No one can deny that university rowing is at the core of our sport. The oldest organised competition of an Olympic sport is the famous Oxford-Cambridge University Boat Race, which started in 1829. The rowing competitions with the most spectators in the world are those featuring universities, such as Henley Royal Regatta, Opening Day Regatta in Seattle, the San Diego Crew Classic and the Head of the Charles Regatta in Boston. And, starting in 2013, rowing will return to the programme of the World University Games, the ultimate event for a competitor at the university level.

The main responsibility of FISA is to develop the sport, promote the sport, ensure the success of the Olympic regatta and the World Rowing Championships, and govern the rules for the sport. However, given the importance of university rowing to the world of rowing, FISA recently signed an agreement with the International University Sport Federation (FISU) to cooperate in the oversight of the World University Rowing Championships and other related university events in order to ensure their success.

It is commonly accepted that the connection between rowing and academics can be traced to the need for a long attention span in order to be successful at either one. This goes with the need to be able to work successfully with others, be disciplined in order to balance studies and training and be very determined to achieve. These are the characteristics that also play a strong role in a successful career. It is also a fact that five of the seven members of the FISA Executive Committee started their rowing at the university level. Thanks to university rowing, these five started on their way from university rowing, to international rowing and leading positions in world sport.

World Rowing now will increasingly highlight university rowing around the world. In this magazine issue, you can read more about university rowing in the USA, its history and current structure. In future issues of World Rowing e-Magazine, further articles about university rowing in other countries will be presented, and on www.worldrowing.com a new events page dedicated to the World Rowing University Championships has been launched (go to Events -> World Rowing University Championships).

University rowing and university rowing athletes have much to offer the world of rowing, as is also evident in the articles you can find in this issue about legendary US rower Conn Findley, US coach Tom Terhaar and about Olympic champions in rowing Susan Francia and Erin Cafaro.

We hope you enjoy this edition.
Issue 12 – April 2010

HEROES OF THE PAST

From his home in San Francisco’s Bay Area, Conn Findlay did not expect to be spending the afternoon thinking about his competitive rowing days half a century ago. Findlay, in fact, sounded slightly bemused. But the 80-year-old soon got into the rhythm as he remembered back to his rowing days.

Rowing began for Findlay when he was looking to take up a physical activity at the University of Southern California. But when his studies finished, his rowing kept going. “The opportunities arose when I finished college to be a voluntary coach at the university,” says Findlay. “So I coached and rowed and at the same time was also studying.”

For a decade, from 1954 until 1964 Findlay was part of the best coxed pair in the United States. During this period Findlay was part of three Olympic teams and came away with two golds and a bronze.

Findlay organised his entire rowing career remaining in total control of his rowing decisions. The pair was an outcome of this control as Findlay saw it as easy to arrange around his coaching and busy life. “You just have to organise one other person,” says Findlay, “and misery loves company.” Findlay chose his rowing partners as well as the coxswain. “I was coaching at the time so I picked them from the rowing team that I was coaching. No one ever refused.”

Peter Mallory is currently working on a book project on the history of rowing and sculling (working title, “The Sport of Rowing, a Comprehensive History”) and has interviewed Findlay as well as those associated with him. Mallory’s quotes give an insight into Findlay:

Dick Lyon rowed under Findlay at Stanford from 1958 to 1961: “Findlay was not only amazingly strong, he also was amazingly tough. There are hundreds of stories – one was something about him putting up a temporary building.”

© Kent Mitchell

The 1960 Olympic bronze medallists in the men’s coxed pair rigging their boat. Conn Findlay (left) with Kent Mitchell and Richard Draeger.

© Kent Mitchell
> Toughing it with Conn Findlay

single-handedly in Kansas, collapsing from a flu bug or something, waking up in the hospital, checking himself out immediately, and going back and finishing the building.

Many times he managed single-handedly to manoeuvre 300 pound (140kg) eights from the floor of the Stanford boathouse up onto the fourth rack!

Fellow Olympian Ted Nash: “At 6’7” [204cm], Conn was naturally a very strong man, but his strong suit wasn’t coordination. He hated straight fours. He hated straight pairs. He didn’t like the single until his later years. He was perfectly suited to the coxed-pair. He loved the coxswain because his weight kept the boat stable.”

Edward Ferry, Findlay’s pair partner for the 1964 Olympics: “As a college sophomore in 1961 with only one year of rowing experience, Conn Findlay asked me to row a pair with him, which we did for the next four years. I could not believe it. The chance of a lifetime! In our first month of rowing the pair together, Conn turned to me once and said, ‘You’ll have to row harder than that. I knew that was the last time I would get to hear that sentence, as the next time I would be gone.”

Findlay’s Olympic experience stretched further than rowing. For the 1976 Olympics he was teamed up with legendary sailor Dennis Conner and won bronze in sailing’s Tempest class.

“I had been sailing since I was a child and as I grew older I got involved more and then started sailing internationally,” Findlay says there is a lot of overlap between rowing and sailing. “In both you’re working against water. One way or another, you’re in the same element. Both sports are affected by wind and water.”

Findlay believes that he is one of only about six athletes that have medalled in more than one sport at the Olympic Games. Recently he has taken a keen interest in Rebecca Romero (GBR) who has medalled in rowing and cycling and could be looking at a third sport for the 2012 London Olympics.

Findlay continues to be remembered. In 1996 he was named as one of the top 100 American Olympians and got a free trip to the Atlanta Olympics to watch the opening ceremony plus the first week of competition. “I was the only rower there, so, yes, I was surprised,” recalls Findlay. In 2005 Findlay was inducted into Stanford University’s Hall of Fame. Findlay coached at Stanford for a number of years. Then in 2007 Findlay was named USRowing’s Man of the Year in recognition of his contribution to men’s rowing.

Conn Findlay (stroke seat) wins gold in the coxed pair with Edward Ferry and cox Kent Mitchell at the 1964 Olympic Games in Tokyo.
Rowing’s Scooby Doo and Scrappy Doo

Last year was a big year for Erin Cafaro and Susan Francia of the USA. The 2008 Olympic Champions in the women’s eight raced in two boat classes, the pair and the eight, at the 2009 World Rowing Championships, and scored gold in both.

At first sight, Francia and Cafaro may seem an unlikely pair. One, Francia is tall, standing 188cm. Cafaro, at 175cm, is rather short for a heavyweight rower. Scooby Doo and Scrappy Doo is what they call each other.

“We just complement each other even though we’re kind of different,” says Francia. “We have different physical strengths but the same mentality.”

“Susan is an extremely strong and talented athlete,” says Cafaro. “I’ve learned a lot from rowing with her as with all my teammates. Susan and I seem to match each other pretty well through the water and in race mentality.”

Cafaro’s mental strength has made up for her size. “Rowing is a mental sport. You can’t allow yourself to make excuses for why you aren’t going as fast on the erg, lifting as much weight, or making a boat move,” she says. “If anything, being considered ‘small’ or ‘undersized’ makes me want to work harder to show that it’s just a state of mind.”

Heavy weightlifting is what Cafaro is a fan of, and this has certainly played a role in developing her athletic strength. “Heavy lifting makes you stronger. There are many people with misconceptions of lifting heavy weights. I’ve learned over the years that by increasing weight and doing Olympic lifting, primarily squats and deadlifts, they increased my power output and also forced me to utilise my whole body as one piece like the rowing stroke.”

For Cafaro, 2009 was her first year doubling up at the World Rowing Championships. “[It] was such an honour to be able to represent my...”
country in two events. It would not have been possible if we did not have such a strong and talented US Women’s team,” says Cafaro. “There are multiple women on our team strong enough to do well in both events and I am fortunate enough to have them as teammates to practice and race with every day.”

Francia already went through the experience of doubling up at the World Rowing Championships, but her first experience was quite unlike last year’s. “In 2006 I felt a bit overwhelmed and mentally exhausted from all the racing,” says Francia, “but in 2009 I felt more excited and ready. Physically it wasn’t any more demanding than a week at Camp Terhaar.”

Their coach Tom Terhaar describes them as “tough and talented”. Success in 2009, he says, was related to their experience and to them maintaining good fitness in the post-Olympic year.

“Tom Terhaar is an incredible coach,” says Francia. “We all respect him immensely and trust his decisions and his training plan. He is a man of few words and he doesn’t yell, so his athletes really listen and take in everything he has to say.”

“Tom is a coach that always has a clear focus. His plan is black and white without a lot of grey area,” says Cafaro. “When it comes to detail he’s always spot on. I owe a great deal of my success to Tom’s prowess as a coach.”

For their achievements in rowing, Francia and Cafaro were named World Rowing Female Crew of the Year twice – once in 2008 as part of the Olympic champion women’s eight, and then as a pair in 2009 in recognition of their doubling up success. Francia and Cafaro are also number two and six, respectively, on World Rowing’s 2009 Top 10 list of female rowers.

Last year, Cafaro and Francia were featured as USA Today’s Athletes of the Week and Susan Francia modelled for ESPN magazine’s The Body Issue. “It is exciting to get more exposure for rowing in the general media. More people interested in the sport helps our US rowers,” says Francia. “The only funds we currently receive are from the US Olympic Committee, which is a non-profit organisation. More attention to the sport could help us raise some much-deserved money for athletes that barely survive on a small stipend and a part-time job.”

Although rowing is predominant at this stage of their lives, Cafaro and Francia also pursue other sporting interests.

“I really love mountain biking,” says Francia. “It’s very intense and fast. I love the physical exhaustion combined with the focus - kind of like rowing, but a little more dangerous. I also enjoy open ocean swimming because it scares me and forces me to keep calm and focused. Just like in a close rowing race!” Francia would also like to run a marathon.
one day. "The only reason," she says, "is that my mom did it and I want to beat her time."

As for Cafaro, she hopes to one day qualify for an all around athletic endeavour, such as a triathlon or the Crossfit Games. Crossfit, a strength and conditioning programme, is a big part of Cafaro’s life. "The idea," she explains, "is to create all around functional athletes who are capable of excelling at any sport. Crossfit has begun to incorporate a lot more erging into their programming because they have realised that the rowing motion is one of the most functional, intense, full body movements one can do." Cafaro was hired by Concept2 to travel to different Crossfit locations around the USA and coach Crossfitters how to harness their power on the erg. "Exposure to Crossfit concepts and ideologies has changed the way I think of health, fitness, and strength," says Cafaro.

And what does the future hold for these two outstanding athletes, when rowing competition is over?

"Rowing has opened so many doors for me," says Cafaro, who majored in Political Science at the University of California Berkley, "but right now I’m focusing on my athletic career and looking forward to pursing those opportunities once my rowing career is over."

Criminology is what Francia majored in at the University of Pennsylvania. "It was the only textbook at the university that I would sit down and just read for fun," says Francia. "I dreamed of being a field agent for the FBI and working on cases. After my rowing career is over, I’d really like to kick down doors and shoot guns for the FBI. Hopefully I can pass the physical test (if only there was an erging section)."

But elite rowing is not over just yet. "I hope to be a part of the continuing success of the US Women’s Rowing Team and be up on the medal stand with my teammates as often as possible," says Cafaro. "I want to continue rowing at the elite level for as long as I enjoy it and as long as my body holds up," says Francia.

World Rowing will keep them in the spotlight in the lead up to London 2012.
From summer to winter and back

At the 2010 Winter Paralympic Games in Vancouver, faces familiar to the world of rowing were competing on snow-covered tracks. Boats had been traded for skis, oars for poles. Two years have not yet gone by since Liudmila Vauchok of Belarus, Paola Protopapa of Italy and Dominic Monypenny of Australia competed at another Paralympic Games in rowing – the year was 2008 and the place was Beijing. World Rowing contacted these remarkably adaptable athletes to ask how they achieved such a feat.

Before tragically falling from her roof in September 2001, Vauchok had been an accomplished cross-country runner competing around Europe. Three broken vertebrae left her with no feeling from the chest down. To date, she has competed at three Paralympic Games. “My life revolves around sport,” she says. The Winter Games in Turin, in 2006, were Vauchok’s first Paralympic experience. She came back from Turin with four Paralympic medals, including gold from the 10km cross-country skiing event and the memory of having carried the flag for Belarus at the Paralympic Games Opening Ceremony.

Rowing entered Vauchok’s life after Turin. Combining a summer and a winter sport was rather uncomplicated logistically as her skiing coaches Shimanskaya Tamara and Papov Alexander also train her in rowing. “Of course rowing and skiing are different sports, but I like both and I think the cyclical work is the same. I like using the different muscles – the lats and triceps for skiing in the winter and for rowing more the chest,” says Vauchok.

At 29, Vauchok is not planning to slow down. Why should she? She has medalled in rowing over the past three years at World and Paralympic level in the arms and shoulders single sculls, and Vancouver was another magnificent success with two Paralympic gold medals and two bronzes in cross-country skiing events.
Dominic Monypenny from Australia has been a bit like a shark out of water since hanging up his oars after the Paralympic Rowing Regatta in Beijing. The two-time World Champion in the arms and shoulders single sculls (2005, 2006) left his home in Tasmania to move to the Rocky Mountains in Colorado, USA, where he began to pursue his next Paralympic sport – cross-country skiing.

Competing in three cross-country races (10km, 15km and Sprint), Monypenny describes his initiation since 2009 into the most fiercely competitive and long-established Paralympic sport: “I was thrown headlong into my first World Cup after only three and a half months. I was ‘slaughtered’.” This year Monypenny clawed his way through the field of up to 45 athletes for a season best 9th place in the 10km distance.

Skiing also brought a whole new challenge of racing on a common track as opposed to divided lanes as in rowing, particularly in the sprint rounds where mass starts involve clashing of skis, poles and elbows. To adapt to the rigours of the sport, Monypenny trained “full-on” in extreme cold and altitude in Colorado with his coach Dan Weiland and a team of young athletes.

While Monypenny’s rowing training undoubtedly provided a foundation of fitness for skiing, Monypenny reflects that the physiological demands required to compete over approximately 45 minutes for Nordic versus five minutes for rowing are quite different. Something, he says, his physique has not been able to hide.

“It broke my heart after nine months of intense training when an Australian official who came to watch a competition said how I’d lost my rowing shoulders and arms!” laughs the spirited Monypenny who showed his sense of post-competition adventure in Beijing by taking on the Great Wall of China in his wheelchair.

A past training camp in Wanaka, New Zealand, left Monypenny still longing for water: “I really must row in that idyllic environment.”

A rower since 1983, Paola Protopapa of Italy won two national titles in the women’s pair before a road accident resulted in a locked left arm. No longer able to row normally, she took up sailing instead. It wasn’t until adaptive
TOP ROWERS

From summer to winter and back

rowing started to grow with its competitive opportunities that her former coach asked her to give rowing a try again. Protopapa found her love for the sport was still there.

Protopapa’s comeback paid off when she and her crewmates in the legs, trunk and arms mixed coxed four raced to gold at the 2008 Paralympic Regatta in Beijing.

It was in the leadup to the 2009 World Rowing Championships, in April, that Protopapa began training on ski rolls with the view of competing in cross-country skiing at Vancouver. In November 2009, after winning world championship silver in rowing in Poznan, she began skiing.

“In Nordic skiing physiological work is extremely hard. Even if I use the same muscles while rowing, they work in a diametrically opposite manner. Both sports need strong aerobic and anaerobic training,” says Protopapa. “Also, the two opposite seasons could be complementary: training at altitude can be part of winter training for rowing and the highly intensive rowing exercise from March to September can improve and optimise winter skiing preparation. These sports are complementary, even in the Paralympic Games periodicity: two years separating the Summer Games and the Winter Games allow practicing both disciplines.”

Asked what she likes about the two sports, she replies: “Both in rowing and skiing I enjoy nature, hard work and the chronometer as judge of a race.”

Now Protopapa will once again focus on rowing. “My experience with skiing has been a six-month formative experience. I will use it for rowing, with a final target: having a good career for a long time,” says the 50-year-old athlete.
In 1981 the Concept2 rowing machine came onto the market. It rapidly became a standard off-the-water rowing tool throughout the world for serious rowers and coaches quickly took to the ‘ergometer’ as an important tool to compare the strength, speed and technique not just between their own athletes, but with athletes from around the world. The 2,000m erg test became rowing’s one mile equivalent.

Until 1995 the standard distance on the rowing machine was 2,500m. This changed in 1996 to 2,000m and world records over this distance have been recorded and monitored by Concept2 ever since. Fourteen years later the records continue to be broken. Most recently, in January, the lightweight women’s category was broken by new American immigrant Ursula Grobler.

Concept2 representative Alex Dunne, who has been following indoor rowing races for over a decade says there is no magic formula to achieving a world record, saying they tend to get set by ‘freaky people’. So records in the four top categories – heavyweight men, heavyweight women, lightweight men and lightweight women – are not broken very often. “The pool of those doing well is getting bigger, but the number at the top is still small.”

Dunne says for heavyweight men anything under 5:50 is impressive. There are only three people who have gone under 5:40 – Rob Waddell (NZL) who is the current record holder, Pavel Shurmei (BLR) and Matthias Siejkowski (GER). Single scullers are often the top ergers. “The top male single scullers would be around 5:45,” says Dunne.

“Both Pavel and Matthias are over 100kg and Matthias is 208cm tall. Rob is 200cm,” says Dunne. Dunne does not see anyone at present who can come close to touching Waddell’s record. A couple of Germans may be getting close, but not yet close enough. Felix Bach, the 18-year-old junior singles champion is 199cm and 102kg. In January Bach scored 5.57. Karsten Brodowski, 24, (205cm and 103kg)
has gone 5.41, but has not matched that pace recently.

Amongst the lightweight men (75kg (165lb) or less), Dunne says there is a bunch of athletes who have made it into the low six minutes arena. These include Danish Olympic Champion Eskild Ebbesen, Italy’s top lightweight Elia Luini and now the current record holder Henrik Stephansen (DEN) who broke Luini’s world record and became the first lightweight to go under six minutes.

As a rower Stephansen uses erg training to help with his water speed. Being from Denmark means training in the winter months is predominantly on the erg, but in the summer he is almost solely on the water. Stephansen, who has broken his own record twice, says that on the day of the competition he focuses totally on the race from the moment he wakes up until it is finished.

“First I focus on a good weigh-in,” says Stephansen, “Then I relax before the race and I think through how I’m going to row 2,000 metres. I have a specific plan. I’ve done the calculations before, so I know where to be at each 500 metre point. I set the stroke rate to match the pace. I’m not aware at all of what others are doing. I focus only on my own race. I’m there to row, not to watch.”

Stephansen averages about 40 strokes per minute and when he set the current record of 5:58.5 (February 2009), Stephansen was rating 49 strokes per minute towards the end of the piece. Waddell also used a high, average 40 stroke rate when he set his world record.

At 21 years old Stephansen says he still has the capability to go faster. “I think I’ve got time on my side,” he says.

The new world record holder in the lightweight women’s category, Ursula Grobler, broke a ten-year old record set by Lisa Schlenker (USA). Grobler went two seconds faster than Schlenker’s record clocking 6:54.7. She set this weighing in at the maximum weight for a lightweight of just over 61kg (135lb).
Unlike Stephansen, Grobler is relatively new to the erg, only picking up rowing four years ago. Grobler chose a long drive and low stroke rate in comparison to Stephansen’s high rating style. “When I go into a 2,000m erg piece I lock on and hit the catch with as much power per stroke as I can muster,” says Grobler. “I try to rest as much as possible from stroke to stroke and pray to God that I don’t stress my rib, again.”

Grobler believes her potential is only just being realised. “I believe I could break 6:50 at lightweight if I prepare for it with my coach, Carlos Dinares. So far I have put priority on water performance. My erging goals are to learn to compete, but we don’t prepare for racing on the erg.”

“My main advantage is that I don’t train on the C2, thus I don’t get injured and can keep training on the water,” says Grobler. “I think I’m training in a methodology that is different from what other rowers are doing. I’m motivated to reach excellence with my performance through rowing.”

Dunne believes the open women’s record will be the next to fall. The record has been held by France’s Sophie Balmary since 2006 when she set 6:28.4, breaking the 2002 record 0.2 seconds slower of Georgina Evers-Swindell (NZL). Balmary has already gone faster. Her personal best set in 2007 is 6:24.4 and Dunne says there are six women who have gone under 6:30 including Olympic medallists from Great Britain Sarah Winckless and Cath Bishop.

Balmary remembers having a feeling of absolute confidence on the day of her world record. “My feeling was that I was just ready and able to do what I planned. I knew that the only thing was to stay focused on my rowing and carry on!” she says. “I decided what time I wanted to do and I made a plan for each 500m piece. My strategy was always ‘regularity’. The four 500m pieces must be as regular as possible: I only allowed one second max of difference.”

Balmary was France’s top single sculler through the last Olympic cycle and has recently had a baby so is taking time out from competitive rowing. She believes there’s definitely room to go faster.

As world records can only be set at Concept2 sanctioned events where a witness is present, there is a chance that rowers from non-western countries may be flying under the radar, but Dunne thinks that is unlikely. “If someone breaks a record they want to advertise it,” says Dunne, “because it gets people scared on the water when they see a record holder line up beside them.” Dunne, however, says there is a chance that there are some Chinese lightweight women who are close to the mark.

Since 1993 the Concept2 rowing machine has developed through a series of updated models – model C, D and E, but Concept2’s customer development manager, Meredith Haff says it has made no difference to the potential speed.
“Whenever we create a new model indoor rower, we put it through extensive testing to ensure that the flywheels are calibrated to past models and provide the same results. Changes in design have attempted to make a more ergonomic ergometer. Some athletes may find certain models improve their personal performance due to these slight changes in design. But on an aggregate level, these changes have not improved overall times. Because of the dates of the world records, most of the 2,000m world records were rowed on Model C or Model D indoor rowers.”

Just about all of the records are achieved by on-the-water rowers. The technique on the rowing machine, says Dunne, differs only slightly from that in a rowing boat. “You lean back a bit more, pull the handle up a bit higher than on the water, but not everyone does that.”

World records are also recorded by age group and Haff says that a small number of age group world records have gone to non-rowers. The records are recorded in age group categories of five-year increments and Haff says these age group records are being broken more frequently.

“Age groups of 50 and above are most frequently being broken,” says Haff. “Rowing seems to attract more and more athletes who are competitive in these age groups. Some of these athletes discover rowing later in life after competitive careers in other sports.”

All of the record holders agree, world records will continue to fall. “Records are made to be broken!” concludes Haff.

> Race against the machine

> WWW.WORLDROWING.COM Issue 12 – April 2010

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World lightweight record holder on the indoor rowing machine, Ursula Grobler, competing at the 2010 CRASH-B Sprints.
Albanian rowers at home in Italy

Albania and Italy may seem worlds apart, but just a stretch of water, the 50km Strait of Otranto, separate them. Now rowing has brought a greater connection. Albanian rowing is solely in Italy.

It all began seven years ago when a recent immigrant from Albania to Italy, Ilda Theka, decided to take up rowing. This was the same year that Italy hosted the World Rowing Championships in Milan (in 2003) and local rowing enthusiast, Antonio Bassi, noted that there were no Albanian rowers at the championships. Bassi had met Theka who was rowing at the Moto Guzzi Rowing Club in Mandello del Lario, Italy, and with the support of Coach Franco Zucchi they looked at establishing Albanian rowing in Italy.

Although there are a few rowing clubs in Albania, they have no Olympic boats. A national federation has been established, but it is relatively inactive and is run through the Albanian Olympic Committee. The potential for Olympic-standard rowing in Albania, at this stage, remains slim. Theka says there are a couple of lakes that may be useful – particularly a small artificial lake in the middle of the capital, Tirana – but it would have to start from scratch.

"When I tell people in Albania that I row they are surprised," says Theka. "But now I notice that there is more interest than before."

Since Theka started rowing, Albanian rowing in Italy has grown to include Theka’s brother Edy. Edy took up the sport in 2006 and has already participated in the World Rowing Junior Championships and the 2008 World Rowing Under 23 Championships. Recently he has been joined by Marsel Nikaj and last year the duo rowed together in the under-23 double.

Nikaj was born in Shkodeer, Albania, and now lives in Varese, one of Italy’s top rowing spots. The small core of Albanians has further been joined by Andi Cuko. Cuko, 20, resides in Verbania, Italy but was born in Fier, Albania.

The rowers met through competing at Italian regattas and Zucchi encouraged them to connect as a group. Theka says that 2009 was an important year for the Albanian team as the small group doubled in size to four.
All of the rowers ended up in Italy after their families made the move to Italy hoping for better education and jobs. Albanian immigration to Italy is not uncommon. The poor economic state of Albania and the proximity of the two nations have meant many Albanians have left their country, mainly since the collapse of the communist regime in the early 1990s. It is estimated that about 350,000 Albanians have migrated to Italy. About 3.6 million people remain in Albania.

Bassi says there is often a negative stereotype of Albanians in Italy. “But,” he says, “these guys [rowers] are setting a good, positive example.”

“Now we are trying to organise ourselves as a real team,” says Theka. “Some years ago it was only me, and now there are three more rowers. Unfortunately I am very busy with my school and I don’t have free time to train every day but I am very happy to follow the new Albanian Rowing Team as team manager.”

“We don’t meet too often because we live far from each other,” adds Theka. “Last year three rowers met in different rowing clubs. But this year Edi, Marsel and Andi will meet more often.”

Since the Albanians in Italy started rowing they have made the news in Albania and Theka says there is now a small awareness of rowing in the country. “Some newspapers have written about the participation of the Albanian rowing team at the Mediterranean Games last year,” says Theka. “They explained how we moved to Italy with our families, the school we are attending and when and how we started rowing here in Italy.”

“It may be a funny story,” says Bassi, “but we are very serious.”
Moments in a four or eight... or how a cosmologist from Cambridge University, with a passion for bringing mathematics to the general public, proved (in his spare time) that the standard rigging set up for a rowing four or eight really isn’t the right way to set up a boat if you want maximum efficiency.

Rigging a four or an eight the standard way makes no sense when it comes to making the boat go in a straight line. This is the finding of University of Cambridge professor, John Barrow.

In his paper entitled, Rowing and the Same-Sum Problem Have Their Moments (Nov 2009), Barrow uses mathematical calculations to work out the best positioning for rowers in a coxless four and then extrapolates this out into an eight (and bigger boats).

First Barrow shows that the traditional, alternating of stroke (port) and bow (starboard) side rowers, rig produces a wiggle if all athletes in the boat are rowing identically with identical power.

“During the first (catch and drive) part of the rower’s stroke the transverse force at the oarlock is directed towards the boat but during the second (extraction and recovery) phase of the stroke it reverses and is directed away from the boat.” (p 3) “As a result, the boat will wiggle steadily from side to side as it moves forward under the influence of this alternating transverse force.” (p 4)

Barrow has come up with three possible rigging line-ups for a four (Figure 1) with only one having no wiggle. This rig is currently used and is known widely as the ‘Italian’ rig (Fig. 1 (c)) as it was first used in Italy in 1956 by a crew that went on to win gold at the 1956 Melbourne Olympics.

Then Barrow took his calculations into an eights situation. Barrow found four rigging solutions where wiggle would not occur – surprisingly...
Moments in a four or eight...

two of these configurations are completely new (Figure 2).

Figure 2

(a)

(b)

(c)

(d)

Configuration (b) is known as the ‘German’ rig and (c) as the ‘Italian’ rig. Configuration (a) and (d) are entirely new.

“These (together with their four mirrors) give the four possible zero-moment rigs for an Eight.” (p 7)

Barrow got involved in boat wiggle research due to his interest in mathematics in relation to sport, but Barrow is quick to add that he has never rowed in his life. “I am part of an education project called the Millennium Mathematics Project.” This project is aimed at getting maths out to youth and the general public.

Barrow is also part of the London 2012 Inspire programme, exploring the mathematics of sport. “Last December we became the official provider of educational materials for mathematical aspects in sport for the 2012 Olympics,” says Barrow, “so we have been thinking of ways to use maths to shed more light on sport and make teaching mathematics more interesting.”

The small mathematical field of finite integer sequences fitted with Barrow’s findings. “The field has curious connections in the real world,” says Barrow. “There are lots of problems bound in sequences.”

The response from the rowing community is greater than Barrow expected. “I didn’t take it (the study) too seriously,” says Barrow who wrote the paper in his spare time as, he says, a hobby. “But it’s surprising how serious people in rowing took it.” Dr Valery Kleshnev has expanded on it in his November 2009 Rowing Biomechanics Newsletter and confirms Barrow’s results. Barrow has heard from an American collegiate coach who is going to try out the different rigs in some races. Number theorist Jeffrey Shallit has commented and the New Scientist is looking at publishing an article.

Author of 100 essential things you didn’t know you didn’t know (2008), Barrow says if he had done this research sooner this discovery would have been included in the book. Now Barrow is motivated to write a follow-up book using specifically sports examples.

Barrow’s ideas continue to roll. He has already contacted a millipede and centipede expert to see how this wiggling applies to their movements. He would like to see scale models of rowing boats designed and tested in a tank to see how the boats move with different rigging combinations. He would also like to adapt the findings to canoeing.

Although Barrow does not expect to revolutionise rowing in fours and eights, he is curious of the consequence at the London Olympics.

M.S.B.
It’s all about desire, fitness, and a little power

The year was 1984, the venue Lake Casitas, and the sporting event the Olympic Games in Los Angeles. The women’s eight from the USA stormed to gold in front of a home crowd after racing over the then standard women’s distance of 1,000m. Their competitors were Romania, the Netherlands, Canada, Great Britain and South Africa. Little did the new Olympic Champions know it would take their nation another 20 years before a women’s eight would win another Olympic medal.

At the 2004 Olympic Games in Athens, the medal wait ended with silver and a new World Best Time during the heats. One Olympic cycle later in Beijing, it culminated with gold.

Behind the successful comeback of the USA women’s eight stands a coach, Tom Terhaar. Humbly, he does not credit the turnaround to himself. “I would say that the USA has always been there, it’s just that we have had a little better luck in the past two Olympics,” says Terhaar. “I know I have the best ‘staff’ in the world to help me with the women’s eight: the entire US collegiate system.

Our collegiate teams work tremendously hard to win the national championships and that has really made my job easier. Then there has also been an increase in support for the team from our National Olympic Committee and from the National Rowing Foundation. Without their support we would never have gotten to the centre of the podium in 2008!”

Terhaar was named head women’s coach of the US national rowing team in 2001. Prior to that, he served as national team assistant coach from 1994 to 2000 under the leadership of former head women’s coach Hartmut Buschbacher. “It was great. Lots of work. Only the highest expectations and no excuses,” says Terhaar of those years.

The former East German coach and the work he did with the US women from 1993 to 1996 is what formed Terhaar’s coaching methodology first and foremost. “I watched some very tough and dedicated athletes train their way into exceptional shape and win quite a few races. They worked harder than what they thought they could, put in more miles and pulled better ergometer scores because of Hartmut’s programme,” remembers Terhaar. But Buschbacher is not Terhaar’s...
COACHES

> It’s all about desire, fitness, and a little power

only source of coaching inspiration. “I’ve also been fortunate to have worked alongside some other great coaches like Igor Grinko, Mike Teti, Kris Korzeniowski and now Tim McLaren from Australia.”

One year after Terhaar took the reins as head women’s coach, gold hung around the necks of the women’s eight at the 2002 World Rowing Championships. In 2003, the US women’s four won World Championship gold. In 2006 and 2007, another two World Championship gold medals as well as a new World Best Time were added to a lengthening list of achievements in the women’s eight. The 2009 World Rowing Championships in Poznan, Poland, was another success, with two golds (one in the women’s pair and one in the women’s eight) and a silver in the women’s quadruple sculls. How long will the list of achievements get by London 2012 and beyond?

For his achievements to date, Terhaar won the 2007 Coach of the Year Award for Rowing from the US Olympic Committee and in 2009 was named World Rowing Coach of the Year.

Before coaching women, Terhaar spent five years at the helm of the men’s lightweight programme at Columbia University. He sees no difference in training men or women. “Athletes are athletes, men or women. They want to win, period. If you treat them as individuals – not as a man or a woman – then I think you are giving them the best feedback to achieve their goals. Some men and women need a little more feedback, some don’t. In the end, we are all working together to go as fast as possible.”

Terhaar’s number one focus during training is endurance. “It’s just a race against the clock,” he says. “How fit can you get before the Olympics!” Giving the athletes the “tools” to go as far as they want in the sport, namely fitness and boat skills, is what Terhaar believes the primary goal of a coach should be. But the coach is also concerned about balancing intense training with overuse injury prevention. “We have some incredibly hard working trainers and therapists that keep our team going,” says Terhaar. “As for my role, I can only encourage the athletes to make the most of their time and make sure if they aren’t training, they are helping themselves recover.”

When asked what the most important quality a coach should have, he replies: “Desire, then you are in sync with who you are working with.” And what makes a great women’s eight? “Same as any other boat: desire, fitness to back up the desire and maybe a little power,” is Terhaar’s reply.

> DM-F
Throughout the world, rowing has been established in countries through a variety of ways. Some countries have built rowing through club systems, some through secondary school programmes, while in other countries university rowing takes center stage.

University Rowing is one of the most recognised forms of our sport. World Rowing will be highlighting university rowing the world over as a continual feature over the coming issues. This first feature looks at the biggest university rowing system in the world. In the United States, university rowing programmes are widespread and often an individual’s first introduction to and only experience in the sport.

University rowing in the United States, otherwise known as “crew,” is somewhat unique. It is available more widely than in any other country and for many universities it is a standard feature of college sport. As an inter-university sport, rowing dates back to 1852 when Yale University challenged Harvard University to a rowing race – the first Harvard-Yale Boat Race – which was the first inter-university competition of any sport.

Yale founded its first men’s collegiate crew in 1843. Harvard followed a year later and so college rowing began to bloom. About 30 years later the first women’s rowing programme was established (Wellesley College).

Men’s and women’s university rowing is organised by leagues. The men’s university crews compete during the season within their leagues and finish the season with a league championship regatta. The same applies with the women’s crews. The traditionally strongest leagues are the Eastern Collegiate Athletic Conference (ECAC) which includes the so-called “Ivy League” schools such as Harvard, Yale, Princeton and Brown among others.
others. The other strong league is the Pacific Ten (Pac-10) league which includes, among others, the Universities of California, Washington and Stanford University.

For the season ending championships, the women are organised under the rules and regulations of the National Collegiate Athletic Association (NCAA) and their championship event is a team event which includes all crews of the women’s programmes (first year rowers, lightweights and varsity (senior) crews). Last year’s winner was Stanford University of Palo Alto, California. The men have different season ending championship events, the highest level is the Intercollegiate Rowing Association Championships (IRAs) held in Camden, New Jersey. The winner last year was the University of Washington from Seattle.

The strength of this growing system of university rowing was felt internationally when the US Naval Academy (university) competed for the United States and won the gold medal at the 1920 Olympic Games in the men’s eight. This was just the beginning. For the next seven Olympic Games the men’s eight was won by American collegiate boats.

Through to the 1970s, rowing was dominated by men. In 1972, a federal law was passed that was to change the face of university rowing, especially that of women’s rowing, in the country. The law was called Title IX of the Educational Amendments of 1972. Title IX prohibited discrimination on the basis of sex under any education programme or activity receiving federal financial assistance. It took until 1979 for the government to clearly define its application to university sport. In essence, money spent on athletic participation opportunities had to be substantially proportionate to the gender of student enrolment. Women’s rowing fitted well in aiming for the balance between male and female athletes as it required a large number of athletes, especially in boating eights.

As universities became compliant since that time, rowing was one of the sports that offered good participation opportunities and Title IX is cited as the single greatest factor in the growth of collegiate rowing programmes today.

Athletes can choose from over 200 universities that have rowing programmes and, for women, there is the added attraction of rowing scholarships that cover the costs of an athlete’s tuition and can also cover living expenses. It also means that university rowing programmes look to recruit athletes from other countries to boost the winning potential of their crews.

The eight has always been the backbone of collegiate rowing and remains that way to this day with the top competitions focusing on the eight. A small number of universities offer sculling but sweep rowing remains the dominant form.

Rowers who have come through the collegiate system have been a major source of athletes for the national team squad. This is especially evident amongst women, and even more so amongst the women’s eight. The USA women’s eight finished second at the 2004 Olympic Games in Athens and won gold four years later in Beijing. The current World Best Time in both the men’s and women’s eight is held by the United States. Of the Olympic Champion women’s eight in Beijing, all nine crew members rowed at university. Six of them are currently in World Rowing’s top 10 athletes for 2009.
FISA is the governing body of the sport of rowing and the oldest international sports federation in the Olympic movement. Based in Lausanne, the Olympic capital, FISA has 130 member federations worldwide, organises World Championships, Olympic Regattas and World Cups and promotes all forms of rowing. The opinions expressed in this publication are not necessarily the opinions of the FISA Council. Reprints permitted with acknowledgement of source.