NIHE NEWS

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Tanaiste opens Enterprise House

The importance of Plassey Technological Park as a national asset was emphasised when the Tanaiste and Minister for Industry & Energy, Mr. O'Leary, officially opened Enterprise House and the IIRS and the IDA confirmed their plans to establish important new centres.

Enterprise House. Plassey Technological Park.

The IIRS is setting up a £7 million national metrology and electronics test centre on the Plassey Technological Park with responsibility for all measurement and weights. The new centre will employ 25 people initially and another 25 at a later date. It is expected to be completed by 1983.

The IDA is also moving its Mid-West Regional Office onto the Park, and expects the necessary refurbishing of the Victorian building, Castletroy House, to be completed by the middle of this year in agreement with Shannon Development and NIHE. The IDA has appointed a consultant to draw up a development plan for the 450 acre Plassey Technological Park.

At the opening of Enterprise House Mr. O'Leary described it as a strong vote of confidence in the ability of Irish managers and workers to come to grips with the challenge of modern technology and the microelectronics revolution. Among the bodies occupying Enterprise House are the National Microelectronics Applications Centre, the Innovation Centre, the Irish Productivity Centre, the Local Government Computer Services Board and the European Research Institute of Ireland.

Mr. O'Leary hoped that his plea to Irish industry to adopt new technology would not meet the same "half-hearted" response as was given by large branches of industry to the calls in the 60s and 70s to prepare for free trade.

He judged that the Innovation Centre and the MAC were most imaginative and would prove also to be the most effective initiative of Shannon Development's small indigenous industry programme.

3000 visitors at Open Day

Upwards of 3,000 second level students, guidance counsellors and school principals visited NIHE, Limerick for a recent Open Day. They represented 150 schools throughout the country. The aim was to acquaint students who intend to proceed to university level programmes with the opportunities available at NIHE.

The visitors were introduced to the role and development of NIHE, its undergraduate programmes and its career opportunities. They were taken on a tour of the campus — laboratories, library, computer centre and recreational facilities and were introduced to faculty members.

Counsellors had an opportunity during the day to meet NIHE undergraduates and faculty members and to exchange ideas with them.

Anthony Molloy, Teaching Assistant in Business Studies at NIHE, explains the components of a microcomputer configuration. From left: Joseph O'Doherty, CBS Ennis, Co. Clare; Paula Gartland, Tullow Community School, Co. Carlow; Anthony Molloy; Louise Fitzpatrick, Convent of Mercy, Newport, Co. Tipperary.

Students examine models of the structures of graphite and diamond carbon which are used to demonstrate modifications of properties in materials. From left: Kay Ryan, St. Mary's School, Newport, Co. Tipperary; Ian Hayes, Presentation de la Salle, Hospital, Co. Limerick; Michael Clifford, NIHE; and Pierce Nolan, Vocational School, Tullamore, Co. Offaly.

CAREER OPPORTUNITIES

The Work of the Production Engineer

Ireland is progressing rapidly from an agricultural towards an industrial base. This is being achieved by significant investment in the industrial sector and in educating people who will have the expertise essential for a high technology environment. Private industry is matching the high level of government investment.

A nation that feeds itself, leads itself. If it balances agricultural outputs with equivalent manufacturing outputs it leads itself so much better. At the present stage of industrialisation in Ireland the need for educating people in technology-intensive areas such as Production Engineering is more apparent than ever. In the manufacturing sector, demand over the years has consistently outstripped supply of top-class graduates in Production Engineering.

A Production Engineer is capable of bringing ideas from a conceptual level through the many and varied complex industrial processes to a stage of mass manufacture. He is able to assess functional designs of his Mechanical Engineering counterparts, modify designs, adapt materials and exploit processes to produce commercially saleable products. His expertise covers areas of manufacture involved also in unit, batch and flow production. A Production Engineer is concerned with the total manufacturing system and the component parts of that system which integrate into an efficient and effective entity. His knowledge ranges from metal removal processes to casting methods, from inspection to stock control procedures, from the detailed ergonomic design of individual workplaces to the complex design of whole factories.

Expertise is not confined to the manufacturing sector but covers also the efficient operation of service functions. A production engineer is concerned with the effective planning of a maintenance function, the siting of facilities, the examination of paperwork systems, process control and materials handling. He is concerned with the human element in the system, training procedures, motivation schemes and supervisory skills.

A Production Engineer interfaces with many other industrial disciplines. He designs the line for assembly of electronic components, provides standards for costing systems, requisitions materials through purchasing, establishes quality control procedures and advises on manpower requirements, investment proposals and other matters.

The main contribution of the Production Engineer is ensuring the highest possible level of productivity in a manufacturing organisation, i.e. higher efficiency of production by better utilisation of manpower, machines and materials.

A prime aim of the 4-year Production Engineering Bachelor's Degree at NIHE, Limerick, is to produce graduates who will make significant contributions to the effective and efficient functioning of Irish manufacturing industry. Such graduates will also contribute to programmes of applied research into industrial problems. They will be adaptable and able to respond quickly to changes in technology. Their education and training is greatly enhanced by the experience within industry which they gain on their Cooperative Education programme.

The graduate's first few years of employment in Production Engineering is usually as a minor supervisor, assistant grade engineer, personal assistant or designated function category. Much time is spent on the "mechanics" and techniques of production engineering with a small percentage of the time dealing with people. As the graduate's career develops, involvement with people in the manufacturing function increases so that by his early thirties a large percentage of his time is occupied in dealing with people as a manager of production. The NIHE degree programme and teaching approaches are structured with this in mind.
Initial employment could be as:

- production engineering assistant
- industrial engineering assistant
- personal assistant to manufacturing engineer
- product development engineer
- work study officer
- production control assistant
- quality control engineer
- layout design engineer
- management service assistant
- materials control engineer

Consolidation of experience and an updating of expertise in latter years should guarantee management of the above functions and eventually lead to company directorship in manufacturing organisations by the early forties.

Production engineering is a truly rewarding career both in monetary terms and job satisfaction. The production engineer is busily exploiting the microelectronics era to the full. Integration of microprocessors in new products, and modification of existing products to incorporate these devices is a major thrust in this area. The use of robotics in mundane monotonous repetitive work is alleviating much of the tedium involved in industrial operations. Creation of new products is by definition allied to the creation of new jobs — not the converse as is often mooted. Evidence has indeed shown that as the "chips" get smaller, the demand for people with Production Engineering skills increases.

Local Authorities get new Computer Services

Mr. Tom O'Donnell, TD, MEP, has officially opened the Limerick office of the Local Government Computer Services Board on the Plassey Technological Park. Situated in Enterprise House, this is the Board's first regional office and it employs a technical staff of nine people under Mr. J. A. Campbell, Regional Manager.

Existing computer systems for south-western local authorities will be maintained at the office and the staff are also developing systems for national use, including personnel data, creditors' payments, receipts, expenditure analyses and traffic fines. Limerick Gas Company will use a new billing system.

At the opening of the Local Government Computer Services Board's regional office, from left: Mr. T. J. Boland, county manager, Clare; Mr. R. B. Haslam, county manager, Limerick; Mr. Tom O'Donnell, TD, MEP; Mr. M. J. Boyce, county manager, Carlow and chairman of the Board; Mr. T. MacDiarmada, city manager, Limerick and former chairman of the Board.

Appointment of Westinghouse Professors

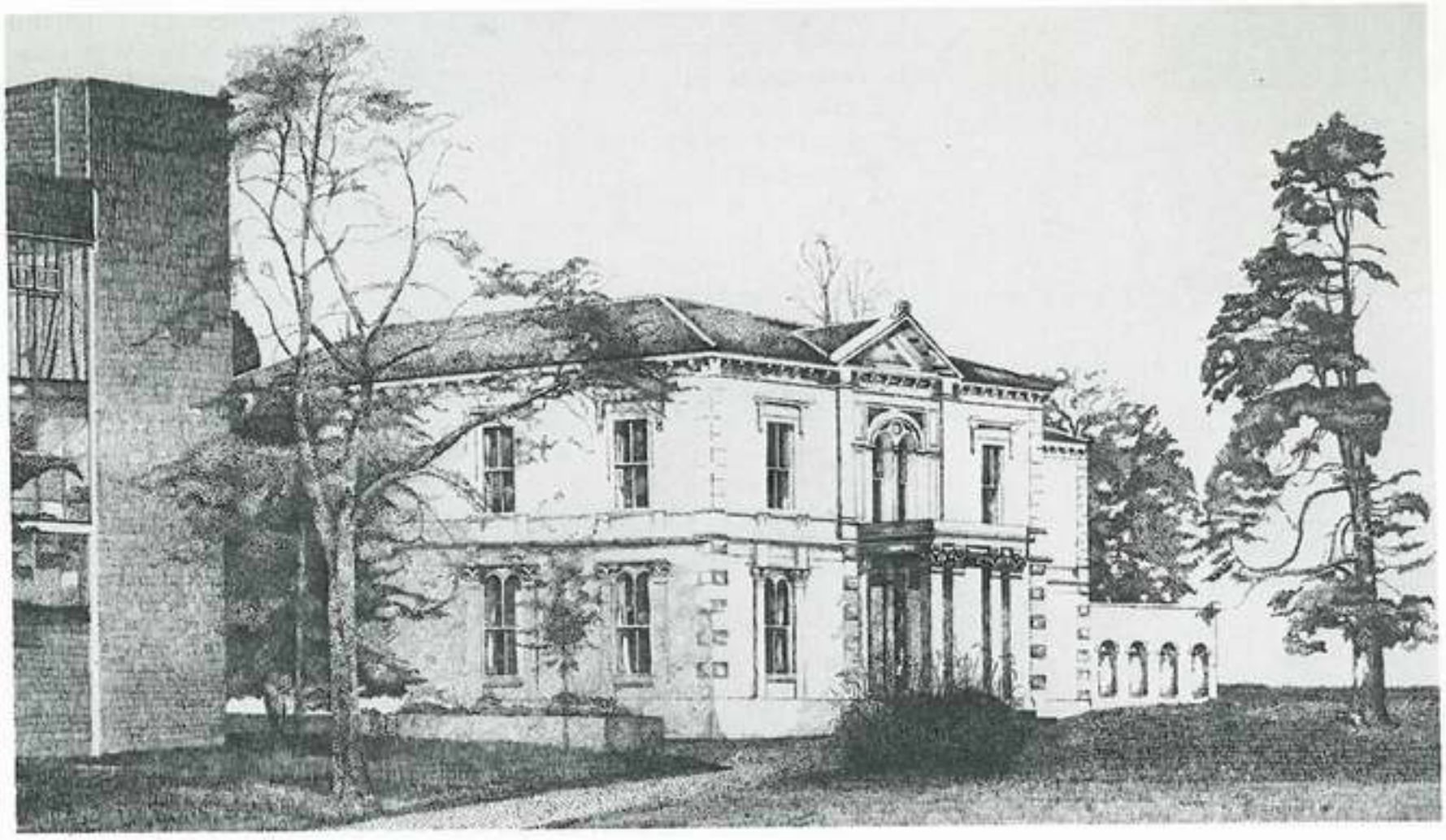
Dr. Oliver McCarthy and Dr. Eamonn McQuade were recently appointed as Westinghouse Research Professors arising from an agreement between the funding body, Westinghouse Electric Industry & Equipment Services Ltd., and NIHE, Limerick. The terms of the agreement should further strengthen the close working relationship between Westinghouse and NIHE.

Professor McCarthy, an Electrical Engineering graduate of UCC, obtained his M. Eng. Sc. degree in 1968 and Ph.D. in 1971 for research on behalf of the ESB in power systems engineering. His further work was at the Brown Boveri Company in Switzerland and Siemens in West Germany. He has been a faculty member at NIHE since 1973 and spent a sabbatical year at Westinghouse, Industry Systems Division, in Pittsburg, USA, in 1980. His lecture topics include device and circuit design, circuit analyses and instrumentation.

Professor McQuade is a Trinity College, Dublin, graduate in Electronics & Control (1964). His Ph.D. thesis in 1967 was on process modelling and control. He worked in the U.S. as a Senior Engineer with Digital Systems Corporation in New Hampshire and later as Manager of Systems Development with Graphic Controls Corporation in Buffalo, New York. He joined NIHE, Limerick in 1979 and has recently been appointed Head of the Department of Electronics and Computer Engineering. His teaching and research interests are educational computing, process control and microcomputer applications.

Professor McCarthy

Professor McQuade



Plassey House, Pen and ink, by Donal Higgins.

Historic Plassey gives NIHE a Focus

The focal point for the overall development scheme at NIHE is Plassey House, the 19th century Palazzo Revival style mansion in which the first students attended their lectures in 1972.

Selection of the Plassey site for NIHE was made after detailed study of six possible sites by a committee headed by Limerick County Engineer, Mr. Gerard Ahern. Some 400 yards off the main Limerick/Dublin road, it is an essentially rural setting and well suited for campus development because of its convenience and obvious attractiveness.

The house in its present form dates back to the 1860s. It is in the Palazzo style which originated in Florence during the Renaissance and was popularised during a revival by Sir Charles Barry.

The architect is thought to have been William Fogarty, a Limerickman, who died in 1878 having designed buildings in Limerick, London, Dublin, Cork, Belfast and New York.

Two prominent Anglo-Irish families, the Maunsells and the Russells were associated for two centuries with the estate at Plassey. Thomas Maunsell probably built the eastern section of the present Plassey House about 1780.

At least one member of the Maunsell family served with Clive during his victories in India in the 1750s. In 1757 Clive defeated a numerically superior Franco-Indian force which had taken Calcutta the previous year. The Nawab of Bengal had a hunting lodge in the area which Clive occupied and used as a headquarters — the original Plassey House. The Battle of Plassey marked the start of Britain's domination of India and of her colonial empire.

Thomas Maunsell presumably changed the name of his Irish estate in honour of his relative's contribution to that decisive battle. The Maunsells then became linked by marriage with the Russells who were to be associated with Plassey in the 19th century.

John Norris Russell founded the firm of J. N. Russell & Sons, Millers on the basis of Plassey Mills (now derelict) which had been built by Major Robert Hedges Maunsell during the 1820s. By the 1860s the Russells were reputed to be the largest millers in the United Kingdom.

It seems, however, that the Russells did not own Plassey House but leased it from the Maunsells. It has passed through a number of hands in the present century. Patrick Keatinge owned the estate from 1933 to 1961 and it was a Rehabilitation Centre for the next few years until it was acquired for NIHE in 1970 and extensively restored.

200 use Innovation Centre

More than 200 people availed of the services offered by the Innovation Centre during the first eleven months of its operations. Five projects have gone through the various stages of tests and some are now in production.

Interest in the Centre has been immense, both at home and abroad with foreign delegations making visits to see its pioneering approach. Located on the Plassey Technological Park, the Centre evolved through discussion between Shannon Development and NIHE with the active support of the various state organisations.

Mr. Tom Carroll, Director of the Centre, considers that it helps two kinds of people in particular — those who have ideas which are still at the embryonic stage and those who are looking for product ideas.

"Our job is to evaluate these ideas and see if it is possible to translate them into products that can be commercially viable in the market place".

The Centre develops a prototype of the product, tests it, finds out the manufacturing costs and then decides if it is able to face open competition.

Those looking for ideas are frequently companies which require new opportunities and new products.

"What we are doing here as part of our normal work is literally scanning the world for product opportunities that are relevant to small industry", says Mr. Carroll.

One who received extensive help from the Innovation Centre was 22-year-old Denis O'Connell who invented a multi-purpose farm trailer which is now going into commercial production. Mr. O'Connell formulated his invention while an Industrial Design Student at NIHE.

Regional Management Centre Diary

Management Programmes

February 2 & 3; March 2 & 3; March 30 & 31:	Introduction to Management
February 3 & 4; February 24,25:	Quality Control — Bulk Process Industry
February 16, 17 & 18:	Stores Management
March 9 & 10:	Managing Industrial Relations on the Shop Floor.
March 23, 24 & 25:	Finance & Accounting for the non-financial manager.

Advanced Technical Programmes

February 9, 10 & 11:	LSI Circuits & their applications
February 8-12:	Microprocessor Digital Electronics
March 8-12:	Microprocessor Engineering
March 23-26:	Industrial Energy Utilisation
March 29 — April 2:	Selection of Hydraulic Machines

Law Society Debates Divorce

"The Question of Divorce in Ireland", was the topic of an NIHE Law Society Seminar attended by Mr. Dick Spring, Minister of State for Justice. At the seminar were, from left: Dr. Henry Ellis, Senior Lecturer in Humanities, NIHE; Mr. Spring; Mr. Richard Woulfe, Chairperson, NIHE Law Society (a third year student in European Studies); Dr. John O'Connor, Honorary Secretary of the Divorce Action Committee and Mr. Eamon Ginivan, PRO, NIHE Law Society.

Michael O'Kennedy Speaks at EEC Budget Seminar

Budgetary reform of the EEC was the topic for a seminar held last month at NIHE, Limerick. Appropriately, Commissioner Michael O'Kennedy gave the keynote address for he has special responsibility for co-ordinating the Commission's proposals on the impact of reform on the agricultural, social and regional funds.

He spoke on the budget problem which had given rise last year to the Mandate from the Foreign Ministers' Council to the Commission to solve it, and he gave up-to-date information on the "milk problem" showing that the budget costs of the dairy policy fell by 25% from 1980 to 1981. This was equal to the total annual expenditure on the Social Fund. If there was a "problem" it was the problem of the dairy farmer's income in Ireland and some other countries.

On the Common Agricultural Policy, Mr. O'Kennedy said that contrary to what some people had thought, the Mandate was not to reform the CAP. In fact, it specifically stated that the principle of the CAP must be respected.

While the CAP had taken 74% of the Community budget up to 1979 the "plain fact" was that the balance available for the other policies was not used for their development. The CAP could not be blamed for the failure, the problem was not always lack of resources but rather an absence of political will to develop other policies. In 1981, agricultural savings amounted to nearly £700 million which was in large part returned to the Member States.

Mr. O'Kennedy said that the Commission in its report rejected the idea that the Mandate should be seen in purely budgetary terms and refused to define "unacceptable situations", having regard to the much broader political, economic and trading consequences of membership of the European Community.

"We presented, instead, a report on the development of non-agricultural and agricultural policies and only in this context were we prepared to suggest a short-term mechanism for the UK budget problem", he added.

The Conference was the first to be held in Ireland on EEC budgetary reform and it was presented by the College of Humanities, NIHE in conjunction with the EEC Information Office, Dublin.

Other speakers covered the need for reform of the Community budget, the future of the Regional Fund and other implications of regional policy for Ireland. "Agriculture — A Budgetary Perspectus", was the topic for Mr. John Coholan, a member of Mr. O'Kennedy's cabinet and Dr. David Coombes, the new Professor of European Studies at NIHE dealt with paying for the social consequences of economic change.

Commissioner Michael O'Kennedy (centre) who opened the conference on EEC budgetary reform with, from left: Dr. Joyce O'Connor, Director, Social Research Centre, NIHE; Mr. Denis Corboy, Director, EEC Information Office, Dublin; Dr. Edward Walsh, Director, NIHE, Limerick and Dr. Patrick Doran, Dean, College of Humanities, NIHE.

The Antrim Cross, said to have been found in Co. Antrim, is an important example of early Christian metal-work. It is an equal-arm cross of bronze with bosses shaped like truncated pyramids. The bosses are decorated mainly with enamel-work of geometric form although two sides of the central boss show an animal with backward looking head — somewhat similar to the animal depicted on the low values of the definitive Irish postage stamps. Dr. Peter Harbison, who dates the cross to about 800 AD, has suggested two possible uses for it — decoration for the centre of a wooden cross of the High Cross type or an attachment on a wooden panel for use in church.

£253,000 Library Project

The Department of Foreign Affairs is giving £253,000 for an NIHE, Limerick/HEDCO library project in the Sudan. The library services of Khartoum Polytechnic will be developed through NIHE acting as a support library for it and acquiring and processing new materials on its behalf. NIHE will also provide an information service to its teaching staff and students. An Irish librarian, based at Khartoum, is to be appointed.

The project is part of the Irish Government's Bi-lateral Aid Programme. It follows the visit to Khartoum and resultant recommendations by Patrick Kelly, Director of Library Services, NIHE, Limerick. The intention is to create a relevant and effective service over a five year period of direct Irish involvement.

Mr. Anthony Quinn, *an NIHE graduate from Limerick, has won an award at Heriot-Watt University in Edinburgh for being the best student last year in the Master's Degree in Petroleum Engineering. His assessment included a dissertation on permeability reduction in oil-bearing reservoir rock after gas injection.*

Mr. Quinn was on a scholarship sponsored by the National Board for Science and Technology which identifies programmes of study abroad which are of national interest but not available in Ireland. In the UK there are only two courses of the kind undertaken by Mr. Quinn; the other is at Imperial College, London.

Since graduating Mr. Quinn has taken up employment as a Research and Development engineer with BS and B Safety Systems Ltd, in the Raheen Industrial Estate, Limerick.

Dr. Cyril Burkley, *Senior Lecturer in Electronic Engineering at NIHE, Limerick, has returned from a six month assignment at the Georgia Institute of Technology. He worked in the Electromagnetics Laboratory conducting research in GaAs monolithic millimeter wave integrated circuitry, with emphasis on the design, development and fabrication of receivers at 35 and 94 GHz. He designed and developed subharmonically pumped mixer circuits that incorporated GaAs Schottky Barrier beam lead diodes.*

Dr. Burkeley's visit to Georgia is an example of the opportunities which Georgia Tech's affiliate, the European Research Institute of Ireland, located at Plassey Technological Park, will bring for interaction with NIHE.

Mr. Shumin Zhu *is currently on a research visit to NIHE, Limerick, working with Dr. John Bannard in the Department of Chemical & Materials Engineering. Mr. Zhu, principal lecturer in the Department of Mechanical Engineering at Hefei Technical University in Eastern China (300 miles from Shanghai), is studying the performance of low concentration sodium nitrate electrolytes. His research field is electrochemical machining (ECM) and he has designed ECM machines and microcomputer controls for ECM machines. Hefei Technical University has 6,000 students in a city of 500,000 people.*

NIHE News is published by The National Institute for Higher Education, Limerick. Requests for further information on topics mentioned in it as well as views and comments should be sent to the Editor, Dr. John McGinn, Director, Cooperative Education Division. (Tel. 061-43644, ext. 252).