

**PRESS RELEASE
WINNERS ANNOUNCED
1988/1408H KING FAISAL INTERNATIONAL PRIZE
FOR
MEDICINE**

Topic: INFERTILITY

The King Faisal International Prize in Medicine was awarded for work on infertility. This is one of the causes of serious emotional distress to some 18% of married couples and has many social implications. The factors responsible for infertility are numerous and are almost equally distributed between males and females.

In recent years rapid progress has been made both in research and clinical practice. Prominent among the scientists who have contributed for over 30 years to the opening up of new horizons in the field of human reproduction are two who have, independently, made seminal advances in our knowledge of the physiological processes involved in fertilization. These have culminated in a novel way of overcoming the problem of infertility in barren couples by the in vitro fertilization of the human ovum, its subsequent implantation in the mother and ultimately, in a high proportion of cases, a successful birth. The Prize has therefore been awarded jointly to:

**Professor Robert Geoffrey Edwards CBE FRS
and
Professor Luigi Mastroianni.**

Professor Edwards, who is of British nationality, born in 1925, is Professor of Human Reproduction in the University of Cambridge where he is also the joint founder and Scientific Director of the Bourn Hall Clinic and a Professorial fellow of Churchill College. With a background of training in endocrinology, immunology and developmental genetics, he initiated studies in 1954 on reproductive physiology in mice. In 1957 he showed that exogenous gonadotropins could induce superovulation. With the ultimate aim of finding

how to fertilize human ova outside the body, he turned his attention to the study of isolated human oocytes. Unfortunately, however, he found that they behave differently from those of rodents so that he was obliged to turn to the oocytes that mature inside the human ovary shortly before they are released at ovulation. The necessity for him at this point to seek clinical help led, in the early 1960's, to a remarkably fruitful collaboration with the late Dr. Patrick Steptoe who had developed ways of examining the ovaries by means of a laparoscope. By 1968, Professor Edwards had been able to evolve hormonal assays to monitor the maturation of oocytes, to increase the yield of fertilizable oocytes, to determine the maximum yield of oocytes and the optimal time for their recovery, to achieve their fertilization in vitro in a medium of his own design and, with the assistance of Dr. Steptoe, to return the embryos successfully to the mother's uterus. This innovative, far-sighted and persevering effort reached fruition with the successful birth of the first "test-tube baby", Louise Brown, in 1978. Their opening of the Bourn Clinic enabled Edwards and Steptoe to offer an increasing number of couples the benefits of in vitro fertilization (IVF) and, by 1988, several thousand children had been conceived by this method which has now been widely adopted by fertility clinics in many countries. Professor Edwards and his associates have published nearly 250 articles as well as four books, including one with the late Dr. Steptoe. He has edited 13 other books and symposia and is the Chief Editor of the journal Human Reproduction. Professor Edwards has received Honorary Doctorates from the Universities of Hull, York and the Free university of Brussels.

Professor Mastroianni who was born in Connecticut, USA, in 1925. is the William Goodell Professor of Obstetrics and Gynecology and Director of the Division of Human Reproduction in the University of Pennsylvania School of Medicine, Philadelphia. His interest in infertility was stimulated by his early work with Dr. John Rock at Harvard when they investigated the vital role of endogenous gonadotrophins on ovulation. This aspect of his research culminated in his demonstration that the drug clomiphene could induce ovulation in monkeys and this discovery has

since led to the widespread use of the compound to increase fertility in the human female. His studies on the physiology of the Fallopian tube and of the processes involved in the fertilization of eggs by sperm in that site, and especially the importance of Fallopian tube fluid, laid the basis upon which much subsequent work by other investigators, including Professor Edwards, was based since it opened the way to the in vitro fertilization of the oocyte. In the course of his many pioneering investigations Professor Mastroianni involved numerous young research workers from many countries, thus disseminating his knowledge, enthusiasm and expertise internationally. His intellectual and scientific contributions to resolving the problem of infertility have run in parallel with those of Professor Edwards and his associates who were able, finally, to achieve the goal of IVF. Professor Mastroianni's team currently run one of the leading IVF program in the USA. He and his many associates from around the World have produced about 100 scientific papers as well as nearly 40 chapters in textbooks on human reproduction. Professor Mastroianni is a Professor Honoris Causa of the University of San Martin, Lima Peru and has an honorary Doctorate of Boston University. He also holds 13 Honorary Fellowships of scientific societies and is on the Editorial Board of several medical journals.