From the Editor

Editorial

Welcome to the September/October 2013 edition of Neuropsychotherapy in Australia.

In this edition

Feature article
Our feature article focuses on the Science of the Art of Therapy – the key role of neuroscience in providing the essential building blocks for an effective therapeutic relationship. This article was presented as keynote paper at the National Anxiety and Depression Conference, August 2013, Melbourne and was first published in The Neuropsychotherapist (October 2013).

The paradigm of understanding the basic function of the brain has shifted significantly over the past 150 years. The primary focus on the brain as an electrical system has shifted to the focus on neurochemicals. Over the last 15 years the paradigm has shifted again – this time from the notion of the brain as an electro-chemical system to a focus on neural networks. These changes have significant implications for psychotherapy.

BrainWise Leadership
I am happy to announce that my latest book BrainWise Leadership (co-author with Connie Henson) will be available within the following weeks. The book launch is scheduled for 23 November at the Portside Centre in Sydney. Please send us an e-mail if you are interested to attend (andie@mediros.com.au). It will be lovely to have you at the event.

Book on applied neuropsychotherapy.
I am planning a new book focusing on the basic principles of Neuropsychotherapy. The book will be complemented with around 30 case studies from clinicians applying some of the principles of neuroscience. This is an open invitation to our readers to consider contributing to this publication. Please contact me if you are interested to contribute (pieter@mediros.com.au). I am also able to provide research assistant support if you need to have access to relevant research regarding your case study.

Workshops 2013
Our workshops are progressing well. Recently we were honoured by a visit from a colleague from Texas who visited us at the University of Queensland with 25 of her Master’s students. The group also attended our 2-day Developing Brain and the Neuroscience of Memory and Trauma workshop in Sydney. The new workshop: The Social Brain and the Neuroscience of Relationships commences in a few weeks – first venue – Canberra. A few of the workshops are already booked out – please check the website for details.

2014 Workshops
The workshop schedule for 2014 is finalised. We are also finalising a new workshop for 2014 – The Ageing Brain – Maximizing Wellness and Managing Challenges. A Neuropsychotherapeutic Perspective. All details will be on the website by early November.

Enjoy the read!

Pieter Rossouw
The Neuroscience of Interpersonal Connectivity
Benchmarking Strategies for Effective Interventions

Dr Pieter Rossouw
School of Psychology
The University of Queensland
The functioning of the human brain

Our treatment of the human condition can be thought of as the direct correlation of how well we understand the functioning of the human brain—in other words, how we see wellness, and its counterpart psychopathology, directly depends on our view of the brain.

For many years the brain was viewed as an electrical system, a system that transfers electrical signals from key neural areas to other neural areas. Since Julius Bernstein identified the electrical properties of the brain’s cells—their resting and action potentials, how electrical signals activate communication between one brain cell and another—a host of researchers have focused on numerous aspects of this signalling process, and explored the implications of this in terms of wellness and un-wellness (pathology), all related to neural signalling. Many of these researchers have been honoured with Nobel prizes in medical science.

The theory of the brain as an electrical centre directed neuroscience research for almost a hundred years, throughout the latter half of the 19th century and the first half of the 20th century. During this period, treatments for neural dysfunctions focused predominantly on various forms of electrical modalities, with electroconvulsive therapies dominating. Although neuroscience has since developed rather more sophisticated theories towards understanding the development and actions of the brain and the pathogenesis of psychopathology, the earlier theory still contributes greatly to what we know of the functioning of the human brain today, and is a significant role player in the debate towards maximising outcomes in the treatment of mental disorders.

A new paradigm in neuroscience emerged when researchers, the pharmacologist and Nobel laureate Henry Dale being one of the first, demonstrated that the activation of action and synaptic potentials is the result of not an electrical but a chemical release—specifically, the release of acetylcholine, which sets the electrical process in motion. The implications of this discovery were significant; and subsequently the role of neurochemicals in the neural communication process became a major focus of research. Following the ground-breaking work of Dale and others, including the Australian neurophysiologist and Nobel laureate John Eccles and his colleagues, a major paradigm shift in neuroscience occurred. The focus changed to understanding the effect of chemicals on the brain. The findings—that to change the activation of a single neurochemical causes significant changes to occur in the brain—were astounding. The implications were equally profound, for if we could manipulate the chemical balance, we should be able to change mood and behaviour—and the course of psychopathology. We witnessed the dawn of the medical model: people no longer studied to become a doctor; they were studying medicine! Research focused on compounds to address chemical “imbalances”. More and more neurochemicals were discovered (LeDoux 2003). The interplay between chemicals, how to excite or inhibit these chemicals, and how to provide guidelines to maximise outcomes, was explored. Treating people became about assessments that would enable doctors to administer the correct medicine. And, finally, as pharmaceutical companies identified the need for chemical products to treat the full spectrum of psychopathological disorders, research into the effect of chemical compounds exploded.

At this time, psychotherapy—the so called talking therapies and behavioural interventions—were viewed as allied health modalities. These approaches were seen as feel good add-ons to the real work, which was the assessment of neurochemical disorders, the introduction of chemical compounds, and the monitoring of change and side-effect profiles.
One particular psychotherapeutic approach stemmed the tide, however, and aligned itself very closely to the medical model. This approach, called Cognitive Behavioural Therapy (CBT), was developed by A. T. Beck and colleagues at the University of Pennsylvania (cf., Beck & Alford, 2009). Their theory was that the origin of mental dysfunction stems from childhood experiences that ultimately develop into irrational belief systems: These belief systems can best be treated by activating cognitive processes to challenge the irrational beliefs. It is interesting to note that—although no neural research was done for many years to test these theories—an unparalleled stream of research demonstrated the benefits of CBT (generally in conjunction with neurochemicals) to facilitate change for clients suffering from various psychopathologies. A gold standard was set: The treatment of mental disorders assumed the latest chemical compounds (those with the lowest side-effect profile) and, when indicated, Cognitive Behaviour Therapy (Beck & Alford, 2009). Definitive descriptors like “best practice” were often linked to the marriage of chemical interventions in combination with CBT. However, chemical intervention always took precedence; and in some cases—especially the more severe pathologies such as schizophrenia, psychosis, intellectual disabilities, other forms of dissociation, and some of the spectrum disorders—the gold standard remained medication alone.

The focus on cognitive neuroscience, and especially the focus on cognitive therapies, is in many respects a recent development of the same paradigm, although it may be said that cognitive neuroscience has also, to some extent, embraced the newer development of neuroscience, signalling a shift from the neurochemical model.

A new frontier in understanding the brain

The 1990s, the decade of the brain, hailed a new understanding of neural development, wellness and pathology: the early pioneers, Eric Kandel, Joseph

A brain that is exposed to an enriched, healthy environment will flourish and develop strong neural networks; thereby, in the process, it will enhance its capacity and resilience when it encounters conditions that compromise or threaten its wellness.
LeDoux, Wayne Drevets, Bessel Vander Kolk, Dust Ongar, Michael Merzenich, and others, pointed towards a new appraisal of neural functioning. The new science of the brain pointed beyond the electrical systems and chemical systems towards viewing the brain as a communication agent, a social entity that operates in line with its genetic makeup and in response to its environment. The future understanding of the brain, its complex systems and responses to the environment, instead points back to Freud who, in 1884, had suggested that the unconscious is located in synaptic space. Although it is much more complex than this, Freud was basically correct: The brain, whose cells die as soon as they are isolated, is a social entity that cannot survive on its own.

In 1998, Kandel predicted that by talking to patients, clinicians could not only make their patients think, feel or behave differently, they could also physically alter the hardware of the brain (Kandel 1998). The brain is more than an electrical system or a chemical soup, it is a network of connections set up in a way, first and foremost, to survive and, secondly, to thrive and proliferate. Hence, in order to ensure survival and maximize outcomes, our brains connect and fire in specific ways, and even wire in specific ways, so that ultimately we become who we are. This is the process of genetic expression.

New studies in neuroscience demonstrate that psychological disorders are complex disorders with complex pathogenesis. We are only at the early stages of understanding the complex interactions of genetics, environmental input, electrical activity, neuromodulator activity, neurochemical activity, the neural structures and pathways of the brain, and epigenetics—gene expression as a result of a person’s interactions with the environment.

The new research also illustrates the complexities of neural networks and difficulties in the quest to understand memory systems, which are the basis of pathology. As meta-analysis studies are now showing, any attempt to manage psychological disorders with simple bio-electrical or chemical interventions is bound to have very limited effects (Gallanti, 2003).

It is now well recognised that the brain cannot survive in total isolation—its entire neural makeup requires ongoing interaction with the environment. One of the most profound expressions of the brain’s interdependence with its environment is the mirror neuron system (Rossouw, 2013a); in fact, leading neuroscientists have suggested that we learn everything—from basic language responses to moral decisions—through the mirror neuron system (Rizolatti et al., 2004). Not only does the brain process information and respond as result of the interplay with its environment, it also adjusts itself and changes as a result of such interaction. This principle of neural plasticity is clearly demonstrated in the study of epigenetics involving neural chemistry—that is, combining the neural circuitry and the neural genetic expression (Kilner et al., 2007). A brain that is exposed to an enriched, healthy environment will flourish and develop strong neural networks; thereby, in the process, it will enhance its capacity and resilience when it encounters conditions that compromise or threaten its wellness. Conversely, a brain that is exposed to adverse conditions becomes significantly compromised, and its genetic risks are more profoundly expressed, resulting in an increasing inability to manage life’s challenges. In this view, mental illness is an illness of neural networks—an illness of neural connections and not just a dysfunction of neurochemical activation or inhibition (Kandel, 2001, 2006; Kandel et al., 2013).

The implications of these studies are profound: they suggest quite strongly that the role of chemical interventions to address mental illness is significant but limited. Mental illness is the neural result of the interplay between genetic make-up, genetic expression, early life experiences, ongoing experiences, and the capacity for resilience, that is, the neural capacity to respond to internal and external cues (Kandel, 2006). While neurochemical responses to cues are significant, managing neurochemicals is only a small part of managing mental illness. Instead, to effectively address mental illness, neural pathways need to shift. The brain’s ability to change has been demonstrated by enriched environments—of which talking therapies are an important part. In other words—or, to put it simply—neurochemical interventions cannot alter neural pathways or facilitate the construction of new neural pathways.

So, first of all, what are the benefits of introduc-
ing chemicals to manage mental illness? Clearly, the main benefit is to alter chemical activation and inhibition. Let us consider two examples. One of the significant symptoms of many mental illness is agitation—that is, the inability to “down-regulate” or calm down. As a result, compounds that activate the GABA response (the release of neurochemical gamma-aminobutyric acid) have been very popular. The group of compounds that seem to have the best effect on activating GABA release is the benzodiazepines whose ability to enhance symptom relief is very quick and effective. For a long time it has been standard practice to prescribe benzodiazepines for a myriad of conditions, including many types of mental illness, and only fairly recently have the detrimental effects of long-term benzodiazepine intake on neural systems been demonstrated. In the first place, it induces a pattern of dependence as the effect wears off, resulting in the need to increase the dosage; and, in the second place, it enhances closed neural activation resulting in: decreasing neural sprouting, inhibiting neural plasticity and neurogenesis caused by slowing down the production of the growth hormone BDNF (brain-derived neurotrophic factor), and increasing the risk of neurodegenerative disorders—Alzheimer’s and dementia among them.

The effects of other chemical inhibitors, such as the compounds that inhibit the re-uptake of serotonin (SSRI), are well known. These compounds manage the re-uptake process of serotonin release and enhance the flow of serotonin to the frontal neural regions, with the result that mood seems to be better regulated, and the frontal cortical systems—which are involved in problem solving and executive functioning—are better informed. Many research studies have demonstrated the benefits of SSRI intake to enhance wellness, especially conditions like mood and anxiety disorders. However, recent studies in molecular neuroscience have demonstrated that the long-term intake of SSRIs may not be nearly as safe as suggested—rather, that the effect of the long-term use of SSRIs on neuro-molecular levels is profound. P. W. Andrews and colleagues have recently demonstrated how long-term intake of SSRIs changes the morphological structure of neurons, causing apoptosis (the death of neurons), thus increasing the risk of relapse due to the long-term intake of the very substance that was meant to address the illness in the first instance—in other words, producing a downward spiral of deterioration in the condition (Andrews, Thomson, Amstadter, & Neale, 2012).

There is, therefore, ample reason to argue that the neural research showing the working of the brain as a neural network, and not an electro-chemical process, may well signal the end of the medical model in the treatment of mental illness (Rossouw 2011; Rossouw 2013b). The days when a chemical intervention (medication) is regarded as the first line and often primary intervention to treat mental disorders, and when enriched environments—involving interventions such as psychotherapy, enhancing social wellness, quality sleep, exercise and good nutrition—are seen as auxiliary, are numbered. The reverse is the likely scenario in light of modern neuroscience indicators.

**The art and science of therapy**

Cutting edge neuroscience research, which often includes imaging procedures, has demonstrated how the construction of effective new neural pathways can be facilitated through the introduction of enriched environments.
environment. Further, the facilitation of an enriched environment requires conditions that specifically encourage effective neural firing rather than protective (survival-based) neural activation. The core conditions are:

- The need for safety; and
- The need for control.

In his work over time with sea slugs, *Aplysia californica*, Eric Kandel showed how the environment can shape and change the neural connections of very simple organisms. Clearly, this is much more the case in the highest order organism—the human brain—where physical and emotional safety will down-regulate stress chemicals, and stress signalling, and shift protective neural patterns to enhance open neural proliferation. This is the basis of wellness. The fascinating work on neural plasticity by the renowned psychiatrist and neuroscientist, George Bach-Y Rita, demonstrated the need for safety and control to facilitate effective neural growth and recovery from trauma (Bach-y-Rita, 1972; Springer & Deutsch, 1999). The implications for psychotherapy are clear: There is an art in the science of facilitating the safety to enhance neural activation and effective neural communication to the executive regions. Imaging studies have shown changes to neural networks as a result of talking therapies—and these strategies are now refined and enhanced to the extent that they can facilitate effective permanent changes. Key indicators are that effective psychotherapy requires a bottom-up approach to be in line with the neural activation, the need for down-regulation of stress patterns, and the neural principle of cortical blood flow and distress responses (Rossouw, 2012).

The introduction of interpersonal neurobiology by prominent researchers, Daniel Siegel, Louis Cozolino, Allan Schore and others, through the Norton publication series, provides significant direction in the understanding of the neural correlates of wellness, and the role of talking therapies to facilitate neural change (Schore, 2012; Siegel, 2010, 2012). Current studies at the University of Queensland, which are focusing on MRI, fMRI, neurochemical and PET studies to measure the effect of a number of psychotherapeutic interventions on neural patterns, neural connections and neural structures will facilitate the introduction of global programs that contribute to the effective treatment of unwellness. Too many strategies are suggested as a result of short-term studies without clear indicators of their long-term efficacy or risk of relapse.

**The brain as neural network**

The Canadian psychologist Donald Hebb identified an essential principle of neuroscience (Hebb, 1949). He suggested that neural firing happens in a consistent sequence to such an extent that it can be predicted: The probability of consistency of neural firing was later popularized by the phrase “neurons that fire together wire together”. This principle has significant implications for therapy, especially when linked with two other key findings—the role of mirror neurons (Iacoboni, 2008; Rizolatti et al., 2004; Rossouw, 2013), and the principle described by Merzenich that “neurons that fire apart, wire apart” (Kandel, 2006). These principles, alongside the concept of mirror neurons, form the foundations of the current paradigm of the social brain. The enmeshment of nature and nurture continues to develop and inform the neural networks: The brain’s connection to and interaction with its environment, therefore, as well as the impact of the environment itself, not only inform neural responses but also mould the network, both in response to, and as a result of, that environment. The mirror neuron system, described by the renowned neuroscientist V. S. Ramachandran as the DNA of neuroscience (Oberman & Ramachandran, 2008), demonstrates the brain’s ability to constantly adjust and change throughout its neural network. These changes are very clear when basic needs are compromised, or (worse) violated, resulting in major changes in biochemical releases, which are eventually visible on a neurostructural level as systems of survival responses that change the neural pathways on a permanent level. Since the ground-breaking studies by Shen and Battersby and colleagues (Shen et al., 2000), which demonstrated that genetic risk is never expressed in enriched environments, many studies have demonstrated how the brain can change its network structure through enriched environments. Talking therapies are identified as facilitators of enriched environments.

**The science of the art of therapy**

The role of talking therapies in changing neural connectivity and reshaping higher neural connections is indeed in line with Eric Kandel’s prediction, which heralded the dawn of a “remarkable scientific revolution” that would change the paradigm for understanding the brain and, indeed, psychotherapy for the 21st century (Kandel, 1998). No longer can managing the brain or mental disorders, its thoughts,
emotions and behaviour, be seen as a mechanical process where following a set of protocols will facilitate effective long-term neural change. The science of therapy is indeed imbedded in interpersonal connectivity—the science is in the “art” of interpersonal neural connectivity. Even when we use mechanical tools such as internet-based interventions, their efficacy is based on the neural principles that foster the belief that they were developed by a compassionate person that has the person’s best interests at heart. This down-regulates the fear response and up-regulates the ability to change. The efficacy of interventions in the years to come will be measured by assessing changes in neural networks rather than short-term self-reports.

The “science of the art of therapy” is taking us back to the future as the essential role of interpersonal relationships demonstrate the basis of the brain’s ability to change, where the absence thereof demonstrates the basis of neural pathology. This has been shown to be true for the most basic neural organisms, *aplysia californica*, and the highest primates—ultimately, the human brain. Psychotherapies have more in common and essentially are not very different—they all build on the basic principles of interpersonal connectivity to enhance outcomes. This is the essence of enriched environments. At a neural level there is often little difference between approaches, and claims of “what works” are often overrated if key basic principles are not acknowledged. Current neuroscience research on neural networks points towards key aspects to facilitate wellness, especially for higher order disorders such as depression and anxiety, which have an unclear pathogenesis. These disorders are much more complex than a single inhibitor of a specific neurotransmitter (e.g., SSRIs) or GABA activation to enhance the relaxation response, can address successfully. These disorders are much more complex than can be addressed by merely changing unhelpful thought patterns or managing some unhelpful moods or behaviours.

The science of the art of therapy is more than a strict set of selection criteria for a manualised research focus to ensure good research outcomes—this would run the risk of facilitating short term change for the worried-well (Rossouw 2013c). The science of the art of therapy is adherence to the principles of neural communication: the connection between right brain to right brain (Rossouw, 2012), the facilitation of safety, the therapeutic attachment, the down-regulation of distress activation and neurochemicals, the introduction of small shifts in neural firing (the concept of controlled incongruence), the management of on-going activation of new neural communication, and, ultimately, the facilitation of new neural networks—a brain that changes itself.

Identifying strategies to facilitate these changes
is the ongoing challenge of the science and the art of psychotherapy. These strategies need to be considered in light of Kandel’s Third Law:

Patient care is our most important responsibility. That is why we are here. Never let patient care take a secondary role. Patient welfare is the ultimate goal of biological science and it is the engine that drives the whole scientific enterprise.

**Neuroscience opens amazing new opportunities to benefit your clients—utilise it, do it justice and enjoy the future!** (Kandel, 2005).

**Literature**


Early Bird Reminder

EARLY BIRD REGISTRATIONS for Mediros Depression One Day Skills Class will close soon:

Focused Neuropsychotherapy - Applied Strategies for treatment of DEPRESSION
Continuing Professional Development Hours - 6 hours specialised training

**Brisbane:** Master Skills Class date: 04 December 2013, RBW Hospital, Herston Rd, Herston, Brisbane
*Early Bird closing date for Brisbane has changed to: Wednesday 16 October 2013*

**Melbourne:** Master Skills Class date: 07 December 2013, Royal Melbourne Hospital, Grattan Street, Parkville.
*Early Bird closing date for Melbourne has changed to Wednesday 16 October 2013*

**Sydney:** Master Skills Class date: 13 December 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
*Early Bird closing date for Sydney is: Wednesday 16 October 2013*

**HOW TO REGISTER:**
Email us at admin@mediros.com.au OR Register online at www.mediros.com.au
OR Download the registration form from the APS website’s Events Calendar:
Book Review

Therapy with Light: A Practitioner’s Guide by Adolf Deppe


Adolf Deppe, D.Litt. et Phil., Grad. Dip. Ed., is a psychologist who grew up in South Africa. He “saw the light” and was inspired to write this book after hearing an art lecturer speak on the effects coloured light had on the emotional reactions of students. “When the book was finished, I felt that I had made a contribution to healing.”

Adolf Deppe is a psychologist with many years of clinical experience. He wrote this book as result of a previous work Colours, Healing Shadows that he felt needed a fresh look and different approach.

He describes the history of the use of light, from ancient times up to Niels Bohr’s quantum physics. Light was used by the early Greeks, who suspended dyed cloth over building apertures to cast coloured light on patients. Discover the common denominators reflecting the effects of coloured light, ultraviolet light, and infrared light in health care.

He discusses the link between light and health – a journey from Ghandi to modern times. He considers a variety of aspects – the use of coloured light, how light affects the brain, visual pathways, light and the central nervous system, the use of phototherapy in clinical settings and discusses clinical outcomes and links this with research outcomes.

The book is also complimented with a number of interesting figures. Among these figures are the electromagnetic spectrum, understanding the colour wheel, the Von Guericke phenomenon, the visual pathway and alternative light pathways.

An interesting read that will inspire the reader to consider the valuable use of light in neuropsychotherapy.
Dates claimers - 2014 Diary

The 2014 Mediros Training Dates are as follow – Registration will open in November 2013. If you want to register your interest before November please email admin@mediros.com.au

**MELBOURNE:**

The Brain & Anxiety: Neurobiological information as Psychotherapeutic Tool – Two Day Workshop  
6 and 7 June 2014, Venue: Royal Melbourne Hospital, Grattan Street, Parkville

The Social Brain and the Neuroscience of Relationships – Two Day Workshop  
5 and 6 Sept 2014, Venue: Royal Melbourne Hospital, Grattan Street, Parkville

NEW RELEASE WORKSHOP: The Aging Brain and Neuropsychotherapy – One day Workshop Melbourne  
15 Nov 2014, Venue: Royal Melbourne Hospital, Grattan Street, Parkville

**SYDNEY:**

The Neuroscience of Depression: New opportunities for Effective Treatment – Two Day Workshop  
29 and 30 May 2014, Venue: Portside Centre, 207 Kent Street, Sydney

The Social Brain and the Neuroscience of Relationships – Two Day Workshop  
21 and 22 August 2014, Venue: Portside Centre, 207 Kent Street, Sydney

NEW RELEASE WORKSHOP: The Aging Brain and Neuropsychotherapy – One day Workshop Sydney  
28 Nov 2014, Venue: Portside Centre, 207 Kent Street, Sydney

**BRISBANE:**

The Developing Brain and the Neuroscience of Memory and Trauma – Two Day Workshop  
12 and 13 June 2014, Venue: RBW Hospital, Herston Rd, Herston, Brisbane

The Social Brain and the Neuroscience of Relationships – Two Day Workshop  
28 and 29 August 2014, Venue: RBW Hospital, Herston Rd, Herston, Brisbane

NEW RELEASE WORKSHOP: The Aging Brain and Neuropsychotherapy – One day Workshop Brisbane  
21 Nov 2014, Venue: RBW Hospital, Herston Rd, Herston, Brisbane

**CANBERRA:**

NEW RELEASE WORKSHOP: The Aging Brain and Neuropsychotherapy – One day Workshop Canberra  
1 Nov 2014, Venue: Calvary Priv. Hospital, Mary Potter Cct, Bruce, ACT

**ADELAIDE:**

NEW RELEASE WORKSHOP: The Aging Brain and Neuropsychotherapy – One day Workshop Adelaide  
8 Nov 2014, Venue: Hackney Hotel, 96 Hackney Road, North Adelaide

**PERTH:**

NEW RELEASE WORKSHOP: The Aging Brain and Neuropsychotherapy – One day Workshop Perth  
12 Dec 2014, Venue: St Catherine’s College, UWA, 2 Park Rd, Nedlands, Perth
Neuropsychotherapy is an exciting science, not least because of the recognition that significant changes occur for clients in neural firing and structure as a result of talking therapies. Neuropsychotherapy is the “language” used in the interaction between the clinician and the client to guide the client in the process of restructuring the brain towards higher levels of functioning and well-being. It uses information from neurosciences to assist clients suffering from a wide range of biological, psychological and social challenges to apply strategies to down regulate unhelpful neural stress responses and up regulate neural activation towards neural change. Understanding the neurophysiology of these disorders and activation patterns of neural pathways as well as discussing practical applications, assist clinicians greatly to apply more effective strategies to treat depression, anxiety and trauma.

**ABOUT THE PRESENTER**

Pieter J. Rossouw  MClinPsych;PhD; MAPS; CCLIN.

Pieter is the Director of the Master of Counselling Program at the School of Psychology and the School of Social Work and Human Services at The University of Queensland. His research and teaching focuses on Neuropsychotherapy. Pieter is also the Director of Mediros – a company that provides training in Neurobiology and Neuropsychotherapy.

Pieter has been in private practice for the past 25 years. Pieter holds Honours Degrees in Philosophy and Psychology, a Master Degree in Clinical Psychology and a PhD. Pieter is a member of the Australian Psychological Society and the APS College of Clinical Psychologists. He provides Mental Health training for GP’s and is accredited at the Royal Australian College of General Practitioners.

Pieter was a Professor in Clinical Psychology at Universities in Canada, Holland and South Africa where he also spearheaded a Psycho-Therapeutic Assistance Program to support people being exposed to trauma.

Pieter specialises in neuropsychotherapy and is an expert in anxiety and mood disorders. He has published 5 Scientific Books and 20 scientific articles. He has been involved in research in extensive clinical trials and presented research papers at 30 International Conferences worldwide. He is a member of the Global Association for Interpersonal Neurobiology Studies, the International Society for Traumatic Stress Studies, the International Association for Family Therapy and the Professional Association for Drug and Alcohol Workers and the Australasian Cognitive Neuroscience Society.

**CONTACT US:**  www.mediros.com.au
OR admin@mediros.com.au

**WORKSHOP VENUES**

- Sydney
- Melbourne
- Brisbane
- Perth
- Adelaide
- Canberra
- Hobart

**1 DAY SKILLS CLASSES**

FOCUSSED NEUROPSYCHOTHERAPY - Applied Strategies for the treatment of DEPRESSION
Continuing Professional Development Hours - CPD – 6 Hours Specialised Training

- Brisbane 9 Aug ’13
  RBW Hospital, Herston Rd, Herston,

- Melbourne 24 Aug ’13
  Royal Melbourne Hospital, Grattan Street, Parkville

- Sydney 30 Aug ’13
  Portside Centre, Portside Centre, Level 5, 207 Kent Street, Sydney

**NEW WORKSHOP**

- Melbourne 20 & 21 Sept ’13
  Royal Melbourne Hospital, Grattan Street, Parkville

Sydney 03 & 04 Oct ’13
Portside Centre, Level 5, 207 Kent Street, Sydney

**THE BRAIN & ANXIETY:**

Neurobiological information as Psychotherapeutic Tool
Continuing Professional Development Hours - 12 hours specialised training

Sydney 16 & 17 May ’13
Portside Centre, Level 5, 207 Kent Street, Sydney

Brisbane 12 & 13 April ’13
RBW Hospital, Herston Rd, Herston, Brisbane

Melbourne 31 May-1 Jun ’13
Royal Melbourne Hospital, Grattan Street, Parkville

**THE DEVELOPING BRAIN AND THE NEUROSCIENCE OF MEMORY AND TRAUMA**

Continuing Professional Development Hours - CPD – 12 Hours Specialised Training

Brisbane 12 & 13 Sept ’13
RBW Hospital, Herston Rd, Herston, Brisbane

**THE SOCIAL BRAIN AND THE NEUROSCIENCE OF RELATIONSHIPS**

CPD – 12 Hours Specialised Training

Canberra 18 & 19 Oct ’13
Calvary Priv. Hospital, Mary Potter Cct, Bruce, ACT

Adelaide 25 & 26 Oct ’13
Hackney Hotel, 96 Hackney Road, North Adelaide

Perth 1 & 2 Nov ’13
St Catharine’s Coll, UWA, 2 Park Rd, Nedlands, Perth

Melbourne 15 & 16 Nov ’13
Royal Melbourne Hospital, Grattan Street, Parkville

Sydney 28 & 29 Nov ’13
Portside Centre, Level 5, 207 Kent Street, Sydney

Hobart 25th & 26th Nov’13
Grand Mercure Hadleys Hotel, 34 Murray St, Hobart
## WORKSHOPS – TWO DAYS

### The Brain & Anxiety: Neurobiological information as Psychotherapeutic Tool
**Continuing Professional Development Hours:** 12 hours specialisation training
- **Sydney:** 16 & 17 May 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
- **Brisbane:** 12 & 13 April 2013, RBW Hospital, Herston Rd, Herston, Brisbane
- **Melbourne:** 31 May & 1 Jun ’13, Royal Melbourne Hospital, Grattan Street, Parkville

### The Neuroscience of Depression: New opportunities for Effective Treatment
**Continuing Professional Development Hours:** 12 hours specialisation training
- **Sydney:** 13 & 14 June 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
- **Melbourne:** 21 & 22 June 2013, Royal Melbourne Hospital, Grattan Street, Parkville
- **Brisbane:** 27 & 28 June 2013, RBW Hospital, Herston Rd, Herston, Brisbane

### The Developing Brain and the Neuroscience of Memory and Trauma
**Continuing Professional Development Hours:** 12 hours specialisation training
- **Brisbane:** 12 & 13 Sept 2013, RBW Hospital, Herston Rd, Herston, Brisbane
- **Melbourne:** 20 & 21 Sept 2013, Royal Melbourne Hospital, Grattan Street, Parkville
- **Sydney:** 3 & 4 October 2013, Portside Centre, Level 5, 207 Kent Street, Sydney

### The Social Brain and the Neuroscience of Relationships
**Continuing Professional Development Hours:** 12 hours specialisation training
- **Canberra:** 18 & 19 Oct 2013, Calvary Private Hospital, Mary Potter Cct, Bruce, ACT
- **Adelaide:** 25 & 26 Oct 2013, Hackney Hotel, 96 Hackney Road, North Adelaide
- **Perth:** 1 & 2 Nov 2013, St Catherine’s Coll, UWA, 2 Park Rd, Nedlands, Perth
- **Melbourne:** 15 & 16 Nov 2013, Royal Melbourne Hospital, Grattan Street, Parkville
- **Brisbane:** 21 & 22 Nov 2013, RBW Hospital, Herston Rd, Herston, Brisbane
- **Sydney:** 28 & 29 Nov 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
- **Hobart:** 25th & 26th Nov 2013, Grand Mercure Hadleys Hotel, 34 Murray St, Hobart

## SKILLS CLASSES – ONE DAY

### Focused Neuropsychotherapy - Applied Strategies for the treatment of ANXIETY
**Continuing Professional Development Hours:** 6 hours specialisation training
- **Brisbane:** 09 August 2013, RBW Hospital, Herston Rd, Herston, Brisbane
- **Melbourne:** 24 August 2013, Royal Melbourne Hospital, Grattan Street, Parkville
- **Sydney:** 30 August 2013, Portside Centre, Level 5, 207 Kent Street, Sydney

### Focused Neuropsychotherapy - Applied Strategies for treatment of DEPRESSION
**Continuing Professional Development Hours:** 6 hours specialisation training
- **Brisbane:** 04 December 2013, RBW Hospital, Herston Rd, Herston, Brisbane
- **Melbourne:** 07 December 2013, Royal Melbourne Hospital, Grattan Street, Parkville
- **Sydney:** 13 December 2013, Portside Centre, Level 5, 207 Kent Street, Sydney

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**COSTS**

### Two day Workshops:
| Early Bird rate (60 days prior) | $495.00 |
| Standard Rate | $545.00 |
| Student rate (copy of st card) | $465.00 |
| Group (4+, one payment) | $450.00 |

### One day Skills Classes:
| Early Bird rate (60 days prior) | $295.00 |
| Standard Rate | $345.00 |
| Student rate (copy of st card) | $265.00 |
| Group (4+, one payment) | $270.00 |

Discount rate on Skills Classes if booked at the same time as a two day Workshop
| Early Bird rate (60 days prior) | $265.00 |
| Standard Rate | $310.00 |
| Student rate (copy of st card) | $240.00 |
| Group (4+, one payment) | $245.00 |

**TOTAL COSTS:**

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**PAYMENT OPTIONS**

- [ ] CREDIT CARD (Visa or Master only)
  - Card Number: __________________________
  - Expiry Date: _______________ Three digits on back of card __________
  - Name of Card: _____________________________________________
  - Amount: __________________________ Signed: ______________

- [ ] Cheque  [ ] Bank Transfer – we will email you the invoice & Mediros bank details
  - Email to: andie@mediros.com.au
  - Fax: 07 3294 3220
  - Mail: Mediros (Admin), PO Box 6460, St Lucia, Qld, 4067
  - Mediros Phone Number: 07 3217 7266