

illuminations

Issue 2-Spring 2004

2003: a year of endorsement and validation

Worldwide Acclaim for Farfield's Philosophy of Quantitative Measurement.

Welcome to another edition of Illuminations, the technical newsletter from Farfield, published to keep you up to date with the latest company news and technical and applications developments.

In this issue we will review the tremendous progress Farfield has made in the last twelve months as an award-winning company in many arenas and illustrate how 2003 has been a year of validation and endorsement for both the company and our technology.

Farfield's Dual Polarisation Interferometry technology, embodied in the **AnaLight® Bio200** instrument, continues to offer unique benefits for the study of interactions between proteins and small molecules, proteins and metal ions and proteins with other proteins. We also continue to make great progress in our studies of protein aggregation processes and now offer new insights and quantitative data for the rapid characterisation of higher levels of structure in biopharmaceutical proteins. Our applications 'Spotlight' provides an overview of the exceptional progress we have made in providing unique and novel information on structural and functional aspects of biomolecular interactions of interest to both academia and industry.

As ever, we would welcome your feedback, comments and suggestions regarding this, and future editions of 'Illuminations'. We invite you to submit your ideas and articles for publication in future editions, and look forward to hearing from you.

Simon Carrington
Sales and Marketing Manager

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Farfield

illuminating the molecular world...



2003: a year of endorsement and validation

Worldwide Acclaim for Farfield's Philosophy of Quantitative Measurement.

Quantitative protein characterisation measuring size, density and mass traceable to national and international measurement standards.

This has been a year in which Farfield's DPI technology and **AnaLight® Bio200** instrument have received international plaudits for quality, instrumentation, measurement, applications and commercial achievement.

During 2003, the **AnaLight® Bio200** has not only been verified against such high-resolution measurement techniques as X-ray diffraction and neutron reflection but has also received the UK's National Measurement award from the National Physics Laboratory (NPL). Furthermore, building on Farfield's philosophy that measurement should be quantitative, Farfield have had all internal systems audited to the latest ISO9001:2000 international standard by BSI, which means that we can demonstrate full traceability of characterisation back to national and international standards. This greatly enhances the measurement value, as results can directly be compared with a range of complementary biophysical measurement methods whilst offering a resolution not previously associated with laboratory-based methods.

Highlights of our award-winning year include:

February 2003

AnaLight® Bio200 Wins Circle Of Excellence Award



Dr Gerry Ronan (left), CEO of Farfield accepts Circle of Excellence Award

In February 2003, Farfield was proud to receive further recognition for its **AnaLight® Bio200** instrument. The product received the prestigious 'Circle of Excellence Award' for one of the most innovative products of 2002, awarded by SPIE (Society for Photo-Optical Instrumentation Engineers). The award was presented at the Photonics West conference in San Jose, USA in January 2003 and was received on behalf of Farfield by its Managing Director, Gerry Ronan.

Gerry commented, "We are obviously very pleased to receive this award. It serves as recognition not just of the Company's achievements, but also highlights the excellence of all the members of our development team and the wonderful progress they have made in bringing this truly unique product through to market."

April 2003

Farfield Wins SBRI Research Contract



In April 2003, Farfield was the proud recipient of an award from the BBSRC under the Small Business Research Initiative (SBRI). The grant is enabling Farfield to conduct research into an area of surface chemistry that, if successful, will enable the development of biomimetic 'membranes'. This will enable researchers to use Farfield technology to study the behaviour of membrane proteins in great detail. This group of proteins is of intense interest to the life scientist and the pharmaceutical industry as they mediate in many crucial cellular processes. The project will last for two years and will be conducted in collaboration with Dr David Fernig of the School of Biological Sciences at the University of Liverpool, England.

For further info contact:
applications@farfield-sensors.com

August 2003

Quality First! Farfield Awarded ISO9001:2000 Accreditation



Farfield was delighted to announce, in August 2003, that its Quality Management System had been accredited by BSI Management Systems Ltd. to the latest internationally recognised quality standard, ISO 9001:2000. This latest standard focuses not only on the familiar clauses of the ISO 9000 series, but extends them to view the organisation as a series of interacting processes - the very processes which produce the products and services our customers buy. It is a tremendous achievement for our entire team and one of which we are justly proud.

We would like to take this opportunity to extend our thanks to all our suppliers and customers who helped us to receive this recognition.

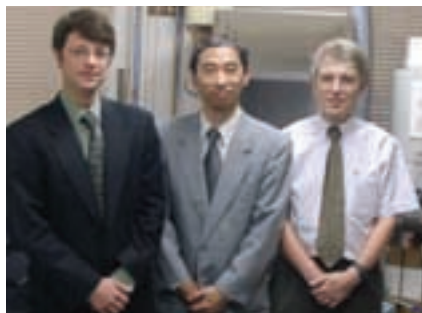
August 2003

European Patent Award

Farfield Sensors' intellectual property (IP) portfolio was substantially strengthened following the grant of European Patent Application No. 99923734.0 on 27 August 2003. The granting of this patent confirmed Farfield as a leading supplier of analytical solutions to the life science industry. Dr Neville Freeman, Farfield's founder and Development Director, commented, "This will not only help us to exploit the **AnaLight® Bio200** within Europe, but is also a significant advance in the development of the company's IP portfolio and demonstrates its determination to protect and develop this extremely exciting technology."

September 2003

Farfield's Japanese Distributor, Marubun, Collaborates With TMIG On Anti-Aging Project



Dr Marcus Swann, Farfield, Dr Toda TMIG and Dr David Rosser, Marubun (left to right)

In September 2003, we announced the signing a three-way research collaboration into anti-aging mechanisms with Marubun and Dr. Toda at the Tokyo Metropolitan Institute of Gerontology (TMIG). Exploitation rights to the research are jointly owned reflecting the contribution each party brings to the collaborative effort.

Dr. Toda's laboratory is one of the first in Japan to use the **AnaLight® Bio200**, which will be instrumental in their project to investigate the molecular mechanisms of aging and geriatric diseases. Marubun, who are one of Japan's best known suppliers of scientific instrumentation, are providing resources and support for Dr Toda's laboratory.

Company founder and Development Director, Dr Neville Freeman, stated at the time, "We are very proud that such a well respected scientist as Professor Toda has recognised the unique analytical capability

that the **AnaLight® Bio200** can provide his field of protein research. Indeed, his initial results are world class in terms of both experimental design and equipment performance and no doubt will generate a lot of excitement in the protein characterisation community worldwide. We have enjoyed and very much appreciate working with such a motivated team and we are looking forward to what will undoubtedly be a fruitful and productive collaboration."

The **AnaLight® Bio200** 'watches' protein structure in real time at sub atomic resolution allowing a unique insight into protein function or malfunction and their remediation through the use of pharmaceutically relevant molecules.

October 2003

Farfield Wins National Measurement Award 2003



In October Farfield became the proud winner of the National Measurement Award for 2003. The National Measurement Awards, organised by the National Physical Laboratory (NPL) and Beta Technology, recognise outstanding achievement in the field of measurement and acknowledge the application of best practice and innovation in all aspects of measurement. The National Physical Laboratory (www.npl.co.uk) is the United Kingdom's national standards laboratory, an internationally respected and independent centre of excellence in research, development and knowledge transfer in measurement and materials science.

Farfield's win came in the 'Innovative Measurement' category for our Dual Polarisation Interferometry (DPI) technology, embodied in our **AnaLight® Bio200** instrument. The Innovative Measurement Award recognises the **AnaLight®**'s technical innovation, its impact on current industrial metrology and its development into a marketable product.

Company founder Dr Neville Freeman, the driving force behind the DPI technology, commented, "This is the latest in a stream of awards recognising Farfield's progress over the last few years. It is a tremendous acknowledgement of the level of commitment shown by the excellent team at Farfield. We are delighted to receive this prestigious award, especially as this year's competition saw the highest number of entries ever."

December 2003

Farfield's Proactive Approach Wins Regional Export Award

A highly proactive approach to exporting won Farfield the 'Best New Exporter' award in the 2003 Export Excellence Awards run by Salford City Council.

From a standing start just two years ago the company has achieved annual exports into markets as far afield as Japan and Taiwan.

The judges, from the city council's Business Liaison Team and the government export agency UK Trade and Investment, looked for evidence of a well structured approach to the development of export sales. Strategic planning, market research and training staff in export skills were amongst the 10 parameters on which the finalists were assessed.

Farfield scored particularly well by showing evidence of a strong emphasis on thorough research before entering new markets. Participation in overseas trade missions and research in partnership with others to establish products for sale abroad were also factors that helped the points add up.

But it was the achievement of over a million pounds in exports in just two years that clinched the new exporter award. It led to Marketing Communications Manager, Jo Maltby, taking the stage at the awards ceremony at the end of November to receive the trophy from Salford MP Hazel Blears.

Mrs Blears singled out Farfield Sensors as an excellent example of how technical innovation can bring business back to Salford. She congratulated all 33 finalists on playing their part in contributing to the national and local economy and providing good quality jobs for local people.



Jo Maltby (left) Farfield's Marketing Communications Manager receiving Export Award from Salford MP Hazel Blears.

Spotlight on applications

“To affinity and beyond...”

The **AnaLight® Bio200** uses Dual Polarisation Interferometry (DPI) technology combined with state of the art data processing software to reveal unique insights into the intimate links between protein structure and function, insights that have previously not been available through interaction affinity studies alone. Some highly relevant key applications for the unique information provided by DPI are outlined in this section, but first it would be useful to briefly review the benefits of the DPI technique.

DPI is a quantitative analytical technique, not a sensor. Essentially, we are gently immobilising proteins (physically or chemically) onto a glass surface and interrogating them with the evanescent component of two polarisations of light. Taking two measurements allows the software to resolve the density and thickness of the immobilised protein layer as well as the mass, surface coverage and concentration. We are able to follow changes in these parameters in real time, allowing us to watch and measure proteins changing structure as they function.

We routinely and reproducibly obtain quantitative data on real time changes in thickness and density of the protein layer with a thickness resolution of better than 10 picometres (< 0.1 Ångstroms) and surface densities of less than 0.1 picogram per square millimetre. This means that we can reliably detect molecules below 200 Daltons binding to immobilised proteins of up to 100,000 Daltons with a mass resolution of <10 Daltons.

The measurements we take with DPI provide information that gives structural detail about protein interactions that is a level beyond that provided by studying affinity parameters and constants. The thickness resolution we obtain allows us to detect structural change in proteins ranging from gross conformational change to subtle structural responses to specific

binding events. The density changes we detect add a new dimension to protein interaction studies, in that we are able to detect the binding of very small molecules and metal cations to large proteins, as well as differentiate whether this binding is taking place at a specific binding site or is a non-specific event.

The applications overview provided below represents only a few select examples of the data we have in each application area. If you would like more detailed information about specific applications, please contact Farfield directly or e-mail your requests to sales@farfield-sensors.com. Once you have reviewed the examples below, we are sure that you will agree that DPI data is truly ‘illuminating the molecular world...’

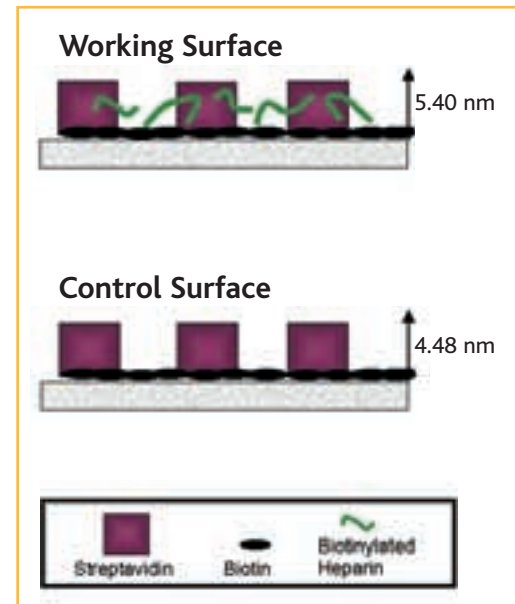
Polysaccharide - Protein Interactions

This application focussed on gaining structural information on the interactions between a range of collagen-derived proteins and immobilised heparin, a heterogeneous mucopolysaccharide. The interactions and binding of different proteins to heparin or heparan sulphate has been an area of intense interest in structural biology for many years to gain a better understanding of cell-cell, cell-extracellular matrix and cell-pathogen interactions. Studies have covered cytokines and chemokines (SDF-1, RANTES), pathogens (HIV, HCV) enzymes (cathepsin, elastase) and extracellular matrix proteins such as collagen.

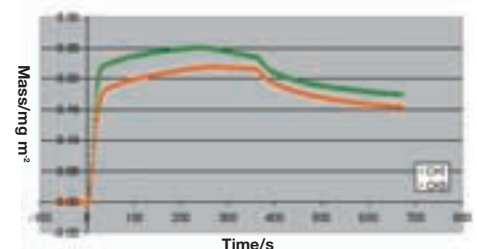
The study of kinetic parameters governing these interactions has been the method of choice for these studies to date. However, interpretation of kinetic data based on the sole parameter of mass change has led to some ambiguity in interpreting the mechanism and structural aspects of the interactions, including whether these interactions are specific or non-specific. We were challenged with adding a complementary, extra dimension of structural or mechanistic information about these interactions using the DPI dual measurements of thickness and density.

In this study, streptavidin was first immobilised onto the surface of both

channels (working and control) of a biotinylated sensor chip. Heparin (16,000 Daltons), biotinylated at the reducing end, was then captured on the streptavidin surface of the working channel, but excluded from the control. Both channels were then washed with NaCl solution before challenging with a range of collagen-derived proteins. The diagram below shows a schematic of the surfaces on the working and control channels.



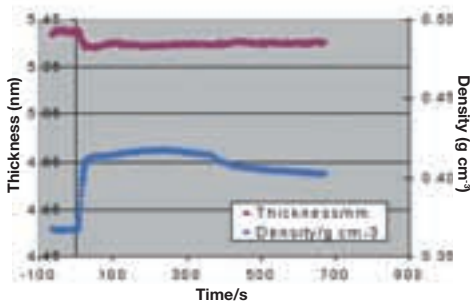
After preparation of the surfaces, the next step of the study was to use DPI to examine the interactions of a number of a collagen-derived proteins with the heparin surface. The data below shows one such study, the interaction between the heparin surface and a 1µM addition of Hep.V, a 12,500 Dalton fragment of collagen V. The data below shows the mass responses from the interaction on the streptavidin-heparin surface (green) and the bare streptavidin surface (orange).



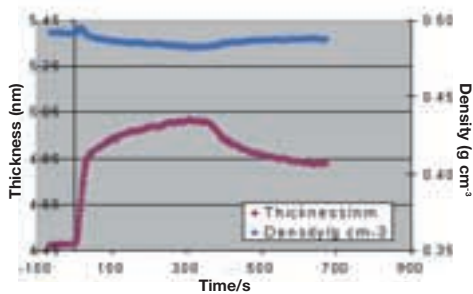
Mass responses from the additions of 1µM HepV to a streptavidin-heparin surface (CH1) and a bare streptavidin surface (CH3)

Clearly, the mass response data indicates binding of Hep V to both channels with less Hep V binding to the control surface. The mass response data gives no indications either about the mechanism of binding in either case, or whether the same processes are indeed taking place on both surfaces. As far as we can tell from this data, Hep V is interacting in a similar way with the streptavidin-heparin and the bare streptavidin surfaces, albeit with lower affinity in the case of the bare streptavidin.

However, taking advantage of the DPI approach and resolving the mass response data into thickness and density leads to the emergence of a very different level of information about the interactions. The data below shows the thickness (purple) and density (blue) responses to the Hep V addition to both surfaces. The profiles are very different and lead to valuable information about the mechanisms behind the mass responses.



Heparin-streptavidin (working) surface



Streptavidin (control) surface

The interaction between Hep V and the heparin surface leads to a thickness neutral and density increase event. The mass response observed is clearly now interpretable as being due to the Hep V binding into the heparin-streptavidin surface, leading to an increase in density but no change in the thickness of the layer. As a change in density is involved, this indicates a specific binding event between Hep V and heparin.

Conversely, the interaction between Hep V and the streptavidin control surface leads to the opposite effect. In this case we see a thickness increase and density neutral event. The mass response observed in this case is clearly due to layering of Hep V on top of the streptavidin surface, leading to an increase in thickness but no change in the density of the layer. The observation of a density neutral process, coupled with the increase in thickness of the layer, indicates a non-specific interaction between Hep V and the control streptavidin surface.

In this example we have seen how DPI can differentiate between specific and non-specific interactions. The DPI approach does not depend solely on the limited interpretation of mass response alone in such interactions, but provides detailed information for the interpretation of the mechanism behind the interaction, and whether specific binding is taking place at all.

This work was carried out in collaboration with Institut de Biologie Structurale J-P Ebel, Grenoble, France and Institut de Biologie et Chimie des Protéines, Lyon, France.

Protein - Protein Interactions

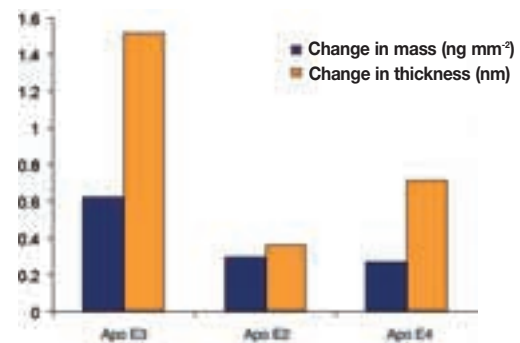
Protein structure and flexibility are fundamental to understanding how drugs exert their biological effects. A drug may function by stabilising one particular conformational state of a protein, perhaps one that is not usually adopted by the unligated form. The resulting complex produces the therapeutic effect of the drug, such as the activation or inhibition of a particular biological process.

In some instances, different isoforms of the same protein can have profound effects on the efficacy of a drug molecule. Recombinant tissue plasminogen activator (tPA) is a 'clot busting' drug used to treat stroke patients. The protein tPA is a protease that acts as a clot dissolving agent, helping to restore blood flow to the brain. Recent clinical observations have reported that the Apolipoprotein E (Apo E) genotype of a patient has a dramatic impact on the therapeutic effectiveness of tPA.

The Apo E family are lipid-associated proteins where Apo E2, Apo E3 and Apo E4 are the most commonly expressed human isoforms. These three isoforms differ by only two amino acid substitutions in the

primary sequence. The observation that the efficacy of tPA is increased in patients with the Apo E2 phenotype lead us to investigate how these different Apo E protein isoforms interact with the tPA drug molecule. This could provide new insights into the molecular mechanism of the Apo E2 mediated tPA activity.

Dual Polarisation Interferometry (DPI) was used for detailed structural studies of the direct interactions between recombinant tPA and the Apo E isoforms. tPA (77,000 Daltons) was covalently immobilised to the sensor chip via surface amine groups on the protein. Mass and thickness changes occurring when the immobilised tPA surface was challenged with Apo E2, Apo E3 and Apo E4 (all 34,000 Daltons) are shown below.



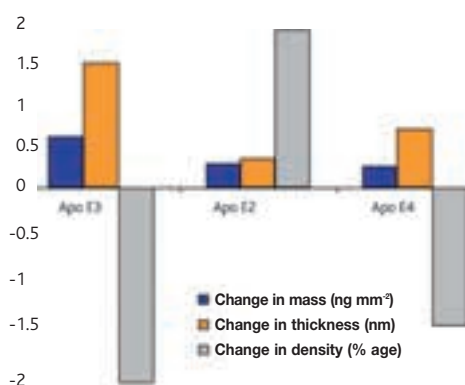
Mass and thickness changes occurring when immobilised tPA surface was challenged with Apo E2, Apo E3 and Apo E4.

Whilst the mass of Apo E binding to the tPA is similar for the Apo E2 and Apo E4 isoforms, the size of the resulting protein-protein complex (thickness) is significantly greater in the case of Apo E4 than Apo E2. In other words, similar amounts of protein have bound to tPA in each case, but the structures of the protein-protein complexes formed are different, with the tPA : Apo E2 complex being the most compact.

The data from Apo E3 has a different profile. Approximately twice the mass of protein has been bound to the tPA layer, and the resulting structure is around twice as thick as even the tPA : Apo E4 complex. These observations are consistent with Apo E3 interacting as a dimer with the tPA layer. Indeed, these proteins are known to dimerise in vivo to produce the final Apo E phenotype.

Farfield, built on a philosophy of quantitative measurement.

The density changes that occur when Apo E interacts with the immobilised tPA reveal the true differences between the three protein-protein complexes formed. This data is shown below, alongside the mass and thickness data discussed above for comparison.



Density, mass and thickness changes occurring when immobilised tPA surface was challenged with Apo E2, Apo E3 and Apo E4.

The complex formed between tPA and Apo E2 results in an increase in the density of the layer, suggesting a close structural interaction has taken place. However, the complexes formed between tPA and Apo E3 and Apo E4 result in a much more diffuse layer, represented through a decrease in density. This indicates a looser interaction has taken place, with the resulting protein-protein complex having a more open structure. It is likely that the close structural association between tPA and Apo E2 contributes to the differences in tPA-induced clot lysis observed for the different Apo E phenotypes.

In this study DPI has been used to demonstrate that specific binding events typically involve an increase in density as binding takes place. Comparison of the above structural changes upon addition of the Apo E isoforms yields useful information about the difference between the nature of the binding events taking place. Here again we see that the mass changes on the surface upon protein binding do not reveal the full picture of structural events taking place. If we were considering mass alone then the interactions of tPA with Apo E2 and Apo E4 would look similar, but the thickness and density profiles of the final layers are very different. It becomes clear that the binding mechanisms differ considerably between the three isoforms, shedding light on the clinical observations.

This work was carried out in collaboration with the Department of Neurology, University of Cincinnati, USA.

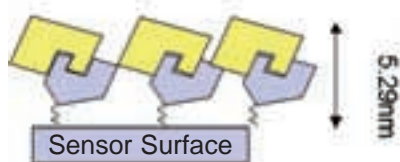
There is little doubt that kinetic parameters derived from mass response data provide a very useful tool for the study of protein-protein interactions. DPI can not only be used to obtain these kinetic parameters, but, as these applications serve to illustrate, there is enormous benefit in the additional and complementary information DPI provides about the mechanisms behind such interactions. This additional information can only serve to help us gain a better understanding of the complex world of biomolecular interactions.

Footnote

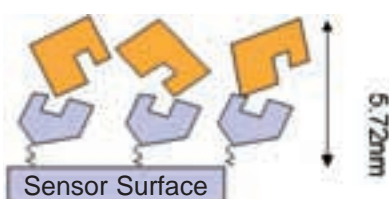
This article is intended to provide an overview of two emerging application areas for Farfield. We continue to conduct many studies across a range of application areas. Our key areas of interest include the study of:

- small molecules (<50 Da) interacting with proteins
- metallic cations (e.g. Ca²⁺) interacting with and changing conformation in proteins
- protein-protein interactions, both kinetics and mechanisms of action
- quantitative analysis of protein shape, size and folding for biopharmaceutical characterisation
- real time study of protein aggregation processes
- protein-DNA interactions
- 'functional screening' of small molecule libraries against target proteins

If you require further information of any of these, or wish to discuss any potential applications you have where you think DPI may help solve your problems, please do not hesitate to contact us at sales@farfield-sensors.com or telephone us at your convenience on +44 161 736 8660.



tPA : Apo E2



tPA : Apo E4

Applications Questions

Hopefully, what you have read in 'Illuminations' will stimulate you to think about how Farfield's DPI technology could benefit your research and provide new insights into your applications. If you would like to enter discussions about any possible application of Farfield's DPI technology, please feel free to make initial contact with our applications scientists for confidential discussions.

Our applications group can be contacted by e-mail at sales@farfield-sensors.com. The applications team look forward to hearing from you.

What's New

Latest company, product and applications news

Farfield has made incredible progress over the last twelve months in a range of areas, both scientific and commercial. The section below presents a selection of news items from this period to give the reader an overview of how rapidly the company is advancing on all fronts.

For more information on Farfield's progress over recent months, please visit our press site at

www.farfield-sensors.com/press_releases.htm or e-mail us for details on specific items at info@farfield-sensors.com

ATA Scientific appointed as Australasian distributor

February 2003

ATA Scientific, specialist in analytical instrumentation for research and QC analysis, was appointed as exclusive distributor for Farfield, representing the product range in both the Australian and New Zealand markets.

Tony McDonagh, ATA's Managing Director, commented "We are looking forward to working with Farfield in launching this exciting new technology in our market. This powerful new analytical capability will be of considerable interest to Australian and New Zealand researchers."

Further details available at www.atasci.com.au

International Newsletter and Updates by E-mail

Farfield produces a regular and brief newsletter containing applications, technology and company updates with distribution to our worldwide customer base by e-mail. If you are interested in receiving this newsletter, please contact Jo Maltby, our Marketing Communications Manager, on jmaltby@farfield-sensors.com. Send Jo your full contact details, including the e-mail address you wish the newsletter to be sent to, and we will add you to our mailing list immediately.

Farfield join forces with Marubun to launch their technology to the Japanese market

April 2003

Farfield appointed Tokyo-based Marubun Corporation to be their exclusive distributor serving the Japanese market. Farfield's unique technology will enable Japanese life scientists to 'see' proteins working in real time at sub-atomic resolution. Unravelling how proteins interact is one of the next great scientific challenges facing mankind, and the ability to study these processes directly is pivotal to its success.

The Japanese market is of great strategic importance to Farfield. Company founder Dr Neville Freeman commented, "I am always greatly impressed by the Japanese research community. They do indeed have the vision, resources and drive to make a major impact on the post-genomic revolution, which is undoubtedly the next great scientific endeavour for mankind. It is a great privilege to be part of this journey and access to this community has been greatly accelerated through Marubun's efforts."

Farfield anticipate a long and fruitful partnership with Marubun.

Additional information is available at www.marubun.co.jp



Nozaki-san of Marubun and Dr. Gerry Ronan, CEO of Farfield

Farfield appoints Proteomic Solutions as French Distributor

May 2003

Farfield has appointed Proteomic Solutions as its exclusive distributor for the French market. Proteomic Solutions is a specialist provider of products and services for the proteomics arena; with their depth of understanding of this fast developing market, they are ideally positioned to represent Farfield's technology. Philippe Dutriat, Proteomic Solutions Director, commented "We immediately recognised the unique potential of this new technology and its potential breadth of application in our marketplace. Protein characterisation is an increasingly important step in proteomic protocol. We are very excited at the prospect of presenting the **AnaLight® Bio200** to our customer base".

For further information contact www.proteomicsolutions.fr

Farfield announce representation in Canada

June 2003

Farfield announced the appointment of Spectra Research Corporation as its exclusive representative for Canada. SRC General Manager Paul Greenwood commented, "Spectra Research Corporation is pleased to have been selected as the exclusive representative for Farfield in Canada. The technology pioneered at Farfield is an important tool for a variety of applications related to the study of protein structure and function. Proteomics is a rapidly growing field, and the unique analytical capability of the Farfield **AnaLight® Bio200** presents us with a very exciting market opportunity".

For further information visit www.spectraresearch.ca or contact Paul Greenwood, SRC's General Manager, on paulg@aca.com

Farfield appoint Dr Kathryn Chapman as UK Sales Manager

October 2003

Farfield, in October 2003, was delighted to announce the appointment of Dr Kathryn Chapman as UK Sales Manager. Kathryn, formerly European Senior Scientist for CIPHERGEN Biosystems, brings extensive experience in product promotion, sales and customer relations to Farfield. Kathryn commented "I am very excited to have joined Farfield at this important stage in the Company's growth. Farfield's technology is already causing quite a stir around the world and my aim is to reflect this success in our domestic market. The **AnaLight® Bio200** addresses key questions in functional proteomics, enabling our customers to look at protein interactions in a new light."

Farfield appoint Dr. Sam Fazeli as new Board Member

November 2003

Farfield announced the appointment of biotechnology analyst Dr Sam Fazeli to its Board of Directors. Sam, who is the Senior Biotechnology Research Analyst at Nomura International, brings a wealth of corporate experience in the biotechnology sector and has been closely observing the emergence of Farfield's technology platform in protein characterisation.

"I've always recognised that there are limited tools to study proteins and I've watched Farfield over the past three years successfully bringing one of the first such platforms to market." Sam commented. "It's a real pleasure to be joining the team at this juncture and contribute to the next phase of the Company's success."

For further details contact CEO Dr Gerry Ronan
gronan@farfield-sensors.com

Farfield gears-up to meet demand for protein characterisation using the **AnaLight® Bio200**

October 2003

Farfield stepped up its production capability to several hundred units a year by signing a manufacturing agreement for the **AnaLight® Bio200** with Unics (UK) Ltd, a specialist Anglo-Singaporean bio-medical contract manufacturer. The **AnaLight® Bio200** will be volume manufactured in the new high-tech manufacturing complex at the Ubi Techpark in Singapore. Farfield selected Unics from a range of suppliers as it combines the very best of high-tech product development options with the cost-effective benefits of the Asia Pacific industrial economy to deliver a premium quality product.

Farfield CEO Gerry Ronan reflected "Unics offered a unique approach to contract manufacturing. The tight network of associated companies providing all the skills and resources only normally found in much larger organisations, where we would not have received the same high level of support and attention to our needs."

Farfield appoint new US distributor

December 2003

Farfield appointed Massachusetts-based SciPartners Inc. to represent them across the USA, with particular focus on New England and the New Jersey and New York areas.

John Lindsay, SciPartners President, said "We are delighted to be chosen to represent Farfield and to have the opportunity to take this exciting new technology into the protein science market. We are looking forward to a long and productive relationship with Farfield and are impressed with them as a young and dynamic company determined to go places. I have been involved in the launch of many new technologies over the past ten years and this is amongst the very best."

For further information contact John Lindsay
E-mail: jlindsay@scipartners.com



Unics facility in Singapore

Cranfield awarded BBSRC Link grant in conjunction with Farfield

September 2003

Cranfield University's Biotechnology Centre, in collaboration with Farfield, was awarded a £250,000 grant for the study of real-time molecular-level conformational changes for knowledge generation in the BioSciences.

The funding is from the Biotechnology and Biological Sciences Research Council (BBSRC) under the LINK Analytical Biotechnology Programme. Dr David Cullen, Reader in Biophysics & Biosensors at Cranfield commented "This is wonderful news. The award of the BBSRC LINK grant in conjunction with Farfield Sensors will enable us to explore the potential of the underlying principle of the **AnaLight® Bio200** system in the area of real-time molecular conformation analysis. This offers the possibility of a high resolution, and even high-throughput, platform for real-time functional analysis of molecular studies in drug discovery and development programmes, gaining deeper insights into the molecular basis of diseases."



Careers at Farfield

Farfield is a young, vibrant and rapidly growing company based in Manchester, UK with worldwide sales, service and support coverage. We operate an equal opportunities employment policy and provide a comprehensive benefits package.

We are constantly seeking qualified and experienced engineers, scientists and salespeople, particularly with experience of high value capital equipment for biomolecular characterisation. If you are interested in the possibility of joining our award winning team and working in a dynamic and challenging environment, please contact our personnel department, personnel@farfield-sensors.com.

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