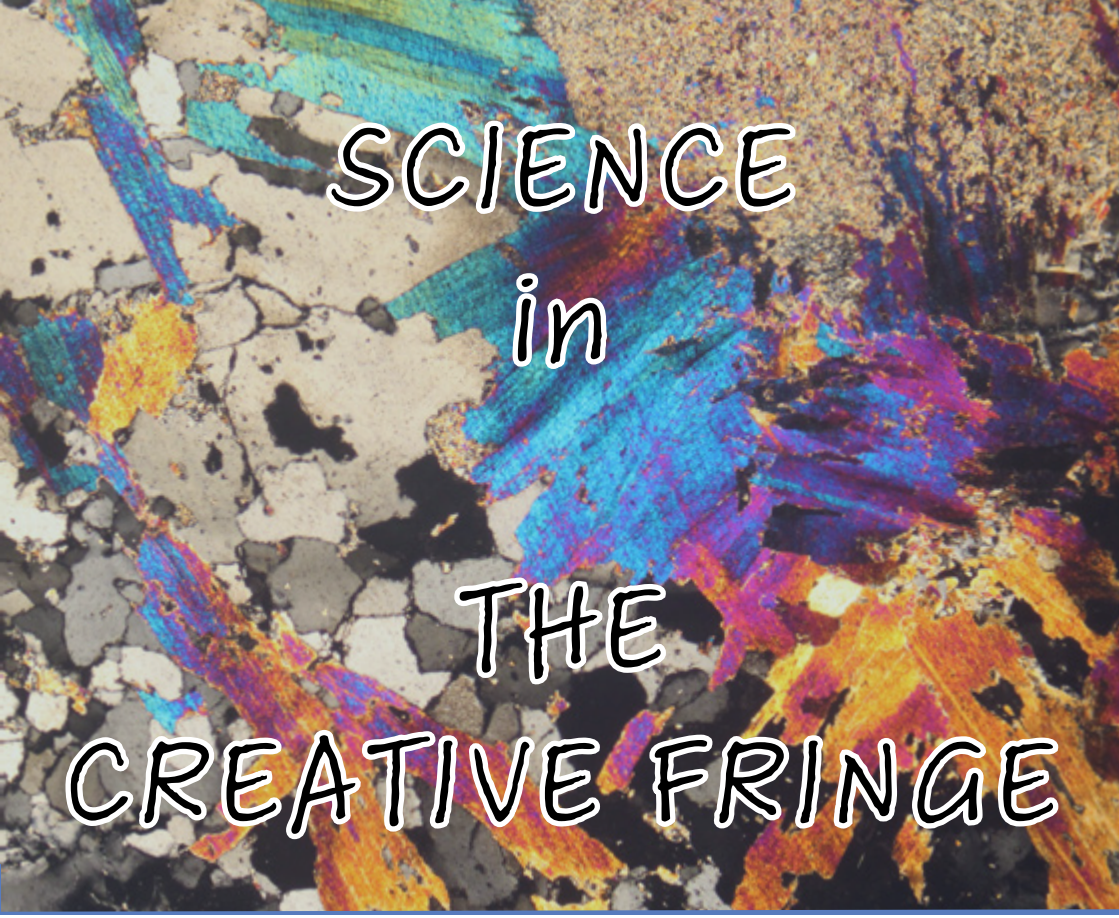
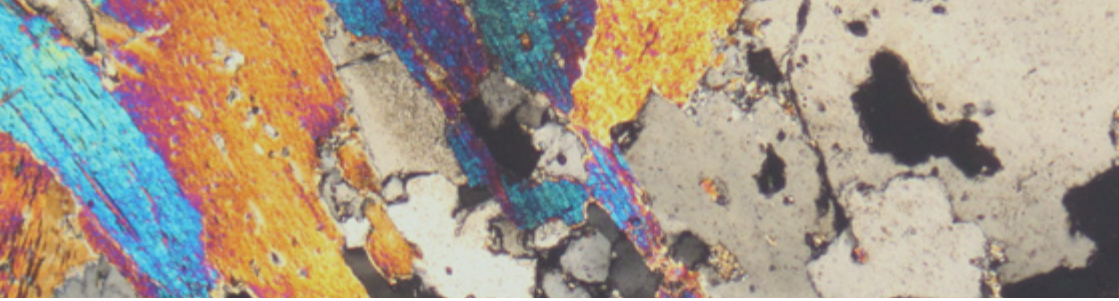


SCIENCE in THE CREATIVE FRINGE

A COLLECTION OF POETRY

from the South African Agency for Science and Technology Advancement's

YOUNG SCIENCE COMMUNICATOR'S COMPETITION

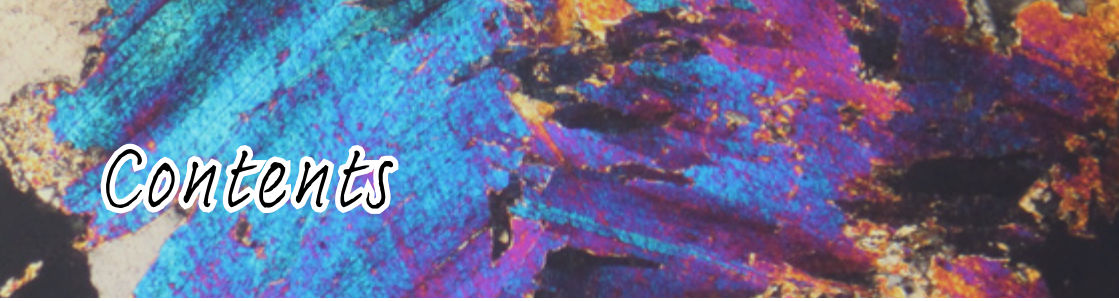


"One merit of poetry few persons will deny: it says more and in fewer words than prose."

Voltaire

"Poetry is an echo asking a shadow dancer to be a partner"

Carl Sandburg



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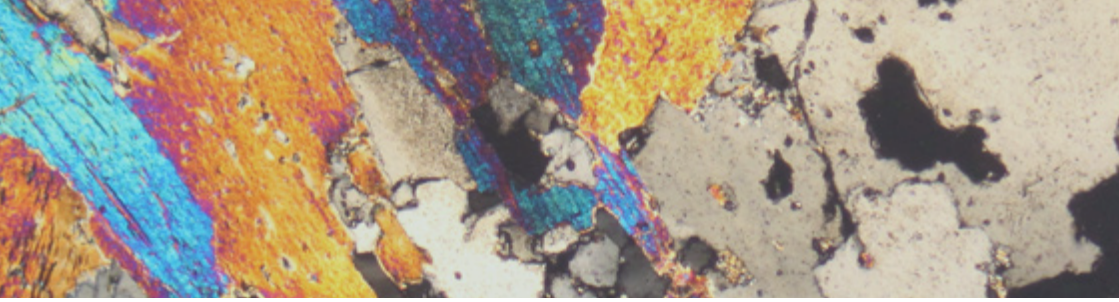


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Poems
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everyday
accessible
struggles
triggers
escape
memorable
everywhere
unique
attention

Introduction

The Young Science Communicator's Competition challenges young scientists between the ages of 18 and 35 to share their world through creative communication.

An increasingly popular form of communication for creative young scientists is poetry, providing a platform for expression and sharing of not only science knolwedge, but also emotion that is largely unwelcome in other forms of scientific commuication. While both creative endeavours try to make meaning in our world, arts, such as poetry, and science may seem as immiscible as oil and water. Poetry welcomes personal interpretation and science cannot afford misinterpretation. Yet these two worlds together can create powerful messages with impact.

The Young Science Communicator's Competition aims to provide a platform by which young scientists can express their creativity while developing communication skills to share their passion further. It rewards various modes of communication, including writing, video production, audio production, poetry, cartoons, graphics and other forms of communication. It also aims to facilitate connections and engagement with society.

We hope you enjoy this short collection of unedited poetry, and the thoughts shared by the poets.

Sincerely yours in science communication

Verlorenvlei Lost – Questions for My Father

You promised that the stories were true,
You said that everything would be there.
The birds and plants and life of the sandveld,
Now there is nothing here.

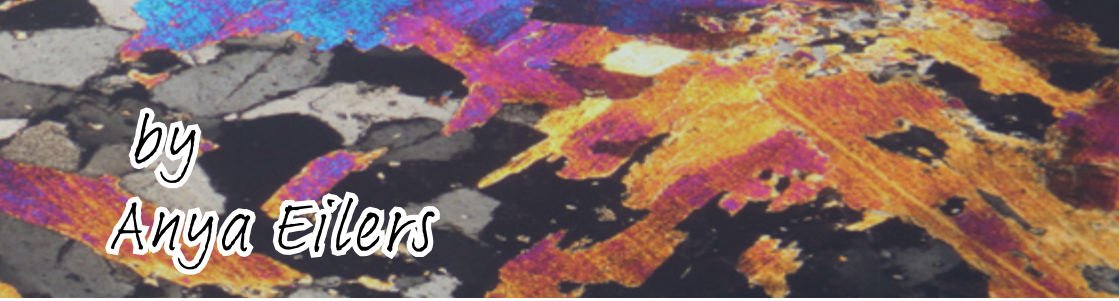
After years of excuses I have finally come,
Along the west coast to the 'Verlorenvlei'.
To a place that is now empty and forgotten,
It truly is the 'lost vlei' as they say.

Was it lost naturally,
Or is it the way of man?
To take water from its source,
It's only us who can.

You told me to remember her name,
Mother earth, indalo, provider for all.
Yet we took this 'all' to mean 'just us',
Has this been our greatest fall?

Her water used for our crops and plants,
Every last drop we pumped from her ground.
But mother nature has no say,
It's in ourselves that preservation is found.

I wish that I had seen it,
The heritage that was to be mine.
But it was always 'not our problem',
Now my childhood stories have been lost to time.



by Anya Eilers

Anya is a young water professional with a masters degree in hydrogeology from Stellenbosch University. She has worked in a range of different sectors in the water space, and believes that a strong scientific understanding of water resources is becoming increasingly important for Africa's fight against climate change. She plans to pursue another masters degree in environmental economics, as she believes that tackling climate change and promoting sustainable economic growth must go hand in hand.

What message would you like to share through your poem?

The conservation of our natural resources and habitat is monumentally important. The Verlorenvlei is a Ramsar wetland in the Sandveld along the west coast. A Ramsar wetland is a wetland placed under protection due to its international and ecological significance. The wetland is primarily reliant on groundwater during the summer months. Large agricultural development has resulted in significant groundwater depletion that is threatening the wetland. If we do not conserve the groundwater, the next generation will never see the beauty and importance of this ecosystem. The child, the narrator in the poem, is asking her father why he did not do more to save the wetland and habitat.

Why poetry?

Poetry transcends boundaries. As a scientist with a love for words, I wanted to explore the interconnection between these two seemingly opposite disciplines. My realisation was that poetry can be science, and science can be poetry.

Chemist Tree

I have been learning by a tree.
The central tree.
The essential tree.
Roots deep down, spreading into all science.
Branches spreading wide and vast.
Covered in leaves and colourful fruit.
Attracting those curious, hungry minds.
Ever growing tree, full of life.
Infinite learning, to the sky and beyond.
The tree that welcomes all.

People have discovered many things here,
Finding solutions for health, water, pollution, Earth.
Making the lives of others better through hard work, passion and dedication.
Through molecules and microscopes, solutions of colour and wonder.

As I sit under this tree I feel inspired.
To make a difference,
I learn and explore.
My mind, the world, the universe.
Oh, it is a joyful experience.
And I will tell others about this tree.
Hoping that they will seek it out, find it, love it, and enjoy it as much as I do.
To take what they learn and use it for the benefit of humanity.
As it can be done and has been done throughout history.
For a better, sustainable future.
For us all.

by Tayyibah Tahier

Tayyibah Tahier is pursuing her PhD in Chemistry at the University of the Western Cape. Her research focuses on synthetic fuel innovations. She has always been passionate about science and always eager to motivate young students to further their interests in the field. She finds science communication is the perfect way to spread her passion for science. She hopes to continue with promoting science in fun, creative ways in the future.

What message would you like to share through your poem?

Chemistry is a central science. The tree in the poem is used as a metaphor for Chemistry, whose branches are spread out into all disciplines. The poem conveys the message that, through Chemistry, many discoveries have been made that impacted the world and society. Chemistry is a vast science and there is always more to learn and discover. The poem emphasises that Chemistry is all around us and can be enjoyed by all.

Why poetry?

Poetry is a unique way to communicate science and it enables us to express our thoughts and feelings in a creative way. Using poetry as a mode of science communication is a fresh, unconventional way to raise awareness in a subject such as Chemistry.

Cytomegalovirus: My Eternal Companions

After much pain and exhaustion
After the screams from exertion
She held my teeny tiny body in her hands
The joy on her face drained when she saw
The bright whites of my eyes were actually yellow

I saw the worry on her quivering lip
As the doctors pricked me with needles and attached me to a drip
They told mommy she was infected with something I couldn't pronounce
Sounded like a friend to me
One that came unannounced

Turns out I have the same friends too
They're playing in the shadows of my veins
Doc says they came through mommy's body
Through her uterus, he explains
I hear mommy crying, saying mean things about my friends
But all I care about is how they're all going to play inside my tiny head

Suddenly my entire 16 inch body
Started shaking uncontrollably
I was so scared my friends would be frightened
With each rumble my fear and anxiety heightened

Finally my body slowed down and so did my heart
I feared this was the end of my premature start
I could hear the sound of the flat line overpowered by the song of angels
I closed my daffodil-eyes and gently whispered
See you in heaven my eternal companions

by Sashkia Balla

After the realisation that she would not make it as a world renowned artist, Sashkia turned to her next passion - science! As a child she was always fascinated by the intricacies of the world, from the constellations in the sky to what makes leaves green. As an adult, she has studied Chemistry, the composition, property and reactions of matter, and Biochemistry, the chemical and biological code that makes up all living organisms. She also majored in Virology, the study of viruses, which she is still currently focused on as she endeavours to complete her Masters of Science in Medicine. She is looking at the transmission of cytomegalovirus from mother to child. She continues to sharpen her artistic skills in her free time and hopes to find her niche in something that combines both her passions.

What message would you like to share through your poem?

The key message of my poem is that cytomegaolo virus (CMV) contracted from a mother before birth could result in stillbirth. CMV is a ubiquitous virus that is generally not harmful to healthy adults, but can be deadly to foetuses and infants.

Why poetry?

I chose poetry because I feel it is an effective form of communication. It is generally shorter and simpler than writing an article or essay which makes it more interesting for those people who do not like to read complicated long passages.

An Act of Betrayal

It's an era that need be forgotten, yet not be forgotten
Drowning in a dark cloud of unforeseeable death
Laughing and dancing, we glorified in our "mothers" black blood
Visions of impending wealth fueling our greed
The vampire-like appetites were insatiable
Our quest for mammon initiating an act of betrayal

As though imitating Christ's Crucification
Generation after generation, we made ourselves like the Romans
Each lashing of greed leaving cavernous wounds
We tore from her body the hair and skin that had sustained our very existence
Blood and water gushing from her perforated body
In our ignorance we relished in her continuing demise
Deeper and deeper we continued to burrow

From the very depths of her soul we had taken and continued to take
Thousands of years had she breastfed us from her bosom
Greed had converted us into churlish children
Her dying body heat barbequing her children in sneering vengeance
Her dying throes awakened a generation to an unnerving reality
Mother Nature was dying
The Earth was dying

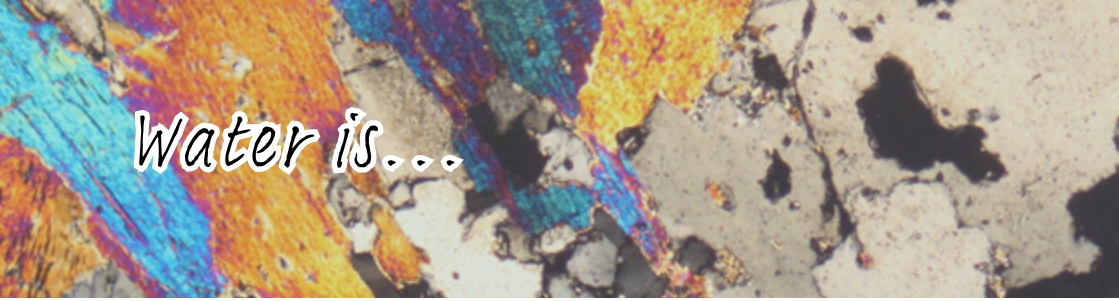
Now she lies idly on an operating table under no anesthesia
Mankind seeking to surgically replace every lost hair he exploited
Beautiful scars abandoned on a body once festered with large gaping holes
We cannot sustain ourselves on such vile blood lust
Rather we look towards the sun and the wind to save us
We find ourselves in a quest for clemency,

by
Isheanesu Chipumha

Emanating with our children, and the generations after them
We will resuscitate Mother Nature
We will save Earth

What message would you like to share through your poem?

This poem is about the way mankind has exploited Mother Nature (the planet) over many generations, celebrating in their discovery of oil (black blood), cutting down trees and excavating holes in the Earth to extract minerals, which are referred to in the poem as hair and skin, respectively. Mankind called this "progress" and the Earth has suffered as a result, and continues to suffer and is dying. But all of this activity, including deforestation and use of oil and minerals, has been hazardous to the planet, and the effect has culminated into global warming. In the poem, this is referred to as Mother Nature's last dying throes, with the rising temperature compared to the effect of heat that leaves a dying human body. As a result of global warming, mankind is waking up to reality and is trying to reverse the damage by planting more trees and seeking cleaner, renewable energy sources, such as solar and wind turbines, which is referred to in the poem as looking towards the sun and wind to save us. This poem tries to emphasise the need for more sustainable methods of living that do not negatively impact the planet and environment.



Water is...

Moving drastically through the craggy yet curvaceous mountains of the Drakensburg,
To the bustling yet contemporary villages downstream,
Channelled meticulously to the sleek concrete jungle
WATER dances.

In its abundance,
The trees are tall and majestic,
The exotic Wattle drapes freely,
The luscious grass moves swiftly to the touch of the wind,
Namaqualand blossoms in its beauty and colour,
The delicate insects in the soil thrive gracefully,
The fish move briskly in their habitat
And the husky elephants lumber through the Kruger.
The village gardens marvel with leafy vegetation,
Children of the soil play candidly in the shapely rivers,
The mines and industries boom
WATER is happiness and beauty.
Water is power
WATER Is LIFE!
In its absence,

The sight is agonising.
The grass has withered,
The cattle are dying,
The village squirms as dehydration dominates,
And the war for water among the BIG GUNS of the world has begun.
WATER IS DEATH
WATER IS VIOLENT
WATER IS WAR!!!
SAVE THE WORLD, BY SAVING WATER.

by Lindiwe Nkabane

Lindiwe Nkabane is a budding scientist from the rural village of Emfundweni in uMzimkhulu, KwaZulu-Natal. She has a degree in Geological Sciences and another in Hydrology. She is currently working on her Masters degree in Hydrology at the University of KwaZulu-Natal in Pietermaritzburg. Having grown up in a village, her career has been closely guided by gaining knowledge to uplift her community, especially in the area of water, hence her chosen fields of study.

What message would you like to share through your poem?

The main message is to reiterate the importance and value of water, while evoking emotion and deep feelings through creating an image of what life would be like without water. Water is the basis of life. Some are more fortunate than others to have clean and fresh water for daily use. Those who have daily access to water often take it for granted, while in some regions of the world people have to travel long distances or go through extreme measures to secure clean water. This poem is a reminder that without water, there is nothing.

Why poetry?

Poetry is a mode of communication that uses a play of words and rhythm to get the attention of the reader or listener. It evokes emotion through words and, so, it can deliver a message that lasts and can convey messages that may be difficult to otherwise convey. Reading and writing has always played a great part in how I express myself and communicate, when I fail to do so verbally.

The Streets Beneath

Here I find myself, once again, at the intersection of science and society – where innovation and technology meet something far more laden with complexity: the subjective values and vagaries that determine our individuality and which, cumulatively, contribute to the future trajectory of our earth, and indeed of all humanity.

It is in this oft-overlooked labyrinth that lies beneath what we see, immediately, that the musings of my mind take root. These thoughts - like the very world I want to see transformed - are steeped in intricacy, mired by the limits of my own explicatory capacity and thus best expressed through the medium of poetry.

Hence, I ask you (tentatively) to step into this space in which I stand, to take my neophyte hand and allow me to lead you along the intersecting avenues of my embryonic intellect. Come, walk with me down the streets of my psyche, smell the petals of my mentality, where my evolving thoughts on science and society are in early bloom.

If you come through and peer into the entryway of my (personal/peer-reviewed) opinions, you will see that it is here that my concerns around the ability of prevailing policies and (even novel) technologies to contribute to a better future, without deeper insight into what informs and defines our choices, begin to surface.

Here emerges my core question: doesn't true sustainability, equality, inclusivity and social security require transformational changes in our individual and collective values, fundamentally? And how does one even know what these are, if our proposals are imposed on one another, rather than walking alongside each other and working toward symbiotic solutions, collaboratively?

Globally, we seem to be dancing with the ideas of long-term prosperity and synergy in diversity. Yet, in reality, we are hurtling towards the steep, sharp, scorching edges of our planetary boundaries, the pitiless impacts of which are, ironically, experienced locally. Because, you see, contracts without acts are merely word-action binaries, vague in their values and lacking in corollary.

So, when we exit this room why not do what we say, instead of waiting on others to change the world in some way? Let's peer through these windows and try to see, just what is going on behind the scenes – let's educate ourselves (and our peers) on just why our planet is strangled by plastic weeds that bleed into the sea and get mistaken for fish feed or seaweed by those that feed on them.

And if you sit, mindfully, in this maze-like space of my mind for a minute, you might begin to agree that it could be our deep-seated values that bring the unease that we're feeling. Because when we've been blinded by our own perceived needs it's easy not to see, properly, those who are on their knees begging to be freed - from persistent poverty, political instability and climate variability;

from religious extremity, gender inequality and racial supremacy. So before rolling out generically developed machinery that discounts the needs, aspirations and nuances of local communities, shouldn't we identify the underlying causes of vulnerability; seek to understand the reasons that some are driven to criminality whilst others lay lavishly on their irrigated greenery?

Then, we can begin to forge a new development pathway: one that winds, infinitely, on an upward trajectory of sustainability and empathy; that marries science, technology and policy with morality, civic responsibility and 'you before me.' Come, let's not repeat history but transition from the possibility of a better world, to one that is so tangibly.

If you agree then, please, descend from your ivory-laden laboratories for a moment and follow me through the walkways of my budding awareness, where you might begin to see, like me, that transformative change is what we need if we are to achieve a better world for us, and for the generations not yet born to us.

Believe me, I know, that it's not easy to be a revolutionary when we've been overfed by this consumerist society. Indeed, it's no simple feat to stop shadowing the money-hungry who hungrily steal food, water and energy from those hungry for resource security, and instead to think about inciting a systemic paradigm shift:

away from the carbon-heavy, carefully controlled confines of humanity's unrelenting rat-race, toward a world built by innovative scientific and technological solutions that themselves are collaboratively crafted, and founded in commonly-derived values of sustainability, equity and generosity; of creativity, love and the principles of community.

So I ask you (nervously) - no, boldly this time - if I take the lead, would you take the leap and meet me there, on the potential pathway to a brighter future? At least then we could say that we truly tried to perceive, even questioned the prejudice in our beliefs, didn't just hang around comfortably but asked what it means to be meaningfully free, to experience true wellbeing.

Do you see what I mean - that more technology, harder science and another shelf burdened by policy cannot be the only keys to a better world? Yes, these technocratic solutions are, ultimately, highly necessary. But if you ask me, they are only truly worthy if they are positioned as complementary to the culturing of intrinsic values that are more visionary.

...And wouldn't that coalescence of science and society be, ironically, transformative change at its finest?

Me: I seek now to tread more lightly and give more freely; to love more wholly and live more peacefully; to engage more respectfully (but also to sit less silently and raise my voice when necessary!) And, in so doing, to embrace flexibility such that I learn continuously rather than (try to) do it all perfectly.

So, will you walk with me, along these subjective streets beneath the science?

What message would you like to share through your poem?

Transformative change is needed if a better world is to be achieved for all. The poem calls on the reader to recognise the importance of moving away from a 'one-size-fits-all' approach to sustainable development and to integrate more subjective, nuanced aspects into their work by collaborating more meaningfully with stakeholders. In doing so, it encourages the reader to look inward at his/her own values, limitations and prejudices, which is an early but essential stepping stone toward transformation.

by Julia Davies

Julia Davies is a young South African scientist who completed her tertiary studies at the University of Cape Town. She has a BSc (Honours) in Environmental and Geographical Science and an MSc in Climate Change and Sustainable Development. At the time of entering the competition, Julia was a Senior Research Assistant on the Adaptation at Scale in Semi-Arid Regions project and was based at the University of Cape Town's African Climate and Development Initiative, where she contributed to research on climate change adaptation and development challenges in Namibia and Botswana. She is now a third year PhD student in the School of Geography and Development at the University of Arizona (USA) and is working on urban food security and climate change issues in sub-Saharan Africa.

Why poetry?

I chose poetry as a medium to communicate my message because it is accessible and interesting to the general public. I think that it is essential to find creative ways to share important information so that it is meaningful and memorable to people who might not typically read or engage in science. Poetry is also a hobby of mine, which I hope to continue using as a tool to make my science matter.

Wonder World – A Picture of an Undefiled Earth

In the void of the cosmic arena,
In the pitch-black,
Starry blanket of the cosmos,
Where life fails to exist,
Life seemingly seems to make sense,
On a blue speck of dust caught on a ray of light,
Celestial bodies board their radiantly beautiful
Burning rings 'round the borders of the milky way,
I find myself constantly trying to comprehend
The grip of the wonder world on me.

Where sense is senseless to the sane mind,
Am I going insane on this same day the summer sun
Decided to hide behind the dark clouds, clinging to the sky,
Changing the climate with the cyclone
Circling our little wonder world,
Wonderful wonder world,
Magically magical with glittering trees
And sparkling rivers and streams
And steam stemming from the foot of the fountain,
In the midst of the ghost mountains,
Mounted with sacred silver and gold.

Here I am supreme,
Kings and queens bow to my commands, I decree,
They're patiently waiting for the messianic salvation
Of wonder to wonder its way into their minds,
Only if they mind, to see the wonderful world
Hidden from their naked eyes that only wonder can see,
Here gravity locks us to our star, and laws of nature undefiled,
With everyday skies breaking open to release the free gifts of summer,
Here there's no survival of the fittest, if there's no survival of our land - Garden of Eden,

by Thapelo Mokgadi

Basket of the world, Where all are equal, equal opportunities and equal in stature,
No poverty, no global warming because
Eve refused to be tainted by the venomous lies
Of the snake called capitalism and profit.

Here Eve is the mother of our nation – wonder world.

Thapelo Mokgadi is a PhD candidate at the University of Pretoria. He began his physics career at the University of Pretoria in 2013 and completed his Masters of Science degree in Physics in 2019. Thapelo has worked on different projects in nuclear physics and data science.

What message would you like to share through your poem?

The Brave New Words: The Oxford Dictionary of Science Fiction defines a 'sense of wonder' as "a feeling of awakening or awe triggered by an expansion of one's awareness of what is possible or by confrontation with the vastness of space and time...". Like a child, we must have a wild imagination, we must explore and create with our minds and allow ourselves to go into the unknown, where fiction meets reality because there we find our creativity and inspiration.

Why poetry?

Someone once said, "Poems give words a feeling, a touch of something unworldly, something that you might be able to relate to". I choose poetry because I want to evoke feelings and imagination.

A Haiku on the Photo Fermentative Treatment of Industrial Wastewater

Red bright life, feed on
the dross of our industry:
Our waters flow clear.

What message would you like to share through your poem?

The haiku encapsulates the concepts which drive a significant portion of my research: the treatment of industrial wastewaters with photosynthetic bacteria. Without trying to fully explain, let's delve in superficially at least – "Red bright life" refers to my use of photosynthetic bacteria, driven by (bright) light, and rich in bacteriochlorophyll A, which gives them a dark red colouration. "feed on // the dross of our industry" reminds the reader that there is no such thing as waste; even industrial effluents can be food for life. A route to nutrient recycling, the circular economy, and waste utilisation are key to our continued success. And finally "our waters run clear" suggests the return to pristine waterways, unperturbed by industrial effluents. South Africa is a water scarce country – we need our waters to run clear, and clearly run.

by Robbie Pott

Prof Robbie Pott is an associate professor at Stellenbosch University, in the Department of Process Engineering. He completed his undergraduate degree at the University of Cape Town, and completed his PhD in Cambridge, UK, examining the use of photosynthetic bacteria for the conversion of waste glycerol into high purity hydrogen. His current research program focuses on the use of biological systems for the production of valuable chemicals, and the treatment of wastewaters, as well as the development of novel bioreactors.

Why poetry?

Poetry allows for engagement with concepts at a different level to normal scientific writing. The key is communication. Communicating at various levels helps to reach people more effectively. Even working with a constrained form, such as haiku, can allow for people to engage and be intrigued.

As Tiny as I am

...As tiny as I am...
I am as old as the Pyramids of Egypt
Yet my tiny body defies my age
I am a vibrant soul that glows with the golden sunshine
And my hairs are interweaved with a shadow of darkness
I am loved by a few and ignored by many
The Melissa's of this world bare my name
But to many I am a killer
All are drawn to the sweet honey of my labour
But hate my sting which can also heal them

...as tiny as I am,
Adorn me with credit for the beauty of your landscape
Clothe me with gratitude for the blossoming sunflower fields
Canola oil overflows from my toiling
Pollination that feeds a nation
The sound of my buzz is music to many farmers
The buzz of income to many beekeepers
Call me nature's economic builder
Even though I may seem to work less hard than you

...as tiny as I am,
You not only starve me, but blind me
You destroy my home and pollute my playground
You claim to echo my importance to your well-being
Yet your actions undermine my significance in your "precious" environment
Or am I as good as what I can do you for?

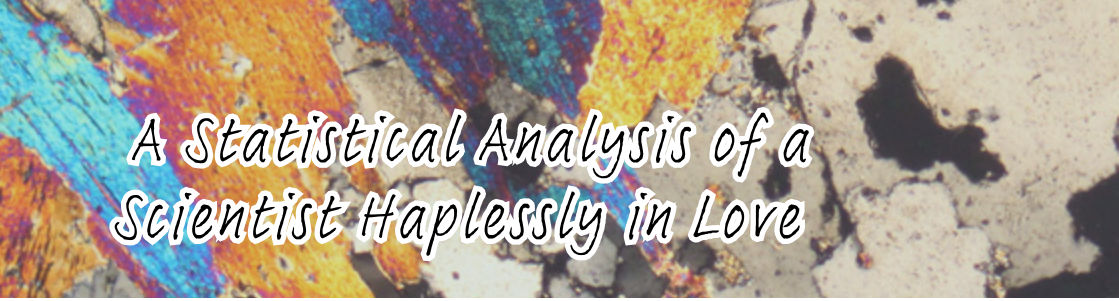
...as tiny as I am,
I hear the threat to my fading existence rattles you, human
Natural systems might go off balance
Economies may collapse with my disappearance
Experts say you will cease to exist without me
Is your value for me as tiny as I am?

by Tlou Masehela

Tlou Masehela is a scientist at the South African National Biodiversity Institute, and leads the programme of work that focuses on monitoring and reporting on the impacts of Genetically Modified Organisms on the environment. He is also the chairman of the Western Cape Bee Industry Association. He holds a PhD in Entomology from Stellenbosch University. Tlou's work and interests cover apiculture, crop pollination, conservation and biosafety. He is also passionate about educational outreach programmes and many of his talks are based on the subject of insect pollinators such as honey bees.

What message would you like to share through your poem?

This poem is echoed from the "eyes" of the honey bee. It signifies their importance as pollinators of natural flora and our agricultural crops, while not forgetting the honey they produce. At the same time, we often ignore or just care less about their wellbeing. We destroy their environment, for example, by cutting down their forage and spraying pesticides. This has resulted in the decline in honey bee populations in most countries. Experts say this not only threatens food security, but also food nutrition. I spent five years of my PhD degree researching honey forage plants and the use of managed honey bees for agricultural crop pollination. I have come to understand the life and importance of these "tiny, yet incredible creatures". I also realised that we do not value them enough to ensure their wellbeing or their coexistence with us. With this poem, I hope to enlighten and educate our citizens and communities at large about this tiny insect of great importance to our economy, lives and Nature.



A Statistical Analysis of a Scientist Haplessly in Love

H1: is to remain great friends
H0: is that my ridiculous fantasy of us falling in love never ends

On both the Cluster Diagram and Multidimensional Scaling
Our personalities keep clustering together.
And while my t-tests of your commitment to my imaginations keep failing,
Our interests seem to correlate more than ever.

I try to get your attention
By shamelessly flaunting my Canonical Correlations.
But you look past me like one would a point in the 3rd dimension
Thus killing any hope of success in my machinations.

When I test the success of my modelled daydreams based on any evidence
Our probabilities seem slim to none.
Regardless, I will act with a great degree of Confidence
And screw the stats by investing 95% of my time in having a bit more fun.

I don't need a couple of Fisher's LSD's
To test the significance of how desperate it feels to have such a clueless lover.
Desperate enough to admire your co-dependencies
On your sister and your mother.

Oh, I know that my methods are a complete mess
And it's no surprise that I've had no success
In trying to approximate a normal distribution
By attempting a relationship with you without your contribution.

In your ignorance, you help me laugh through these shallow depressions
As you cut through my dark points with your positive regressions.
I need no Monte Carlo
To re-re-reiterate a 100 times how I miss you when you're not here
For the Eigenvalues that we share are clear.

by Anisha Dayaram

No matter how we are finally classified
I hope that we will remain closely correlated.
Yet, I will be far more satisfied
If we reach this dreamy Null Hypothesis that I have created.

Anisha is a scientist and the coordinator of South Africa's National Vegetation Map Project (http://bgis.sanbi.org/vegmap) which is used by a myriad of users. Effective communication of her work is always at the top of her mind. Her goal is to share her work over creative and exciting platforms to inspire more young South Africans to pursue a career in science. She grew up in a small, three-traffic-light town on the outskirts of southern Gauteng and spent much time outdoors, exercising her imagination while developing an appreciation for natural sciences. Being around and observing her large, charismatic extended family gave her ideas for poems, and writing in poetic verse became her first instinct, which has become quite a challenge to contain when writing scientific papers!

What message would you like to share through your poem?

The poem itself was about an ecologist's unrequited love and was peppered with technical jargon throughout. The key message is that scientists can be really smart people, but are subject to the same life issues as everyone else, and all the statistical knowledge in one's repertoire won't help one bit! It is meant to be a light-hearted poem. Very few things in life should be taken seriously and we need to laugh at ourselves more often, especially in recent times when messages from the media can leave us feeling overwhelmed about our political and environmental future.

A Statistical Analysis of a Scientist Haplessly in Love – by Anisha Dayaram

Why poetry?

Poetry is a dance between our words and our emotions, with our emotions taking the lead and guiding the words through the rhythm of our anger, joy, sadness, and hope – all bound to a black and white stage on paper.

This dance happens everywhere, even in the serious corridors of science. However, too often, scientists get pigeonholed into the box seats of the theatre. Inaccessible and rigid, we often don't get the opportunity to express our creativity through conventional scientific writing.

The SAASTA Young Science Communicators competition poetry category provides a really wonderful space for us to share scientific language in an interesting and entertaining way. Few of us will remember the words to the scientific abstract we last read, but we all remember childhood nursery rhymes because it is a powerful way of delivering thoughts and ideas.

Source of Life
by Gciniwe Sithole

Gciniwe Sithole has a BSc degree in Medical Science, BSc Honours in Microbiology and MSc Microbiology, all obtained from University of Zululand. Despite coming from humble beginnings, she has managed to become an aspiring academic through her hard work. She is currently pursuing a PhD degree in Microbiology at the University of Pretoria. She passionately participates in various programmes that aim to assist young people in her community with career guidance and applications (such as admission, bursaries and NSFAS).

Why poetry?

To me, poetry is the art of pouring out my feelings about things that have touched my life deeply. It is a form of expressing my thoughts about particular things I have seen, experienced and felt. I choose to write poetry because it triggers deep thoughts and every poem is written with emotions and, therefore, even when a reader reads it, it triggers certain emotions and can awaken deep thoughts on the topic of the poem. I have not always been good at expressing myself vocally, but when I want to pour out my heart, poetry has always been the best form of communication to voice what is my head and my heart.

Source of Life

For so long you have been a giver of life,
From the ancient of days you were the gist of life,
In you, life is given
Without you, life is taken away.

From cells to tissues, to organs and systems,
You have been the basis
You have channelled all the mechanisms of life.
From micro to macro organisms you are the gist of life,
The absence of you brings sorrow,
The presence of you brings joy,
The exceeding limits of you brings tears.

For all you have been known for,
You have never changed your nature.
Unless you are provoked, provoked by human kind
Through their anthropogenic activities
For social, economic and agricultural activities
Yes, the human kind have provoked you.

Now you have shown your anger,
That anger has taken lives
Lives that are too weak to defend themselves
Lives that would have not survived outside your premises
Lives that were ignored by the strong lives
Strong lives that were too ignorant to consider lives that dwells amongst you
Lives that were blinded by Darwin's Theory that they tend to forgot
They forgot that balance was still imperative

Now all of them gather sorrowfully,
Trying everything in their intellectual capacity to bring you back.
They have seen that you have left, probably impossible to come back,
The only thing they are left of is the trace,
Trace from where you used to flow

by
Gciniwe Sithole

The only thing they are left of is the memory,
A memory of your beautiful voice washing upon the rocks.
The only thing they are left of is the hope,
Hope that one day you return,
The hope that history will somehow repeats itself
The hope that one day when you come back, they will treasure you

In all of that the question lingers on,
Why didn't they take care of you when you were still there?
Why didn't they save you when they still had a chance?
Why didn't they adore you when you still had your glow?
Why did they wait until you are gone to treasure you?

Oh! Our water, source of life
When you ever come back,
We pledge to use you sustainably
So that your presence, will not be a tell-tale
To our future generations.

What message would you like to share through your poem?

The key message of the poem is how water has been taken for granted, yet it is the source of life. Water drives all life processes, yet humans have polluted and wasted this precious gift to life. Through this, innocent, aquatic life has suffered the consequences. Humans also are feeling impact caused by the unsustainable use of this natural resource. This poem is about the cry of mankind due to the fact that water is becoming scarce. Rivers, dams, lakes and waterfalls have dried out, leaving us with evidence of what used to be.

The Nano World

Welcome to the nanoworld!
A world where everything is going nano
Where people value small things
Where big things matter not
Where single molecules can be seen

The nanoworld
A world we've all longed to see
Pioneered by Richard Feynman, who envisaged that
"plenty of room exits at the bottom"
And dominated by scientists, who have worked arduously for donkey's years
In the quest to make our world better
Indeed, a scientific revolution has started
We should allow scientists to do their thing, while we sit back and watch how it unfolds

The nanoworld
A world full of scientific breakthroughs
Where medicine is completely nano
Where damaged eyes can be welded
Where molecular switches control light
Where nanoparticles can be made

Farewell to the nanoworld!
A world which everyone should visit sometime
Embattled by its toxic ecosystem, you should always be on guard, and not get carried away
Because some of the nanoparticles are not friendly
Some are airborne, while some are waterborne
But some are really friendly, and can be used for cancer treatment
Perhaps, we should focus more on the positive side
And, hopefully, we might begin to learn new things about the negative side

by Luke Ugwuoke

Luke is completing his PhD at the University of Pretoria in the research field of biophotonics. He is working on the sub-field of plasmonics and plexcitonics, with focus on plasmon-induced phenomena in hybrid nanostructures. Luke is enthusiastic about applied sciences. He likes reading science magazines, listening to music, playing chess with friends, writing codes for some physics projects, watching movies about detectives, and reading fiction.

What message would you like to share through your poem?

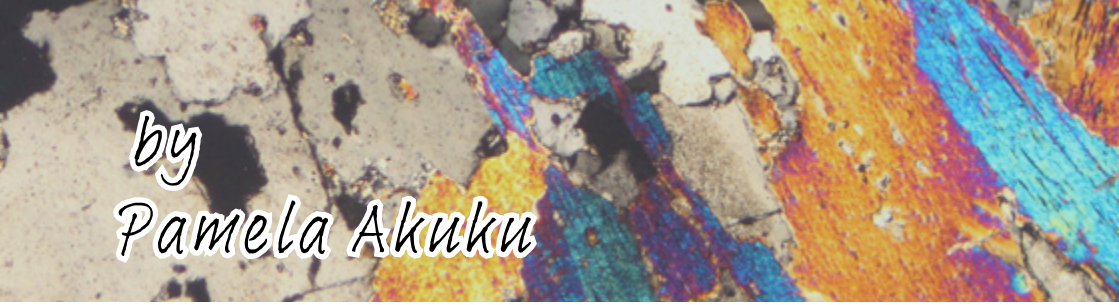
The key message is that nanomaterials are the building blocks of the next scientific revolution.

Why poetry?

I choose to write poetry because it allows me to highlight different aspects of nanoscience in just a few words.

Ebony in a Sea of Ivory

Dark magnificent strong tropical
Heavy endowed with pigment and earthiness.
Light strong mineral enriched
Grounded adding beauty to majestic beasts.
Light dark coming together a masterpiece arises
Beethoven blaring from the culmination of the two
Kings reaching out for Amarula trees portraying a mixture of the two.
Greed hate fear dissecting the two
Each is left to wander on their own
Each strong, independent in their own regard
Dark creating tropical paradises
Light creating tropical getaways
Shunned from ever mixing again
Dark vilified for being so dark and different
Her tropical paradises ridiculed for having no light
Light praised for being so bright
Her tropical getaways the subject of praise
Shades of light wanting to mix with dark
Missing that beauty that culminated from their joining
Shades of light threatened fearful of being dimmed, swallowed overcome by dark
Tropical darkness strong darkness, beautiful darkness
Brilliant darkness a bittersweet oxymoron
Dark brightness casting shadows
Darkness marred by pain and rejection
Shades of light tainted by guilt and fear
A never ending dance of hues
Forced to conform like reds and blues
Slowly dark dying out giving way to light



by
Pamela Akuku

Balance slowly slipping
The scales largely tipping
Ebony drowning in a sea of ivory
Herself losing in a foreign frenzy
Her colours stripping leaving her soul bare
Ivory claiming every last inch of dark tendrils
Clinging to the shadows is ebony's last resort
Imprisoned ensnared and trapped within them
With every inch she tries to rebuild
Brightness tears down with a vengeance
Ebony doomed to a fate of shackles
Tears regrets outshine her allure
Her strong foundation entrenched in shadows
Ivory standing tall and proud
Though her heart darkness shrouds
In the dark ebony rebuilds
Portraying beauty even in the void
Stunning creations blinding the light
Some tendrils of light merge with the dark
For a seed needs light to germinate
But a plant needs soil to hold its roots in place
Ebony no longer drowns in a sea of ivory
Rather she swims through it like a seal.

Ebony in a Sea of Ivory
by Pamela Akuku

Pamela Akuku is a Kenyan scientist whose area of focus is taphonomy (processes of fossilisation). She obtained her B.A in Anthropology from the University of Nairobi and I has an MSc in Archaeology from the University of Witwatersrand. She has conducted research in Koobi Fora, Kenya, as well as Klasies River site in South Africa. She is currently involved in research for her PhD at Olduvai Gorge as part of the Olduvai Gorge Stone Tools & Diet project. Being a black woman in science, as well as a mother, her main passions are getting more girls and women into science and promoting diversity, equality and respect in the sciences.

What message would you like to share through your poem?

My poem was meant to address the issues of race in STEM and everyday life. It speaks of brilliant scientists, both black and white, but how racism stands in the way of co-operation. I was hoping to show that each person is amazing in their own unique way, but when they come together it would be marvellous. However, we are missing out on a lot, discouraging a lot of brilliant minds and hindering our own progress.

Why poetry?

Poetry has always been a medium of expression for me ever since I was young. I feel like you can create a whole new world away from reality using creative writing. I used it as a way to escape from every-day life struggles and build my own Utopia. We can always address issues we face in life through poetry. Word play is bound to evoke more emotion from people and get them more involved and willing to address problems.

DNA- Why does it matter anyway? by Amica Muller-Nedebock

Amica is a full-time PhD (Human Genetics) student at Stellenbosch University, but completed her BSc undergraduate and Honour's studies at the University of KwaZulu-Natal. She has developed a growing passion for science, particularly Human Genetics. So she joined the Parkinson's Disease (PD) Research Group at Stellenbosch University in 2018 – one of very few research groups studying the genetic basis of PD in Africa. Apart from acquiring new knowledge in the academic world, she loves the creative side of life which, for her, includes writing, sewing and painting.

What message would you like to share through your poem?

The key message of the poem is that DNA is a very important part of all us. We all need to be aware that our environment can interact with our genes in a good and/or a bad way, e.g. by either potentially preventing or causing disease.

Why poetry?

I have always enjoyed creative writing, especially poetry.

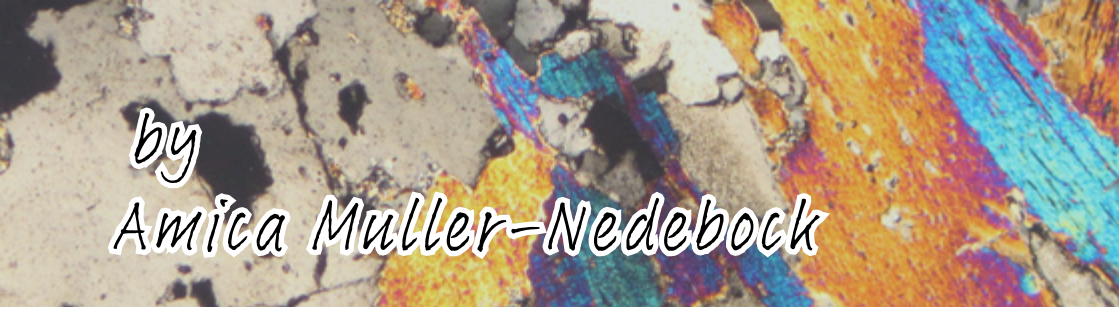
DNA– Why Does It Matter Anyway?

Tightly twisted and tucked away,
Is your very own set of DNA.
Safely stored behind your cells' walls,
It sits in a coiled, little ball.
It is an instruction manual on which your cells depend,
To help your muscles move and your brain to comprehend.

The manual is complete with 23 different chapters (pairs of chromosomes)
for your cells to read,
And the words of the chapters are written in a special code
made up of 3 billion A's, T's, C's and G's.
The words are pieced together in over 20 000 'sentences' called genes,
Separated by lots and lots of jumbled up letters in between.
Some of which are the punctuation marks,
Telling the cell where one sentence ends and the next one starts.
Your mom and dad each authored a half of all chapters in your DNA,
So that you have two versions of each gene which may differ or be the same.

Even though all our cells have the same set of instructions,
They don't all carry out identical functions.
Some cells make up our skin, or tongue,
And others our blood, heart and lungs.
You see, not all the chapters in the manual are read all the time,
Those which are read, differ depending on the cell-type.
This is thanks to (epigenetic) mechanisms in place, telling the cell
which sentences of which
chapters it should and shouldn't read,
All depending on the cell's functions and its needs.

Can you tell that DNA is a somewhat complex thing?
So why do geneticists spend their time trying to study it; what good does it bring??
Well geneticists research DNA for many reasons,
One of which is to identify DNA changes which cause human diseases.
This helps develop treatments and even cures,
For illnesses which so many of us (or our loved ones) have had to endure.
But our little instruction guides can be used for much more,
When geneticists decipher the code which these guides store...



by Amica Muller-Nedebock

Our genetic code can help solve apparent mysteries,
Like mankind's origins and our human ancestry.
Even the DNA at a crime scene which was left behind,
Can be used to identify the culprit of the crime.

But why should we bother knowing about our DNA,
If we can't see it anyway?
Well, it might well be that we carry a tiny change in one of our genes,
Which puts us at risk for a certain disease...
A case of 'Genetics loading the gun, and our environment pulling the trigger',
So just be aware that the lifestyles we live are more important than we might figure...
Because the things we eat and the things we do,
But also the Sun's rays and air pollution we're exposed to,
Can slightly change the 'words' in our DNA:
Whole words or single letters may be added, deleted, or rearranged
However, the things we eat, the things we do,
And all the things we expose ourselves to,
Can also trick our cells into reading the same sentence repeatedly,
Even though this may be harmful or plain unnecessary.
And sometimes the things we eat, the things we do,

Everything we expose ourselves to,
Can make our cells read a totally different part of the instruction guide...
All of which could harm us or help us to survive.

However, let us not forget that the things we eat, the things we do,
And everything we expose ourselves to,
Can on the bright-side also help us prevent disease,
Even if we have a risk factor hidden in our genes.

So, let us acknowledge our little DNA,
Tightly twisted and tucked away.
Our instruction manual on which our cells depend...
One which our lifestyles can either maintain or amend.

Am I Steel Relevant?

(*A poem by a bitter, dejected piece of steel)*

They say they're tired of steel now;
Too rigid, too heavy, too rusty.
They say they want something new now;
Something lighter, something tougher, though costly.

I used to be the world's beloved.
I span multi-ton bridges and raise skyscrapers.
But now it's GRP I covet
With its fibre arrangement and custom layers.

It's not only used in cars, aircraft, bicycles and hockey sticks.
It resists against chemicals;
That chemical resisting factor just adds to its tricks.

But wait...when I thought it couldn't be outdone,
Nanotech came around in 1981.
Proving that smaller could be better
With atomic design that made properties superior.

Now they want better and more
Even lighter, even tougher, more conductive too.
I really am becoming a bore
With the new-age fad, what's steel for?

Huh...maybe I'm not irrelevant.
I'm highly recycled and great in construction.
But to produce me causes carbon emissions
If that could all be captured I'd be back with a mission!

by Sinenhlanhla Mchunu

Sinenhlanhla Mchunu is a driven, multi-talented mechanical engineering technician, as well as an entrepreneur and small business owner. She is studying towards her BTech and hoping to grow and learn as an engineer and entrepreneur.

What message would you like to share through your poem?

The poem speaks about the modern world transition from conventional materials, such as steel, to new age materials such as composites and nano composites. It is a teaching poem.

Why poetry?

As someone in engineering who is also creative, I enjoy the use of both words and numbers to communicate.

I am Nature, I am Everywhere

Refrain from questioning my existence,
Because I am nature,I am just around the corner,
I am nature, I am everywhere,
I am not merely what you always see,
I am not merely just an appearance,
I am a complete set of all components present in the Universe,
I am man's and Universe teacher

I am nature, I am everywhere,
I unfold what illuminates human's mind,
I purify human's heart,
I influence her breaths from all sights,
I am the reason and sounds of her existence,
I hold all answers,

I am nature, I am everywhere,
I am the wisest creation of them all,
But not all people understand me completely,
I am powered by the relevant light from the sun,
I combine the earth's most basic natural agents,
I grow almost anywhere, anyhow,
I create food and energy for growth.
From the soil I find my way to grow,
From the soil I find to grow crops,
I am just who I am, i provide solutions to mankind

by Mabora Thupana

Mabora is a post graduate researcher in the field of Environmental Science and is a member of the Environmental Education Association of Southern Africa. Her passion for science and research started when she participated in the Communities of Parties (COP) 17 held in Durban, South Africa, in 2011, when she was with South African National Biodiversity Institute.

What message would you like to share through your poem?

Emanating from an environmental background, I used the poem to communicate the significance of the relationship between humans and Nature, and the fact that Nature is essential for our lives.

Why poetry?

I realised that writing poetry improves and develops my creative skills. I chose poetry because it expresses characters in an artistic, creative way. It helps to articulate expressions and emotions and, further, to communicate thoughts and feelings.

Incubating Hope

Ring-a-ring 'o rosie
A pocket full of posies,
A-tishoo, a-tishoo
We all fall down

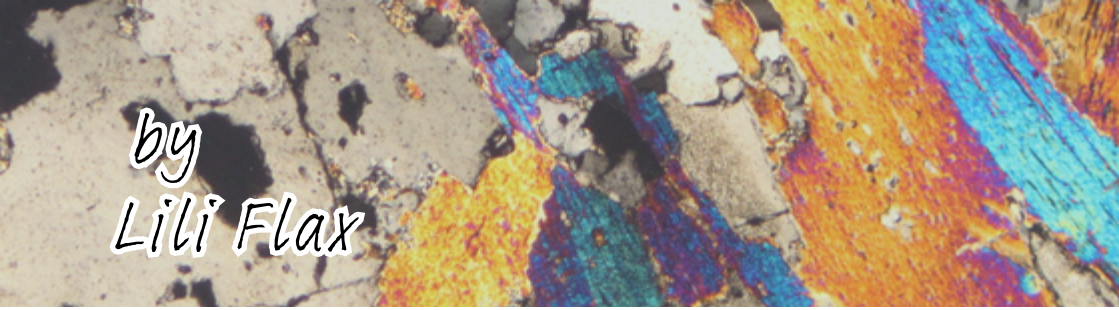
Ring-a-ring 'o rosie
A pocket full of posies
A-tishoo, a-tishoo
We don't fall down
No, we take some penicillin

No ring-a-ring 'o rosies
No need for a pocket full of posies
Never do we fall down with
Rifampicin, Isoniazid, Pyrazinamide and Ethambutol to the rescue!
Our knights in shining blister packs.

In the depths of the metropolitan,
In the beating heart of the city,
As the people draw breath,
A microscopic beast thrives
The mycobacterium that grows resistant
That's how it claims all its victims

Our Knights tackle the enemy
To no avail.
It only ever grows stronger and stronger
Soldiers are lost in battle
Knights rendered impotent, unable to protect us
We fall down, again and again

The front moves,
The war is raged in the laboratory
Our weapons: white coats and microscopes
Incubating Hope.



by Lili Flax

Lili has degrees in both Pharmacy and Biochemistry. Having worked in some of South Africa's poorest clinics, she dreams of a world where everyone has enough knowledge to make informed decisions about their health. Lili is happiest with her cat on her lap and nose in a book. She loves to travel, explore historic sites and experience different cultures.

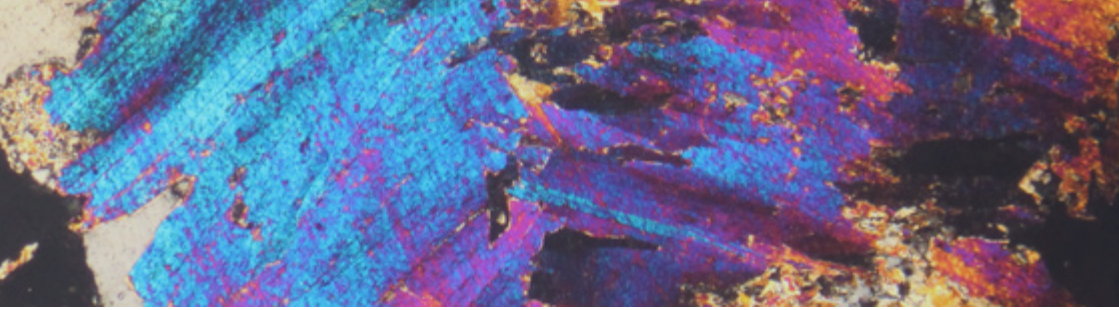
What message would you like to share through your poem?

The key message of this poem is that, without action, the threat of anti-microbial resistance will make us as powerless against tuberculosis and other microbial diseases as we were in a pre-penicillin society.

Why poetry?

I feel that poetry speaks directly to the soul in a way that prose cannot. The imagery and pace of good poetry can inspire generations for millennia, as shown by Homer. I chose poetry for this communication as I wanted to draw attention to antimicrobial resistance in a way that drives people to action.

Young Science Poets



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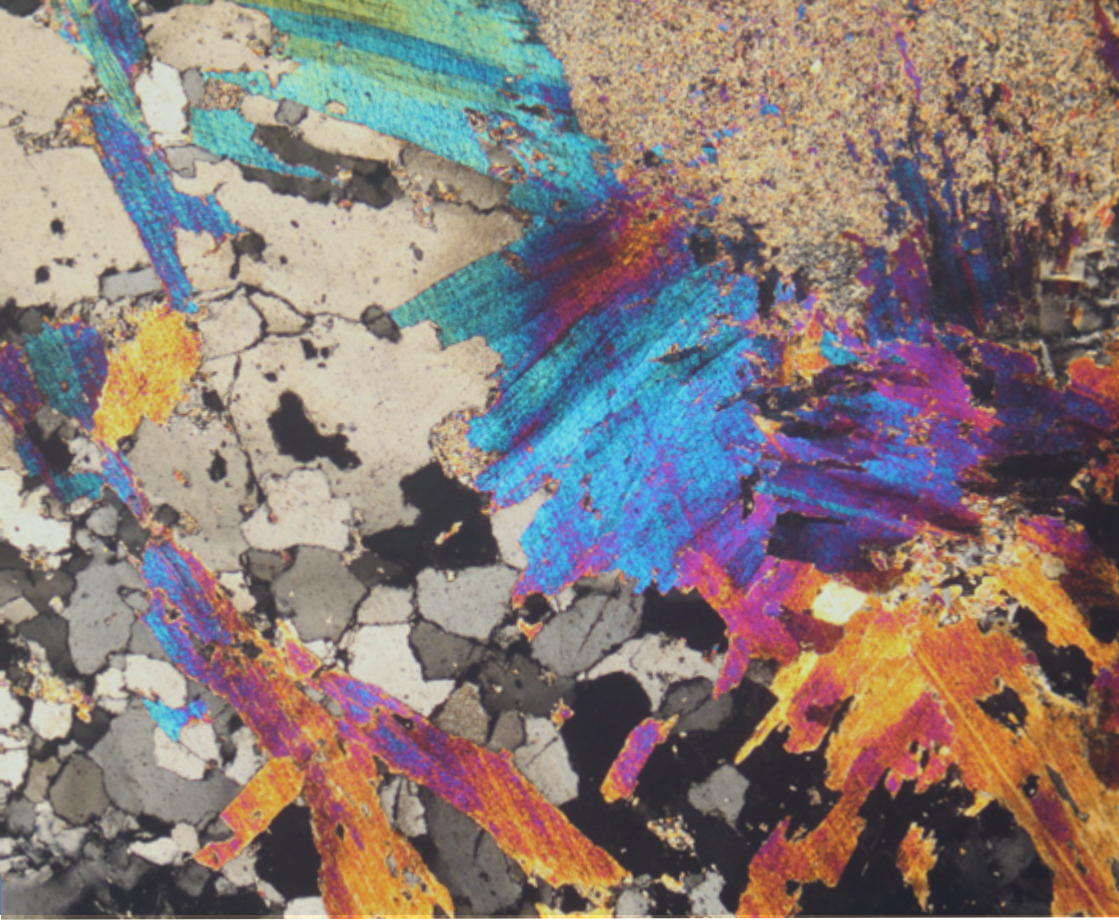
Anisha Dayaram,

Young Science Communicator's Competition participant

The image used in this booklet was an entry to SAASTA's SA Science Lens ® competition by Stephan Dunn entitled "Rebuilding a Rainbow Nation".



Find out more about SAASTA's Young Science Communicator's Competition at www.saasta.ac.za

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NRF National Research Foundation
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