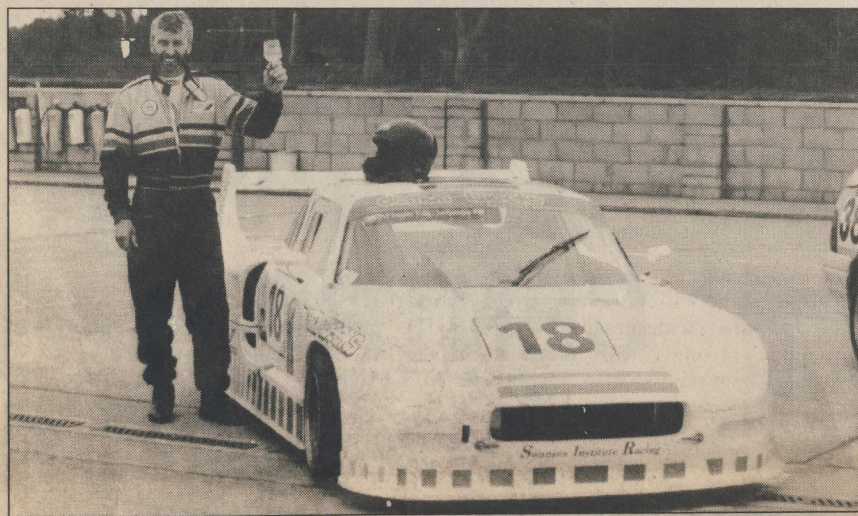
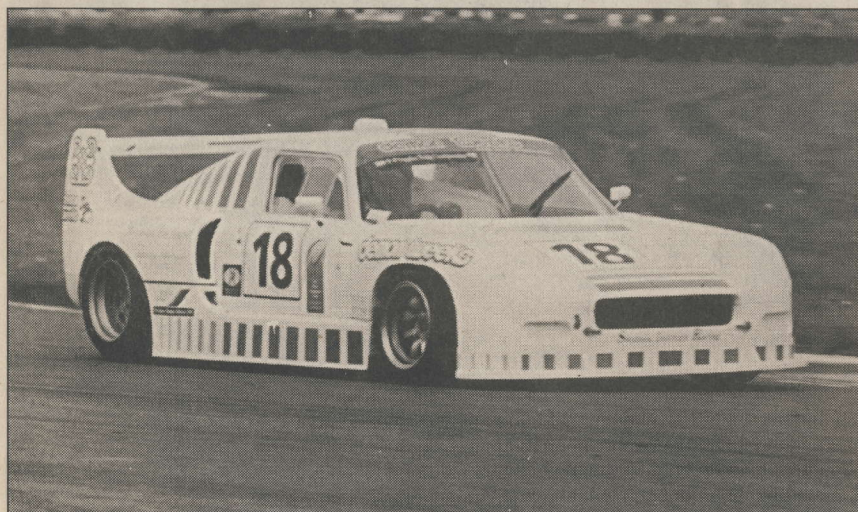


# Swansea Institute Racing



There are very few racing teams in this country that can boast of an institute of higher Education as Entrant, but in the heart of the City of Swansea there operates just such a team, fittingly running that most Welsh of sports cars, a Darran, originally constructed by Tim Duffee Engineering in rural Lampeter.

The Swansea Institute of Higher Education, Via the School of Automotive Engineering and Senior Lecturer Roger Dowden who teaches HND and Degree courses, recognised the potential of a race team association with the opportunity for students to experience their profession in a practical and competitive environment, both at the circuits and in the workshop, where the lessons and experiences are evaluated in an interesting and academic combination that is unrivalled.

Driving force in a practical and theoretical sense- behind the Swansea Institute Racing team as it is known is Roger Dowden , who drives the 1400 cc Darran principally in the in the P&P Supplies Sports and saloon Car Championship jointly promoted by the Welsh Racing Drivers Association and BARC Wales.

Dowden's first experience of motor sport as a competitor came relatively recently, with an initial course in the Summer of '92 at the Andy Murdoch Circuit Scene Racing School based- as it was then- at the Pembrey Circuit outside Llanelli.

With enthusiasm for more experience behind the wheel in a racing environment Roger purchased a formula 500 open wheel racing car, an ideal introduction to the sport, being a relatively economic formula with close racing and with speeds that whilst interesting, were not in the Formula 1 league and imminently suited to the learning curve!

The racecraft was honed via several Sprint entries and a race in a Murdoch Circuit Scene car in a 750 MC meeting, though that latter outing proved to be more sedate than intended, the car lapsing onto three cylinders in the race.

The F500 car was used as a mobile test bench in effect, with first year students

have been kept to a bearable level, though the excellent relationships the team enjoys with professional race teams of the highest repute have been instrumental in the success story.

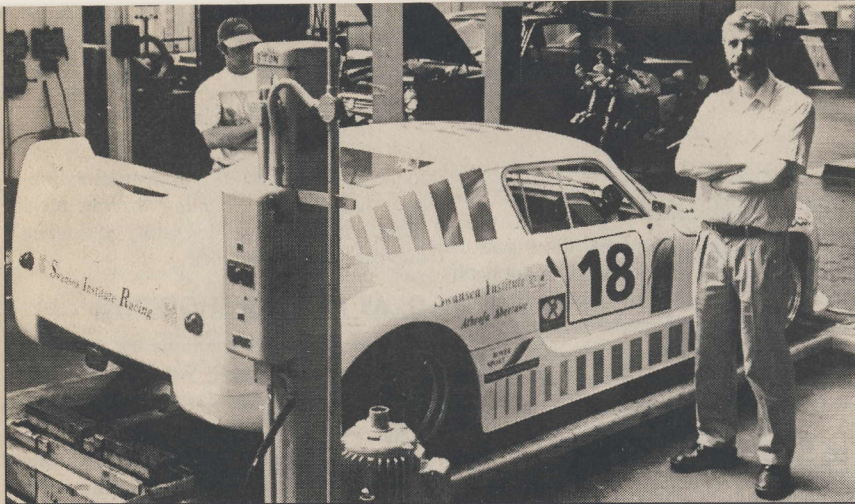
Race tyres are a combination of ex-formula Vauxhall and Paul Stewart Racing discarded rubber, such teams obviously needing to use new equipment at each race despite little wear, such 'pre-owned' tyres still ideal for the Darran, indeed the fronts were purchased from PSR over 2 years ago and remain in service.

Those relations bear fruit in many other directions, Roger Dowden first making the acquaintance of many of the top men in current Formula 1 teams whilst at university.

The students enjoy quite privileged opportunities, with work experience placements arranged with top teams such as McLaren and Paul Stewart Racing, one, Richard Murray currently at PSR and as a result of his initial placement with them he commences full time employment with the team in June. Fellow student Athanasios Matsas is also on a six week placement with the team, within their formula 3000 international schedule, the team is very impressed with the young mans attitudes and approach to work, an obvious credit to the standards of the Swansea Institute.

Another - Simon Norgrove - is working with the McLaren Formula 1 team, the team transmission expert Neil Trundle taking a great interest in the work of the Swansea Institute.

Media interest in the Institute programme of combining a racing team with academic and workshop practice has been considerable, the team recently taking part in the Car and Car Conversions evaluation of club race and rally cars at the framed Goodwood circuit in Sussex, and locally the students also have a unique opportunity to experience such tasks as chassis alignment and weight distribution, fifteen course members involved in the March practice session for the Welsh Racing Drivers Association meeting at Pembrey. The use of sophisticated electronic analysis equipment allowed them the opportunity of practical eval-



**Swansea Institute**

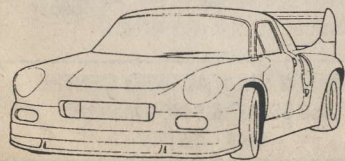
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ery analysis that was reflected in a way that they could see, hear, feel, and smell in the heat of a race environment, the situation also making the work more rewarding, combining academic research with a pleasant day out at the races!

That early experience with the F500 car led directly to the obtaining of the current Darrian sports car, which has become the mainstay of the Swansea Institute Teams racing forays, although the original open wheeled racing car has also been retained, and continues to play a part in the department research programme. Dowden has put a great deal of his own finance into the construction of the sports car, a measure of his commitment to the progress of his students, though of course he readily admits to an intense degree of self satisfaction at his own experiences as a racing driver, the operation thus having a dual sense of purpose and reward.

Several local companies have been closely involved in the success story that the team has become, not least Tim Duffee Engineering, with Tim himself taking a practical interest and frequently on hand to offer advice and technical backup, both at race meetings and back in the institute workshops - certainly no-one knows the cars better than the man whose brainchild they are. The T90 model will accept numerous combinations of engine and gearbox, the institute currently running a standard 1.4 litre Rover unit driving through a Volkswagen gearbox, and although a little behind the opposition in terms of sheer power it's agility and superb handling characteristics allied to light weight means the competitive edge is far from blunted.

The Rover Cars company have been extremely helpful in the provision of the engine technology, and the Performance Development Section are to donate a 1600 cc 16 valve K series engine for the car, which Dowden and his student team intend to fit and develop over the winter months. Ideally a Hewland gear box will be obtained to ensure the extra power can be transmitted efficiently to the wheels, but that aspect remains provisional for the time being. Other associated elements that the race car programme supports are cylinder head and combustion experimentation, the workshop awaiting a special Caterham head, with work to be carried out with alternative camshafts, springs and followers.

With support for the team also coming from such companies as Bassets, Autoglass, Heritage Screenprint, the Bryn Motor Workshop, Town Tyres and the Product Development Centre based at the Swansea Institute, costs

racing cars of wide variation, the session adjudged an extremely valuable exercise for competitors and students alike.

Actual racing involving the Darrian T90 also involves the course students, recent race successes at Pembrey - where the Roger Dowden driven car finished a creditable third overall against immensely more powerful opposition, and took class awards - including Chris Caro (pictured with the car in the workshops), Paul Thomas, and Gerald Dudley, all following the HND Automotive Engineering course, their preparation and overseeing of the car at the racetrack a vital factor in the result. The Institute automotive Technician Bob Evans also takes a close interest in the car, and made his race debut in the machine, sharing the driving with regular pilot Dowden at the BARC Wales Sprint at Pembrey on June 3rd.

At the most recent race contested, the May 20th double round meeting of the P&P Supplies series Dowden finished behind two Ford Cosworth powered cars, his personal battle with the 2 litre Darrian of Peter Dark and the 1600 Anglia resolved by the demise of both opposing cars.

With the forward thinking and innovative nature of the Automotive section of Swansea Institute, and the wholehearted backing of the Faculty Dean Trevor Mellard, students seem to be in good hands, and surely have a distinctive - if not unique - opportunity to practice the art of their chosen careers. Opportunities exist for HND and Degree qualifications in a host of Automotive fields including engineering, transport management, mechatronic, automotive electronics, and computer system engineering, and alongside those opportunities the ability to go racing with your own team, and a chance to experience the heady world of International motor racing up to Formula 1 World Championships!

Roger Dowden's Personal commitment to the team and race development programme is undoubted, and in years to come he may well be able to take comfort that the students of his day that went on to become the race engineers at the peak of their careers in top teams have been replaced by the students that he now teaches, their progress helped by his small but vitally enthusiastic Swansea Institute Racing Team. As Roger observes "I have done hundreds of miles in testing.....but racing is different.....speed is only a part of it .....the ability to be in amongst the opposition and come out on top is the best achievement - and I'm sure we're all gaining from that".