

SWITZERLAND

**Support given via the ASFC (CISC)
between 1964 and 1992.**

Eight university institutes.

257 scientific papers published.

2028354687

SWITZERLAND

Last year grantees (ASFC)

	Publications	SCI Science Citation Index
Prof. K. BÄTTIG ETH, Zürich	44	99
Prof. H. BRUNNER Fac. of Med., Lsne.	159	893
Prof. P. CERUTTI Swiss Inst. for Exp. Cancer Research Lsne.	44	644
Prof. P. HAAB Fac. of Med. Fribourg	10	19

These figures cover only the last five years

PM's direct support is given to Prof. B. HIRT, Dept. of Virology, Swiss Institute for Experimental Cancer Research for his research on papilloma virus.

Prof. J.-P. DAUWALDER
Institute of Psychology
University of Lausanne

2028354688

DRAFT RESEARCH PROGRAM OF THE VDC

Promotion of research by the VdC is based on the public discussion on the impact of smoking and so-called passive smoking on human health. The health hazards attributed to smoking by epidemiological studies are to be further explored (on molecular and cellular levels) and be brought into relation with risks of life in general. In order to make research as effective as possible the funds provided are to be concentrated on the following areas:

- 1.) Investigation on the effect of nicotine alone or in correlation with other substances in tobacco smoke on human health.
- 2.) Investigation of the effect of the so-called passive smoking (ETS) on human health in the light of endogenous and exogenous influential factors.
- 3.) Research into the metabolism of the tobacco plant and development of methods for influencing it.

2028354689

V4C RESEARCH PROGRAM 1992

1. **THEME:** PLANT RESEARCH
 - Effect of nitrate concentration in tobacco on smoke composition
 - Nitrates in tobacco plant
 - Genetic engineering in tobacco growing

2. **THEME:** POSSIBLE HEALTH/RELATED EFFECTS
 - Chromosome aberrations in smokers and non-smokers
 - Levels of methylnitroso pyridyl butyric acid in urine
 - Skin wrinkling in smokers and non-smokers

3. **THEME:** ETS AND ITS EFFECT ON MEN
 - Serum cotinine in populations
 - Confounding variables
 - Asthma in children, acute reaction of ETS
 - DNA adducts in monocytes after exposure to MS
 - Blood biochemistry survey of smokers
 - pooled analytical results
 - Asthma medium/long term reaction to ETS

2028354690

4. THEME: ENDOGENOUS/EXOGENOUS FACTORS - BASIC MEDICAL RESEARCH

- Steroids in serum
- Dioxin distribution
- Benzene levels on the work place (Halle)
- Diet and lung cancer in the mouse model
- Lipoprotein levels in general population

5. THEME: SMOKING/PASSIVE SMOKING AND LIFESTYLE RISKS

- Benzene levels and road traffic
- Benzene levels - non occupation
- Lung cancer epidemiology (workplace and general environment)
- Longitudinal epidemiological survey on pregnancy outcome and lifestyle in smoking and non-smoking women
- Lung cancer epidemiology US/Japan

6. THEME: MOTIVATION

- Social-psychological effects of smoking

TOTAL BUDGET: DM 4 538 960

2028354691

The Dutch NMA's Budget for 1993 has been reserved for the following studies :

ANTONIE VAN LEEUWENHOEKHUIS

Basic Cancer Research

CIVO/TNO

Research re influence of cigarettes smoke on bronchial tubes and influence of vitamin A.

Prof. SNOW

Genotoxic factors regarding the arising of head and neck cancer.

Prof. RAMAECKERS

Biological research to identify genetic predisposition of lung cancer patients.

2028354692

U.K. Via TPRT

Under the terms of the Voluntary Agreements on Product Modification concluded between the Government and the tobacco industry in 1980 and in 1984, sums of up to £1m per annum over the period 1981 to 1987 were made available to the Independent Scientific Committee on Smoking and Health by the industry to promote research on the effects of modified products on human health. A charitable trust, the Tobacco Products Research Trust, was set up to administer the funds, each project being considered by the Committee and outside referees.

chaired by
Prof. Sir Peter Frohoff
Prof. of physiology
at the Belfast University

2028354693

TOBACCO PRODUCTS RESEARCH TRUST

Project No.	GRANTHOLDER	TITLE	GRANT		DURATION
			Initial	As at 3.9.1992	
1	Prof. Holland (St.Thomas)	Tar content of cigarettes on respiratory symptoms	£ 24,652	£ 24,652	1 year (completed)
2	Prof. Holland (St.Thomas)	Effect of tar yield of cigarettes on respiratory symptoms (pre pilot study)	66,160	55,994 (saved 10,166)	do.
3	Prof.Holland (St.Thomas)	Validate questions about brand of cigarettes smoked and effect of changing to lower tar brands on respiratory symptoms and lung function.	15,540	9,185 (saved 6,355)	do.
4	Prof. Wald (St.Bartholomews)	Biochemical & epidemiological research into health effects of low tar cigarettes	303,243* (amalgamated with 9 below)		1/6/84 - 30/5/87
5	Prof.Tunstall Pedoe (Dundee)	Scottish Smoking Study	266,164	370,754* (saved 11,769)	1/4/85 - 31/3/88 extended to 30/9/89 (completed)
6	Dr.Pritchard (Harwell)	Measurement of tar retention in smokers switching to products with lower tar yields	226,164	308,698* (saved £77)	1/2/86 - 31/1/88 extended to 31/7/88 (completed)
7	Prof.Holland (St.Thomas)	Effect of different cigarettes on respiratory health	1,317,964 (excluding cost of cigarettes)	1,398,151* (saved 18,239)	1/12/85 - 31/12/87 extended to 31/1/89 (completed)
8	Mr.Peto (Oxford)	Isis epidemiology enquiry	791,314	1,122,546	1/4/86 - 31/3/89 extended to 31/12/93
9	Prof. Wald (St.Bartholomews)	Tar reduction study (incorporates 4)	336,829	848,705	1/1/86 - 30/6/88 analytical service extended to 31/12/90 6 month extension 1992
10	Prof.Parry (Swansea)	Ability of tobacco condensates to induce aberrations of chromosome number and structure in cultured primary fibroblasts	89,878	124,523* (saved 5,243)	1/10/86 - 30/9/89 (completed)

*These are actual sums paid out; the "saving" represents the difference between the sum finally agreed and that paid out.

2028354694

PROJECTS FUNDED BY THE
TOBACCO PRODUCTS RESEARCH TRUST

Project No.	GRANTHOLDER	TITLE	GRANT		DURATION
			Initial	As at 3.9.1992	
11	Mr. Jarvis (Institute of Psychiatry)	Development of smoke intakes in novice smokers in relation to brand smoked	£ 30,578	£ 45,136* (saved 2,109)	1/9/86 - 31/8/88 (completed)
12	Dr. Powell (Charing Cross)	Smoking profile of patients with symptomatic peripheral arterial disease. (Pilot)	7,263	6,048* (saved 1,215)	1/9/86 - 30/3/87 (completed)
13	Dr. Waters (Swansea)	Correlation between lung cancer and ability of smoke to induce DNA damage in cultured human cells or mutation in a bacterial assay.	66,478	69,020* (saved 1,951)	12/10/87 - 11/10/90 (completed)
14	Dr. Powell (Charing Cross)	Does the tar brush paint the artery wall.	219,166	258,059	1/5/88 - 31/5/93
15	Prof. Rosen (Cardiff)	Effect of switching cigarettes on post-operative pulmonary complications in middle tar smokers.	84,366	91,635* (saved nil.)	4/7/88 - 3/7/89 (completed)
16	Prof. Woolf (Middlesex)	Use of models of cigarette smoke related vascular damage in comparing smoking materials.	108,303	121,687	1/7/88 - 30/6/91
17	r. Seller (Guy's)	Effect of tar yield on developing embryos using curly tail mice, a model for human neural tube defects.	147,254	207,154	1/6/88 - 31/10/91 (extended to 31/10/92)
18	Dr. Miller (BIBRA)	Tobacco smoke constituents on pulmonary surfactant system (in vitro studies)	183,518	180,575* (saved 6,488)	1/10/88 - 30/9/91 (completed)
19	Dr. Duthie (Rowett)	Functional antioxidant status and heart disease in smokers and non-smokers	127,950	167,348* (saved £407)	2/5/88 - 1/6/90 (extended to 1/3/91) (completed)
20	Dr. Law (St. Bartholomews)	Cigarette smoking, nicotine/tar yield and bone density	176,492	266,165	1/7/88 - 30/6/90 (extended to 31/12/91)

2028354695

*These are actual sums paid out; the "saving" represents the difference between the sum finally agreed and that paid out.

PROJECTS FUNDED BY THE

TOBACCO PRODUCTS RESEARCH TRUST

Project No.	GRANTHOLDER	TITLE	GRANT		DURATION
			Initial	As at 3.9.1992	
21	Dr.Pritchard (Harwell)	Reducing tar, but maintaining delivery on tar retention (Males)	£ 116,495	£ 118,191* (saved nil.)	Nov.88 - 1 year (completed)
22	Dr.Pritchard	Deposition of tar in female smokers	114,655	116,351* (saved nil)	Apr. 88 - 1 year (completed)
23	Dr.Pritchard (Harwell)	Comparison of cigarette smoke intake in men and women	11,730	11,669* (saved £60)	Oct.89 - 6 months (completed)
24	Dr.Humphries (Sunley Research)	Interaction between smoking fibrinogen levels and fibrinogen gene haplotype: comparison between low yield and higher yield brand cigarettes.	11,096	19,512	Nov. 90 - Oct. 91
25	Professor Milner (St.Thomas's)	Pregnancy smoking and the lower respiratory tract in infancy.	182,543	185,993	1/12/90 - 30/11/93
26	Dr.Page (Aberdeen)	Human placental function in relation to tar yield and cadmium content in cigarettes smoked by pregnant women.	99,828	103,629	19/8/91 - 18/8/94
27	Dr.Waters	Smoking related DNA damage in normal oral tissue from patients suffering with oral cancer.	11,700	12,411	March 91 - Feb.92
28	Dr.Duthie (Aberdeen)	Effects of vitamin E supplementation on plasma cholesterol concentration and free radical-mediated damage in smokers.	62,794	65,794	1/10/91 - 31/3/93
29	Dr.Williams (Liverpool)	Effects of nicotine and its withdrawal on energy balance: the role of neuropeptide Y in the rat hypothalamus.	2,010		1 month (May 1992) pilot

2028354696

* These are actual sums paid out; the "saving" represents the difference between the sum finally agreed and that paid out.

PROJECTS FUNDED BY THE
TOBACCO PRODUCTS RESEARCH TRUST

O t	GRANTHOLDER	TITLE	GRANT		DURATION
			Initial	As at 3.9.1992	
30	Professor Caro (London I.C.)	Non-invasive ultrasound study of the effects of nicotine on arterial haemodynamics in healthy young adult human subjects.	£ 47,450	£	2 years
31	Dr.Higenbottam (Cambridge)	Reaction of nitric oxide in air and in tobacco smoke with aqueous solutions and confluent cell cultures.	66,200		2 years

2028354697

BELGIUM

Prof. M. SYMANN

Oncology Unit

Faculty of Medicine, UCL, Brussels

2028354698

FINLAND

**Prof. K. SYRJANEN
KUOPIO**

2028354699

FRANCE

Prof. C. BURSTEIN
PARIS

J. CABOCHE
in Prof. M.J. BESSON's lab.
PARIS

Prof. D. DUSSER
PARIS

Dr. G. MICHELETTI, Dr. B. LANNES
Prof. J.M. WARTER,
STRASBOURG

Prof. R. MOLIMARD
PARIS

Dr. J.-P. TASSIN
PARIS

2028354700

GERMANY

**VDC (Verband der
Cigarettenindustrie) and direct
support to :**

**Prof. B. SCHNEIDER
HANNOVER**

2028354701

HUNGARY

Dr. I. VINCZE

Dr. B. SCHOKET

National Institute of Hygiene

BUDAPEST

2028354702

NORWAY

**Prof. O.G. NILSEN
TRONDHEIM**

2028354703

SWEDEN

**Prof. J. WAHREN
Dept. of Clinical Physiology
KAROLINSKA INSTITUTE
STOCKHOLM**

2028354704

UNITED KINGDOM

**Prof. J.W. GORROD
LONDON**

**Dr. A.J.S. GARDINER et al.
AIRDRIE (Scotland)**

**G. KRSTIC
SUNDERLAND**

**Prof. R. PERRY
LONDON**

**TAC / TPRT
(Tobacco Advisory Council)
(Tobacco Products Research Trust)**

2028354705

RESEARCH THEMES

Basic research in carcinogenesis/molecular biology:

P. CERUTTI, Lausanne
M. SYMANN, Brussels

Respiratory, physiology/Pathology

D. DUSSER, Paris
P. HAAB, Fribourg

Behaviour:

K. BATTIG, Zürich
R. MOLIMARD, Paris

Neurology - Neuro pharmacology:

J. CABOCHE, Paris
G. MICHELETTI, Strasbourg
J.-P. TASSIN, Paris

Viral Oncology:

B. HIRT, Lausanne
K. SYRJANEN, Kuopio
A. GARDINER, Airdrie

2028354706

Hypertension:

H. BRUNNER, Lausanne

Nicotine physiology and metabolism:

J. WAHREN, Stockholm

J. GORROD, London

Indoor Air Quality:

R. PERRY, London

Competing Risk Factors:

B. SCHNEIDER, Hannover

Human Metabolites Monitor:

C. BURSTEIN, Paris

Regulatory Policies:

G. KRSTIC, Sunderland

Nicotine Adsorption or Absorption:

O. NILSEN, Trondheim

Socio-Psychology

J.P. DAUWALDER, Lausanne

2028354707

BATTIG, K.

**Laboratory for Compared Physiology and
Behavioural Biology
ETH
ZURICH**

**Effects of Smoking on Cognitive Performance
and Psychophysiological Parameters as a
Function of Smoking State.**

44 publications in the last five years.

2028354708

BRUNNER, H.R.

**Division of Hypertension
Faculty of Medicine, Lausanne**

The experiments carried out recently have shown that the echo-tracking device which was developed provides accurate and reliable measurements of arterial compliance and distensibility both in experimental and clinical settings. Nevertheless, neither arterial compliance nor distensibility seem to be sensitive enough to discriminate so called healthy subjects from hypertensive patients, i.e. patients known to develop arterial wall hypertrophy. The fact that both compliance and distensibility tend to be increased in hypertensive state implies that the elastic modulus of the material composing the arterial wall is decreased. This work represents the first evidence obtained in vivo indicating that arterial compliance and distensibility are not reduced in hypertensive patients and animals.

2028354709

BURSTEIN, C.

Lab. de Technologie des enzymes

Université de PARIS 7

L-Lactate oxidase immobilized on the surface of a film bound to an oxygen electrode was used for assays of L-Lactate dehydrogenases and various NAD(H)-dependent dehydrogenases and their substances.

Detection of heavy metal salts with biosensors built with an oxygen electrode coupled to various immobilized oxidases and dehydrogenases.

One paper in press in "Biosensors and Bioelectronics".

One paper submitted for publication.

2028354710

CABOCHE, J.

In Prof. J.M. BESSON's group.

**Laboratory of Neurochemistry - Anatomy,
University of Paris 6.**

**Role of nicotine in the regulation of messenger
RNA's coding for proenkephaline in the rat
brain.**

**Results highlight the role of nicotine in the
selective regulation of the gene encoding pre-
proenkaphaline in the striatum of the rat. This
role being likely exerted through postsynaptic
nicotine receptors.**

2028354711

CERUTTI, P.A.

**Dept. of Carcinogenesis
Swiss Experimental Cancer Research Institute,
Lausanne**

**The role of the cellular antioxidant defence in
oxidant carcinogenesis.**

**Molecular mechanism of the induction of the
proto-oncogene c-fos by oxidant carcinogens.**

**Oxidant-induced point mutations in cancer-
related genes.**

2028354712

DAUWALDER, J.-P.

**Institute of Psychology
UNIVERSITY OF LAUSANNE**

**Dynamics of tolerant behaviour
Supported by Public Affairs, PM Switzerland**

One year.

2028354713

DUSSER, D.

**Faculty of Medicine
Université René Descartes, Paris**

Main objectives are :

- To further understand the role of peptidases in airway diseases associated with chronic inflammation such as chronic bronchitis, allergic rhinitis and asthma.**
- To determine the effects of free radicals and cigarette smoke on expression of peptidases involved in the regulation of neuropeptides, (i.e. NEP, angiotensin converting enzyme) by epithelial cells in culture.**
- To determine the effects of cigarette smoke on neutrophil adhesion to airway vasculature and vascular permeability in order to study the pharmacological agents and the peptidases that can modulate these effects.**
- To further characterize the role of carboxypeptidase M (CPM), (a new peptidase discovered by this group) in human airways.**

2028354714

GARDINER, A.J.S. et al.
Monklands Distr. Gen. Hospital
Airdrie
SCOTLAND

**Studies on the relationship between avian
exposure and bronchogenic carcinoma.**

2 publications.

2028354715

GORROD, J.W.

Dept. of Pharmacy

King's College

LONDON

Studies on the absorption, distribution, metabolism and excretion of nicotine and related alkaloids.

Biosynthesis of quarternary glucuronides using microsomal preparations is presently being carried out.

Several presentations at meetings.

Two publications.

Co-editor with J. WAHREN of a monograph on nicotine presently in press.

2028354716

HAAB, P.

**Institute of Physiology
Universtiy of FRIBOURG**

Respiratory physiology.

**Carbon monoxide equilibrium curve of human
umbilical cord blood.**

**Carbon monoxide effects on mammalian O_2
transport.**

Respiratory drive during bronchospasm.

Oxygen supply and uptake in tissue models.

10 publications.

2028354717

HIRT, B.

Dept. of Virology

**Experimental Cancer Research Institute,
Lausanne**

Human papilloma virus (HPV) infection is associated with several cancers of epithelial cells, including cervical carcinoma. HPV's infect epithelial keratinocytes, but not fibroblasts. Hirt's group showed in 1990 that the cellular regulatory factor AP-1 (dimer of two proteins - fos and jun) is needed for the synthesis of HPV - 18 mRNA. Their experiments lead them to conclude that there are differences in the types of AP-1 present and in the abundance when keratinocytes and fibroblasts are compared. This could account in part for the differences in HPV-18 gene expression between these two cell-types but other factors probably play a role.

2028354718

KRSTIC, G.

In Prof. D.F. WEETMAN's lab.

School of Pharmacology

SUNDERLAND Polytechnic

The aim of the study was to examine how scientific knowledge is interpreted by regulatory authorities.

Three publications.

2028354719

MICHELETTI, G. et al.

Neurology

Faculty of Medicine, Strasbourg

Parkinson's disease (PD) is a chronic progressive neurodegenerative disorder. Loss of midbrain dopaminergic neurons is the major neurochemical characteristic of the disease, and the basis of symptomatic therapy is the dopamine (DA) precursor L-dopa. However, despite this treatment, the disease continues to progress and long-term therapy almost invariably results in adverse effects. It has been difficult to define the respective contributions of disease progression and cumulative L-dopa exposure to these problems. Probably both are important. Thus, therapeutic strategies of the future to reduce long-term complications, include reducing cumulative exposure to L-dopa by the use of DAagonists or agents which are supposed to act synergically with DA.

14 publications or presentations at meetings.

2028354720

MOLIMARD, R.

Laboratory of Experimental Medicine

Faculty of Medicine Saints-Peres

PARIS

Studies to characterise how and why smokers smoke cigarettes. Prof. MOLIMARD is considered as "the unavoidable Expert" in France on tobacco-related problems.

Two publications are of special interest.

2028354721

NILSEN, O.G.

**Dept. of Pharmacology and Toxicology
University of TRONDHEIM**

**Possible correlation of exposure to ETS and
nicotine concentration in hair.**

**In 1991 and 1992 methods were developed for
measuring low concentrations of nicotine in
hair.**

**Experimental chamber exposure of hair was
performed and then "real life" situations were
tested.**

**Nicotine in hair gradients were identified for
the first time.**

Two full papers have been published.

**Seven presentations were given at interna-
tional meetings/congresses.**

Two papers in preparation.

2028354722

PERRY, R.
Imperial College
LONDON

**Studies on the physical and chemical
characteristics of indoor air quality.**

Seven publications.

2028354723

PROF. DR. BERTHOLD SCHNEIDER
UNIV. HANNOVER, INST. OF BIOMETRICS

COMPETITIVE RISK

**IF ONE DOES NOT DIE TODAY OF CANCER, ONE WILL POSSIBLY DIE
TOMORROW OF AN HEART ATTACK**

UNCERTAINTY PRINCIPLE IN CLASSICAL STATISTICS

**(DIFFERENTIAL EXCESS RISK) X (PROBAND NUMBER) = 20 - 30
RISKS LOWER THAN 1 IN 10.000 MEAN UNREASONABLE HIGH
PROBAND NUMBERS**

LOWER RISK THRESHOLDS BY CONFOUNDERS' BIASES

**THE WHOLE SUM OF ALL LIFESTYLE RISKS, SOME OF THEM
UNKNOWN, MIGHT CONTRIBUTE TO THE TOTAL BIAS OF THE RISK**

POOLING OF STUDIES

**META-STATISTICS ONLY APPLICABLE FOR IDENTICAL STUDY SETUP.
PROCEDURES ASSUME A NON-DEPENDENCY OF RESULTS ON THE
METHODS USED**

BERKSON'S FALLACY

**OVERSELECTION (E.G. TWIN STUDIES) CHANGES THE CONTINGENCY
FACTORS. THE RESULTS CANNOT BE EXTRAPOLATED TO A REAL
WORLD SITUATION**

SIMPSON'S PARADOX

**AN OVERRIDING INFLUENTIAL FACTOR (LIFESTYLE OR GENETICS)
PRETENDS A CORRELATION BETWEEN TWO OTHERWISE
UNCORRELATED FACTORS (BALDNESS AND HEART DISEASE)**

2028354724

SYMANN, M
Division of Medical Oncology
University of Louvain
BRUSSELS

Grant for a post-doctoral position.

General objectives of the unit:

- **To Establish a link between fundamental research and clinical investigations i.e., bring to the clinic advanced biological technologies.**
- **To promote and develop new strategies in cancer treatment.**

Themes:

- **Gene therapy.**
- **Immune reconstitution following autografting of hematopoietic stem cells.**
- **Regulation of megakaryocytopoiesis.**
- **Use of growth factors to enhance hematologic recovery following cyto toxic chemotherapy or for mobilization of hematopoietic stem cells into the peripheral blood in the treatment of solid tumors.**

2028354725

SYRJÄNEN, K.

**Dept. of Pathology,
University of Kuopio**

Quotations from the 1992 progress report:

"To assess the natural history of Human Papillomavirus (HPV) infections in the lower female genital tract and their associations with intraepithelial neoplasia and genital squamous cell cancer, a long-term prospective follow-up study was started in October 1981. The project was the first of its kind, and still continues to be the largest (and oldest) ongoing prospective follow-up study in this field."

Male sexual partners were also examined.

"During the ongoing research period, the enrollment of a fifth series of patients was initiated, when small children and newborn babies born to mothers in the Follow-up and Treatment Groups are being recruited for clinical examination and sampling of their oral cavity and nasopharynx. The aim of this approach is to elucidate the possible non-sexual (i.e., vertical) transmission of HPV from the mother to her child and the biological significance of such an eventual transmission."

2028354726

TASSIN, J.P.

Chaire de Neuropharmacologie (Prof. J.

Glowinski)

Collège de France

PARIS

Effects and mechanisms of action of nicotine in the CNS. It would be the physiological basis of tobacco smoking facilitation on learning and increased attention. Results also show that nicotine is different from opiates and psychomotor stimulants.

2028354727

VINCZE, I. & SCHOKET, B.

**National Institute of Hygiene,
Budapest**

Molecular events in chemical carcinogenesis involve the formation of DNA adducts of carcinogen metabolites but the relationship between this early event and later disease has not been fully elucidated.

Investigation of DNA adducts may lead to a better understanding of mechanisms of chemical carcinogenesis and contribute to improved carcinogenic risk assessment.

Quotation from the abstract of a presentation given at the 2nd Annual Congress of the European Respiratory Society, Vienna September, 1992.

"Genotoxic effect of smoking was clearly shown but direct quantitative association between the investigated markers and manifestation of lung cancer was not found".

2028354728

WAHREN, J.

**Dept. of Clinical Physiology
Karolinska Institute
STOCKHOLM**

Nicotine Physiology and Metabolism

The current status of knowledge regarding metabolism and pharmacokinetics of nicotine was updated and summarized at an international symposium in June 1992 at Salsomaggiore, Italy. The meeting was organised by Professors Gorrod and Wahren, who will also be the editors of the proceedings from the meeting. The publication will be a monograph entitled "Biochemistry and Metabolism of Nicotine and Related Alkaloids", published by Chapman and Hall Scientific Publishers, London. The work with the monograph is now in its final stages and publication is expected in July or August, 1993.

2028354729