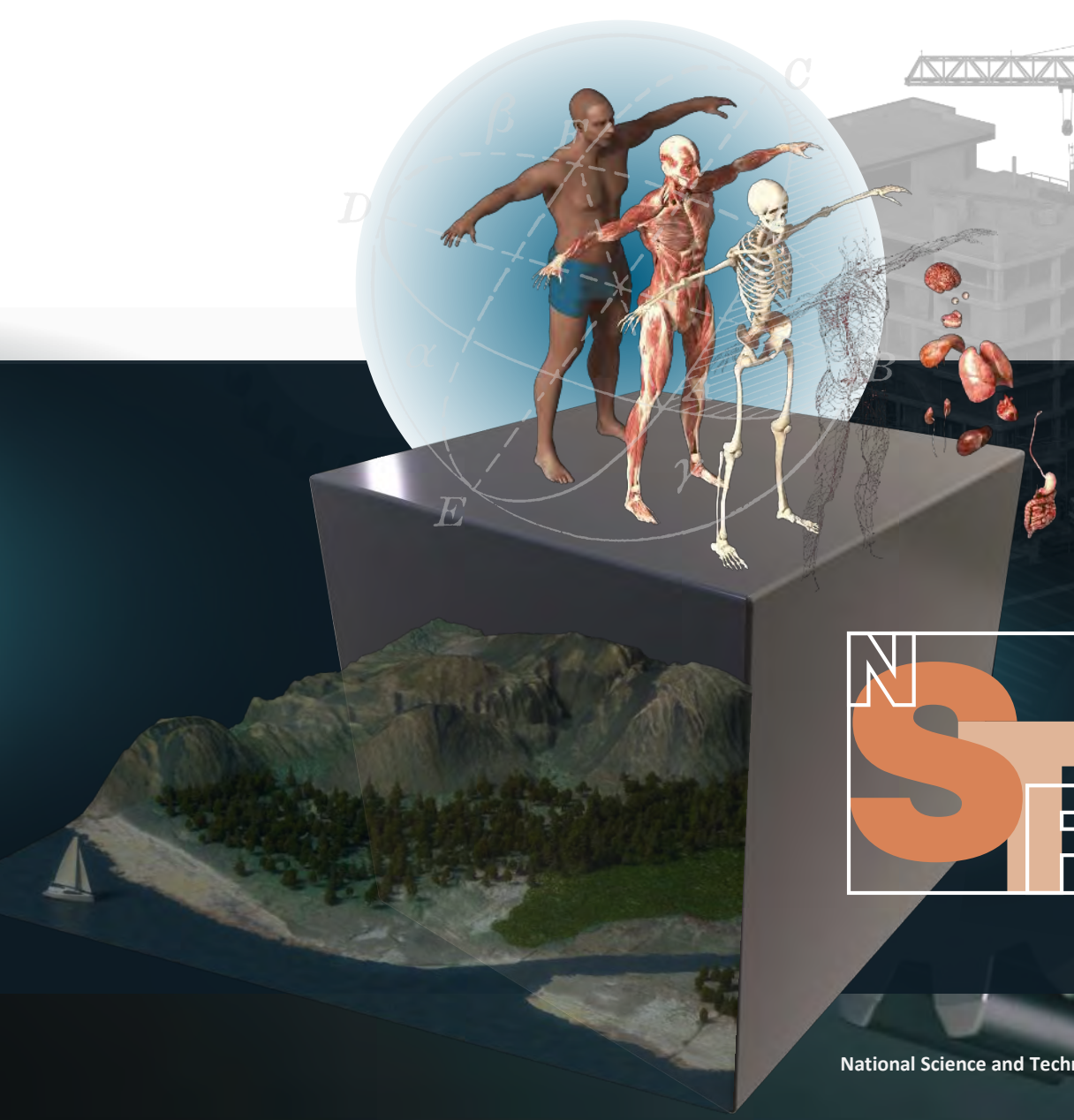

STEMulator an innovative **digital learning platform** designed to encourage students to pursue careers in Science, Technology, Engineering, and Mathematics **(STEM).**

(Science, Technology, Engineering, and Mathematics)

STEMulator

National Science and Technology Forum (NSTF), a South African organization with a 25-year history of promoting SET and innovation.

STEMulator is an immersive digital platform that ignites a sense of wonder and exploration in the world of **STEM** (Science, Technology, Engineering, and Mathematics).

Through its captivating interactive features, animated visuals, and a wealth of educational content, STEMulator engages learners of all backgrounds and ages, fostering curiosity and excitement. It serves as an exceptional resource for both aspiring individuals and those already interested in the realms of science, engineering, and technology (SET), enabling them to embark on a journey of discovery and learn about the vital contributions of SET professionals in shaping our daily lives.

The platform utilizes a **highly visual and animated approach to STEM education** that stimulates learner curiosity and promotes interest in STEM fields.

Through interactive knowledge portals and exploration environments, STEMulator takes students on a journey through the built world, living organisms, and complex systems, providing learners with a unique perspective that encourages them to explore and learn more.

Go to STEMulator platform

Stemulator is created by THE NATIONAL SCIENCE AND TECHNOLOGY FORUM **(NSTF)** and its subset, PROSET.

(Science, Technology, Engineering, and Mathematics)

STEMulator

National Science and Technology Forum (NSTF), a South African organization with a 25-year history of promoting SET and innovation.

The Government sector is represented by the Department of Science and Innovation (DSI). However, NSTF engages with all government departments responsible for policies that relate to aspects of science, engineering, technology and innovation.

proSET	40%
Science Council & Statutory Bodies	13%
Higher Education	18%
Civil Society and Labour	17%
SOE's	6%
Business	6%

The diagram shows the sectors (excluding government) and the approximate member proportion per sector.

The **National Science and Technology Forum (NSTF)** is a broad stakeholder body that represents over **100 organizational members in 6 distinct sectors**.

The NSTF hosts discussion forums, where stakeholders can exchange ideas and share recommendations to promote SET education and innovation. Additionally, the organization recognizes excellence in SET and innovation through awards programs, inspiring youth through Brilliants and Share 'n Dare programmes, a bursary directory, and the innovative **STEMulator platform**

Our People & Corporate Governance

The organization is overseen by an Executive Committee/Board that takes fiduciary responsibility, with the Executive Director serving on the Exco/Board and directing all activities of the NSTF and secretariat/office. The NSTF has a small but dedicated team of permanent staff, volunteers from the National Youth Service programme, and interns of the Human Sciences Research Council who all share the vision and are dedicated to transforming the country into a place where SET and innovation contribute to a high quality of life for all who live in South Africa.

See NSTF Corporate Structure And Governance Online

HOW WE ARE STRUCTURED

Stemulator is created by **THE NATIONAL SCIENCE AND TECHNOLOGY FORUM (NSTF)** and its subset, PROSET.

National Science and Technology Forum (NSTF) is a South African organisation with a 25-year history of promoting SET and innovation. **NSTF** is the most representative stakeholder body in South Africa, representing seven membership sectors of which proSET is one. The **proSET** sector comprises about 40 professional bodies and learned societies active in the field of **Science, Engineering, and Technology**, and aims to enhance national exposure for, and create an awareness of, the valuable role that professionals in these categories play.

We actively engage in various initiatives to **promote Science, Engineering, and Technology (SET) education and innovation.**

We provide a platform for **discussion forums** where ideas and recommendations are incubated, fostering the advancement of SET. As pioneers in the field, we organize and lead prestigious **SET awards** that recognize excellence and outstanding contributions within the industry. Through our **Brilliants** and **Share 'n Dare programmes**, we inspire and empower the youth, serving as role models and offering career guidance. Our comprehensive bursary directory informs and encourages students to pursue further education in STEM fields. We are proud to introduce **STEMulator,** our innovative platform that sparks curiosity and builds knowledge from the grassroots level, revolutionizing the way STEM subjects are learned and understood.

INITIATIVES &ACTIVITIES

Discussion Forums

The NSTF Discussion Forums are a platform for constructive interaction and discussion with science, engineering technology (SET) and innovation stakeholders, including government, on key priority areas of concern to the SET community. The purpose of these events is to exchange expert knowledge from various perspectives on burning issues. The outcomes are saved on this website for your use.

Outputs: Media Releases, Full Proceedings, Recommendations

Recognition of Excellence (Awards)

The NSTF Awards, also known as the "Science Oscars," were established in 1998 to recognize exceptional contributions to science, engineering, technology, and innovation in South Africa by professionals, teams, and organizations. The awards are the largest and most prestigious of their kind in the country and were the first science awards in South Africa. The National Science and Technology Forum (NSTF) partners with resources company South32 to anchor the non-profit activities of the awards.

Youth Outreach

Brilliants and Share ’n Dare Programmes, Bursary Directory, Career Fields and **STEMulator**

Outputs: Role modelling (professionals and students), bursary and career guidance, and inspiring the youth.

STEMulator, our innovative platform that sparks curiosity and builds knowledge from the grassroots level.

WHY SHOULD WE CULTIVATE STEM KNOWLEDGE AMONG THE NEW GENERATION

We need to consider the future and start :

Filling the skills gap In today's digital age, STEM skills are in high demand. By getting more youth excited about STEM careers, we can help to fill the skills gap and ensure that there are enough skilled professionals to fill the growing number of STEM jobs.

Driving innovation STEM professionals are responsible for driving innovation in many industries, from healthcare to finance to transportation. By encouraging more young people to pursue STEM careers, we can help to ensure that the next generation of innovators has the skills and knowledge needed to tackle the challenges of the future.

Increasing diversity The tech industry, in particular, has a diversity problem. By getting more young people from underrepresented communities excited about STEM careers, we can help to increase diversity in the industry and ensure that all voices are represented in the development of new technologies.

Improving economic mobility
By encouraging more young people to pursue STEM careers, we can help to improve economic mobility and create more opportunities for upward mobility.

Overall, getting youth excited about STEM careers is important for ensuring that we have the skilled workforce needed to drive innovation and solve the challenges of the future, as well as for promoting diversity and improving economic mobility.

"The best **scientists** and explorers have the attributes of kids! They ask questions and have a sense of wonder. They have curiosity. 'Who, what, where, why, when, and how!' They never stop asking questions, and I never stop asking questions, just like a five-year-old." **- Sylvia Earle**

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WHY SHOULD WE CULTIVATE STEM KNOWLEDGE AMONG THE NEW GENERATION

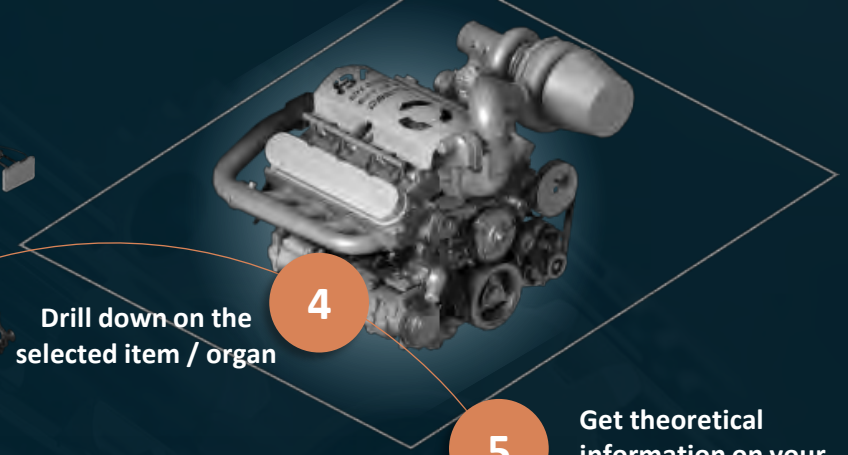
There is an increasingly insufficient numbers of students flowing through to STEM university courses and careers. Automation may have reduced menial tasks but has swelled the demand for qualified professionals.

The STEMulator aims to restore the excitement of the STEM world

STEMulator offers a flexible and **immersive learning experience** for individuals and teachers alike. Whether utilized in the classroom with a central computer and data projector or in a computer center using tablets, the platform **empowers learners to embark on captivating STEM explorations.**

Its interactive and playful nature engages students, making learning enjoyable and memorable. With STEMulator as a valuable tool, teachers can access a wealth of information and resources to enhance their teaching materials and create dynamic lessons. The platform's engaging approach fosters a sense of excitement among learners, encouraging them to share their experiences with peers, teachers, and family members, igniting a passion for STEM education

HOWARE WE CULTIVATE STEMKNOWLEDGE THROUGH THE STEMULATOR INITIATIVE



4 Drill down on the selected item / organ

Explore all the parts / organs 3

2 View the subject / object

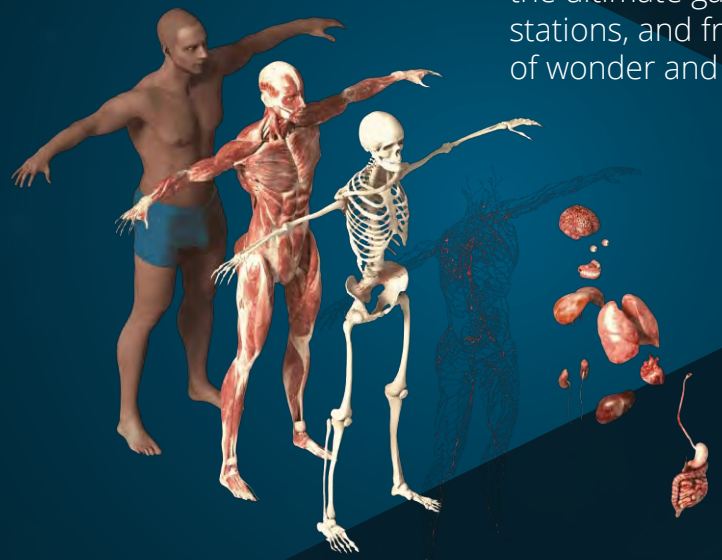
5 Get theoretical information on your area of interest

6 View a list of careers relating to the area you have explored and links to Bursaries and institutes

1 Go to the STEMulator platform and select an area of interest

The platform is designed specifically for high school learners, taking them on a captivating journey through the #HiddenWorldRevealed, unveiling the countless career and tertiary course options available in the STEM field.

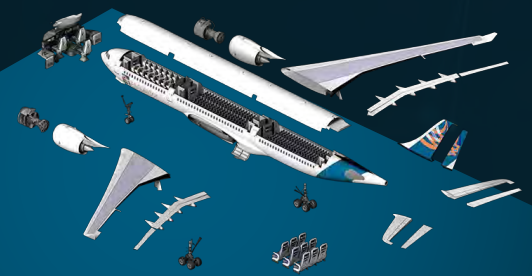
With its highly interactive and visually rich content, complemented by concise text to mitigate language barriers, STEMulator becomes the ultimate gateway to explore, discover, and learn. From the rhythmic beating of the human heart to the majestic turbines of power stations, and from the breathtaking beauty of nature to the intricate wonders of agriculture, STEMulator immerses learners in a world of wonder and excitement, igniting their curiosity and fueling their passion for STEM



HOWARE WE CULTIVATE STEMKNOWLEDGE THROUGH THE STEMULATOR INITIATIVE

Click and see, the Hidden World Revealed.

Human hearts, jet engines, MRI machines, everything seconds away in a virtual world. Find the olive-harvesting machine in three clicks: Farm>Orchard>Olives.



Our primary **expenses encompass** the ongoing development of the website, ensuring an exceptional user experience. In parallel, secondary costs involve curating and refining content while actively seeking and engaging potential donors. We are committed to managing our progress in alignment with available funding resources.

The remarkable uniqueness and novelty of STEMulator have far exceeded our initial expectations, underscoring the imperative to recognize its immense potential and intensify our funding efforts. Together, let us unlock the full potential of STEMulator and propel it to even greater heights.

WHERE SHOULD WE EXPAND OUR STEM KNOWLEDGE EFFORTS AND RESOURCES

Help us encourage the next generation to plan for their future careers within the fields of science, technology, engineering and mathematics, through an **interactive Exploratorium** with knowledge at their fingertips.

Potential sponsors can play a crucial role in driving STEM knowledge among youth by getting involved with STEMulator and supporting its initiatives.

Sponsors can **contribute in various ways,** such as financial support, in-kind donations, or providing expertise and resources. By aligning with STEMulator's vision and mission, sponsors can showcase their commitment to education, innovation, and the future workforce.

Ideal investors for STEMulator would include companies, organizations, and **foundations that prioritize STEM education** and are passionate about empowering youth in the fields of science, technology, engineering, and mathematics.

We call on investors who share our passion for upskilling and recognize the importance of cultivating STEM skills, bridging the skills gap, and preparing the next generation for a technology-driven world. Their support can make a significant impact in expanding the reach and benefits of STEMulator, ultimately shaping a brighter future for youth and the STEM industry.

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THE NSTF WELCOMES COLLABORATION WITH OTHER ORGANISATIONS, SUCH AS THOSE THEY HAVE BEEN IN PARTNERSHIPS WITH FOR MANY YEARS:

- Department of Science and Innovation (since 1998)
- Eskom (since 2003)
- Council for Scientific and Industrial Research (CSIR) (2003-2017)
- National Research Foundation (NRF) (2003-2014)
- Department of Trade, Industry and Competition (the dtic) (2016-2018), previously through the Technology and Human Resources for Industry Programme (THRIP), an initiative of the dtic (2005-2015)
- South African Agency for Science and Technology Advancement (SAASTA), a business unit of the NRF (2005-2014)
- Business Report (since 2009) which is part of The Star, Pretoria News, Cape Times and The Mercury newspapers
- Mail & Guardian newspaper (since 2009)
- South32 since 2016 (previously through BHP Billiton from 2011-2015)
- GreenMatter (2015-2018)
- pro*SET* – Professionals in *SET*, a sector of the NSTF representing Professional Bodies and Learned Societies (Prize sponsor since 2015)
- Carl & Emily Fuchs Foundation – for the Youth outreach projects (2016-2020)
- Water Research Commission (WRC) since 2017
- Network of Data and Information Curation Communities (NeDICC) – category co-founders of the Data for Research Award (2017)
- Data Intensive Research Initiative of South Africa (DIRISA) – category co-founders of the Data for Research Award (2017)
- South African Astronomical Observatory (SAAO) and the South African Radio Astronomy Observatory (SARAO) – for the Brilliants programme tour (2017-2019)
- National Intellectual Property Management Office (NIPMO) for the SMME award (since 2019)
- Lewis Foundation (since 2019)
- South African Medical Research Council (SAMRC) (2023)
- South African Young Academy of Science (SAYAS) (2023)

Connect with us

enquiries@nstf.org.za

SEMulator

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