numerous personal and group exhibitions, private and public commissions, and has collections of his work across the world. He has received many awards and honours for his work.

For forty years, as a sculptor, Antoine has played with shapes, materials and space. At first the woman, tender, voluptuous, mother or muse, nourishes his inspiration. From the sensual nude magnified by bronze and patinas, in the lineage of Brancusi and post-modern sculpture, he gradually turned to archetypal forms, in the spirit of lyrical abstraction.

Over the years, his Mediterranean and Spanish culture, nourished by his experience in utopian Franche-Comté, has allowed him to develop a writing characterised by the insertion of abstract figures and geometric forms, inherent to the Arab heritage.

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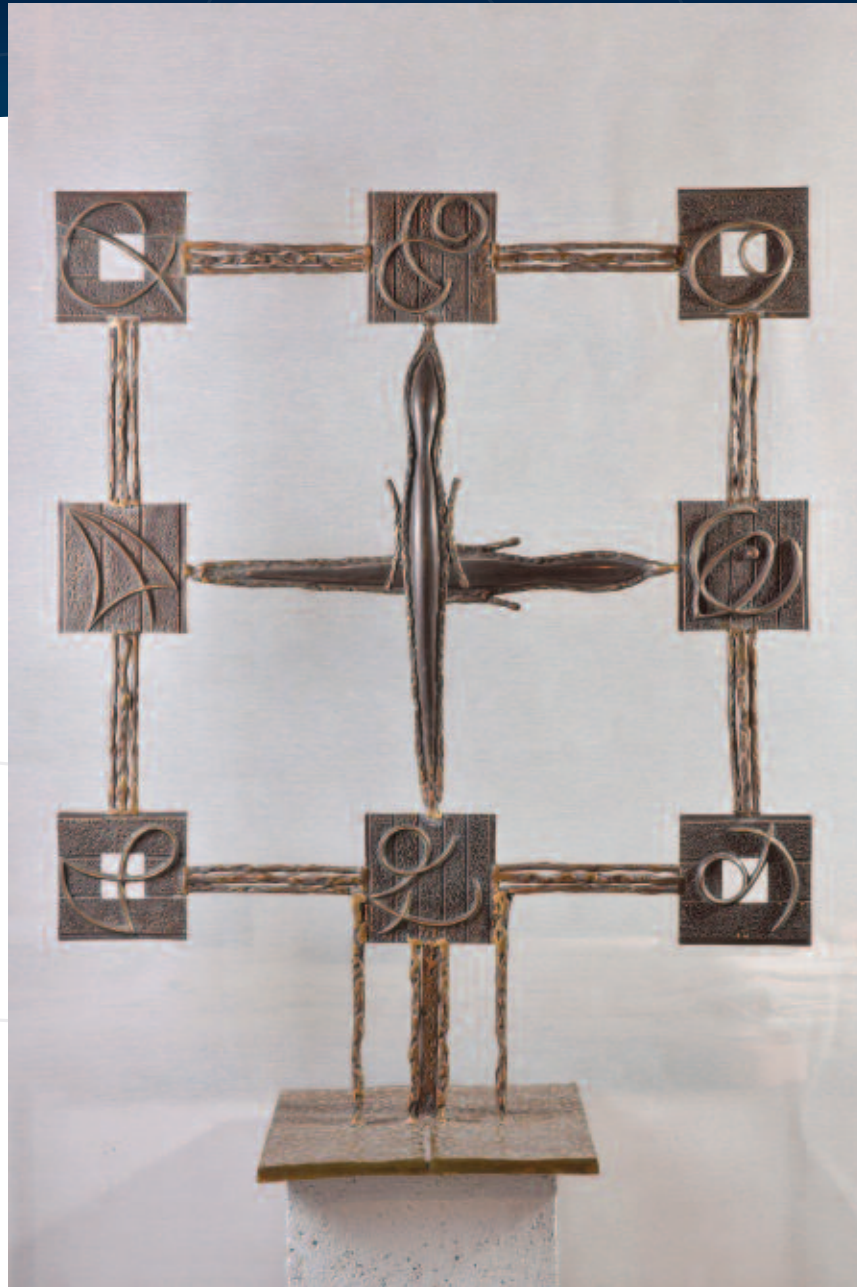
## Exhibit "MEETING WITH MY ANGELS"

This sculpture is 92 cm high and the material is welded bronze with brown patina. Antoine's creation "Meeting with my Angels" is the beginning of his journey into abstraction. The symbolism resides in the integration of two crossed angels, which orientates the creation within the labyrinth of this concept, thus expressing the abstraction. This orientation is part of a visualisation of the square shown as open or closed, with columns by 3 or by 5 squares, where there appears a graphic calligraphy on which stylised figures are carved. The set is a staging of a utopian and poetic scenario which claims that this welded bronze art vessel will communicate his thinking to the unknown... to human infinity thanks to the subtleties between the figures and the calligraphy present in the squares which will travel by the appreciation of the public by communicating by thought to their knowledge (because we are all connected) which will thus achieve at the end of this chain, this magic out of the artist's mind, to communicate with all humans.

## Methods and Techniques

Initially, the eight squares are created by engraving on wood; then follows the moulding and casting in bronze using the sand casting technique. The machining and finishing is done by the artist. The two angels are modelled in dough. They are then moulded and cast in bronze, again using the sand casting technique. Bronze rods, worked into the model and moulded in bronze, are then welded onto the outline of these parts. The machining and the finishing is done by the artist. All the squares are connected by three bronze rods moulded and welded together, then the angels are welded in a cross. Finally, the piece is finished by cleaning the welds then paginating the assembly, buffing and scratching the patina, then applying the varnish.





ANTOINE ARANDA, "MEETING WITH MY ANGELS"

# STEVE BODROG (Australia)



Steve has been fabricating panels like those in the photo all his working life.

He originally did a four year apprenticeship in the 'panel shop' at Aston Martin Lagonda, Newport Pagnell in England when he left school in 1979, learning the skill of hand forming flat sheets of metal into complex shapes.

He did a further couple of years there before moving on to get into the historic car scene. In this area, research and development can take a significant amount of time and working 'freehand' to interpret old photographs or drawings is a skill Steve has perfected over the years.

Steve moved to Australia in 1995 and started to explore his own creative ideas via abstract sculpture about that time. He still remains involved in the highly specialised field of restoration and re-creation of bodywork for historically significant motor vehicles.

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## Exhibit "AUTO UNION C TYPE RE-CREATION"

This exhibit is a full size re-creation of an Auto Union Grand Prix car of the late 1930s.

Starting with a chassis (made to original factory drawings), a pile of books and photographs, a successful outcome on a project like this depends on research, more research, attention to detail but never losing sight of the big picture.

A combination of 1.6mm and 1.2mm 'half hard' aluminium sheet was used for the bodywork, 1.2mm mild steel for the oil tank and various brackets on the substructure and 1.2mm stainless steel for the petrol tank.

Development and fabrication of complex shapes like the nose or tail section were made by the standard practice of breaking down into smaller pieces and welding together. The nose, for example, was made in four main pieces, the top, bottom and sides. Shaping is by wheeling machine or hand work using flipper and block. Marking each piece to the next with a scribe and getting a nice file finished cut is essential for a good weld.

Steve uses oxy-acetylene with no filler rod if possible, which makes the next part easier, hammering out the weld and file finishing. Working to a very basic plywood skeleton that he had established initially, components could be made (or part made) and put into position for overall assessment.

Fabrication of the complex substructure gradually replaced the plywood as the outer shape progressed with 'Clecos' holding things together before final riveting. Several hundred solid rivets were used during construction.





Photo Credit: Easton Chang

STEVE BODROG, "AUTO UNION C TYPE RE-CREATION"

# MATTIA BROSS (Italy)



Mattia Broggi, (in art Mattia Bross), started Metal Inert Gas (MIG) welding in 2003 prompted by his father Daniele, a famous rally chassis fabricator. He then started Tungsten Inert Gas (TIG) welding in 2007 and in 2008 he joined the Class 1 TIG welders team of Alenia Aermacchi where he continued in-depth studies of different processes becoming a 1st level inspector and achieved 6 "Class 1" certifications in TIG welding on 6 different metals.

His passion for welding along with his passion for art and the love for artists such as Dalí and Warhol inspired him to always have a vision beyond appearances.

The scrap bin became a gold mine for him. In 2009 he hosted his first scrap metal art exhibition.

Nine years later in 2018, he started with welding art with signs, horror drawings and portraits and then he founded the weld\_circus group dedicated to worldwide artists with passions for welding art and metal scrap art.

Today, Mattia Bross is one of the most popular artists on social platforms, counting over 80,000 followers on Instagram.

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## Exhibit "THE SUGAR SKULL" and "THE SANTA MUERTE"

The art is performed on Stainless Steel AISI 304 sheet metal, 2 or 3mm thickness, using 316LSi filler rods of different diameters, spacing from 0.8mm to 1.6mm.

Engraving techniques come into play for additional character of his drawings using a pneumatic engraving pen, and painting, mostly black.

The size of The Santa Muerte is 420 mm x 595 mm and The Sugar Skull is 300 mm x 400 mm.





MATTIA BROSS, "THE SUGAR SKULL" AND "THE SANTA MUERTE"



# HILARY CLARK COLE (Canada)



Canadian sculptor Hilary Clark Cole was born in Victoria, British Columbia and is a graduate of the Ontario College of Art and Design. She has lived and worked in Muskoka since 1971. As well as having her metal sculptures in many private collections, she has created significant public sculptures over the years.

She has won many awards for her sculptures, and she has been profiled on television programmes on the Life Channel, CBC and Global. She is a strong role model in the community and in 2002 won the first YWCA Woman of Distinction Award for Arts and Culture.

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## Exhibit "IF THESE WALLS COULD TALK"

Huronian Regional Centre, located in Orillia, Ontario Canada was an institution established in 1876 for children and adults with disabilities, and children as Crown wards. Over the years the institution became grossly overcrowded and understaffed, the buildings became dilapidated, and often the residents experienced a life of systematic physical, sexual and emotional abuse. There was no one to protect and advocate for them...no one thought it necessary. It was not until 2009 that Huronia Regional Centre was closed. A class action law suit was launched by Survivors and their litigation guardians against the Province of Ontario and a \$35 million dollar settlement was awarded from which funds were made available to create a memorial.

In 2018, Hilary Clark Cole, a Canadian professional sculptor in welded steel, was commissioned by Survivors who have formed a group called "Remember Every Name" ([www.remembereveryname.ca](http://www.remembereveryname.ca)) to create a memorial as a testament to those who were buried there and to those who survived living at Huronia Regional Centre.

The artist's preparation involved several meetings with the Survivors for their input for the concept. She subsequently created a 'maquette', a small version of the monument, which was approved by the group.

In collaboration with Steve Sanderson of Signature Memorials, two eleven-foot-tall black granite walls, engraved with powerful words from Survivors, were erected. A Corten Steel welded tree, representing Survivors struggling to live, reaches through a gap high on these imposing walls and emerges on the other side, bursting into life and freedom.

Crows take flight from the new leafy branches. Crows are significant to the Survivors; these wise birds would land outside on the windowsills of the institution... they felt that the crows were the only ones who knew what was really happening inside, as witnesses to their pain and suffering.

Titled "If These Walls Could Talk", the memorial was unveiled and dedicated in August of 2019.



Photo Credit: Bruce D. Clark



Photo Credit: Bruce D. Clark

HILARY CLARK COLE, "IF THESE WALLS COULD TALK"



# JENNIFER COSTA (USA)



Jennifer Costa's foray into welding occurred during her undergraduate Sculpture II class in North Carolina. Her professor showed her how to use an arc welder, a plasma torch, and an oxy/acetylene torch for brazing and cutting. He took his students to the local scrapyard, which had a glorious pile of metal, gave them a bucket to collect materials, and set them loose to forage cool pieces of steel. They took those pieces of metal back to school and started creating. It wasn't until graduate school that she learnt how to use a MIG welder. She has been using welding in her artwork ever since.

She is presently the Teaching Chair, Art Program and Professor of Art at the Illinois Central College, East Peoria, IL

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## Exhibit "LAUNCH" Dimensions: 17 x 43 x 43 inches

Her work is functional in that she creates furniture. She has made all steel pieces in addition to combining materials. Her favourite materials are steel, cast aluminum, cast bronze, copper, glass, and wood. She loves combining materials to create something utilitarian. She calls herself a furniture maker and creator of things, but her main title is artist.

She often embeds steel pieces in her cast aluminum legs so that she can weld a framework to them. She likes using multiple materials in her work such as steel, cast aluminum, and wood. She is inspired by the colour, texture, and shape of a material. She likes using a material for what it is, and she also likes changing that material so the viewer is intrigued by its new use.

She has always had a love for the colour of rusted metal and often purchases new sheets of steel and lets them sit outside for years to get an aged patina. One of her favourite things to do is create tabletops out of tiny scrap pieces of steel that she has pieced together. She can create all sorts of designs and patterns with the added benefit of using something that otherwise would have been thrown away.





JENNIFER COSTA, "LAUNCH"

# PAVOL DUBINA (Slovakia)



Pavol, a well-established young sculptor, was born in Bratislava in 1975. After graduating from the School of Applied Arts in Bratislava as a monumental mason (1990-1994), he continued his studies at the Academy of Fine Arts in Bratislava (1994-2000).

His preferred medium is metal especially welded iron in an intimate format. He is not influenced by other artistic forms preferring to listen to his own feelings and impressions.

Since 2004, playing with completely different emotions, he has had a gradually enlarging series of animal sculptures in both intimate and monumental scales, unprecedented in today's Slovakian sculptural scene. Breakthrough years of Dubina's career were 2006-2007, when significant monumental outdoor realizations were created.

These included amongst others, the Memorial to victims of extremism (Bratislava 2006) created in connection with the tragic death of Daniel Tupý, Grey Bear created for the golf club of the same name (Tále 2007) and the more than seven metre high statue of Milan Rastislav Štefánik now installed on the square in front of the new building of the National Theatre in Bratislava (2004-2009).

He has been involved in several collective exhibitions not only in Slovakia but also in, for example, Austria (Kitsee 1996), Germany (Lübeck 1999) and Italy (Roma, Umbertide 2006).

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## Exhibit "THE INCOMING" Dimensions: 75 x 40 x 30 cms

Pavol enjoys modeling the sculptures directly from the iron using - A LA PRIMA - welding method while gradually adding an iron wire using the Metal Inert Gas (MIG) welding technology. In order to get a finer structure, sometimes, he remelts and models with the Tungsten Inert Gas (TIG) welding. In this way, he gets a unique modeling and structure which suits him and afterwards he continues grinding and polishing it.

The advantage is that the material processed in this manner remains harder and thus, it allows the formation of shapes that would not be possible in other materials or it would not stay durable. At the same time, the object made in this way will always be original, which he can keep re-creating and changing until the very last moment and most importantly, he can always see the result in real time and space.

The Incoming, contrary to Charon (Greek mythology) - the ferryman who carried souls of the deceased across the river-The incoming, therefore, stands for the one who brings the new souls.



PAVOL DUBINA, "THE INCOMING"



# SANDRA GARCIA-PARDO (USA)



Born in Barranquilla, Colombia, Sandra Garcia-Pardo has been involved in art since her early years when she joined different artistic experiences in her country such as the School of Fine Arts, private art classes and Publishing Design. After being granted a government scholarship, she moved to Argentina to finally materialize her dream of getting a bachelor's degree in Fine Arts at "Escuela Nacional de Bellas Artes Prilidiano Pueyrredón", the most prestigious art school of Argentina located in the city of Buenos Aires.

She moved to USA in 2004 to continue enriching her artistic talent and has exhibited in different galleries all over the country and abroad.

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## Exhibit "PROTECTOR OR PREDATOR"

Our highly and continuous participation in various forms of life cannot be ignored. Many entities and communities are more and more committed to choosing ecological options towards mitigating the destruction of our planet. We are now more conscious of the opportunities to choose; we are now aware that we can be protectors or predators. Spiders wave life and fate as in this sculpture where the spider seems to be close to eating its prey, a nest of unborn birds, or is the spider towards protecting the eggs and ensure the future life? The dual representation of this encounter between hunter and prey is a paradox that brings to our minds the generations to come, and the future planet they will live in; we cannot forget they are members of our own families, and ensuring the future life for them will be our legacy.

Regarding the fabrication of the exhibit, the hardest part for Sandra was to bend the head for which she had help due to the thickness and small size of the rebars for that area. She decided to use the bars because that way she would avoid having a bulky and heavy looking piece. To build the body she used a "sweet wire" to be able to manipulate it to get the roundness necessary as per her drawings, so that she would avoid wasting material when cutting the bars. For the welds she had to be inside the spider, not all the time, but felt that was fun. The size of the spider alone is 46"x96"x74".

For her, the legs were a critical part because they needed drama, and she thinks the intention was achieved. All the joints on the legs were built adding lots of welds and grinding. The nest was built with natural wood branches which she picked up in her neighbourhood, and she got a surprise to know they were beautiful and strong and were perfect for a real nest. The eggs were made out of plaster. The nest is the crucial part to complete the meaning of "Protector or Predator".





SANDRA GARCIA-PARDO, "PROTECTOR OR PREDATOR"



# CLIVE GAZET DE CHATTELIER (South Africa)



The artist, Clive Gazet de Chattelier, completed his welding apprenticeship with the Rhodesian Railways in the early 1950s. Twenty years later, he decided to venture into the creative side of welding linked in to his love for the natural movement of animals in the African bush.

He later moved to South Africa, working in the maintenance department of a major bus company near Pretoria, and creating his works of art in his spare time. Many pieces are also in collections around the world.

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## Exhibit "ELEPHANT" and "FLAMINGO"

In 1988, SAIW was fortunate to obtain five pieces of unique welded art whereby the artist Clive Gazet de Chattelier literally produced his pieces only from built-up manual metal arc welding.

The amazing works of art which Clive produced covered animals such as elephants, lion, buffalo, horses, birds, buck and raptors. He specialised in eagles and it is here that the full scope of his talent, expertise and creativity in this medium can be appreciated.

Clive's welded sculptures are very different from other metal sculptures since they are built up only with weld metal. His eagles for example, have each feather, pinion, claw and beak intricately fashioned in welding to create a life-like replica in "living metal".

The photos of the elephant (30cms tall) and flamingo (90cms tall) clearly show this technique on each part of the elephant's body and flamingo's body. His skill and innovativeness in using this technique is probably unique.





CLIVE GAZET DE CHATTELIER, "ELEPHANT" AND "FLAMINGO"

# ANN GILDNER (USA)



Although an artist for over 40 years, Ann Gildner began welding ten years ago and particularly likes to create large public and private art. Her Gildner Gallery Studio allows her to create large scale metal sculptures from 2 to 40 plus feet high in the welding school she teaches at, Industrial Arts Institute, Onaway, Michigan.

Her range of public art includes 3D art pieces, relief sculptures, re-cycled repurposed artworks, mixed metal art as well as large outdoor sculptures.

She particularly enjoys "Community-involved Works" with the collaborative sense of having a vision and carrying it through to realization bringing people together. She also guides communities to create their own "Installation art" which is site specific art designed to change your perspective about that space.

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## Exhibit "BECCA TRIUMPHS"

"Becca Triumphs" was created during Ann's cancer diagnoses, surgeries and recovery. It is a 10ft x 6ft diameter, granite and steel sculpture with a natural patina finish.

Ann looks at this sculpture as a metaphor of her health journey depicting triumph over cancer. The rock represents the cancer and the vines are the disease and anxiety that is holding Ann's body to the cancer. As she recovered and became cancer free, the vines released her and freed her to move forward with her life.

This sculpture was created with thousands of round steel slugs, Metal Inert Gas (MIG) welded with solid wire. She used solid steel ½" and ¾" round stock to make the vines. The equipment she used was a Piranha Iron Mover, torch and forge.

With the forge, she heated the stock up and hammered to taper and stretch out the stock. To fit around the rock, the vines were made in four sections and fitted before welding in place. The body was cast and welded to form the body shape with the required texture.



ANN GILDNER, "BECCA TRIUMPHS"



# NIDHISH GOPINATH (India)



Nidhish Gopinath is from Kottayam District of Kerala, a southern state of India. After completing his high school studies, he graduated with a degree in Fine Arts specialising in sculpture (2014-2018). During his studies, he had the opportunity to develop the art through welding to make sculptures.

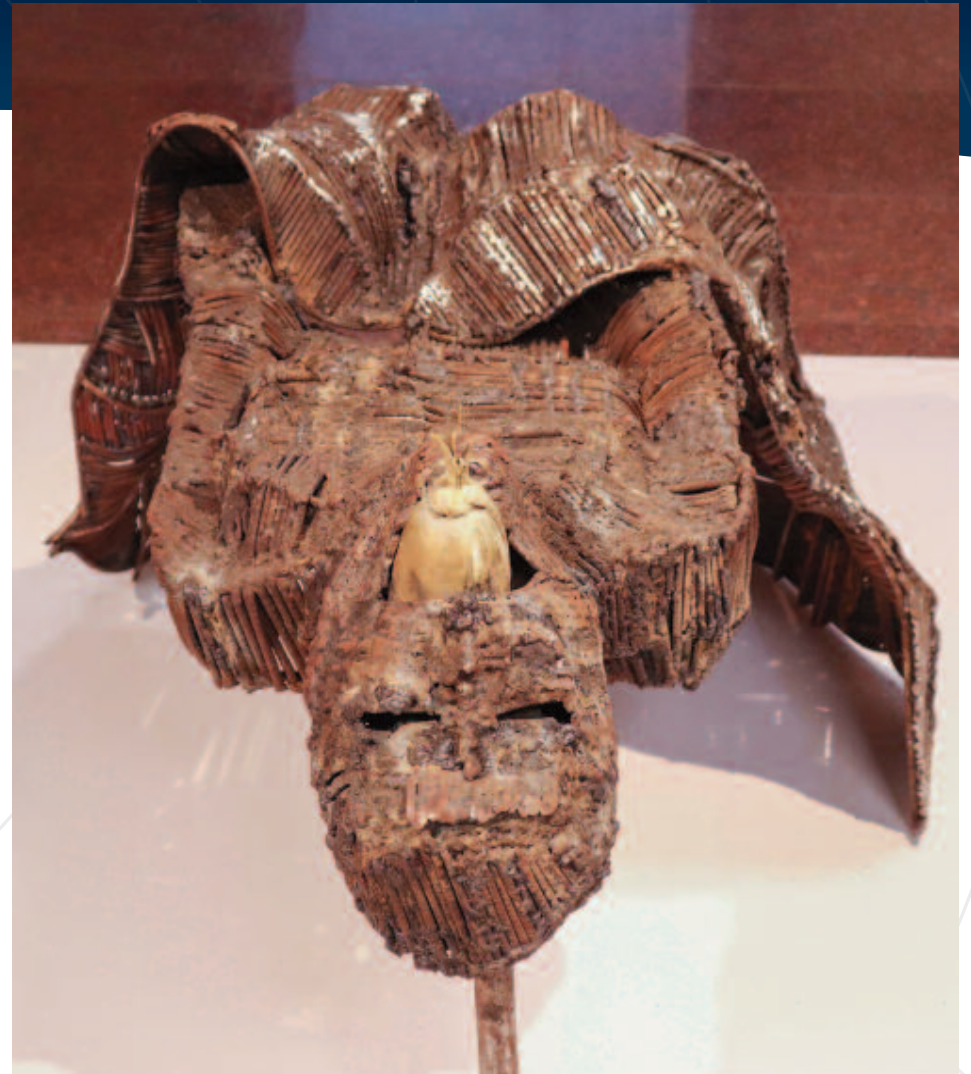
He was inspired by the work of American Sculptor David Smith and devoted his work towards Femme Welding Sculptures. Presently, he is a Freelancer with his major amount of work involving arc welding. He has participated in three state exhibitions and also participated in the IIW International Congress (IC2020) in Mumbai in February 2020.

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## **Exhibit "REBIRTH"**

This sculpture is based on Hindu spirituality. It is a short search of human lives and their life styles. This model is done with arc welding. It took more than a month to complete this work with metal scraps and scrap electrodes.



NIDHISH GOPINATH, "REBIRTH"

# ERIC HARRISTHAL (USA)



Eric creates art in his home garage in Tucson, Arizona and chose metal as his medium. He has a completely unrelated full time job but also creates metal art because it is something he loves. He is a self taught Tungsten Inert Gas (TIG) welder and started experimenting with metal in 2014. His art consists of everything from sculptures of animals, people, and buildings, to functional art such as lamps, fire pits and shift knobs.

"Unique Metal Art" is the phrase he uses on his website, social media, and business cards. Whether he creates a completely original piece like a Slave Robot or a Dread Head, or a character you might recognize from a book or movie, everything he creates is by hand and there is no other piece just like it in the world.

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## Exhibit "EDGAR ALLAN POE"

Eric's art generally consists mainly of mild steel, stainless steel, bronze, brass, and copper. He collects much of his steel from his local salvage yard or junkyard. Some pieces of art require specialized or unique metals that must be purchased online or at a metal supply store.

He chose to make this sculpture because Edgar Allen Poe was one of the most important and influential American writers of the 19th century. He was the first author to try to make a professional living as a writer. He was well known as a "literary pioneer" as a poet, master of the macabre, pioneer of science fiction and father of the detective story.

Eric's sculpture was created with a combination of stainless steel and mild steel. He utilized Tungsten Inert Gas (TIG) welding and oxy-acetylene torch work for the majority of the sculpting. Eric also utilized a plasma cutter, angle grinder, and die grinder with a wide variety of bits and sanding discs for the cutting and grinding. A stainless steel forced patina was used on the sculpture to make certain details stand out, and Edgar Allan Poe's hair was created out of steel cable. The remainder of the sculpture was created out of stainless steel and mild steel pipe.





ERIC HARRISTHAL, "EDGAR ALLAN POE"

# VICTOR IVANOFF (South Africa)



Victor Ivanoff (11 January 1909 Vilnius, Russia – 1 February 1997 Johannesburg, South Africa), the son of a Russian Cossack general, was a South African artist, cartoonist and singer. Victor Ivanoff joined the Don Cossack Choir on their world tour which included visiting South Africa in 1936. Africa appealed to Ivanoff and he stayed on.

He found work as a cartoonist at the Afrikaans newspaper in Johannesburg, Die Vaderland, a position he held for 37 years. During this time he created more than 12 000 cartoons, but his dream of being considered a serious artist saw him signing up for art lessons from Pierneef, the celebrated South African Artist, and a study trip to Europe.

## Contact info

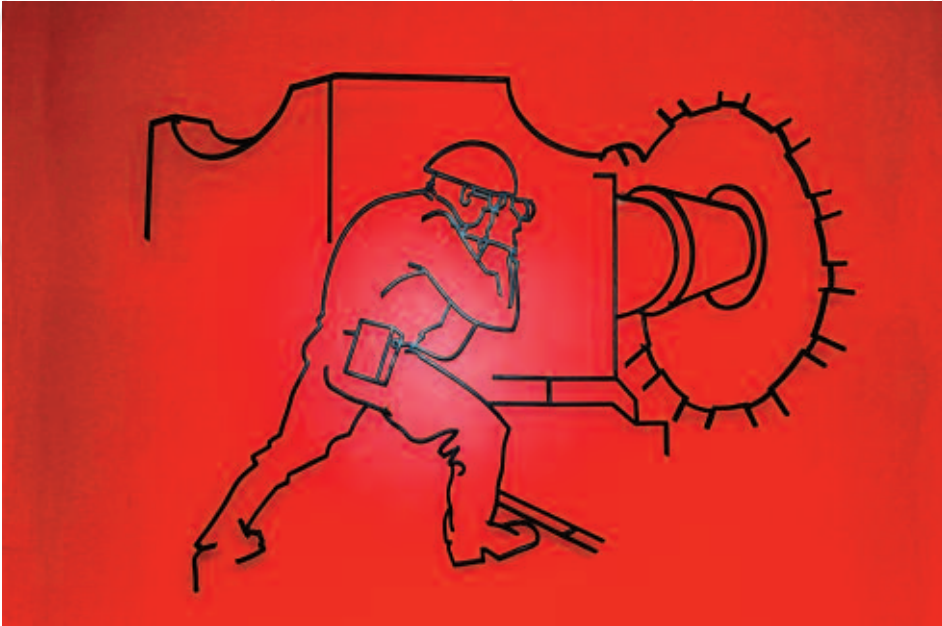
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## Exhibit "WELDED WALL MURALS OF STEEL-MAKING"

Working in oils and sepia tint, he produced mainly landscapes, people and animals, and took part in some joint exhibitions and ten solo exhibitions in the Transvaal.

His welded murals (upto 220 x 160 cm), currently housed at the Southern African Institute of Welding (SAIW) in Johannesburg, South Africa, were initially commissioned for the ISCOR Headquarters in Pretoria. ISCOR was the major steel making company in South Africa.

Although only two examples are shown, the range of murals produced depicted many of the operational stages in a steelworks. The murals were later broken up and donated to the SAIW, where they are currently displayed in a non-sequential narrative throughout its Johannesburg building.



VICTOR IVANOFF, "WELDED WALL MURALS OF STEEL-MAKING"

# EVGENY KRIGER (Kazakhstan)



Evgeny Kriger was born on January 14, 1985. He is a college teacher in turning and metalworking, and a practicing specialist in machine tool metalworking with eight years work experience. His hobbies are welding, programming, CAD drawing, woodworking and fishing. On his free time, he reads professional literature. He is married with four children and lives in Pavlodar, Kazakhstan.

He has been manual metal arc welding as a hobby for about five years. Welding helps him to master metalworking deeper and gain many professional skills. Besides making items such as garage doors, gates and other products, he also makes other statues from metal, some of which have no welding.

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## Exhibit "MOUSE"

The welded art "Mouse" was made of metal waste, sheet material and pipes and is about 400 mm high. The idea appeared to him during the regional competition of technical creativity. He saw a similar statue in a photo on the Internet.

To manufacture it, two sizes of pipe, 8mm dia wire, 3mm thick plate and manual metal arc welding with 3mm dia electrodes were used.

The sheet material was bent manually into conical shapes using designed and manufactured fixtures. The pipes were incised lengthwise and concave to form the body, front and hind legs. The nose and shape of the head are made of a sheet folded into a cone, the eyes from ball bearings and ears from sheet metal. After welding, the body of the product was covered with welding rollers, followed by applying varnish. Production time was four days.

Cleaning metal waste is boring, though necessary. For Evgeny, this work turns into a flight of fancy, designing products that are possible to manufacture from this material. Some people draw portraits from trash, some construct items from parts and assemblies that have already worked out their lives. For him, this trash takes on a second life, installations help transform space. The work on the installation is a mystery, as the result can be unpredictable and varied. For Evgeny, the installation expands the space. It is so incomprehensible and multifaceted.





EVGENY KRIGER, "MOUSE"

# KEN McKEN (Canada)



Ken McKen started welding at a very young age in his grandfather's shop on a Saskatchewan farm. Ken spent many years teaching the trade to apprentices and now works with CWB Group managing the Association business line. Ken's career has made many "footprints" across the nation and he has a strong passion to mentor our future generation in the welding industry.

In his spare time, Ken enjoys using his artistic abilities to create unique expressions of metal art. Ken's fondness of wildlife provides an exquisite foundation to many of his silhouettes and ornamental hand railing commissions. Ken's family includes multiple self-proclaimed artists and he hopes the tradition continues.

## Contact info

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## Exhibit "CWB METAL SCULPTURE - AMAZING DAN TADIC"

Artist Ken McKen combined multiple contributions from key industry stakeholders to create this unique metal desktop sculpture to recognise Dan Tadic's more than 11 years service with the CWB Group upon his retirement in February 2020.

Masterful Artist Blacksmith- Shawn Cunningham, Front Step Forge, provided the chipping hammer; representing the positive impact Dan has made globally. CWB Association NAC Chair- Gentry Wood, Apollo-Clad Laser Cladding, provided the macro etchings to represent the integrity of his work ethics and internal strength that has defined his career. The weld test bend samples represent his malleability and toughness to endure the high demands of leadership, producing stellar results without cracking. Ornamental welding artist- Ken McKen, CWB Group, provided the CSA W47.1 (1GF SMAW) qualification test representing his ability to mentor- instilling pride, self-esteem and purpose with all his acquaintances. Craig Martin- CWB Vice-President of Certification provided the CWB weld stamp, representing the mark that he has made on the welding industry.

Ornamental welding artist Ken McKen believes this desktop sculpture is a true reflection of Dan Tadic's career and is a testament to Dan's commitment to the welding & joining industry.





KEN McKEN, "CWB METAL SCULPTURE - AMAZING DAN TADIC"

# RICARD MIRA (Spain)



Ricard Mira was born in 1952. He learnt to weld while working at the Derbi motorcycle company, where later on he became a fitter in its Racing Department at a time when it won the World Championship repeatedly. Creating welded art served him as a complementary therapy for overcoming schizophrenia.

Although he also used other materials, he makes most of his sculptures by recycling iron scrap from the metalworking industry at Martorelles (near Barcelona, Catalonia) where he lives and works. He often uses Corten steel too, especially for public sculptures, since it gives them an interesting finish. He is a member of ICRE (Catalan Institute for Research in Sculpture).

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## Exhibit "HORTE'S BUST"

He crafted this welded artwork in 2010 from iron plates using Metal Active Gas (MAG) welding. He tin-soldered the eyelashes. It's a life-size (45x33x34 cm) bust of one of his models, Horte Vivas Peiró ("Horte" is short for Hortensia). It is a good example of the technique he likes best for making his sculptures: cold forging, that is, cutting, bending, welding and polishing iron. People often ask if the face is made of stainless steel, but it's actually just polished steel. For contrast, he finished the hair with a cold-bluing compound. The bust rests on a stepped wooden base containing an inscription.

He finds the way this sculpture is built was well described by art historian Tania Alba with the following words: "The expressiveness of Ricard Mira's sculptures stems very much from his combination of fullness and emptiness". In this he follows the style of sculptor Pau Gargallo, a pioneer of iron sculptures.

"Horte's Bust" is part of a private collection and featured in the "A Century of Catalan Sculpture" group exhibition at the MEAM (European Museum of Modern Art, Barcelona) in 2013, "an integrated and comprehensive look at the Catalan sculpture during the twentieth century, always under the light of the figurative art".



RICARD MIRA , "HORTE'S BUST"



# ANDREW MORAWSKI (Canada)



Andrew (Andy) Morawski is a Canadian award winning sculpture artist inspired by the beauty of nature as can be seen in his creation of animals such as bears, wolves, blue herons, butterflies etc. He has been featured in many activities involving publications, television and radio.

Most of Andy's inspiration comes from being born in northern Canada where he developed a deep sense and respect for animals and nature and one can see this through his many sculptures. Being exposed to the fragility of nature from a very young age made him feel he had to make a difference and his contribution is expressed through his art.

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## Exhibit "HOWL OF THE WOLF"

His objective and approach to his art is to convey the tranquillity, excitement and violence of nature. The beauty of the world is a paradox to life itself. Such magnificent beauty is vulnerable and at the mercy of human intervention.

The Howl of the Wolf sculpture was very challenging to create. The whole sculpture was welded from inside out. This presents a lot of different fabrication challenges of building it. The result of not seeing one weld was spectacular! Overall, it took more than 5,000 welds in mild steel and 2 1/2 years in his shop to create this wolf sculpture.

All parts were welded using the gas metal arc welding (GMAW) and oxy-fuel processes and most pieces were cut using the plasma arc cutting process. The life-sized sculpture has been on loan to the CWB Group for some time. It is displayed in the main lobby and is admired by all that visit the facility. Many visitors take photos of the sculpture or take a photo with the sculpture.



ANDREW MORAWSKI, "HOWL OF THE WOLF"

# RICHARD ALAN MORGAN (USA)



Richard Alan Morgan has had a 35 year career working in the welding field with metals. He occasionally welded gifts for family members and friends, but basically viewed welding as a job but nothing more.

His perception changed on 03/10/08 when he and his wife were notified that their only son was murdered in California on Venice Beach. With the stress from this along with the stress from work, sleep was nearly impossible so after a while he ended up in the workshop during those restless nights instead.

It was then that "Welding" began to ease some of the grief and became a form of therapy and his creativity was awakened and he began to transform into an artist and metal sculpture and has been creating non-stop ever since.

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## Exhibit "CHARMED"

As he began to create metal art he found that he wanted to create unique pieces of functional and non-functional art. The best thing is being able to create something out of nothing, and making people happy with his art, helping people to see outside the box, is the best thing about being an artist.

His pieces are great for the environment and have been constructed mostly with approximately 85% re-claimed materials.

"Charmed" is a giant 7ft x 7ft charm for a Giant charm bracelet. Charmed was created with the main section of the sculpture being a harp from a baby grand piano. There is also 100 year old stained glass, old chains and scrap metal along with copper and motorcycle parts and materials from aircraft ground support equipment along with wrought iron scrolls from a scrapyard in Alabama.

If you look closely, it is a fractured heart that has been "mended" or repaired by welding and bolting and nails.





RICHARD ALAN MORGAN, "CHARMED"

# WILL PHIPPS (Australia)



Will Phipps is a full time forklift driver at Linde plc Brisbane and part time steel sculptor.

He began sculpting about 5 years ago with the idea of developing a skill that he could utilise when he eventually retires in 20 years time. This is his third piece using weld metal as the finished texture.

He collects offcuts of mild steel and rebar and uses these to create the basic shape of the sculpture which he is creating and then layering weld metal until the final shape is achieved.

To be able to take scrap steel and weld it into a piece that emotionally connects to a person's heart inspires him to continue.

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## Exhibit "TED THE BULL MASTIFF" and "CATTLE GRID CANINE"

Will loves using weld metal as a medium and a 180 amp MAG welding machine is perfect being able to adjust wire feed to create the required texture.

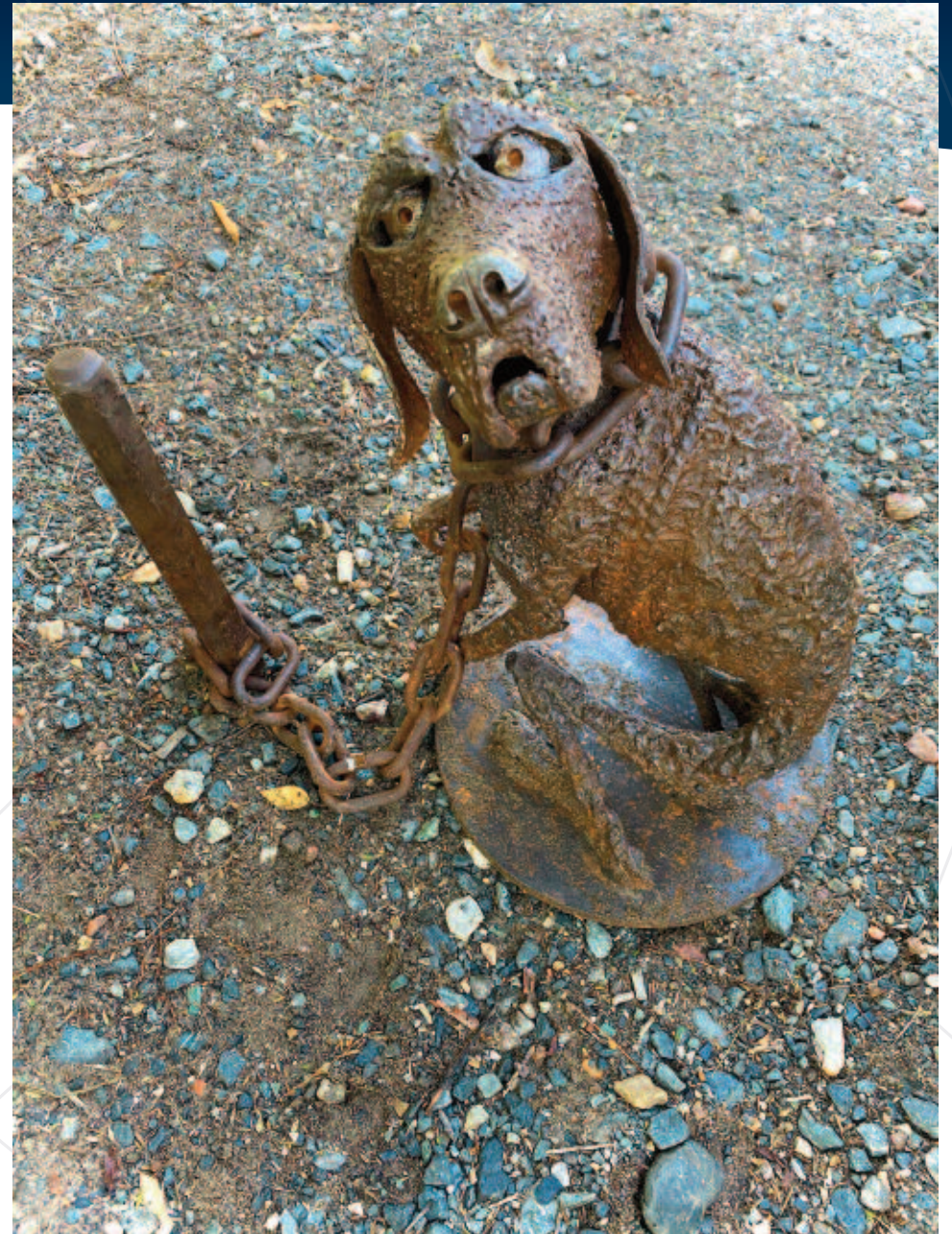
He uses mild steel rod of around 3-5 mm diameter as a filler as if he was Tungsten Inert Gas (TIG) welding but feeding it into the Metal Active Gas (MAG) welding arc as he is welding. This combination helps him to both fill gaps and help create the end shape and texture that he is after.

"Ted the Bull Mastiff" is a memorial piece which he was commissioned to make after a friend's bull mastiff died. Will took about 30 hours to complete this piece and it was very emotionally rewarding. This exhibit was featured in the IIW exhibition in Bratislava in 2019.

"Cattle Grid Canine" is his latest piece and was inspired by his trips to various countries where he noticed the neglect of mangy, emaciated dogs. One example was seen in up-country Australia with two mangy looking dogs chained up on either side of a cattle grid. Their sole purpose was to sit there to stop any cattle crossing the grid.

Will hopes this piece will inspire people across the world to address the ethical treatment of animals and to speak up when they see injustices being committed on 'man's best friend'.





WILL PHIPPS, "TED THE BULL MASTIFF" AND "CATTLE GRID CANINE"



# JOSEP PLANDIURA (Spain)



Josep Plandiura Vilacís was born in 1943 in Taradell, Barcelona. He is a self-educated sculptor. He works with iron and mainly with Corten steel. He collaborated with the renowned architect Frank Gehry and the sculptor Anthony Caro.

In 1988, he founded the International Modern Art Center La Rectoria in Sant Pere de Vilamajor. His designs have always been focused towards public sculpture and large size pieces with sculptures in churches, roundabouts and spaces of natural interest all around Catalunya and Spain. Nowadays he works in his atelier based in Parets del Vallès near Barcelona.

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## Exhibit "FLAMA II"

The materials used and the creation process of the 17m high FLAMA II sculpture located at Sant Antoni de Vilamajor, Barcelona, Spain is as follows.

The lower part was built with Corten S355 J2 W 5mm thick sheets shaped with a plate rolling machine. The bottom parts were reinforced with 1000 mm x 20 mm. plain plates. These plates in the ground base have 10mm Corten steel supplements to be welded to the concrete base.

The upper part consists of two braided columns, each one having inner reinforcing welded squares separated at 40-50 cm distances.

The inside of the sculpture is painted with grey antioxidant painting to remove condensation. Its surface is painted with two layers of Titanlux paint with a rusty steel colour, giving ease of cleaning and maintenance.



JOSEP PLANDIURA, "FLAMA II"

# KENDALL POLSTER (USA)



Kendall Polster started welding for fun when he was a research biologist right out of the University of Georgia in 1990 where he had majored in zoology and microbiology. His brother, a certified welder, had a shop and taught him how to weld. In 1994, whilst in medical school, he took leave of absence to pursue his art full time and start his company WELD GUY.

His hobby thus became his job and for the last 25 years he has made all sorts of sculpture and furniture pieces for his living. His company does work for individual residents on up to large corporate clients like Harley-Davidson.

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## Exhibit "TREE OF WARMTH"

One of the young employees at Kendall's workshop (Wyethe Smallish) did all the welding of beads to texturize the trunk portion. The branches were cold bent and a few of the dangling roots were machined and pinned with set screws to remove when transporting the tree and make for an easier installation. Kendall's message is to use your creativity and have fun fabricating and welding!





KENDALL POLSTER, "TREE OF WARMTH"

# LAURENT RIVORY (Australia)



Laurent Rivory is an emerging Blue Mountains artist in Australia and a recent convert to steel sculpture. His work has already been selected for various national exhibitions including Sculpture at the Farm 2019 and Sculpture in the Garden 2019. He was a Finalist in the Georges River Art Prize 2019.

His show "Ferrophilia" at Braemar Gallery scheduled for May 2020 has been postponed because of COVID-19. Using scrap metal and local stone, Laurent aims for a sustainable art practice (he also welds using solar-generated power) influenced by pioneers of steel sculpture such as Gonzalez, Smith and Calder.

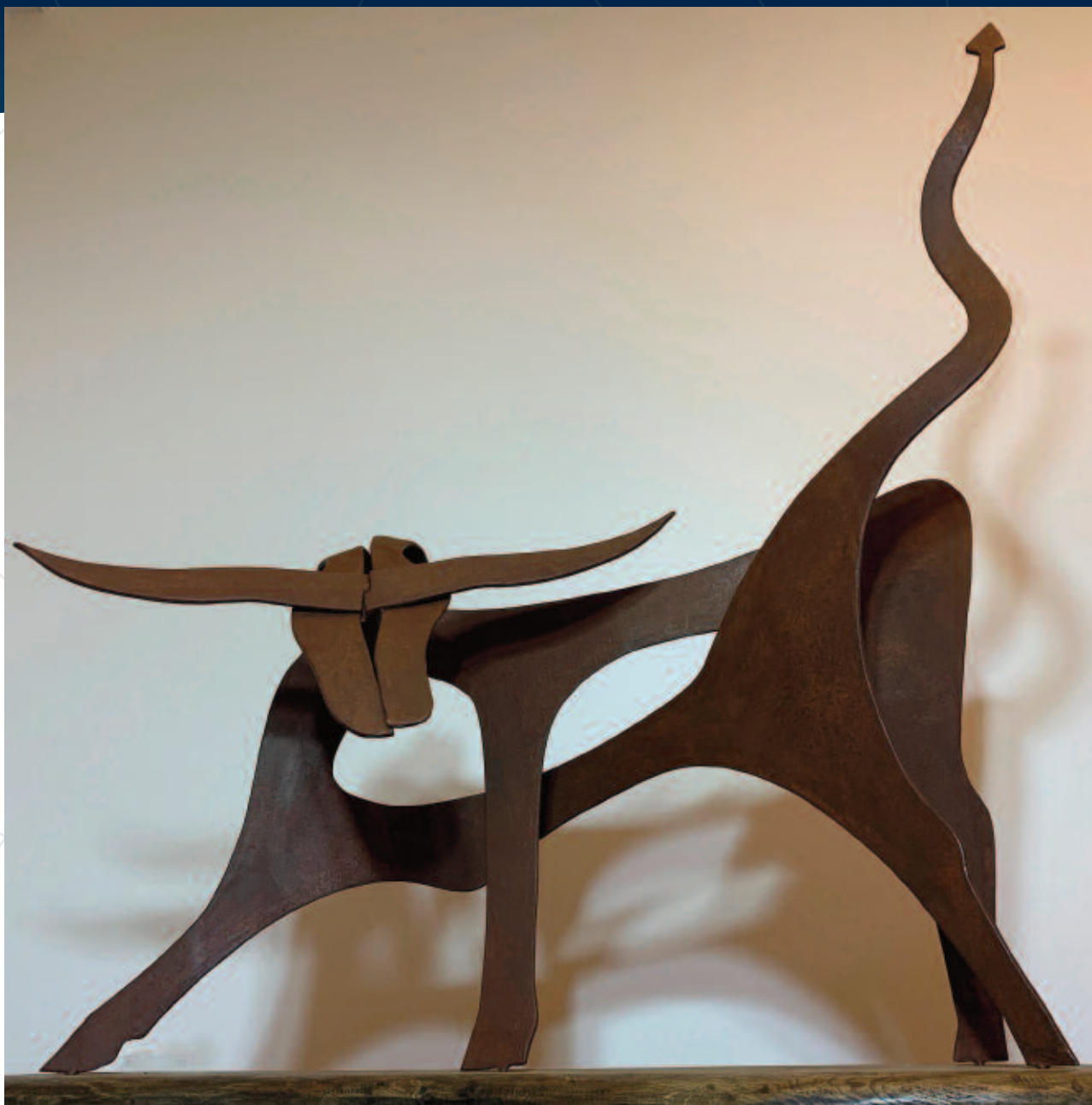
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## Exhibit "TORO"

"Toro" (2020) – waxed oxidized steel, is approximately 100 (L) x 100 (H) x 40 (D) cm in size. In "Toro", Laurent Rivory has captured the power and dynamism of a bull turning to face a threat. The sculpture comprises two separate but inter-twined pieces that interlock at the horns. The use of the two pieces emphasises the interconnectivity of movement and force between the extreme ends of the body – from the horns to the tail. It also refers to the duality of all living things – the Dr Jekyll and Mr Hyde in us all – a common refrain in Rivory's work. The title derives from the importance of the bull in Spanish culture and is a nod to the influence of the Spanish artists Picasso and Gonzalez on the artist's practice. It is made from about 10 pieces of scrap steel pieces from an engineering works that have been welded together.

Rivory's work represents a collision between Cubist leanings, a sensitivity to the provenance and innate aesthetics of the materials and a soupçon of humour. He is very committed to an environmentally sustainable art practice. He only uses found or scrap steel in his works and welds (MIG) during the day using electricity generated from solar roof panels. He prefers to use pigments and wax on his sculptures once oxidized to achieve rich patina finishes reminiscent of antique bronze.



LAURENT RIVORY, "TORO"



# RYAN SCHMIDT (USA)



Ryan Schmidt is an American Artist from Arkansas sculpting in stainless steel since 2002. His artistic journey began in grade school when he became fascinated by the process of creating origami. A direct link between working with origami and sheet metal is working with the two planes trying to fold/stretch, and make the paper or metal do something that normally requires manipulation.

He pursued the study of art, and after exploring other mediums, he found the enduring properties of stainless steel.

His welded sculptures are instantly recognizable with the triangular relationships of sweeping curvilinear lines capturing the reflections of the surrounding landscapes.

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Twitter: <https://twitter.com/SoulArtinc> • Instagram: <https://www.instagram.com/soulartinc/>

## Exhibit "INCEPTION"

Schmidt's intention is to create sculptures with atmospheric curves and fluid movement designed to be reflective invoking the viewer's imagination for inspiration of great healing and thoughtfulness. His creative process starts from a blank canvas in his brain with an idea that he sketches directly on metal then cuts everything freehand. The techniques employed in the creation include forming the sculptural shape by tacking the sheet using clamps, straps and hand tools to weld the forms and manipulate the metal into the shape he desires. This is transformed during the fabrication process by pushing limits of tension and twist in the form. Sometimes this changes quite a bit from the original concept and other forms may be added; thus, making for an organic composition. All joints are fully welded to maximize strength before grinding and sanding.

His mirror polished sculptures, while labour intensive, ensure the reflective surfaces will withstand both external and internal elements. It also helps enhance the implied motion of the sculpture forms catching the sun, clouds and movement around them, and inspiring the viewer with new discoveries every day. The uniqueness of each artwork reached its final form with Schmidt's diversified craftsmanship and artistic qualities.



RYAN SCHMIDT, "INCEPTION"

# MICHAEL VAN DAM (Australia)



Artist and Stainless Steel Welder Mike (Michael) Van Dam was born in New Zealand and lives in Queensland, Australia with his wife and two children and is a world-renowned stainless-steel sculptor.

Mike is an award-winning and internationally recognized artist who has a strong background in creating iconic and important sculptures that have been placed all over the world and have attracted various prestigious artistic awards. Mike's sculptures have been placed in central iconic locations such as Sydney Harbour, Hayman Island, Israel and Greece.

Mike creates highly aesthetic artwork and has been mentioned as *"one of the most innovative and eminent contemporary realist and hyper-realist international artists"* by the Rarity Gallery, Mykonos, Greece.

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## Exhibit "EMERGING DRAGON"

Mike's sculptures are known to not only be aesthetically pleasing and impactful, but also very durable. The high-quality material used by him was selected by Mike after intense research to learn how to easily manipulate the materials when it comes to changing size or shape of the material that creates sculptures that can last hundreds of years.

The material Mike uses for his Sculptures is 4mm and 6mm 316 marine grade stainless steel links. Once the links are welded together, Mike's sculptures become strong and durable, ideal for the coastal, commercial, public environment, luxury homes, hotel and yacht locations. Once welding is complete, the welds are pickled and passivated and sent away for electropolishing.

'Emerging Dragon', a large Chinese Dragon, was created in 2015 from 4mm 316 stainless steel chain. Tungsten Inert Gas (TIG) welding was used on 4000 metres of chain with 52 links per metre and four welds per link. Due to the Dragon being so large and awkward to handle, the polishing stage was completed by hand using sisal, cloth and rope mops.

The final size of the exhibit is 5 metres long x 2.8 metres high. In 2015, it was awarded both the Kids and People's Choice Awards at the Swell Sculpture Festival at the Gold Coast in Queensland, Australia. It is currently on display at Woolloomooloo Wharf in Sydney with Artpark Gallery.

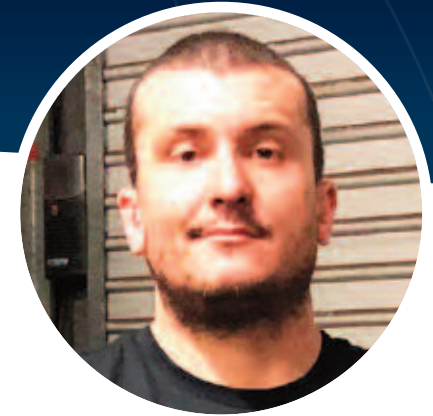




MICHAEL VAN DAM, "EMERGING DRAGON"



# BRAD WHITE (Australia)



Brad White is the owner/operator of White Armoury a small forge in Brisbane, Australia which specialises in crafting custom arms and other associated iron work.

He is a 31 year old trade qualified Boilermaker and his interest and fixation on bladesmithing and swords comes from a love of involvement in historical European martial arts training and competitions with blunted weapons.

He first started forging only five years ago when he spent a day in a friend's forge and from there he was hooked. He soon built his first coke forge and started hammering out his custom knives and swords.

His work combines beautiful aesthetics with functional designs.

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## Exhibit "DAMASCUS STEEL TOMAHAWK"

Brad White's exhibit is of a damascus steel tomahawk which he made using traditional and modern welding techniques. The damascus steel is created with layers of different steels which are forge welded together with heat and hammer and manipulated into a striking pattern.

This particular pattern was created by twisting and rolling the damascus at high heats and is commonly referred to as a 'jelly roll'. Once the pattern is established the process of turning the block of steel into an axe can begin by punching and drifting out the 'eye' (for the handle) and forging out the cutting edge and hammer end.

After the piece is heat treated and polished, it is dipped in acid to reveal the pattern from the two types of steel. The final step is to fit the handle of curly maple wood and it is ready for action.





BRAD WHITE, "DAMASCUS STEEL TOMAHAWK"



# MARTIN WILLINGER (Austria)



Besides his work at Fronius International GmbH as an R&D arc technician for TIG and Plasma welding, Martin Willinger is also a metal artist

To him, making metal sculptures is very creative and satisfying work.

Bringing "life" in the form of a metal sculpture made out of scrap metal, discarded metal tools, screws, nuts, bolts and other components is not only a passion of his, it is also his goal for each and every individually created sculpture.

For his work, he mostly uses the Tungsten Inert Gas (TIG) welding process, secondly the Metal Inert/Active Gas (MIG/MAG) process and for some unique work he still needs the Manual Metal Arc (MMA) welding process.

Further thermal processes he uses are plasma cutting and an acetylene – oxygen flame for certain tempering colours.

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## Exhibit "HEAVY METAL GUITAR"

Each of Martin's sculptures is unique, individual and has a personal level of identification with his clients.

He believes to surprise and fascinate people with metal sculptures is one of the most beautiful jobs in the world.

Before he starts making a new sculpture, he needs to have a clear picture in his head, no drawings are needed and everything needs to come together in a clear picture.

The exhibit "Heavy Metal Guitar" is one of Martin's created sculptures where dumped metals and tools have been used and joined by using the TIG (GTAW) process.

Used washers, wrenches, chains, bolts, nuts and any other used or dumped tools made out of metals are the core of Martin's metal sculptures.

Normally, he creates his metal sculptures by using a grinder and joins the metals by using the TIG (GTAW) welding process. The TIG process is precise, small and big welds can be done resulting in a nice finish. TIG brazing gives the option to join dissimilar metals together and it also gives the brazed joint a nice shiny golden finished surface.

Using scrap metals and tools that nobody has any use for it are the fundamentals of all his welding sculptures.



MARTIN WILLINGER, "HEAVY METAL GUITAR"

# INTRODUCTION TO OTHER CATEGORIES OF EXHIBITS

We hope that you have enjoyed the diversity of exhibits in the first section of the IIW Welded Art Photographic Exhibition digital collection.

When we were communicating with people around the world on the details of the exhibition, we received questions back asking as to whether we could include other categories of exhibits in the Exhibition. The suggestions were so good that we have included a few examples in this Exhibition with the intention to expand these categories in future years.

The three categories of exhibits which we have included in the following sections include:

## **1 EMERGING JOINING TECHNOLOGIES**

Two examples are shown from Autodesk in the United Kingdom, ("Ollie the Octopus") and University of Wollongong and RMIT University in Melbourne, Australia (Spatial Lattice). We have also given a fantastic challenge, through the University of Wollongong and top Australian artist Gaby Porter OAM, to the researchers, universities and companies around the world to introduce emerging joining technologies to create welded art (see page 62).

## **2 YOUNG ARTISTS**

Children who have taken up welded art as a hobby and who are forming the next generation of up-and-coming young artists. Thomas Huisman 'the face of welding for the next generation' from Brisbane, Australia, is featured in this exhibition with his exhibit "Heavy Metal".

## **3 PHOTOGRAPHY**

Milan Marônek is featured where through his 'Art of Welding' series, he tries to bring the viewer closer to the world of technology and welding from the perspective of fine art photography. His exhibit "The Memory of Monet" is a fine example of this.

As mentioned earlier, based on the interest now being shown, we hope to expand these categories in future exhibitions and encourage artists and people interested in being involved to make contact with Chris Smallbone on [allbones@iinet.net.au](mailto:allbones@iinet.net.au)



# EMERGING JOINING TECHNOLOGIES

WELDED ART  
PHOTOGRAPHIC EXHIBITION

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THE ARTISTIC SOUL OF WELDING

# ZENGXI (STEPHEN) PAN, ROLAND SNOOKS (Australia)

Roland Snooks, Associate Professor, School of Architecture and Urban Design, RMIT University and Associate Professor, Zengxi (Stephen) Pan, School of Mechanical, Material, Mechatronic and Biomedical Engineering, University of Wollongong

The artists have undertaken an initiative in the architectural field to innovate using emerging joining technologies. The artwork draws on the processes of formation and self-organisation that operate within the natural world. An intricate 500 mm high spatial lattice with interesting structural capacities has been created by exploring these processes of formation through algorithmic design and computational techniques. The design is a negotiation of the capabilities and limitations of Wire Arc Additive Manufacturing and algorithmic design processes.

The artwork is part of a series of RMIT artworks (including the Nine Elms project acquired by the Centre Pompidou in Paris for their permanent collection), which explore the fabrication of complex intricate geometries through additive manufacturing of metals.

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## Exhibit "SPATIAL LATTICE"

The project is part of a wider exploration of algorithmic design processes that draws on the logic of swarm intelligence and the operation of a multi-agent system. In these processes, design intention is encoded as behaviours within a series of computational agents. The local interaction of the agents leads to a self-organising process and the emergence of complex intricate form. The complex forms that are generated through these processes are not able to be fabricated through conventional manufacturing approaches. Consequently, the application of Wire Arc Additive Manufacturing (WAAM) enables the feasible construction of these non-standard forms. The WAAM hardware consists of a CMT welder mounted on a 6-axis industrial robot. This technique deposits a continuous molten bead based on a series of layers, or sections, extracted from a digital CAD model. The specific limitations of the process regarding geometric features (such as minimum-maximum distances, overhang angles etc.) are embedded into the design processes and are an integral part of the design of the form. The uniqueness of the artwork relates to bringing together algorithmic design processes and WAAM to create expressive and structurally efficient spatial lattices. Acknowledgement is also given to Research Fellow Dr Joseph Polden, PhD Students Fengyang He and Yuxin Li and MS Student Junyi Cui for the more than 100 hours work they contributed to the welding of the exhibit.



Zengxi (Stephen) Pan



Roland Snooks



ZENGXI (STEPHEN) PAN - ROLAND SNOOKS, "SPATIAL LATTICE"



# LEE SANDERS (UK)



In 2017, Lee Sanders was working for Autodesk research (OCTO), and as part of Autodesk's continuous training and upskilling he attended an internal training course at the Autodesk in Birmingham. The course was on the new DED (Direct Energy Deposition) functionality in Autodesk's PowerMill software.

During the 3 day course, he had the opportunity to create and use a design to test his new skills and knowledge, and since he was working for the research department and the unofficial logo for the department was an octopus, he thought that would be a good example to try and build one by additive manufacturing.

He was so impressed by the piece of welded art which he then created, he thought that it would be a good idea to share the story on LinkedIn. He was not ready for the overwhelming response, people loved the welded art. He posted 4 posts on the story of "Ollie" and received over 120,000 views across posts. He was receiving offers to sell Ollie, people asking to make more internally as well as externally helping to drive sales and interest in the offerings from Autodesk.

Lee is still surprised at how many customers who visit Birmingham know the story of Ollie, his welded art.

## Contact info

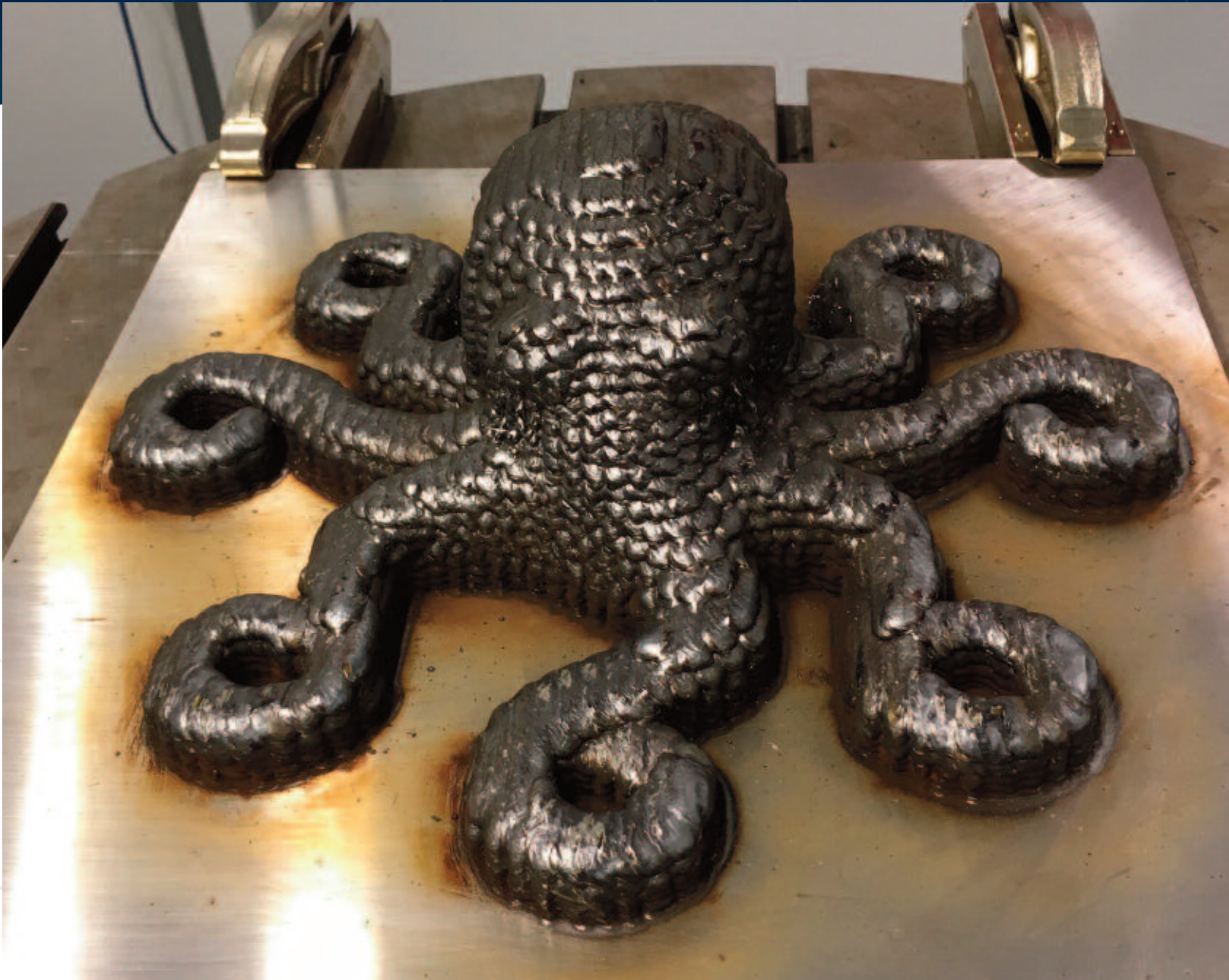
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## Exhibit "OLLIE THE OCTOPUS"

It was late Friday afternoon when the welding started, and it was soon apparent after the first layer the build was going to be easily recognisable and impressive. The very striking build was completed by 20:30 that evening.

He then thought that it would be a good idea to show how additive and subtractive processes can be used in one workflow. To help demonstrate this, he decided to machine half of the octopus, with the help of Mark Millership (5 axis machinist at Autodesk) and using Powermill for the subtractive tool paths (additive and subtractive tool paths all from 1 CAM package) and PowerInspect to align the part, the half additive and half subtractive helped gain more interest in Ollie.

To help show the contrast between the additive and subtractive process he had the machined half highly polished and it was amazing to see the two contrasting textures side by side.



LEE SANDERS, "OLLIE THE OCTOPUS"

# HOUMAN HATAMIAN, ZENGXI (STEPHEN) PAN, GABY PORTER (Australia)

Gaby Porter, Houman Hatamian and Zengxi (Stephen ) Pan are approaching the challenge of using emerging joining technologies in welded art in an innovative manner and we are hoping other universities, research organisations and companies take up a similar challenge to produce welded art exhibits.

Houman Hatamian has been involved in heavy industries and welding for more than two decades but it has always been his passion to touch on fine arts. This was not possible until he saw the opportunity to use wire arc additive manufacturing (WAAM) as an effective tool to materialise his passion.

Pearl Beach artist Gaby Porter OAM, is a well-known Australian sculptor who works with fascinating and varied materials to create extraordinary works of art. She has created commissioned sculptures for cities around the world and has generously donated many sculptures to various institutions in Australia. Credit is also given to her for supporting this initiative for innovation in emerging joining technologies.

Houman's inspiration is the bronze sculptures exhibit by Gaby, which features a mob of grazing wallabies at the University of Wollongong, at which Houman is doing his PhD studies. This sparked the idea to re-create a masterpiece using an emerging joining technology.

## Contact info

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## Exhibit "KEIRA MOB OF WALLABIES"

Each original bronze wallaby sculpture was made by Gaby initially producing a welded mild steel frame covered in chicken mesh and modelled in plasticine. The artwork was then given to the foundry, which made a master mould from which a bronze casting was made of each wallaby. Mount Keira is the local landmark casting its protective shadow over the University.

## Exhibit Challenge WAAM "WALLABY RE-CREATED"

Zengxi (Stephen) Pan is an Associate Professor in the School of Mechanical, Material, Mechatronic and Biomedical Engineering at the University of Wollongong (UoW) and supervisors various post-graduate students using emerging joining technologies for welded art.

Houman discussed with Stephen, his supervisor, the challenge of using an emerging joining technology to recreate the wallaby using mild steel and with an as-welded finish. This idea was well received by both Stephen and Gaby and Houman now has the challenge in using the UoW's additive manufacturing facility to create a 3D printed version of the masterpiece. We hope this challenge will inspire other people to take up the challenge to use emerging joining technologies for welded art.



Houman Hatamian



Zengxi (Stephen) Pan



Gaby Porter





GABY PORTER, "KEIRA MOB OF WALLABIES"



# YOUNG ARTISTS

WELDED ART  
PHOTOGRAPHIC EXHIBITION

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THE ARTISTIC SOUL OF WELDING

# THOMAS HUISMAN (Australia)



Thomas Huisman is a young Australian welder from Brisbane. Thomas began his welding at the age of eight in early 2019, when he saw his dad welding. He wanted to have a go.

He has the natural ability and passion for welding and shows a great eye for detail. He makes everything from scrap metal that he finds. His creations and ideas are formed from the time of year, season or upcoming events. Being only 9 years old gives a few extra challenges while welding. Although not being able to fit many protective gear/gloves, Thomas still has the creativity, enthusiasm and ability to produce exceptional work.

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## Exhibit "HEAVY METAL"

Thomas's creations come from the love of his friends and family. His creation was designed for his uncle who has a love for guitars. His guitar started from visiting the local motorbike and engine reconditioning stores and getting old chains, sprockets, bearings etc.

From this a design was created on a board where he outlined the guitar and laid all the parts out. From there, parts were cleaned, degreased, buffed and polished ready to be placed and welded. Timber necks were made from merbau decking and are hand crafted and cut by a jigsaw then sanded.

Holes were drilled for bolts to be inserted which are specially made with a hole through the middle for the strings. His guitar strings are stainless steel wire that were Tungsten Inert Gas (TIG) welded onto plates and welded to the guitar. He used a combined TIG and Metal Inert Gas (MIG) welding to put all his parts together. At this point the guitar is all welded and the neck is fitted so it is ready to be polished with air tools and dremels.

This creative life size guitar has been made with love and careful craftsmanship. His creation inspires other young enthusiasts to follow their dreams and talents.





THOMAS HUISMAN, "HEAVY METAL"



# PHOTOGRAPHY

WELDED ART  
**PHOTOGRAPHIC EXHIBITION**  

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THE ARTISTIC SOUL OF WELDING

# MILAN MARÔNEK (Slovakia)



Milan Marônek is a Professor and Head of the Department of Welding and Materials Joining at the Slovak University of Technology in Bratislava – Faculty of Materials Science and Technology.

For him, photography is a kind of magic where words cannot describe what we see, feel and perceive at a given moment. He photographs through his heart; he tries to make his photos look aesthetic and emotional to the viewer.

The current image editing technologies gives the photographer unexpected possibilities in this area. Nevertheless, he prefers composition purity and simplicity.

## Contact info

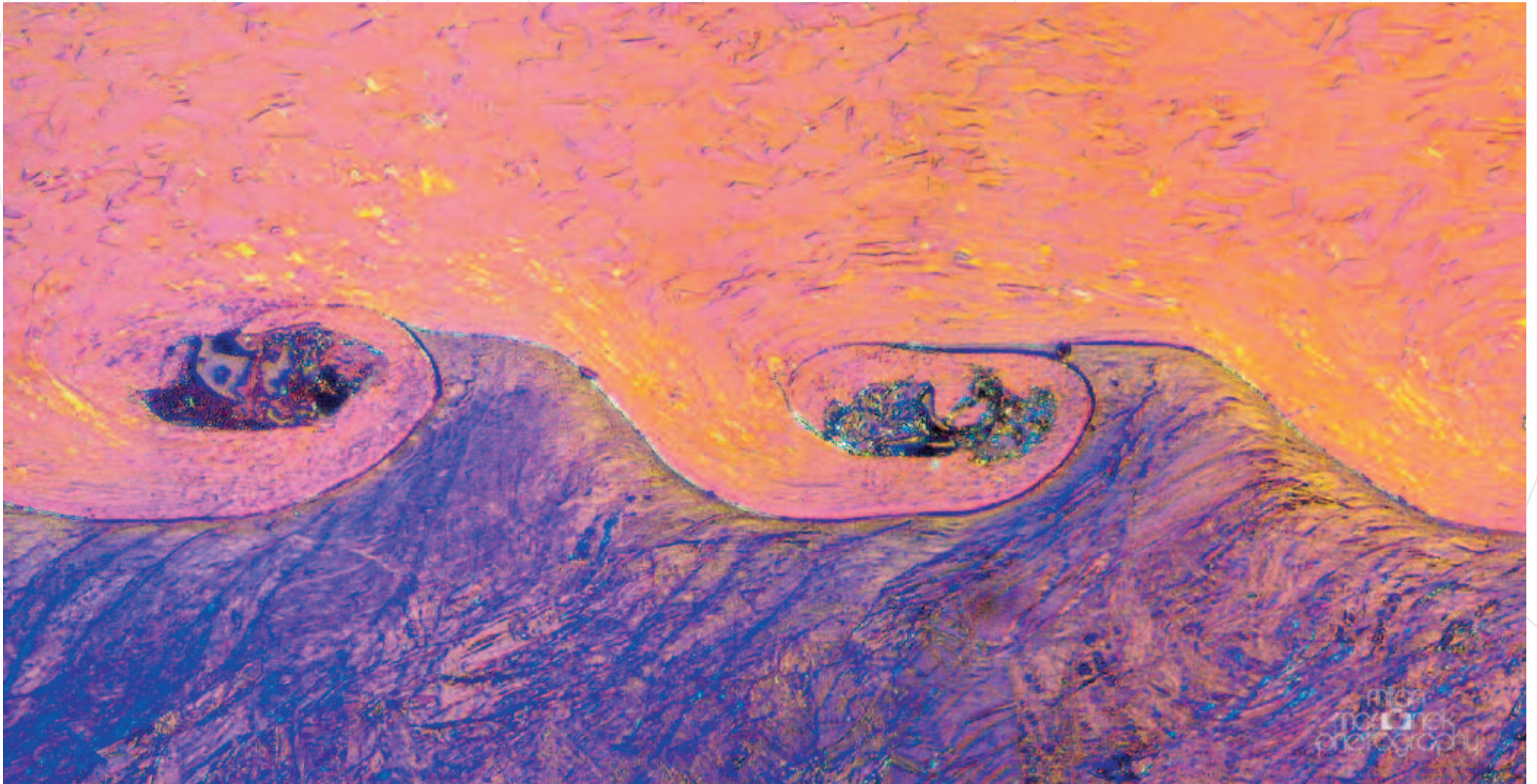
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## “THE MEMORY OF MONET” (THE ART OF WELDING SERIES)

In his Art of Welding series, he tries to bring the viewer closer to the world of technology and welding from the perspective of fine art photography. Working with liquid metal, flame, electric arc, concentrated energy sources, or looking into the microscope eyepiece brings him an endless amount of inspiration. It then allows him to work with light tonality, colour accent and contrast, depth of field, structure and shape of objects and their motion blur to catch the viewer's eye and introduce them to the fascinating world of hidden reality.

The photo of The Memory of Monet (the Art of Welding series) evokes the impressionistic illusion of the crumbling ridges of sea waves. In fact, it is a microstructure of the copper-titanium welded joint interface produced by explosion welding, with wave amplitude of only 0.2 mm. The explosion energy causes a significant plastic deformation of the grains of both materials at the joint interface in the direction of the detonation wave propagation, and formation of isolated titanium islands in the copper. Impressive colour was achieved using polarized light.





MILAN MARÔNEK, "THE MEMORY OF MONET" (THE ART OF WELDING SERIES)



## INTERNATIONAL INSTITUTE OF WELDING

**A world of joining experience**

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