Kasis
CLEAN WATER
TECHNOLOGIES

KASIS CLEAN WATER TECHNOLOGIES

Sackville, NB

BRINGING NOVEL ‘REDOX MATERIALS’ TO THE MARKET PLACE

Using our patented technology, Kasis is developing applications in:

1

Environmentally friendly gold leaching and recovery.

2

Water filtration.

3

Redox-flow batteries.

4

Medical applications: anti-viral coatings, devices, sensors.

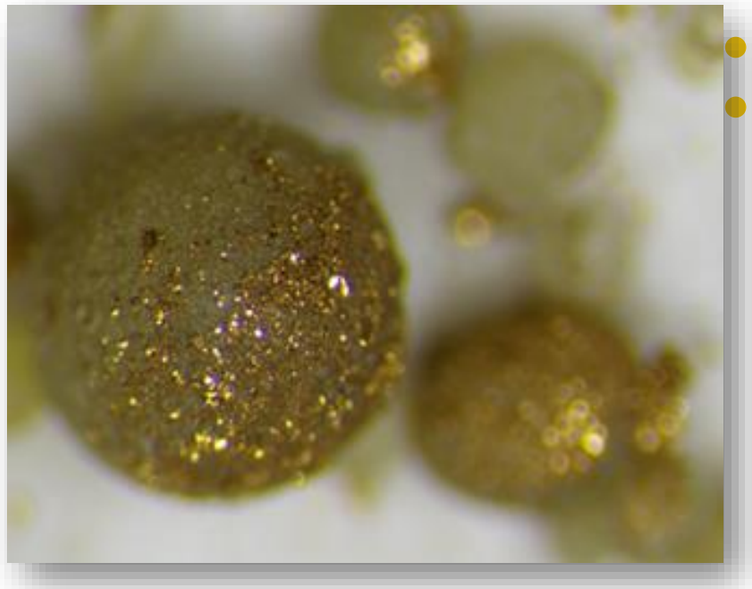
1 Gold Leaching with Smart Materials

Utilizing its patented redox-materials, Kasis is working on a novel approach to gold leaching and extraction. The ‘smart’ nature of these materials allows Kasis to recover high levels of gold, and potentially scavenge cyanide from the leachate at the same time. Miners can use their favorite leaching agent (NaCN) and still operate a cost effective and environmentally friendly process.

Kasis materials have been shown to have a high affinity for elemental gold (Au). The Kasis material behaves as a gold affinity resin with a novel mechanism-of-action.

1) Leach

2) Resin Capture



2 Water Filtration

Water purification is crucial for a host of applications and industries. These include the obvious need for clean drinking water, but also in heavy industries where corrosion is a problem.

Because of the redox nature of the Kasis materials, they have the potential to remove metals and their oxides from contaminated water.

The oxidized (positively charged) version of the materials is being examined for the removal of phosphates and arsenate from contaminated water.

3 Redox Flow Batteries

Electrical energy storage (in the form of huge battery installations) has been recognized as an essential piece of infrastructure if the renewable energy business is to succeed. Redox-flow batteries (RFBs) have been shown to be effective for this purpose, and many commercial installations are in operation.

https://sumitomoelectric.com/products/redox

Several versions of the Kasis ‘redox-materials’ are showing great promise in both rechargeable batteries for specialized applications, and in organic redox-flow batteries. Kasis has been exploring several aspects of this technology - synthesis of materials, electronic measurements, and assembly of battery components.

4 Medical devices / antiviral coatings

Covid 19 has stimulated a lot of interest in developing anti-viral coatings for a large variety of devices, objects, clothing, PPE, etc. These materials are designed to kill viruses on contact, or at least limit the spread of infection.

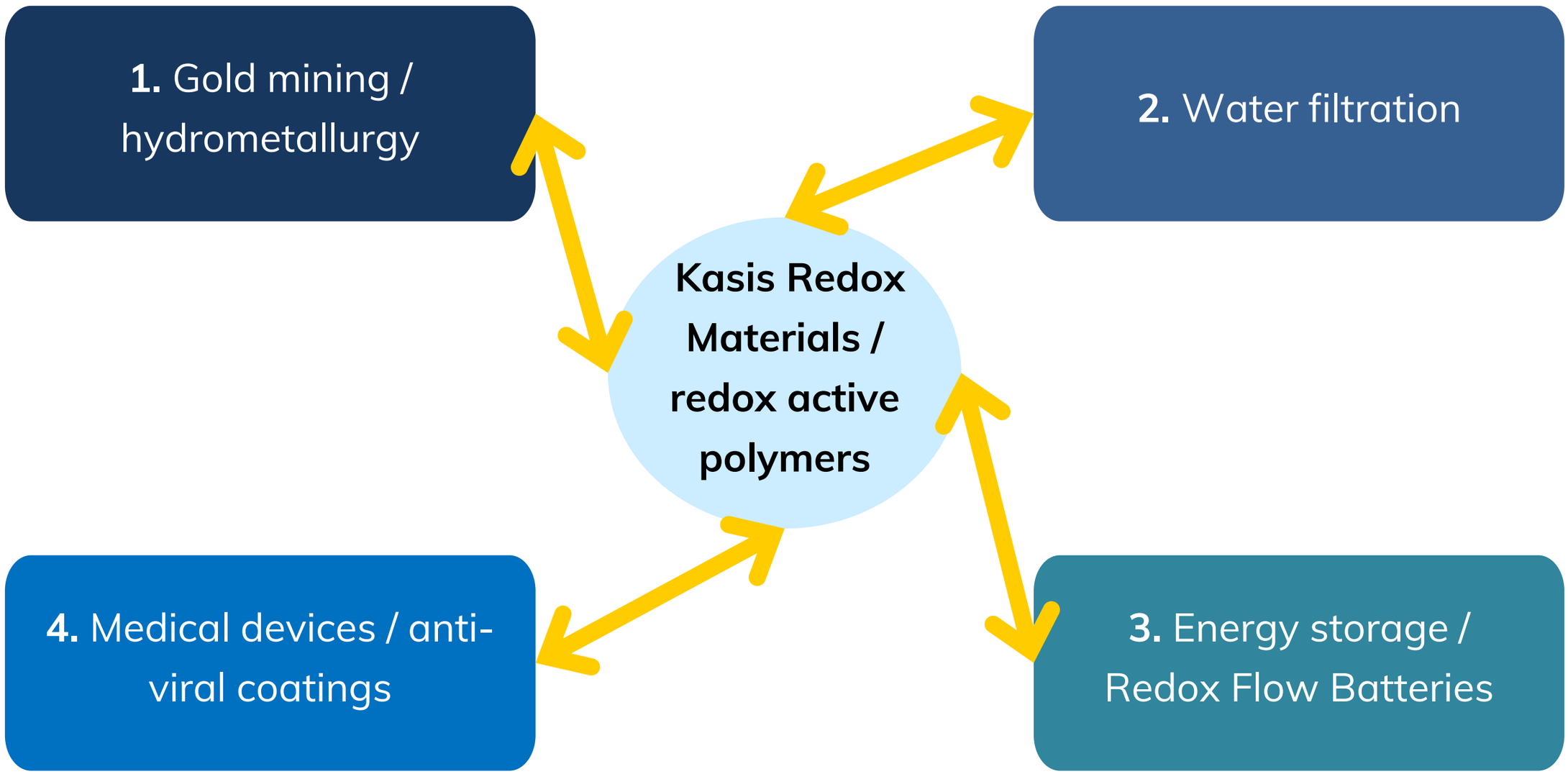
Kasis has developed technology that can easily modify a variety of materials and surfaces with their proprietary ‘redox materials’. Anything made of cotton, glass and wood surfaces, etc. can be modified. These redox materials have recently been found to have significant anti-bacterial activity.

Additionally, the redox nature of the coating can provide a platform to bind a variety of nano particles which are known to be anti-viral.

Kasis is gearing up to investigate the anti-viral nature of these materials.

https://www.degruyter.com/document/doi/10.1515/ntrev-2021-0072/html?lang=en

Commercial Applications of the Kasis redox materials



OUR TEAM

Jeffrey Selder, M. Eng

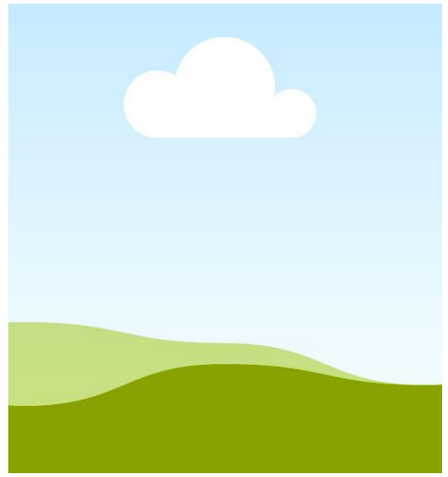
CEO

Mr. Jeffrey Selder brings over 25 years of mining experience.

Dr. Andrew Grant, Ph.D.

Chief Scientific Officer

Andrew is an Associate professor of Chemistry at Mount Allison University. He has research interests in redox-active materials, superconducting organic polymers, and bioorganic chemistry. He co-founded Kasis Environmental in 2015.



Christopher Anderson

Executive Chairmen

Mr. Anderson brings over 30 years of entrepreneurial experience with an astute emphasis on strategic planning, communications and creative marketing. He has been instrumental in facilitating tens of millions of dollars of financing for both public and private enterprises.

CONTACT US