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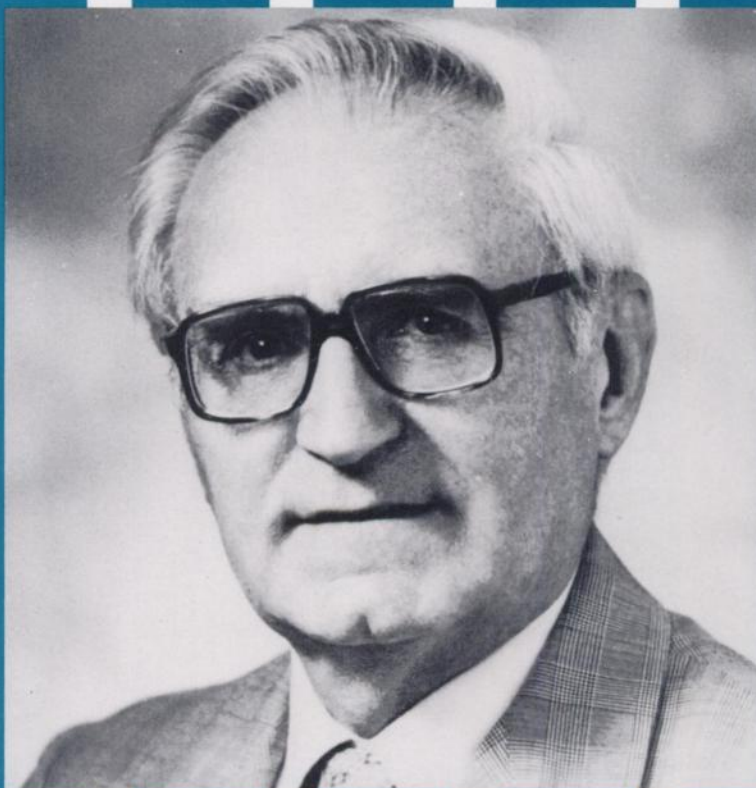


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50
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immediately following EACR-XI in Genoa

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Grand Hotel Miramare, Santa Margherita, Italy
November 6-9, 1991

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American Association for Cancer Research
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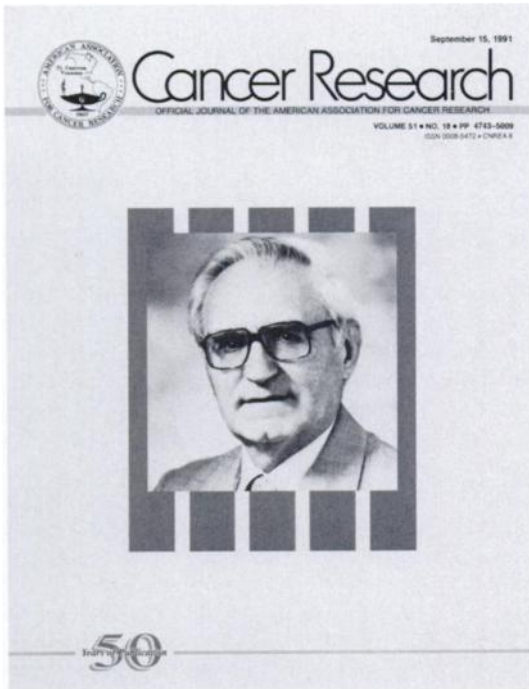
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*The AACR and EACR invite the international
community of cancer researchers to submit
applications for this exciting conference.*

*A limited number of travel grants for graduate and medical students,
postdoctoral fellows, and physicians in training will be available.*

COVER LEGEND



This issue of *Cancer Research* recognizes the pioneering contributions of Pietro M. Gullino, a pathologist and anatomist of Italian origin. After receiving the M.D. degree from the University of Torino and the diploma from the Italian Board of Pathology, he spent two years training in biochemistry at the Technische Hochschule in Munich with Professor Waldschmidt-Leitz. He then joined the National Cancer Institute first as a grantee of the Italian League against Cancer, 1954–1955, and later as a staff member in 1957. To evaluate physiological parameters in solid tumors growing in the host, he developed a tissue-isolated tumor preparation. By injecting tumor cells into the rat ovary, he obtained a tumor growing at the expense of the small 30-mg organ and resulting in its destruction and substitution by a neoplastic mass of several grams nourished by only one artery and one vein, *i.e.*, the original ovarian vessels. This superb system made it possible to measure metabolite balances across the tumor bed and to study the effects of agents on an isolated tumor without interference by the normal tissue. The procedure is described in the *Journal of the National Cancer Institute* (27: 679–693, 1961) and *Methods in Cancer Research* (5: 45–91, 1970).

At the height of the Warburg controversy over his proposal that tumors exhibit anaerobic energy metabolism, Gullino clearly showed that *in vivo* (a) tumors avidly took up oxygen; (b) tumors produced

lactic acid while consuming oxygen, thereby refuting glycolysis as a compensatory mechanism for lack of aerobic mechanisms; and (c) the notion that tumors with high lactic acid production had a growth advantage over low glycolytic activity (*Cancer Res.*, 27: 1020–1030, 1031–1040, 1041–1052, 1967) was unjustified.

He was extensively involved (1971–1979) with the USA breast cancer program and served as chairman of the Breast Cancer Task Force (1975–1979). He developed a very useful model of mammary carcinoma induced in the rat with methylnitrosourea (*J. Natl. Cancer Inst.*, 54: 401–415, 1975) and in collaboration with Dr. Y. S. Cho-Chun discovered the role of cyclic AMP in inducing regression of hormone-responsive mammary tumors [*Science* (Washington DC), 183: 87–88, 1974]. As part of his study on fluid exchange in tumors, he developed the micropore chamber for sampling the tumor interstitial fluid and methodology applicable to measuring *in vivo* the movement of molecules between the vascular and interstitial compartments (*J. Natl. Cancer Inst.*, 49: 1349–1356, 1972). In collaboration with Drs. J. Knazek, W. Kidwell, and R. Dedrick, he developed a pioneering procedure to grow cells on artificial capillaries as an approach to build an organ-like structure *in vitro* [*Science* (Washington DC), 178: 65–67, 1972; *Tissue Culture Methods and Application*, pp. 321–327. New York: Academic Press, 1973].

After retirement from the National Cancer Institute, he moved to the University of Torino, where he is currently Professor of Pathologic Anatomy. His latest work is concerned with tumor angiogenesis and aims at clarifying the events that control neovascularization of neoplastic emboli, an indispensable step in the formation of metastases. Original findings thus far indicate that copper ions and gangliosides of the host tissue modulate the angiogenic response of the local capillary endothelium (*Cancer Res.*, 47: 4243–4247, 1987; *Lab Invest.*, 61: 629–634, 1989; *J. Cell. Physiol.*, 144: 505–510, 1990).

During the past six years, he has been teaching a course entitled “Critical Issues in Tumor Microcirculation, Angiogenesis and Metastasis” with his long-time collaborator, Rakesh K. Jain, who is the Andrew Werk Cook Professor of Tumor Biology in the Department of Radiation Oncology at Harvard Medical School. Photograph and information were kindly provided by Rakesh K. Jain.

Sidney Weinhouse