

E/S/R

Science

for communities





Keeping people safe, healthy and prosperous since 1992

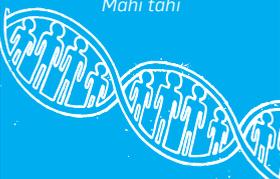
ESR is New Zealand's Crown Research Institute that specialises in science relating to people and communities.

It's our science that helps safeguard people's health, protect food-based economies, improve the safety of freshwater and groundwater resources and contributes expert forensic science to justice systems.

Our world class knowledge, research and laboratory services help our partners and clients solve complex problems and protect people in New Zealand and around the world.

Our values

Our team spirit
Mahi tahi



GREAT PEOPLE WORKING TOGETHER AS ONE TEAM

WE VALUE EACH OTHER BY:

- sharing our ideas and integrating our science to achieve success for ESR and New Zealand
- recognising and celebrating our work and achievements
- appreciating the unique perspectives, knowledge and experience that give us our point of difference

Our quality counts
Mahi rangatira



STANDING OUT THROUGH OUR EXCELLENCE AND WORLD CLASS EXPERTISE

WE DELIVER EXCEPTIONAL QUALITY BY:

- taking the time to plan and do the job right
- understanding our customers and meeting their needs
- investing in our people, research and technologies

We do the right thing
Mahi pono



UPHOLDING INTEGRITY AND INDEPENDENCE NO MATTER WHAT

WE DO THE RIGHT THING BY:

- delivering science that is evidence-based, objective and impartial
- keeping our promises and being accountable to each other
- making decisions and choosing actions that are honest, fair and respectful

We push boundaries
Mahi auaha



MEETING CHALLENGES WITH FRESH THINKING AND CREATIVE APPROACHES

WE PUSH BOUNDARIES BY:

- embracing a culture of curiosity and learning
- creating opportunities to innovate and collaborate
- critiquing and learning from what we have done

Our people working with you

Whether it be a one-off test or solving a complex problem, ESR's interdisciplinary team of scientists works together to deliver trustworthy, independent, evidence-based solutions.

With 25 years as the leading provider of scientific services for the protection of New Zealanders and our environment, we partner with you to understand what you are trying to achieve or the problem you are trying to solve.

A cornerstone of our commitment to serve our clients is ESR's success in creating a number of key partnerships to ensure our science-related research, analytical and consulting services in public health, environmental health and forensic sciences fully meet the needs and expectations of our clients.

Our values, developed by our people, represent what's important to us, and define how we work with you:

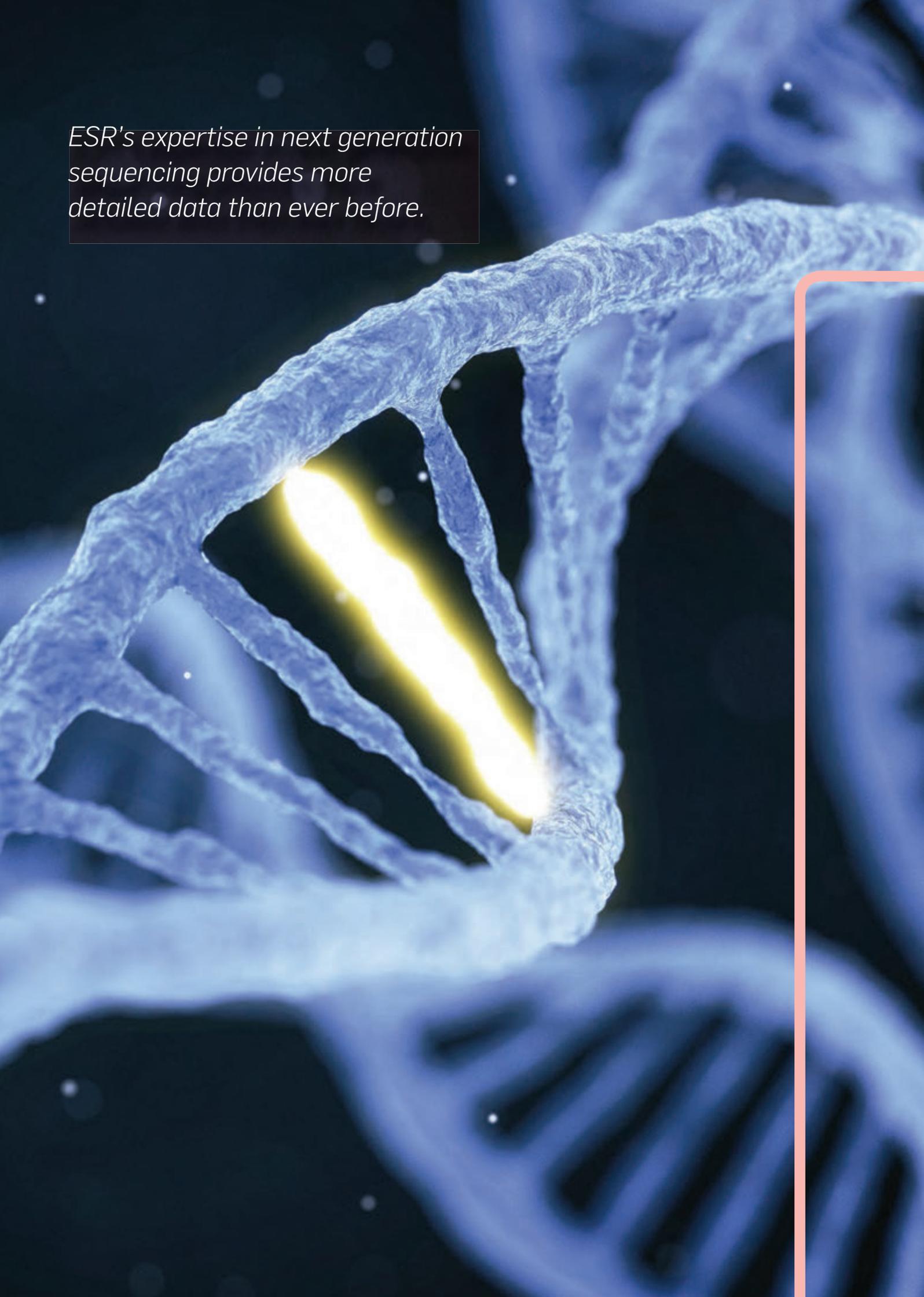
- ✔ Our team of scientists work together to utilise the range of expertise and experience we have to optimise the services we deliver to you.
Our team spirit – Mahi tahi
- ✔ Our commitment to quality infiltrates all we deliver and speaks of the importance of maintaining our reputation for excellence in our respective fields.
Our quality counts – Mahi rangatira
- ✔ At our core is our professional reputation, our integrity and ethical conduct and our willingness to make the tough decisions, making us a trusted partner.
Doing the right thing – Mahi pono
- ✔ We are at the forefront of innovation, looking at better ways to serve our clients and delivering high value science that is agile and embraces change.
Pushing boundaries – Mahi auaha



Our services



ESR's expertise in next generation sequencing provides more detailed data than ever before.



Genomics and bioinformatics

Te Mātai Huinga Ira me Te Mātai Raraunga Koiora

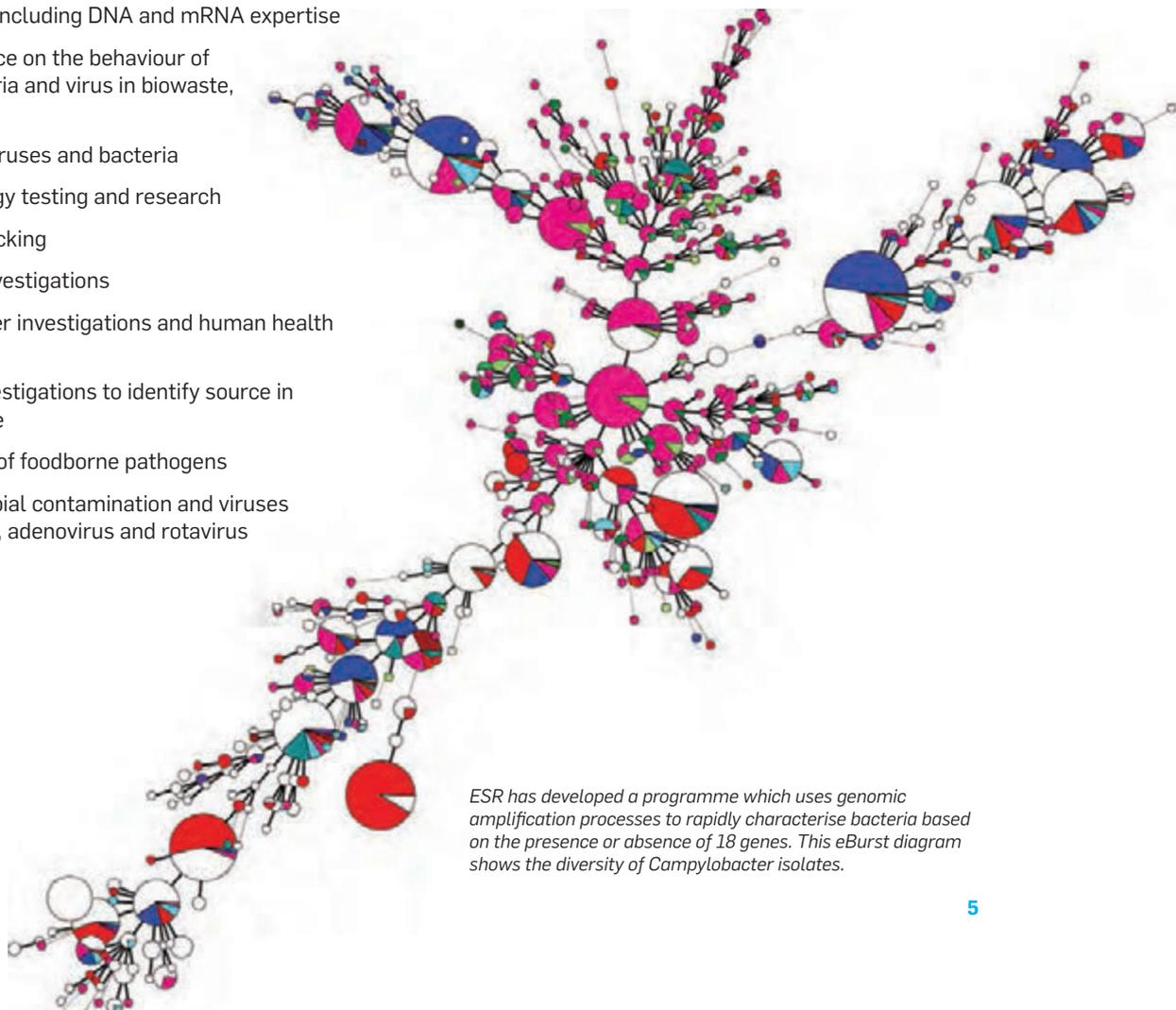
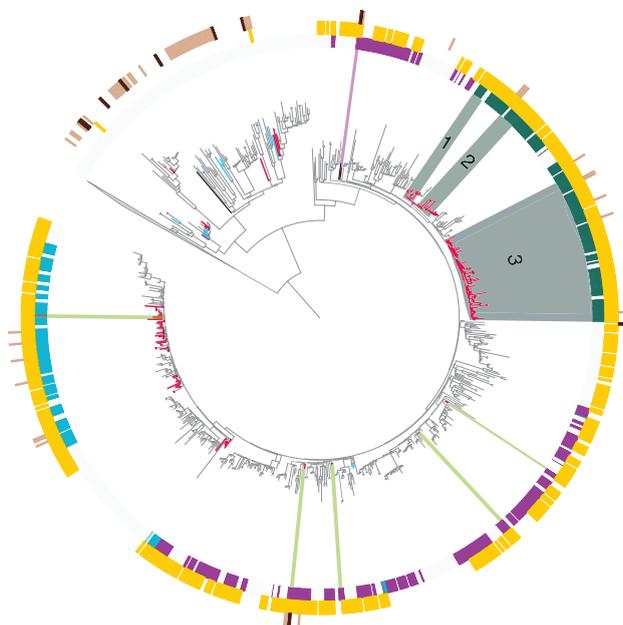
Genomics is a fast moving field, where changes in DNA sequencing technologies are generating more detailed data on life's basic building blocks. Along with the growth in genomics is the growth of bioinformatics; the science of collecting and analysing this complex biological data.

ESR has expertise in genomics and bioinformatics, particularly in the areas of microbiology, human forensic science and some human non-communicable diseases. ESR's genomic science encompasses metagenomics, RNA, epigenetics, microbiomics and other omics.

ESR uses the latest technology to provide its next generation sequencing capacity. These technological platforms combine speed with the ability to sequence across a wide range of applications. ESR also has expertise in the use and application of portable DNA sequencing. This provides real-time data analysis of sequences where the raw materials are in remote locations or where response time is critical.

ESR has genomics and bioinformatics expertise and capability which is applied to a range of ESR science:

- Forensic biology, including DNA and mRNA expertise
- Analysis and advice on the behaviour of pathogenic bacteria and virus in biowaste, soil and water
- Identification of viruses and bacteria
- Water microbiology testing and research
- Faecal source tracking
- Drinking water investigations
- Recreational water investigations and human health impacts
- Food forensic investigations to identify source in foodborne disease
- Molecular typing of foodborne pathogens
- Testing for microbial contamination and viruses such as norovirus, adenovirus and rotavirus



ESR has developed a programme which uses genomic amplification processes to rapidly characterise bacteria based on the presence or absence of 18 genes. This eBurst diagram shows the diversity of *Campylobacter* isolates.



Food is an essential part of life so knowing precisely what is or isn't in it is crucial to having trust and confidence in the supply chain.

Ensuring our food is safe through testing and certification

At ESR, our expertise, relationships and track record stretch across every food production sector in New Zealand. Whether it's part of day-to-day purchases or New Zealand's multi-billion dollar export industry, no one else in the country undertakes a broader or deeper range of research and investigation into food safety, quality and authenticity.

Employing the largest group of microbiologists in New Zealand and with extensive international collaborative networks, ESR can provide you with the full spectrum of food science expertise, no matter how complex.

We specialise in reference-level assays, new assay development and cutting-edge food research and are the lead food safety science provider to the Ministry for Primary Industries.

How we can help you

ESR offers specialised testing and consultation in the following areas:

- ✔ Food authenticity, food adulteration, nutritional and additive testing for domestic and imported food products
- ✔ Food forensic investigations to identify the source of an outbreak of foodborne disease
- ✔ Risk profiling and exposure assessments of risk to human health from hazards in food
- ✔ Reference-level safety and assurance testing of wine, meat, dairy and seafood
- ✔ Food import and export certification to receiving country standards, including STEC confirmation testing of *E.coli* isolates from export meat in accordance with the US Federal Meat Inspection Act 1994
- ✔ Identifying the origin of a foreign object in food
- ✔ Testing of meat and meat products to identify the meat species present
- ✔ Testing for microbial contamination and viruses such as norovirus, adenovirus and rotovirus
- ✔ Biological control treatments such as STECCleanz® for protection against specific bacterial pathogens in foods and food processing environments
- ✔ Molecular typing of foodborne pathogens, including rapid *Campylobacter* subtyping and whole genome sequencing
- ✔ Wet and instrumental chemistry method development under IANZ 2.70 and 2.71 certification



WHAT'S IN OUR FOOD?

ESR contributes to the New Zealand Total Diet Study (TDS) by the Ministry for Primary Industries. The study estimates the dietary exposure of the New Zealand population to pesticide residues, contaminant elements and selected nutrients to then assess if they pose a potential health risk.

ESR analyses fresh food testing for over 240 agriculture chemicals, as well as contaminant metals and minerals for MPI to assess New Zealand's exposure to certain agricultural compounds, contaminant elements and nutrients from a range of foods consumed in a typical diet.

The TDS is considered a critical tool to identify any food safety risks that might exist. It is part of MPI's monitoring and testing regime to provide all consumers with the highest levels of assurance and confidence in the integrity and safety of New Zealand food. Information obtained from the study informs the development and review of New Zealand food standards to ensure that food eaten by the average New Zealander continues to be safe.



When lives are on the line, exact, independent and trustworthy results are crucial to ensure justice is upheld.

Forensic science Te Mātai Pūtaiao ā-Ture

Supporting justice systems through analysis of evidence and DNA

ESR crime scene scientists, drug chemists, physical evidence specialists, toxicologists and biologists are equipped with the latest technology and knowledge to support New Zealand's justice and security sectors.

We analyse human tissue, crime scene trace evidence, bodily samples and all other evidential material. Our knowledge about the presence and interpretation of DNA, is utilised across the country and around the world. We are the sole forensic science provider to the New Zealand Police and manage the national DNA Profile Databank.

Our forensic laboratories are accredited by the Laboratory Accreditation Board of the American Society of Crime Laboratory Directors. The quality of our forensic work is our top priority and accreditation ensures our quality management system meets the highest international standards for forensic laboratories.

Our research and development team is pushing boundaries with innovative solutions for our clients. Our STRMix™ product is forensic software that assists investigations by matching DNA that has previously been considered too complex to interpret. The software is being used in forensic biology laboratories in the United States, Australia, Canada, Europe, Asia and New Zealand.

We are also applying latest advancements in genomics, technology miniaturisation, 3D visualisations and DNA analysis to solve problems and deliver greater value to our clients and the community.

How we can help you

ESR's accredited laboratories operate under the IANZ NZS ISO/IEC standard 17205:2005 which specifies the requirements for testing and calibration laboratories. We provide:

- Physical evidence analysis including fibres, paint, explosives, shoe prints, number restoration, tyre marks, tool marks, glass, firearms, substance identification and hydrocarbon fuels
- Forensic biology including DNA and mRNA expertise
- 3D laser scanning and visualisation capability
- Bloodstain pattern investigation
- Serious crime and firearm scene investigations
- STRmix™ forensic software expertise
- Blood alcohol and illicit drug analysis
- Toxicology
- Clandestine laboratory investigation
- Forensic training
- Luminol testing



MONITORING DRUGS IN OUR WASTEWATER

Working closely with Police, ESR analysed the wastewater in Auckland and Christchurch sites to determine the amount of illicit drug use. Using a robust sampling protocol and a modified and validated extraction method, ESR tested for methamphetamine, heroin, cocaine, alpha PVP (bath salts) and Ecstasy (MDMA). Results indicate that methamphetamine is the most used drug in both cities followed by cocaine and Ecstasy.

These findings will enable Police to understand drug-use patterns in the population and give a clearer picture of where and when drugs are most commonly used. Waste water analysis is an emerging science and provides a valuable snapshot of the drug flow through cities. It is the first time such a test has been performed in New Zealand by a government agency.

Supporting the health of people through monitoring and testing

At ESR, our team of health scientists provide unprecedented insight and expert advice to help prevent and reduce disease, especially in the area of communicable or infectious disease.

With the experience to respond rapidly to unusual findings and reports, ESR is the standing army to respond to disease and support human health.

Our microbiological public health reference laboratories are accredited as Medical Diagnostic Laboratories under ISO 15189:2012 and operate as part of an international network to detect, identify and classify the bacteria, viruses and anti-microbial resistance that cause disease using both classical techniques, and the latest advancements in whole genome sequencing.

As the preferred scientific provider for the Ministry of Health, ESR provides scientific support to government agencies in the event of public health outbreaks and biological threats. Our expertise can contribute to national early warning systems, and reporting on emerging threats to health such as Ebola, Zika and measles.

How we can help you

Our team of scientists provide independent scientific advice, support and services. We can:

- ▶ Monitor and provide information on human disease, risk factors and control measures and identify new pathogens
- ▶ Provide classical and genomic public health reference laboratory testing for bacteria, viruses and anti-microbial resistance including: Antibiotic reference, Arbovirus, Bloodborne virus, Enteric reference, Environmental and food virology, Invasive pathogens, Legionella reference, Leptospira reference, Microbiology, Norovirus reference, Nosocomial infections, Special bacteriology and Virus identification reference
- ▶ Provide storage and access to organisms in the New Zealand Culture Collection
- ▶ Coordinate and document national outbreak investigations
- ▶ Provide laboratory and epidemiological support for government responses to intentional bio-threat events
- ▶ Undertake surveillance reports, trend analysis, early warning reports and risk factor investigation
- ▶ Administer clinical networks to support national clinical coordination
- ▶ Provide programmes to develop practitioners' skills in the interpretation of laboratory and epidemiological information



MONITORING INFLUENZA IN THE COMMUNITY

Influenza affects thousands of people, especially in winter, and each year people die from this dangerous virus. As part of our role in monitoring infectious diseases, ESR collects data on influenza-like illnesses so that we can monitor the distribution of the disease in any one year, how it effects communities and detect any outbreaks or pandemics.

The faster this data can be collated, the quicker ESR can analyse health events and, along with our partners such as the Ministry of Health, take appropriate action. Under the traditional system it took up to a week for ESR to receive the statistics from Doctors' offices. Now, with a new and improved electronic reporting system developed by ESR scientists, response times have been turned on their head. It now takes 24 minutes for ESR to be notified. The ESR scientist who coordinates this data nationally said, 'this is one more way ESR uses science to help keep New Zealand communities safe and healthy.'



A close-up photograph of a person wearing a white nitrile glove holding a clear glass Erlenmeyer flask. The flask is partially filled with a vibrant blue liquid. The flask has volume markings at 50, 75, and 100. The background is a blurred laboratory environment with various glassware and equipment. A pink L-shaped graphic element is in the top-left corner.

Our pharmaceutical team provides independent, specialist testing against a full range of regulatory requirements.

A close-up photograph of a scientist in a white lab coat and safety goggles. The scientist is using a glass pipette to transfer a clear liquid into two test tubes. The test tubes are held in a white rack and contain a clear liquid. The background is a soft, out-of-focus blue. A green decorative line runs along the right and bottom edges of the image.

Protecting ourselves and our families from disease requires a standing army of highly qualified scientists and medical specialists.

Pharmaceuticals

Te Mātai Matū Rongoā

Testing medicines, cosmetics and natural health products

ESR's pharmaceutical programme analyses medicines, natural health and other therapeutic-like products using a comprehensive range of methods and tests, for local manufacturers and importers of international products.

We can provide independent testing services from our analytical chemistry and microbiological laboratories to determine what is exactly in the product.

Using our Western Medicine Screening services we can identify whether products contain substances regulated under New Zealand law (such as scheduled medicines and other drugs) or have been contaminated with unknown substances.

Our secure, dedicated Stability Facility is one of the very few Good Manufacturing Practice (GMP) certified facilities available in Australasia. We are able to offer storage of products to determine expiry date based on international ICH guidelines, within temperature and humidity controlled chambers.

Our pharmaceutical programme is the primary provider of therapeutic product testing for the Ministry of Health's medicines regulatory agency Medsafe.

To maintain the standard of excellence that ESR is known for, our pharmaceutical programme is GMP certified, and is subject to audit by the Ministry of Health on a regular basis to ensure we comply with requirements and maintain our reputation for delivering high-end quality services.

How we can help you

ESR's pharmaceutical programme provides specialist testing for medicines, natural health products (including herbals and complementary medicines), medical devices and cosmetics. Our accredited laboratories operate under the IANZ NZS ISO/IEC standard 17205:2005 for the specialised testing services listed below:

- ✔ Analytical chemistry testing
- ✔ Quality control testing of raw materials and finished products
- ✔ Testing to pharmacopoeial standards (BP, PhEur, USP)
- ✔ Method development and validation services
- ✔ Microbiological testing services
- ✔ Stability storage



NOT SO NATURAL . . .

A real issue in New Zealand today is the spiking of some 'natural health products' with drugs that are not regulated to be there, such as prescription medicines used for erectile dysfunction or weight loss. Many products have been found to have significant levels of contaminants such as heavy metals, or contain pharmaceutical products, such as viagra and paracetamol. These have been deliberately introduced to give the product a measurable effect not obtainable from the 'natural' products.

ESR's Western Medicine Screening programme can test products to detect drugs that shouldn't be there. By doing so, this helps New Zealanders rest assured that the foods, natural health products or herbal preparations are safe to take.

*ESR protects
New Zealand's people,
environment and
industries by supporting
the safe and beneficial
use of radiation and
radioactive materials.*



Providing expertise on radiation exposure, equipment and radioactivity

Radiation is naturally occurring and all around us. ESR works across a wide range of sectors providing radiation science advice, services, training and research. Our services cover public, occupational and medical exposure to radiation, performance assessment of radiation protection equipment, and the measurement of low-level radiation and radioactivity.

We can help employers protect their employees by providing tailored training courses and equipment calibration. Our Personal Dosimetry Service measures and records the ionising radiation doses employees are exposed to in the workplace. This ensures a safe work environment and that recommended dose limits are not exceeded.

Through robust testing we provide private and public sector clients with certification that products fall below acceptable levels for radiation to protect their reputation and that of their export products.

We have connections to, and strong working relationships with, global radiation authorities and agencies. We are the preferred supplier of radiological science services to the Ministry of Health.

How we can help you

ESR's accredited laboratories operate in compliance with the NZS ISO/IEC standard 17025:2005 which specifies the general requirements for the competence of testing and calibration laboratories, and additional standards for specialised testing listed below.

- Testing for low-level naturally occurring radioactivity measurement in food and environmental samples
- Supply of, and technical support for, personal radiation monitors
- Radiation safety compliance auditing
- Measurement of non-ionising radiation, e.g. cellphone towers and power lines
- Radiation incident and emergency response
- Radiation safety training
- Protective garment testing
- Food export certification for radiation standard conformance
- Radiation instrument calibration



RADIOACTIVE SOURCE GOES HOME

ESR protects New Zealand's people, environment and industries by supporting the safe and beneficial use of radiation and radioactive materials. A radiation machine called an AECL Theratron T-80 Teletherapy which contained a radioactive source, Cobalt 60 (Co-60), was historically used for cancer treatment of patients in New Zealand. The machine had reached the end of its useful life and was decommissioned by ESR. The question was what to do with the Cobalt 60 radioactive substance. After much consideration, ESR decided to send it back to where it came from – the Australian Nuclear Science and Technology Organisation (ANSTO). Under international best practice ANSTO may accept the return of such sources on completion of their useful life.

After all risks, costs, issues and options relating to the disposal were considered, the machine was exported back to Australia safely, carefully guided by our top class, qualified radiation experts.



Solutions to social, health and environmental problems require collaboration and a 'whole system' approach.

Social systems Te Mātai Pāpori

Solving complex problems by looking at all pieces of the puzzle

ESR works in close partnership with clients, stakeholders and decision-makers to develop meaningful solutions for complex health, social, environmental and technological problems. Most often, the answers involve collaborative approaches to balance competing needs and values, recognise social and economic limitations and align with the available technologies and systems.

We have a broad range of expertise including research and advice, multi-stakeholder workshop facilitation, developmental evaluation and systems modelling and problem structuring approaches (untangling the mess!).

We support clients to better understand complex problems and co-design appropriate strategies and solutions.

Recent work includes:

- Research to support service re-design to help improve the uptake of social and health services for populations considered 'hard to reach'.
- Facilitation of expert stakeholders to develop a New Zealand strategy for 'omics' technologies.
- Development of a community engagement framework to support local government in biowaste infrastructure decisions.

How we can help you

ESR's team of social scientists, with the ability to draw upon the expertise of other science disciplines at ESR, can assist with:

- Expertise on systems thinking, problem structuring methodologies, tailored research and consultancy approaches to resolve multifaceted problems
- Facilitation and advice for constructive engagement around socially complex issues that involve multiple perspectives and conflict between stakeholders
- Research to support robust social, environmental and health policy
- Evaluation of policies/programmes
- Working alongside government agencies, universities, iwi/hapū, industry, NGOs and local authorities
- Service innovation and co-design



MAKING SERVICES REACHABLE

ESR is not just about hard science, we also focus on work that can shed light on difficult and contentious problems facing New Zealand. Our social scientists, in conjunction with the Victoria and Canterbury Universities and SuperU conducted research to better understand why people get involved and stay involved with social services such as the Family Help Trust in Christchurch.

The research focused on how to make services reachable and came up with a practical framework and a set of principles that help social services understand the best ways to work with clients and their families/whānau.

Among other things the model suggests that structures are flexible and supportive and processes empathetic, collaborative and trusting. The new guide is available to all social service providers to help their clients stay involved with their service and be assisted to reach good outcomes.

Combining expertise in soil science, microbiology and ecotoxicology, ESR leads the investigation into the sustainable management and re-use of biowastes.



Pine seedling growth without biosolids



Pine seedling growth with biosolid application

Soil and biowaste Te Mātai Para

Solutions for the treatment and use of wastewater, effluent, biosolids and sewage sludge

ESR specialises in investigating treatment options for wastewater, effluent, greywater, biosolids and sewage sludge with a focus on land application and re-use.

We work in partnership with iwi, local government and key community stakeholders to build innovative and 'fit for purpose' solutions for the sustainable re-use of biowastes. Our community engagement approach ensures the solutions are culturally appropriate, have enduring community support and a sound scientific base.

ESR leads New Zealand's Centre for Integrated Biowaste Research (CIBR). We work with other organisations on the sustainable management of the approximately 700,000 tonnes of biowaste sent to landfills in New Zealand each year.

How we can help you

ESR scientists have the capability to:

- Support biowaste reuse/resource recovery; e.g. plantation productivity, land/soil restoration
- Investigate the potential effect of re-use on soil health in order to maintain soil integrity for future generations whilst minimising risk to people
- Manage the potential risks of daily household, industrial, and agricultural chemicals to the ecosystem while maximising the benefits of biowaste re-use
- Analyse and advise on the behaviour of pathogenic bacteria and viruses in soil and wastewater in order to facilitate better removal and improve treatment processes

ESR has leading capabilities in utilising field trials, laboratory data and cutting edge experimental science to assess:

- Environmental fate and effects of contaminants in different biowaste streams
- Mitigate technologies and systems to reduce environmental and public health impacts of recycling biowaste to land
- Risks of new and emerging contaminants (biophysical/social/cultural science)
- Collaborative approaches encompassing technical/social/cultural/economic aspects for beneficial reuse of biowaste



THE WORMS LOVE IT!

In this time of overflowing landfills and the need to minimise waste, ESR has come up with a novel way to turn biosolids (treated sewage) into compost. In the Kapiti Coast area, 1500 tonnes of biosolids are disposed of in landfills each year. Furthermore, 20% of landfill waste is from construction and demolition, which includes plasterboard. ESR is trialling vermicomposting the biosolids using a mixture of biosolids, green waste, cardboard and plasterboard. The result, the worms love it! They produce a very nice mix of compost – although final tests are still being completed. The positive effect of this trial is that it has the potential to create a viable product and at the same time divert biosolids and plasterboard from the landfill.

An aerial photograph of a rural landscape. In the foreground, a long, narrow channel of water flows through a green field. To the right of the channel is a larger, calm body of water. In the middle ground, a large herd of black cows is grazing in a lush green field. To the left of the channel, there are several large, rectangular piles of golden-brown hay or straw. The background shows rolling green hills, a line of trees, and distant mountains under a cloudy sky.

Water is precious. At ESR we work closely with partners to improve water quality so we all benefit.

Providing research, analysis and advice on water quality

Our cross-disciplinary team of scientists assess the quality of water, identify contamination sources, and develop guidelines and resources for our clients to better manage waterways and address possible risks to public health.

ESR provides advice and expertise on the management of seven different types of water: drinking water, storm water, grey water, surface water, groundwater, coastal water and waste water to health authorities, local government and communities.

We are a key player in the Pacific Islands, supporting local communities and government with water quality, sanitation and hygiene advice to improve water standards in this region.

Our research and development have led to innovative approaches to help you assess water quality and determine causes of water pollution, including differentiating between the sources of pollution. This work includes the development of groundwater modelling and monitoring systems, use of bacteria surrogates for conducting research without having to use harmful bacteria, and research into the viability of synthetic DNA tracers to track water contamination and improve virus removal in wastewater.

How we can help you

ESR provides specialised testing and advice in the following areas:

- ▶ Water microbiology testing and research
- ▶ Drinking water investigation, data collection and analysis
- ▶ Assessments of on-site wastewater discharges
- ▶ Faecal source tracking
- ▶ Environmental *Legionella* testing
- ▶ Norovirus, adenovirus, rotovirus and other virus testing and research
- ▶ Environmental risk assessment and sanitary surveys
- ▶ Consultancy services and training for local government for water management, sanitation and hygiene
- ▶ Investigation into recreational waters and human health impacts
- ▶ Cultural and community engagement, research and advice on water use



CLEANING NITRATES FROM OUR WATERWAYS

A Woodbury dairy farm in Canterbury (pictured opposite) is the site for an ESR field study to see how effective woodchip bioreactors are in removing nitrates from drainage water. Nitrates are harmful to human health and removing them from streams and rivers is essential. They get into the water supply from run-off sources such as animal waste, septic tanks and fertiliser.

ESR Senior Scientists believe that harnessing natural processes, such as the bioreactor, is cost effective, smart science. A buried trench alongside Barkers Creek at Woodbury farm has been packed with woodchips. The creek feeds into the Waihi River and bacteria hosted by the chips break down nitrates in the water passing through. Farmer John Sawyer says 'I'm for the betterment of dairying; this'll give us more information and may lead to changes in practice'.

Everyone has the right to come home safely after a day's work.



Workplace drug testing

Te Whakamātau Kaimahi

Urine testing for drugs and alcohol

At ESR, our workplace drug and alcohol testing programme helps employers provide a safe environment for their employees to work in. Our experience working with a broad range of sectors and organisations gives us a solid understanding of client needs and how best to provide the drug testing expertise required.

Our laboratory procedures are accredited by International Accreditation New Zealand (IANZ) and meet the AS/NZS 4308 standard for this form of testing.

How we can help you

- ✔ We have a nationwide collector network and helpdesk service
- ✔ We test for drugs, or their metabolites, that may affect performance including alcohol, illicit drugs and certain legal drugs through urine samples
- ✔ Testing may indicate if an employee's ability to safely carry out their duties is compromised thus presenting a danger to themselves, work colleagues and the public
- ✔ Our workplace drug and alcohol testing programme provides an independent and professional service built on ESR's commitment to integrity and excellence



KEEPING WORKPLACES SAFE

Many workplaces require a drug and alcohol test before an employee starts a role, after an accident or near miss caused by an employee and when an employee's behaviour suggests they are impaired. Random testing of employees in safety sensitive roles is also permitted. For instance, in a job where a mistake could have harmful results such as aircraft engineers making pre-flight checks, mechanics repairing vehicles or dangerous machinery, or doctors operating on a patient.

ESR's workplace drug testing unit makes it easy for employees to undergo drug and alcohol testing. Employees can do it on site or at a doctor's office under strictly controlled conditions. The sample is sent to ESR, tested and results are returned to both the employer and the employee.



ESR has expertise in genomics and bioinformatics, particularly in the areas of microbiology, human forensic science, and some human non-communicable diseases. ESR's genomic science encompasses metagenomics, RNA, epigenetics, microbiomics and other omics.

ESR SCIENCE CENTRES

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