Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company’s public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
lion of which about a third has been allocated to the businesses bought by SSB.

SSB says that the chromatography systems and resins business that it has acquired enables it to expand its portfolio of products used in downstream processing.

This business addresses an essential step in the purification of biopharmaceuticals and encompasses both reusable and single-use equipment, columns and resins. Furthermore, selected product groups in the areas of stainless steel hollow-fibre and single-use technology tangential-flow filtration systems and single-use flow-kits will additionally strengthen the portfolio line-up in downstream processing, says the firm.

A further asset is the SoloHill business covering a microcarrier technology and particle validation standards used in cell cultures and other bioprocesses.

In 2015 Danaher Corp acquired filtration, separation and purification technologies company Pall Corp for US$13.8 billion including assumed debt and net of acquired cash (Membrane Technology, July 2015, page 1 and May 2017, page 16).

For further information, visit: www.sartorius.com & www.danaher.com

San Francisco water treatment facility uses RO trains from Biwater

Biwater’s operations in the USA recently delivered a reverse osmosis (RO) system to the San Francisco Westside Recycled Water Treatment Facility at Oceanside Plant, California.

The system – comprising four assembled RO trains with a clean-in-place (CIP) system – is being positioned downstream of a microfiltration system, which will use secondary effluent from Oceanside Water Pollution Control Plant (WPCP) as its feed water.

Biwater Inc, which designs, supplies and services custom water treatment systems in the desalination and water reuse industry, says that the trains are capable of producing up to 20 million litres (5.2 million gallons) of water per day, with a build-out capacity of 26 million litres (6.8 million gallons).

The two-stage design incorporates an energy-recovery system with inter-stage boosting.

The water reuse facility, which is built within the existing Oceanside WPCP, will supply non-potable water to local customers.

For further information, visit: www.biwater.com

Postponed ICOM 2020 is now taking place in December

The 12th International Congress on Membranes & Membrane Processes (ICOM 2020) is now scheduled to be held on 6–11 December 2020 instead of 12–17 July 2020. It is still set to be held at the Excel Convention Centre in London, UK.

As the spread of COVID-19 continues and the situation is still uncertain, the organisers of the congress – Elsevier and the European Membrane Society – have taken the decision to postpone the event. They say that any preregistered delegates who still want to attend will be transferred automatically to the new conference date.

Because the event has been rescheduled, abstract submission has been reopened for authors who have not previously submitted details of their presentation. New submissions will be initially considered for poster presentation only, with accepted abstracts automatically placed in reserve for oral presentations, should any slot in the current programme become available.

The deadline for submission is 31 July 2020. Abstracts should be submitted online at the address given below.

For further information, visit: www.icom2020.co.uk/submit-abstract.asp

Bluewater Bio receives phosphorus removal contracts from Wessex Water

FilterClear, a high-rate multi-media filtration technology from Bluewater Bio Ltd (BwB), has been selected for three projects in the UK within Wessex Water, to enable it to achieve compliance with tighter phosphorus consent, set by the European Union’s Water Framework Directive (WFD).

The schemes are located at Winscombe, Sherborne and Rowde. BwB, which specialises in technology for water and wastewater treatment, says that it will provide, in each case, a fully automated tertiary solids removal (TSR) plant.

The contracts follow on from the company’s recent contract with Severn Trent Water covering the Itchen Bank Sewage Treatment Works (Membrane Technology, May 2020, page 4), and marks the first time FilterClear has been deployed at Wessex-operated treatment plants.

BwB will work directly with Wessex Water and its Tier 1 delivery partners in providing a TSR filtration plant at all three sites.

FilterClear is capable of treating flows ranging from 2 l/s to in excess of 1000 l/s. The technology has a proven track record across multiple applications – both in the UK and internationally – having proven to be highly competitive, compared with both conventional and next-generation filtration systems, says BwB.

For further information, visit: www.bluewaterbio.com/filterclear & www.wessexwater.co.uk

Call for proposals to host World Congress 2023 is issued by IDA

The International Desalination Association (IDA) is inviting formal bids until 15 October 2020 to host the 2023 IDA World Congress on Desalination and Water Reuse Solutions.

The IDA designates five regions in the process. These are Europe, Latin America/the Caribbean, the Middle East and Africa, North America, and Pacific and Asia. Destination considerations are based on a variety of criteria outlined in the bid package. In addition, support from local agencies, public sector leaders and the local private sector is highly valued.

After an official review and scoring process by the IDA Site Selection Committee, a site inspection is conducted of the top three bid locations. The selection process is concluded with a recommendation to the IDA Board for final selection in April 2021.

For further information, visit: https://idadesal.org

Porvair highlights its role in supporting the fight against Covid-19

Porvair Filtration Group, a specialist in filtration and environmental
technologies, has played an important role in supporting the manufacture of components for ventilators and face shields, both of which have been vital during the coronavirus outbreak.

In response to government calls for businesses to support the production and supply of ventilators and ventilator components, Porvair rapidly adapted some of its manufacturing processes in order to join forces in the fight against Covid-19.

The firm’s New Milton and Caribou Divisions worked alongside an international company to supply porous bronze parts, which were used in the manufacture of ventilators called for by the UK Government. These parts act as silencers in the ventilator valves to aid patient’s comfort and minimise the noise produced by the system.

The group’s Segensworth Division has also been involved in producing face shields for the British National Health Service.

As part of project “The Big Print”, Porvair has been manufacturing face shield components using a 3D printer, which is normally used to produce tooling and prototypes destined for the aerospace, defence and nuclear industries.

3D printers create physical objects by extruding thin layers of plastic or other materials to slowly build up components based on a computer-generated model. Whilst slow to manufacture, the process enables components to be produced without the associated cost and time needed for complex tooling.

Work started in April 2020 and is scheduled to complete in 2025.

The contract is valued at S$433 million and was awarded following an open tender exercise in August 2019, during which a total of 11 bids were received.

According to PUB, these facilities will form the key interface between Tuas WRP and the National Environment Agency’s (NEA) Integrated Waste Management Facility (IWMF). Collectively, Tuas WRP and IWMF are known as Tuas Nexus, Singapore’s first initiative that integrates water and solid waste treatment processes to harness synergies of the water–energy–waste nexus.

With an initial treatment capacity of 800 000 m³ (about 211.3 million gallons) per day – enough to fill over 300 Olympic-size swimming pools – the WRP will house what is believed will be the largest membrane bioreactor (MBR) facility in the world, with a footprint that is 30% more compact than that of conventional plants, says PUB.

At the biosolids treatment facility, used water sludge will be co-digested with IWMF’s food waste to increase the yield of biogas, which will be then used as fuel at the IWMF to boost power generation and improve overall plant energy efficiency.

The total electricity generated at the IWMF will be sufficient to power 300 000 four-room Housing Development Board apartments. A portion of this will be used to operate Tuas WRP and IWMF, which will make the whole Tuas Nexus complex fully energy self-sufficient. The rest will be sold to the grid.

PUB’s DTSS Phase 2 project comprises a network of deep tunnels and link sewers spanning 100 km (around 62 miles). When completed it will channel used water via gravity from the western half of Singapore to the Tuas WRP for treatment.

Existing conventional WRP’s in Ulu Pandan and Jurong will be progressively phased out.

For further information, visit: www.porvairfiltration.com & www.porvair.com

Work begins in Singapore on the Tuas WRP biosolids treatment facility

In Singapore construction work has started on the biosolids treatment facility for the Tuas Water Reclamation Plant (WRP) – a major component of the Deep Tunnel Sewerage System (DTSS) Phase 2 project.

The company behind the DTSS, PUB, Singapore’s National Water Agency, awarded the contract to Sembcorp Design and Construction Pte Ltd, a wholly-owned subsidiary of local construction and property group Chip Eng Seng Corp Ltd. The company is constructing Tuas WRP’s biosolids building, digesters and greasy waste receiving facility.

UOP technology provides economical source of hydrogen for chemical processes

Zhejiang Petrochemical Co Ltd (ZPC) is to use four Polybed™ pressure swing adsorption (PSA) units developed by Honeywell company UOP LLC.

These will supply high-purity hydrogen economically for the second phase of an integrated refining and petrochemical complex in Zhoushan, Zhejiang Province. When completed, the facility will be the largest crude-to-chemicals complex in China and one of the largest in the world, manufacturing petrochemicals to make plastic resins, films and fibres, as well as fuels, says UOP.

The complex in Zhoushan is one of several new large industrial sites that are part of China’s current national economic development plan.

‘More petrochemical manufacturers and refiners in China are choosing UOP’s PSA technology because it is an extremely competitive and reliable source of high purity hydrogen,’ explained Bryan Glover, Vice President and General Manager, Petrochemicals & Refining Technologies, Honeywell UOP.

‘High-purity hydrogen is a critical element in the efficient operation of these complexes because all of the conversion technologies in them depend on it.’

UOP’s PSA technology has been applied recently in two other projects in China.

Zhejiang Satellite Petrochemical Co Ltd is using a Polybed pressure PSA unit to supply high-purity hydrogen to its integrated refining and petrochemical complex. The unit purifies hydrogen generated by its UOP C3 Oleflex™ propane dehydrogenation unit (Membrane Technology, March 2020, page 4).

Dayuewan (Zhuhai) Petrochemical Co Ltd – a subsidiary of China Grain Petrochemical Group – is also using a range of technologies developed by UOP to upgrade heavy fuel oil to produce higher value petrochemical products.

It has provided basic engineering and technology licensing, as well as technical and start-up services for the project, which includes three Polybed PSA units to supply high-quality hydrogen for the Uniflex™ hydro-cracking process (Membrane Technology, January 2020, page 4).

UOP announced the first phase of the ZPC project in 2017, including technologies for hydro-processing and heavy oil upgrading, and production of aromatics for plastic resins, films and fibres. ZPC awarded the second phase of the project in January 2019, doubling the plant’s aromatics capacity to about 12 million metric tons per year.

The PSA process uses proprietary UOP adsorbents to remove impurities at high pressure from hydrogen-containing process streams. This enables hydrogen to be recovered and upgraded to more than 99.9% purity to meet refining needs.

In addition to recovering and purifying hydrogen from steam reformers and refinery off-gases, the Polybed PSA system can be used