



Commentary

The birth and early years of INA, the International Neurotoxicology Association

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ABSTRACT

The International Neurotoxicology Association (INA) is a scientific society whose members have interest and expertise in the discipline of neurotoxicology. The idea of forming INA was born in 1984, as a follow-up to a NATO-sponsored meeting on Toxicology of the Nervous System. INA held its first meeting in the Netherlands in 1987 and has had continuous meetings every other year since then. INA is registered as a scientific society in the Netherlands, and is an affiliated society of IUTOX. This paper presents a personal account of the events that led to the birth of INA, and of the first fifteen years of this association.

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1. Introduction

The present article describes the birth and the early years of the International Neurotoxicology Association (INA), formed in the mid 1980s, which has slowly established itself as a main international scientific society devoted to the field of neurotoxicology. Over the past thirty years, interest in neurotoxicology has been increasing: it is now well established that chemicals may cause adverse effects to the nervous system, particularly during pre- and early post-natal development, and that they may contribute to developmental disorders (Grandjean and Landrigan, 2006). The fact that endocrine disruption may contribute to neurotoxic disorders, particularly during brain development, has also been established (Weiss, 2011). Furthermore, the aging of the population and the increased incidence of neurodegenerative diseases has called into question the possibility that environmental chemicals may contribute to the etiology of such diseases (Cannon and Greenamyre, 2011). For those interested in the development of neurotoxicology as a discipline, I suggest papers by Iregren (2006) and Weiss (2009). However, it is not the purpose of this paper to discuss neurotoxicology as a discipline; rather I would only like to provide a personal account of events which led to the

birth of INA, and to describe its early years. A brief discussion of the more recent activities of INA, in parallel with those of the Scientific Committee on Neurotoxicology and Psychophysiology of ICOH (International Congress of Occupational Health), has been recently published (Anger and Boyes, 2012). A related presentation by Will Boyes (Boyes, 2011) can be found on the INA website (<http://www.neurotoxicology.org>).

For the present task, I relied upon a number of documents, and on my own memory. Several colleagues provided information and suggestions, as well as numerous pictures, some of which you will find in this article. My hope is that this effort will bring back good memories among the “old-timers” of INA, and will provide the newer generation of neurotoxicologists a glimpse of history on an important component of their chosen field. Needless to say, any error or omissions you may find are only my responsibility.

2. Where it all started: the 1984 NATO-ASI in Belgirate

For several decades the Science Committee of NATO (North Atlantic Treaty Organization) made funds available to organize Advanced Study Institutes (ASI), i.e. training courses in the area of life, computer, mathematical, social, and ecological sciences. I personally attended a few of these, and also co-organized one on pesticides in Riva del Garda, Italy, in 1986 (Costa et al., 1987). The NATO program continues to these days, though the current focus is mostly on security-related science (cyber defense, counter terrorism etc.). In 1984, Corrado L. Galli, Professor of Toxicology at the University of Milano (and my first mentor) organized a NATO-ASI on “Toxicology of the Nervous System”; the meeting was held on September 10–20 at Villa Carlotta, a lovely hotel in the small village of Belgirate along the Western shores of Lake

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Maggiore in Northern Italy. The meeting, long lasting by today's standards, consisted in a series of lectures by renowned neurotoxicologists, presented to an audience of about 60 young scientists, mostly at the early stages of their career, or interested in entering the field. All lecturers and students stayed at Villa Carlotta or at a nearby hotel, and all meals were consumed together. This format allowed for significant interactions among people and, as many will immediately recognize, greatly influenced how INA meetings were later organized. The "tempo" at the Belgirate meeting was not very intense; there were no 6 a.m. breakfast sessions, too common nowadays at several major toxicology meetings, and no concomitant sessions, so that one had not to choose between two equally interesting topics. The program

consisted in just a few lectures per day, followed by plenty of free time; this format fostered scientific discussions and allowed forging of new friendships. Fig. 1 shows some pictures of participants at the Belgirate meeting. The meeting started on a Monday, with lectures by Stata Norton (9:30), followed by John B. Cavanagh (11:00) and lunch, then followed by a "siesta". At 4:00 pm, another lecture by Peter S. Spencer, and this was it for the day. Each day followed the same format, with Saturday afternoon and Sunday off, and was concluded on the following Thursday with a round-table. Quite a difference with most of today's scientific meetings! Other lecturers at the course were Joep van den Bercken, Marcello Lotti, Vincenzo Cuomo, Edith McGeer, Phillip Chambers, Steven C. Bondy, Walter Meier-Ruge, and Emilio Perucca. All contributed chapters to the Proceedings of the Meeting (a NATO requirement) which were published in 1988 by Plenum Press (Galli et al., 1988).

I do not have a complete list of all participants, though I remember many, and am still in contact with several of them. One of the participants was Michael Csicsaky, a German colleague from the Medical Institute of Environmental Hygiene in Düsseldorf, who played the most important role in the birth of INA, as you will soon see. In a letter dated September 14, 1984 (the correct date was presumably September 24 or October 14, as we were still in Belgirate on that day in September) addressed to all participants of the NATO-ASI, Michael wrote "In my eyes, one of the principal advantages of the neurotoxicology course held in Belgirate was to allow for rich discussions and personal contacts. I also feel that it would be a pity if we just went back to business as usual eventually losing track of each other. Picking up an idea of Dr. Schaeppi, I would like to bring into existence some sort of a club, preliminarily termed "Neurotoxicology Interest Group" (NIG). Toward this end I devised a 2-page questionnaire. . .". The questionnaire contained a few questions on special fields of interest, current and planned projects, technical approaches utilized, and availability for training others. In addition, there were a few questions on what NIG could be, what it could do, who could be a member etc. The response was, I should say, overwhelming. Remember, there was no e-mail at that time, we still wrote letters who needed to be physically carried from one continent to another! Just two months later, in a letter dated December 14, 1994, Michael wrote "I am happy to present you with the latest news about our nice little neurotoxicology association. To be precise, we are thirty-five by now, and we will be more numerous in the future. . .the funding members have consented on membership being open to everybody.". A list of the original 35 responders (plus Michael) is shown in Fig. 2. Michael continued "Thirty-four liked the idea of having a register of members. For the ease of keeping it up to date, I am planning to organize it as a database on an IBM-PC computer. As this machine has found a very wide-spread use in laboratories, (another era, was not it?) I think this would be the best choice to keep the database portable". Other suggestions that Michael received from those initial 35 scientists included to "exchange hard-to-find articles and circulate articles written by members", to hold "informal reunions at toxicology meetings", to "prepare lists of interests and competence of members", and to "organize biennial meetings". Many responders also provided input on possible names for the new association. Michael wrote "There were convincing arguments from our American friends not to use NIG. Somebody suggested NSG (Neurotoxicology Study Group), somebody else ING (International Neurotoxicology Group). I myself would prefer INA (International Neurotoxicology Association), because it sounds like a girl's name". So, now you know! A second questionnaire was attached to the letter which had one question on the "definite name of our club": NSG, ING, and INA were the three choices. You know which one won (INA received 25 votes, NSG 5 and ING 2), and so INA was born.



Fig. 1. Pictures from the 1984 NATO-ASI in Belgirate. (A) A group of participants during a boat ride on Lake Maggiore; I recognize (L-R): Pep Tusell, Aurelia Tubaro, Cristina Sunol, Patrizia Restani, Angelo Moretto (Photo by J. Llorens); (B) group photo with Kevin Crofton in front (G. Moser); (C) David Peele at the Belgirate rail station (K. Crofton, W. Boyes).

Duesseldorf for a workshop on behavioral toxicology methods, giving an opportunity to do some editorial work on the book. The head of our institute supports this plan and has already reserved money for this event.

This letter goes to all participants of the Belgirate course because I hope that some of those still hesitating might make up their minds and join in.

If you have not yet done it, please fill in the 2nd page of the 1st questionnaire (personal data) and return it to me, not forgetting to mention your telephone and telex numbers.

I wish you a merry Christmas and a happy New Year!

Best regards



This is a provisory list of club members, by alphabetical order:

Aas, Pal	Meier, Claus
Altenkirch, Holger	Naalsund, Liv Unni
Barret, Luc	Paciorek, Judy
Bogo, Victor	Peele, David
Bondy, Stephen	Restani, Patrizia
Cavanagh, J.B.	Rose, Geoffrey
Costa, Lucio	Rothenberg, Steve
Crofton, Kevin	Schaeppi, Ulrich
Csicsaky, Michael	Schoenhuber, Rudolf
Del Vecchio, Franziska	Shaw, Ian
Flaminio, Liliana	Simonsen, Leif
Flucke, Winfried	Souyri, Francoise
Hoogendijk, Elisabeth	Spencer, Peter
Koyuncuoglu, Hikmet	Stoltenburg-Didinger, Gisela
Krinke, Georg	Sunol, Cristina
Ladefoged, Ole	Tusell, Josep
Lefauconnier, Jean-Marie	Valenzuela-Garach, Aurora
Lotti, Marcello	van den Bercken, Joep

Fig. 2. The third page of Michael Csicsaky's December 14, 1984 letter sent to all participants of the September 1984 NATO-ASI in Belgirate. The 36 names listed at the end of the letter represent the Founding Members of INA (L.G. Costa).

3. INA: the early years up to the first meeting

Michael Csicsaky was not only the force behind the birth of INA but also the glue that kept us together in those early months and years. In a letter dated March 15, 1985, which Michael indicated as the third newsletter, Michael discussed the problems he was encountering in putting together easily accessible databases of member interests. Amusingly, one of the problems he mentions is that he noted a lack of details in the answers to his questionnaires, which made it difficult to categorize research interests. For example, he wrote "with regard to the field of work, one should not write neurotoxicology, which is self-evident", but should provide more specifics (!). In this 3rd newsletter he also wrote that he had a conversation with Dutch toxicologists Otto Wolthuis and Jacob Hooisma, who "wanted to know about the people and the aims of INA". "As this is a question of common interest to all new members, I hastily designed a welcome letter" which summarized these concepts. This letter developed by Michael was intended to be sent to all people who may be interested in joining INA. The letter said: "INA was founded in 1984 as a club of scientists working in the field of neurotoxicology and behavioral toxicology,

but colleagues from related faculties like neurology and neuro-biochemistry are also welcome. While some of the members are renowned personalities from universities, research laboratories, and from industry, many other members belong to the rising generation hoping to find stimulating advice and help within our association. So far members have agreed to the following aims: establishment of a data base containing information about fields of special interest, current and planned projects, calls for collaboration, and offers for traineeship and professional advice; edition of an international directory of institutions relevant to neurotoxicologists; mutual information about congress participation".

The question by Hooisma was motivated by the fact that he had founded a Dutch neurotoxicology club in parallel to INA, consisting of about 25 people having meetings three or four times a year. In the newsletter, Michael titled this news as "Dutch invasion: is it coming?", and suggested that we join forces with our Dutch colleagues. Jacob was also thinking to start a European Neurotoxicology journal, while Michael preferred a "transatlantic journal" focusing on neurobehavioral toxicology. In his usual modesty Michael wrote "As nobody knows me outside of my family, I am definitely not the right person to start a journal. ...Anybody going

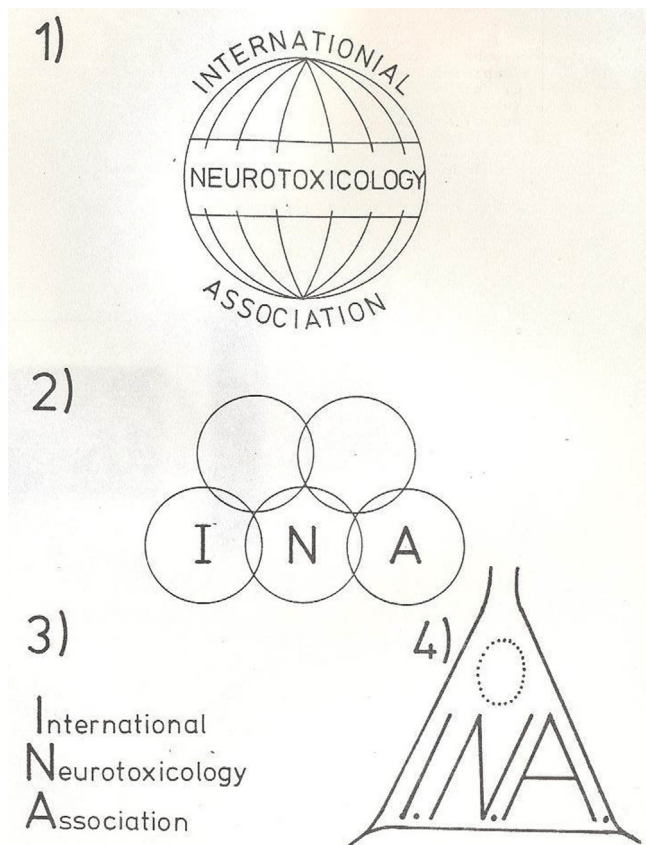


Fig. 3. The proposed logos for INA (1985). Logo No. 1 received the most votes from INA members and became INA's logo (L.G. Costa).

for that?" I guess nobody followed up on this, as we already had two excellent journals in neurotoxicology (though both Americans), *Neurotoxicology* (edited by Joan Cranmer) and *Neurobehavioral Toxicology and Teratology* (edited by Zoltan Annau, later *Neurotoxicology and Teratology*). The 3rd Newsletter also informed us that the numbers of INA members had grown to 51, and suggested that it was time to put together a leaflet on INA, to be distributed at toxicology meetings, and to come up with a logo for the association.

The INA logo was decided by a vote from the membership who had to choose among four proposals (Fig. 3). The "mother earth" logo (No. 1), designed by Frank Elstermeier, a colleague of Michael at Düsseldorf, received the most votes, and became INA's logo. This is still INA's logo, though each individual INA meeting has and can develop its own site-specific logos (see for example the logos of INA-1 and of INA-5 in Fig. 4 and Fig. 8, respectively). Some other initiatives were not as successful. For example, Michael had suggested that we start what he defined as "a funny magazine in neurotoxicology, modeled after a Dutch journal called TCDD" which Michael had seen in the laboratory of Dr. Wolthius. A few months later Michael wrote "What happened to the funny INA bathtub magazine? Frankly, I did not have the time to prepare the pilot edition., but you were lazy as well. Your response to this project was virtually zero". Thus, both ideas on launching a serious journal or a funny magazine in neurotoxicology went nowhere. In 1985, however, INA members helped organizing an international meeting in Duesseldorf (Federal Republic of Germany, as it was known then) on "Neurobehavioral Methods in Chemical Safety Assessment", which represents the first INA-sponsored event.

Toward the summer of 1985, talks between Michael and Jacob led to the idea of organizing a neurotoxicology meeting, initially planned for 1986, then rescheduled for spring 1987 due to

difficulties in finding an appropriate housing facility. The meeting would be organized by Jacob and his colleagues in the Netherlands, "in a remote place with little distraction, thereby allowing for extensive discussions and intensifications of personal contacts", as Michael wrote. INA was given the task to form a Scientific Committee for the meeting. Based on input from members and on discussions among Michael, Jacob and other Dutch colleagues, the concept emerged on the structure of the INA meeting, which has been followed, with small modifications, ever since: Sunday night, arrival of participants; Monday and Tuesday, scientific sessions; Wednesday, social event; Thursday and Friday, scientific sessions. Furthermore, the size of the meeting would be restricted to some 100–200 persons and, again, "we will all stick together in a lost place".

4. The first INA meeting: Lunteren, 1987

A 7th INA newsletter (December 1986), always written and distributed by Michael Csiczaky, started with an apology: "I neglected my duty of keeping you current". Michael had changed jobs, and was now extremely busy working on a toxicological assessment group for the city of Hamburg. Nevertheless, he informed us that plans for the 1st INA meeting, to be held in Lunteren, Netherlands, in May 1987 were well underway. As indicated earlier, the Scientific Committee was composed of seventeen INA members, while the local organizing committee consisted of several scientists from TNO, including Jacob Hooisma, Beverly Kulig, Hans Muijser, Liesbeth Hoogendijk, and others. The meeting was finally held in Lunteren, in a remote location in the middle of a forest, from May 10 to 16, 1987. All participants arrived on Sunday evening, and the meeting was opened on Monday morning by a welcome address by Michael Csiczaky. Each of the four "working days" consisted of two sessions on a specific theme, which were followed by some time to see and discuss related posters. The themes were "Intra- and inter-cellular mechanisms of neurotoxicity (Lotti, Bondy, Jones and Costa, Chairs), "Integrative mechanisms and neurotoxicity" (Walsh, Cavanagh, Otto, Winneke), "Functional change as an index of neurotoxicity" (Bogo, Kulig, Bondy, Winneke), and "Interpretative issues in neurotoxicology: extrapolation from experimental studies" (Schaeppi, Spencer). Speakers and participants, for a total of 135 people, ate all meals together at the restaurant of the Conference center (De Blije Werelt). The meeting was truly international, as participants came from the Netherlands, Germany, Spain, Italy, Austria, France, Sweden, Finland, Denmark, Norway, United Kingdom, Ireland, Switzerland, Hungary, Czechoslovakia, Israel, United States, Canada, India, Japan, Malaysia, Singapore, and Australia. Several of these people later served as INA officers and/or organized INA meetings in the following years and decades. On Tuesday and Thursday evening there were also extra symposia, one on "Cytoskeletal protein involvement in neurotoxicity" (Abou-Donia), and the other on "MPTP neurotoxicity" (Singer). It rained a lot during the meeting, but this did not hamper enthusiasm, and actually increased participation, as it discouraged most people from wandering in the woods. Among the participants, twelve were apparently able to play a musical instrument, and it was suggested that an INA orchestra be established. I only recall Martin Philbert playing the piano (Fig. 4), and I do not think the idea went any further, though the topic came up again in later years. Wednesday was devoted to the social program, an excursion to the tulip fields, a visit to the city of Haarlem and Utrecht, and a dinner at an Indonesian restaurant where a "Rijsttafel" (a multi-dish banquet) was served (Fig. 4).

It had been decided since the beginning that the proceedings of the INA meetings would be published. For the Lunteren meeting, participants who wanted their paper to be published in the



Fig. 4. Pictures from INA-1 in Lunteren (1987). (A) Martin Philbert plays the piano, while David Ray and Francisco (Paco) Artigas watch and listen (J. Llorens). (B) Group photo at dinner. I recognize (L-R) Eugenio Vilanova, Carol Sanfeliu, Joep van den Bercken, Lucio G. Costa, Ingeborg Ivens, Angelo Moretto, Carme Sola, Cristina Sunol, Francesco Violante, Francisco Artigas (L.G. Costa); (C) logo of INA-1; (D) Jacob Hooisma and Antonio Mutti (H. Muijser); (E) Jacob Hooisma and Ulrich Schaeppi (H. Muijser); (F) John Cavanagh (M. Csiczaky); (G) group photo at lunch (L-R): H. Muijser, Deborah Rice, Steve Gilbert, David Otto (M. Csiczaky); (H) Bellina Veronesi, Marge Oortgesen, H. Muijser (M. Csiczaky); (I) Hooisma, L. Hoogendijk, H. Muijser (M. Csiczaky).

Proceedings had to turn in a manuscript at the meeting. This was a “must” for invited speakers, as Jacob was very strict (no paper, no reimbursement!). Following the meeting, a group of organizers (Jacob, Beverly Kulig, Huw Jones, David Otto and Lucio G. Costa) spent a few days in Delft reviewing manuscripts. This was a sort of pre-peer review, after which Dr. Netter (editor of *Toxicology*) took over the refereeing process. Those papers finally accepted were published in the journal *Toxicology* (49, 1–201, 1988), with a preface by Jacob Hooisma. John Cavanagh also wrote a report on the Lunteren meeting (Cavanagh, 1987) which summarized the presentations and the topics of discussion, and concluded stating that “The meeting was instructive as well as enjoyable, being both small and informal, and there was a general feeling that further meetings should be held, perhaps on alternate years, with a similar format”.

In various discussions in Lunteren (as you have figured out, while you are in the middle of the forest, with pouring rain, there is plenty of free time) it was decided that INA would not become part of a larger society, and would be registered as an independent organization within a few years. Jacob Hooisma was indicated as

the INA’s Secretary of the Scientific Committee, and Michal Csiczaky as responsible for the newsletter and for the INA database. It was also decided that INA would solicit donations, and that an initial fee (30 Deutsche marks, or about US \$15 at that time) should be charged to new members as a one-time only contribution.

5. The road to Sitges, site of the second INA meeting

The discussion in Lunteren was not on “whether” to have a second INA meeting, but rather on “where” to have it. There were two solid offers and one tentative offer (at least this is how I interpret Michael’s mention of “two and a half offers”) for organizing INA-2. INA members voted for Barcelona, Spain, as the location for the next meeting to be held in 1989, and indicated that the overall format of the meeting should be kept the same. As the two top officers of INA, Jacob and Michael decided to form a standing Scientific Committee which was charged of organizing the program of INA-2, working closely with the local organizing committee. The chosen members represented different regions of

the world and different disciplines, and were Iregren (Sweden), Jones (UK), Bondy and Costa (USA), Lotti (Italy) Kulig (Netherlands), and Mergler (Canada), in addition to the Chair of the local organizing committee, Eduardo Rodriguez-Farrè (Spain). All committees went quickly to work, and by spring 1988 the exact location of the meeting was decided (a hotel in the town of Sitges, on the coast some 20 km outside Barcelona), and a preliminary program had been outlined.

The INA newsletters kept coming out at reasonable intervals, about two-three times/year, always because of Michael's efforts and dedication. They contained announcements of major events (e.g. an interesting meeting, a major publication etc.), as well as the names of new members or new addresses of old ones. An important topic in the 11th Newsletter (August 1998) was related to establishing INA as an official Society. This was felt important to assure its continuity, to limit financial risks of meeting organizers, and to provide the formal rights to accept tax-deductible donations. Jacob, Michael and Hans Muijser (who was in charge of an INA account in the Netherlands and was thus the *de facto* INA Treasurer) took on the task of starting developing the articles of the association, which by the end of 1988 had grown to 180 members.

The INA-2 meeting took place in Sitges from May 22 to 26, 1989. On the days preceding the meeting, I was in the region of Liguria, Italy, for a friend's wedding, and waited there for my colleague Walter Balduini from the University of Urbino to pick me up with his old AlfaSud, and we then drove all the way to Barcelona and Sitges on Sunday May 21, with a nice lunch stop in Cannes. The format of the meeting was very similar to that of Lunteren. Two main differences from Lunteren were that we were not in a forest but close to the beach, and that it did not rain, but we had sunny weather throughout the meeting. Despite these two temptations, very few participants sneaked out to bash in the sun, and the meeting enjoyed full participation and plenty of discussions. Topics of the symposia were "Neurological diseases and neurotoxicity" (Bondy and Lotti, Chairs), "Methods and issues in evaluating solvent neurotoxicity" (Kulig and Rodriguez Farrè). "Sensory systems as targets for neurotoxic agents" (Costa and Jones), and "Monitoring effects of neurotoxic agents on exposed workers" (Iregren and Mergler). In addition to afternoon poster sessions, the meeting also presented two lectures on "Excitatory and neurotoxic amino acids in the CNS" (Fonnum), and on "Neurotoxic substances also posing a cancer risk: a warning" (Csiczaky), as well as five simultaneous workshops on various neurotoxicological topics. On Wednesday May 24, after the social day spent visiting Barcelona, some of us went to the soccer stadium (Camp Nou) to watch the final game of the Champions League, A.C. Milan vs. Steaua Bucharest, thanks to Marcello Lotti who provided us with excellent complimentary tickets. A.C. Milan ended up winning (4–0), for the joy of thousands of the team's fans who "occupied" the Ramblas until the early morning hours. After the meeting, Walter and I also enjoyed a couple of additional days in Barcelona, guests of Montse Vendrell, who with all other local hosts did a great job in organizing the meeting. Fig. 5 shows a number of pictures from the INA-2 meeting.

The managing editor of Toxicology informed INA that it would not be possible to publish the proceeding of INA-2 in the same journal. Fortunately, Zoltan Annau, Editor of *Neurotoxicology and Teratology*, offered the opportunity to publish in his journal. Publishing in a peer-reviewed journal was an initial choice of the INA scientific committee and has been always preferred over publishing a book of proceedings, for which offers were received as well. Proceeding of INA-2 were published in 1990 in a special issue of *Neurotoxicology and Teratology* [12 (6), 637–681, November/December 1990], edited by E. Rodriguez-Farrè.

The first drafts of the INA statutes started to circulate in 1988 and a version was discussed at the INA business meeting in Sitges.

Toward the goal of officially registering INA as a scientific association, it was decided that INA members should elect an Executive Committee by postal ballot, and the process for this election was started. At the meeting, Hans Muijser also provided the Treasurer report. Of relevance was that some money left over by the Lunteren meeting served as seed money for INA-2, and Rodriguez-Farrè indicated that some money left over from this second meeting could be used as seed money for INA-3. This process has been proven useful and successful ever since.

6. A change in the guard towards INA-3 in Salsomaggiore

Shortly after INA-2, Michael Csiczaky changed jobs once again, and moved to Hannover to work at the German Ministry of Health and Social Welfare. He had already developed a draft of the INA statutes, loosely based on the European Neuroscience Association, which underwent several revisions. While every new version showed improvements, some changes also made the statutes less clear, as lamented by Jacob in the 13th INA newsletter. At that time, the idea was to register INA either in Switzerland or in the U.K. Indeed, David Ray started to look into the possibility of registering INA as a charity in the U.K. The statutes called for three bodies of government in INA: an Executive Committee, a Scientific Committee, and a Local Organizing Committee. Elections were called to vote for members of the Executive Committee, and it was indicated that at least half of the members of the existing Scientific Committee needed to be replaced. Newsletter No. 13 was also the last written by Michael Csiczaky. Because of his increasing workload, he felt that he could not devote sufficient time to INA matters, and thus decided to pass the torch to Liesbeth Hoogendijk at TNO.

The 14th INA newsletter (December 1989) opened with a commentary by Hooisma, Muijser and Hoogendijk with the nostalgic title "Goodbye Michael", in which Csiczaky was thanked for all the work he had done for INA, wishing him the best in his new job. The new INA Scientific Committee was also announced; only two members remained (Iregren and Jones), while the others were substituted by Sandra Allen, Gordon Pryor, Gerhard Winneke, Herbert Lowndes, Luigi Manzo and Thomas Walsh. Jacob remained as the secretary of the committee. The newsletter also contained the ballot for the election of the Executive Committee, to be casted by February 15, 1990. Seventeen candidates were on the ballot, and all provided a brief description of themselves as well as their view on INA as a Society. Participation in the vote was impressive (~90% of the almost 200 members returned their ballot) and the following INA members were elected to the Executive Committee: Bondy, Cavanagh, Costa, Lotti, Muijser, Ray.

Meanwhile, preparation for INA-3 was underway. Both Italy and Hungary had presented bids for organizing the meeting, and Italy received the green light (Hungary would later organize INA-6). The meeting was held on July 1–5, in Salsomaggiore Terme, a spa resort not far from the city of Parma, famous for its prosciutto and Parmigiano Reggiano cheese, and now site of the European Food Safety Agency (EFSA). The sites of the meeting were the Gran Hotel Porro and Valentini, located in a beautiful park in the center of town. As in previous meetings, the Scientific Program was excellent, and every aspect of the meeting was flawless thanks to the work and the organizational skills of Antonio Mutti and Innocente Franchini (Fig. 6). One hundred and forty participants from seventeen countries convened in Salsomaggiore, and over 100 posters were presented. The meeting was opened by a keynote lecture on "Amphibian skin and neurotransmitters/neuromodulators in the mammalian nervous system" by Prof. Vittorio Erspamer, "father emeritus" of neuropeptides (Fig. 6). The symposia covered the following topics: "Screening for neurotoxicity in humans", "Developmental neurotoxicity", "Neurotoxicity



Fig. 5. Pictures from INA-2 in Sitges (1989). (A) Jacob Hooisma and Cristina Sunol, with Emili Martinez in the back (J. Llorens); (B) Paco Artigas with INA's own wine (J. Llorens); (C) Steven Bondy and Jacob Hooisma (J. Llorens); (D) Jordi Llorens and Carme Sola (J. Llorens); (E) Eduardo Rodriguez-Farrè with the meeting banner (J. Llorens); (F) Josep Maria (Pep) Tusell and Montserrat (Montse) Vendrell (J. Llorens); (G) Michael Csiczaky's surrounded by the ladies of the Local Organizing Committee (L-R: Carme Sola, Luisa Camon, Montse Vendrell, Cristina Sunol, Carol Sanfeliu, Nuria de Vera, Anna Pomes). Note the several empty wine bottles (J. Llorens, M. Csiczaky); (H) Eduardo Rodriguez-Farrè and Coral Sanfeliu (J. Llorens); (I) Walter Balduini and Pep Tusell (W. Balduini); (J) Luigi Manzo and Lucio G. Costa (W. Balduini).



Fig. 6. Pictures from INA-3 in Salsomaggiore (1991). (A) L-R: Antonio Mutti, Innocente Franchini, Joan Cranmer and Lucio G. Costa (L.G. Costa); (B) Innocente Franchini, Lucio G. Costa and Angelo Moretto with the meeting banner (I. Franchini); (C) Prof. Paolo Preziosi (then President of IUTOX) addresses the meeting. Seated are Innocente Franchini and Prof. Vittorio Erspamer, who gave the keynote lecture (I. Franchini); (D) lunch during the Wednesday excursion (L.G. Costa); (E) at dinner (L-R): Jordi Llorens, Kevin Crofton, Mary Gilbert, Pep Tusell, Carme Sola, Anna Pomes (J. Llorens); (F) on the stairs of the Hotel Valentini. Antonio Mutti, Innocente Franchini with Joan Cranmer and members of the local organizing committee (I. Franchini); (G) Innocente Franchini, Angelo Moretto, Lucio G. Costa and Don Fox (L.G. Costa).

and aging”, and “Mechanisms of neurotoxicity”, in addition to a workshop on “In vitro neurotoxicology”. The usual midweek break was devoted to a guided visit of Parma and to the medieval village of Castel Arquato, with an excellent lunch on a veranda (Fig. 6).

During the meeting, the first officers of INA were nominated among the elected members of the Executive Committee. They were Lucio G. Costa (USA), President; Marcello Lotti (Italy) Vice-President; Steven C. Bondy (USA), Executive Secretary; David E. Ray (UK), Secretary General and Newsletter Editor; and Hans Muijser (Netherlands), Treasurer. At the Business meeting, the Executive Committee proposed starting an annual membership fee to sustain INA’s activities. The proposal for a yearly fee of US \$15 (with free membership for students), was almost unanimously accepted. Proposals for the locations of the following (1993) meeting (U.S.A., U.K., Denmark, Hungary) were also discussed, and after a vote, Denmark was chosen as the site for INA-4. However, members agreed on the fact that it would be important to have future meetings in the U.S.A., where many INA members were from, and Eastern Europe, which had severe pollution problem. Needless to say, the subsequent two meetings were in Washington State (USA) and in Hungary.

The possibility of becoming affiliated to IUTOX with the possibility of being represented on the IUTOX board by two counselors, thus having a say in its activities, was discussed. A few years earlier, in the summer of 1987, I had written a letter to Jacob and Michael, asking whether INA would consider being affiliated with IUTOX, as a sort of Specialty Section in Neurotoxicology. In his reply, Jacob indicated that the question should be discussed by the members and suggested to put this topic on the agenda of the INA business meeting in 1989. However, nothing on this topic happened since that 1987 correspondence. In Salsomaggiore, it was argued that an affiliation with IUTOX would increase

INA’s visibility and would promote neurotoxicology within the toxicology community at large, with a minimal monetary cost, and with no loss of INA’s identity. Opposition to such proposal was raised on the basis that the original intent of INA was to be an “informal club”, not an “official society”. Further, “the respectability of INA was seen as being based on the quality of its science rather than in its recognition by IUTOX”. A non-binding straw vote was against the affiliation (by a margin of 2-1), and the issue was thus shelved again.

Further discussions dealt with the delicate relationship between the Scientific Committee, charged of putting together a Scientific Program for the meetings, and the Local Organizing Committee, which rightly lamented of acting merely as a “travel agency”. Huw Jones, newly elected Secretary/Chair of the Scientific Committee, assured that programs of future meetings would result from close liaison between both committees. As part of the planned committee turnover, Iregren, Pryor, Lowndes and Allen were replaced on the Scientific Committee by Hugh Tilson, Ole Ladefoged, Kai Savolainen, and Donna Mergler.

All abstracts from the INA-3 meeting were published in this journal [*Neurotoxicology* 12 (4), 785–826, 1991], while papers from all lectures and selected posters were published both in *Neurotoxicology* [13 (1), 1–314, 1992], and as a book (Mutti et al., 1992). As in the past, the initial peer review process was carried out “on site” by Chairs of the various sessions with help from other INA members, so that you could find people at work reviewing manuscripts in the park, and in the halls of the Salsomaggiore hotels.

7. INA’s statutes and INA-4 in Helsingor

In the January 1992 newsletter edited by David Ray, in my message as INA’s first President, I noted that INA had grown to 225



Fig. 7. Pictures from INA-4 in Helsingor (Elsinore) (1993). (A and B) The Lo-Skolen Center in Helsingor; (C) Lucio G. Costa and an unknown member of the Danish Unions which were having a retreat at the same time as INA (L.G. Costa); (D) same as C, with future INA President Don Fox showing his disappointment for the quality of the singers (L.G. Costa); (E) Joan Cranmer and Hugh Tilson on the ferry between Denmark and Sweden (W. Boyes).

members from 25 countries. I also pointed out that while INA needed to maintain its spirit of informal collegiality (“sharing good science in a friendly atmosphere”), it could not escape the fact that neurotoxicology was increasing in the limelight of regulators, environmentalists and the general public. Thus INA, with its international and multidisciplinary membership, could play a role as a visible reference entity for neurotoxicological issues. In this optic, I also “dared” re-proposing the issue of affiliation to IUTOX, despite the earlier, non-binding negative vote, suggesting that the Executive Committee may ask the membership to officially vote on a possible affiliation of INA with IUTOX, and with IBRO (International Brain Research Organization) as well.

Meanwhile, David Ray continued working on the statutes, with the hope of registering INA as a charity in the U.K. David reasoned that the U.K. had relatively simple laws and he was confident that he would be successful in registering INA with the UK Charities Commission, a venerable organization founded in 1601. Advantages of such registration were the formalization of INA, and some fiscal benefits, such as tax exemption. The statutes were revised again several times to comply with the U.K. Charities Commission guidelines. For example, at least 50% of INA funds had to be in a U.K. bank, and provisions for regular meetings of the Executive Committee were added. Things got very confusing for a while,

as the statutes kept being revised. On February 20, 1992, I received a fax from David Ray with a final copy of the INA statutes which he said had been approved by the Charities Commission. The only remaining task for being registered was to open an U.K. bank account, transfer half of the INA money, and formally approve the final statutes. Apparently, however, David had been too optimistic, as in the end, because of continuous technical difficulties, the incorporation of INA in the United Kingdom as a non-profit organization was discontinued. I do not recall the details of these events, nor do other “old-timers” whom I contacted. Nevertheless, procedures were initiated for incorporation of INA in the Netherlands.

The fourth meeting of INA was held on June 6–11, 1993, in Helsingor (Elsinore for Shakespeare), Denmark, an old seaside town not too far (50 km north) from Copenhagen, home of the Kronborg Castle of Hamlet fame. One hundred and eighty participants from 26 countries attended the meeting, perfectly organized by Ole Ladefoged and his colleagues at the Lo-Skolen center (Fig. 7). The meeting started with an opening lecture of Paul Krogsgaard-Larsen on “Structure-activity relationship of excitotoxic chemicals”, followed by morning symposia on “Hippocampal neurotoxicity” (chaired by Winneke and Walsh), “Second messenger systems” (Tilson and Savolainen), “Nutrition and neurotoxicity” (Manzo and

Costa), and “Clinical assessment of neurotoxicity” (Wennberg and Iregren). A new aspect of the meeting was the large number of evening workshops which covered topics ranging from “Organophosphate-induced delayed neuropathy” (Lotti), “Neurotoxicity of solvents” (Arlie-Søborg), “Molecular biology and neurotoxicology” (Bondy), “Manganese neurotoxicity” (Mergler), and “Cytoskeleton in neurodegenerative disorders” (Abou-Donia). The afternoon sessions were devoted to poster presentations and discussions. Despite this intense schedule, all participants had the time and the opportunity to enjoy themselves (Fig. 7). To this end it should be noted that it was almost never dark during that week, perhaps only two hours between 2 and 4 am. On Wednesday, two buses left for the traditional midweek excursion, this time to the Louisiana Museum of modern art.

During the meeting it was announced that Executive Committee members John Cavanagh and Hans Muijser (Treasurer) had resigned from their positions. Hans left the INA finances in great shape, and was replaced as Treasurer by Beverly Kulig, who was co-opted to the position. Though the meeting saw a large participation, David Ray informed the participants that were not enough full (i.e. paid-up) members of INA present to hold a formal meeting with elections. Hence, it was decided that nomination for members of the Executive Committee should be solicited after the meeting, in the fall of 1993, and that the election would be held by newsletter ballot in the spring of 1994. The new Executive Committee would then take office at the 1995 INA meeting. This is the reason (which I had forgotten and have “reconstructed” from various documents) as why I served four years as INA President, instead of the usual two years. To resolve the long-lasting disputes between the Scientific and the Local organizing Committees (though interactions were quite smooth in case of INA-4), it was decided to merge both committees in a newly formed Program Committee, which would have half of its members from the local hosts and half from the INA membership. Finally, at the Elsinore meeting, Marcello Lotti proposed to have a student symposium at the next meeting, with participants fully supported by INA. The proposal, which grew out of one of the original INA mission to act as a forum for attracting young members to neurotoxicology and promote its development, was enthusiastically approved.

Michael Csiczaky attended the meeting, and it was a pleasure to honor him with a framed certificate of appreciation, which took him completely by surprise. INA would not exist if it were not for his vision and determination, so this recognition was more than deserved for Michael.

The proceedings of INA-4 were again published in *Neurotoxicology*, in a Special Issue edited by Ole Ladefoged, Grete Østergaard, Lucio G. Costa, and Joan M. Cranmer [*Neurotoxicology* 15 (3), 439–777, 1994].

8. The loss of Jacob in the wake of INA-5

One of the items of discussion at the 1993 meeting was the location of INA-5. As indicated earlier, it was felt that it was time to hold the meeting in the U.S.A., and the choice was the proposed site of Port Ludlow, near Seattle, WA. The meeting was scheduled for June 25–30, 1995, and would be a satellite meeting of ICT VII, the meeting of IUTOX which was going to be held at the Seattle Convention Center on July 1–5 of that year. The INA-5 Program Committee was chaired by Steven Gilbert from the University of Washington, and included Diana Echeverria and Lucio G. Costa as local organizers, as well as Hugh Tilson, Illes Desi, Gisela Stoltenburg-Didinger, and Deborah Rice as INA members. As planned, procedures started for the election of the new Executive Committee, and INA members in full standing could choose among 18 candidates.

The end of 1994 was saddened by the death of Jacob Hooisma, a founder of INA, the organizer of the first INA meeting, a scientist

and a friend. Jacob passed away on November 27, 1994, at the young age of 49 after falling ill with an untreatable form of cancer. Beverly Kulig and his co-workers wrote about him in the January 1995 INA Newsletter and in *Neurotoxicology* (Kulig, 1996). I encourage all, particularly the younger colleagues, to read those articles and learn about Jacob. To honor his memory, the Executive Committee proposed to establish the “Jacob Hooisma Memorial Lecture”, to be held by a distinguished neurotoxicologist at INA meetings. The first lecture (titled “Inorganic lead as a developmental neurotoxicant”), was given at INA-5 by Gerhard Winneke, and the lecture has been integral part of the program of INA meetings ever since.

The Fifth INA meeting, and the first to be held in North America, took place as planned in Port Ludlow, a beautiful coastal resort on the Olympic Peninsula, in the State of Washington. More than one hundred people attended the meeting, ~50 of whom were full INA members. The meeting opened with a keynote lecture by Debbie Nickerson from the Department of Molecular Biotechnology (now Genome Sciences) at the University of Washington, on the potential interactions between the genome project and of biotechnology in general with neurotoxicology. There were five symposia on “Environmental chemicals and neurodegenerative disorders” (Rice and Weiss, Chairs), “Neurotoxicity of PCBs” (Goldey), “Glial cells and mechanisms of neurotoxicity” (Aschner and Costa), “Regulating neurotoxicity: from the laboratory to risk assessment” (Ivens and Kulig), and “New developments in the use of neurotrophic factors in the treatment of neurodegenerative diseases” (Rogers and LeBel). In addition, over 60 posters were displayed and presented, and workshops were organized by Kent Anger, Abbi Li, and Stan Barone. The logo of the meeting was designed with a Pacific Northwest Native American theme, based on an idea by Steve Gilbert (Fig. 8).

The high scientific standard of the meeting was matched by the splendid location and the beautiful weather (quite unusual for the area!). On Wednesday, participants went for an excursion in the Olympic Peninsula, which included a boat ride and a walk in the rain forest. The food was characterized by the abundance of salmon, and David Ray reported of an INA member who “suffered severe salmon withdrawal signs” after the meeting (INA Newsletter No. 16-2). The weather and the superb outdoor opportunities allowed for participants to indulge in jogging, volleyball or soccer. With regard to the latter, INA-5 saw the birth of another INA tradition: the soccer match. At INA-5 the match was Italy (shirts) vs. Rest of the World (skins). Gerhard Winneke wrote in the August 1995 INA Newsletter (No. 16-2): “The final score, 5-3 for the Squadra Azzurra, does in no way describe the dramatic ups and downs of this event, which even featured a goal by our past president (Costa)”. In the following INA newsletter (No. 17-1) I offered further details on the game (see Fig. 8B): “Robert Rist (in the center of the picture between Lucio Costa and Marcello Lotti) was named Most Valuable Player, while honorable mentions were awarded to Yoram Finkelstein (with the ball) for his outstanding – and unexpected – performance as a goalkeeper, and to Antonio Mutti (on the right, seated) who scored two powerful goals despite his limited mobility. Also revealed was the secret to Italy’s success: a pre-game retreat with the British coach David Ray, in which each player was “forced” to drink at least two beers. Finally, Miki Aschner was hurt by a high ball that smashed his glasses, but has since recovered nicely”.

During the general INA business meeting, the results of the Executive Committee elections were announced. The following INA members were elected: Bondy, Costa, Kulig, Stoltenburg-Didinger, Winneke and Ray. The President post was taken by Gerhard Winneke, Vice President Gisela Stoltenburg, Executive Secretary Steven Bondy, Treasurer Beverly Kulig, and General Secretary and Newsletter editor, David Ray. In addition to the usual



Fig. 8. Pictures from INA-5 in Port Ludlow, WA (1995). (A) The logo of the meeting. Steve Gilbert developed the idea based on a Pacific Northwest Native American theme. The actual drawing was done by an artist at the University of Washington in Seattle (S. Gilbert); (B) Players of the first ever INA meeting soccer game; I recognize, L-R: Enrico Bergamaschi, Yoram Finkelstein, Piero Lotti (son of Marcello), Dino Di Monte, Miki Aschner, Lucio G. Costa, Robert Rist, Antonio Mutti, Marcello Lotti, Gerhard Winneke (L.G. Costa); (C) Stephanie Padilla, Lucio G. Costa and other participants (L.G. Costa); (D) (L-R) Laura McIntosh, Hanna Tähti and Ana Paula Dos Santos (T. Sobotka); (E) Huw Jones (T. Sobotka); (F) Gerhard Winneke during the boat trip (T. Sobotka); (G) Tom Sobotka (T. Sobotka); (H) enjoying the outdoors (Ole Ladefoged, Tom Sobotka et al.) (T. Sobotka).

treasurer report, there were intense discussions on the location of the following meeting. The decision that INA-6 would be held in Hungary had been basically made already in 1993, so the focus of the discussion was INA-7 in 1999. For this, the bid of David Ray for Leicester was accepted, and the membership also learned of two new bids for INA-8 in Portugal and Finland. Five students were given full support to attend the meeting, and Marcello Lotti organized a Student Symposium. However, he lamented that there was a poor response from student supervisors, and it was decided to increase the level of effort and to repeat the attempt at INA-6 and hopefully beyond.

A report on the INA-5 meeting and the abstracts can be found in *Neurotoxicology* [16 (3), 531–561, 1995], while the Proceedings were published in a special issue of *Neurotoxicology*, edited by Steven Gilbert, Lucio G. Costa and Joan Cranmer [*Neurotoxicology* 17 (3, 4), 503–921, 1996].

9. Back to Europe: the 1997 INA meeting in Hungary

Illes Desi and his colleagues organized INA-6 in Szeged, a medium-size University town about 180 km southeast of Budapest, on the Tisza River, not too far from Transylvania, playground

of Dracula and the vampires. In May 1996, INA's President Winneke visited Desi and his team to discuss preparation of the meeting, and also visited the proposed meeting facilities. The chosen conference venue was the spa hotel Forras, located about 10 min walking distance from downtown Szeged. Winneke's report back to the Executive Committee was enthusiastic, and he had no reservation in foreseeing a successful INA-6. In the June 1987 Newsletter (No. 18-1) Gerhard offered also some considerations on issues that were discussed earlier. For example, when helping Desi to collect external support for INA-6, it turned out that INA could have received support from larger international societies, had it been a member. IUTOX was a case in point: when given the opportunity to join (in Salsomaggiore) the majority decided against it in order to keep INA more like an informal group of friends. "We will have to think about it again", Gerhard concluded. Gerhard also called for revising the rules for selecting INA officers, and this led to the system that INA has today, in which members vote directly for a President-elect and for other officers.

As a satellite meeting to INA-6, a small meeting entitled "Neurotoxicity and Neurodegeneration: Biological Links" was organized on June 25–28 by Giacinto Bagetta, Dino Di Monte, Luigi Manzo, Joan Cranmer and Lucio G. Costa in Soverato, a lovely spot on the Ionian Coast in the Squillace Gulf in Calabria (Southern Italy). The INA-6 meeting would immediately follow, from June 30 to July 4. It just happened that I got married in Pavia on June 22, 1987. No way I could skip these two meetings for a traditional honeymoon, so I convinced my wife to try an "alternative" honeymoon which included a brief sojourn on the Mediterranean sea (the beautiful San Domenico hotel in Soverato, right on the beach), followed by an exotic trip to the Hungarian country-side. To "sweeten the pie" I also added a few extra days in Budapest, in a four star hotel in the high part, Buda. My wife graciously agreed to this unorthodox honeymoon, and we were off to Soverato. That meeting went very well, the science was good, location and food were excellent, and we all had a good time. Mari (my wife) went shopping with Annette Kirshner and her husband, or engaged in discussions with Don Fox after his early morning runs. After the meeting, we immediately transferred to Szeged, where we were fortunate to have one of the few air-conditioned room, given the heat and humidity of those days. I still do not know whether this was because I was a honeymooner, a past President of INA, or it was just plain luck!

The INA meeting opened with a lecture from local scientists (Vecsei, Dibo and Kiss "Neurotoxins and neurodegenerative disorders"), followed by the Jacob Hooisma Memorial lecture, which was given by Hugh Tilson, then at the USEPA, and had the title "The neurotoxicity of polychlorinated biphenyls". In the four days of the meeting there were a series of symposia and workshops on "Cadmium neurotoxicity" (Viaene, Chair), "Molecular and cellular mechanisms of insecticide action" (Narahashi), "Pesticide neurotoxicity: research from Eastern/Central Europe" (Desi), "Role of genetic polymorphisms in neurotoxicology" (Costa), "Methallothionein toxicity" (Aschner), and "Mechanisms of neuronal cell death" (Savolainen), in addition to a special evening discussion group on organophosphorus compounds (Krinke). The Proceedings of the meeting were published once again in *Neurotoxicology*, and the peer review process was facilitated by Aschner, Cory-Slechta, Costa, Desai, Narahashi, Tilson and Verity. The Special Issue of the *Journal* was edited by Illes Desi, Durisala Desai, Hugh Tilson and Joan M. Cranmer [*Neurotoxicology* 19 (4–5), 511–747, 1998].

The midweek social event for the almost 170 participants consisted in a bus trip in the Hungarian plain, the puszta, and included a ride in a horse-pulled wagon (with often recalcitrant horses), a horse show, and a typical Hungarian lunch completed by gipsy music. Fig. 9 shows some moments of the Wednesday trip and gives you an idea of the fun and the adventure of that day. Also

worth remembering is a bikini show that took place at the hotel on the last night of the meeting and that attracted a good number of (male) participants. There were no competing scientific sessions, obviously! There was also the by now traditional, soccer game, played in a regular soccer field, with a regular referee. Unfortunately, I do not recall, nor could find any information on the final score. Nevertheless, Fig. 9G proves that the game took indeed place.

The INA general meeting addressed a number of important issues. First, with regard to INA's statutes and incorporation, it was announced by Beverly Kulig that the by-laws had to be further modified for INA's incorporation in the Netherlands. Though a bit late, new elections were announced with a new format, which stands as of today. Membership was asked to vote for three elected posts, President, President-Elect, and Secretary. Each would serve in their position for two years after which time the President-Elect will serve for a further two years as President. The additional two positions of the Executive Committee (Treasurer and Newsletter Editor) were kept by appointment with indefinite tenure, as they were considered to be demanding task and would need continuity. There was a discussion of future INA meetings; INA-7 was already set in Leicester, organized by David Ray and by Sandra Allen, while the task of organizing INA-8 was given to Ana Paula Dos Santos, who had proposed a meeting in Sintra (later moved to Estoril) on the coast of Portugal for 2001. The issue of a possible affiliation with IUTOX was resurfaced by Kai Savolainen, who served as INA President and later as IUTOX President, who pointed out the benefits of such affiliation. Though the response was more positive than in the past, no further steps were yet taken in this regard.

10. Toward the end of the millennium: INA-7 in Leicester

Six hopeful candidates ran for election in 1998. The winners would serve until the July 1999 meeting in Leicester (thus for an abbreviated period due to the delay), with the exception of the President-Elect who will move on to become President of INA. All candidates presented their biography and their views on INA to the membership (INA Newsletter No. 19–2; September 1998), and Savolainen, Aschner, and Fechter were elected at the posts of President, President-Elect, and Secretary, respectively. Winneke continued to serve as Past President, Kulig was confirmed as Treasurer, and Kevin Crofton, a founding member of INA, offered to take over the role of Newsletter Editor, after having established INA's web page.

The seventh INA meeting was organized by David Ray in Leicester on July 4–9, 1999. My twin boys, Paolo and Francesco were born just a few days earlier on June 26, one month ahead of schedule, hence I had to cancel my participation in INA-7 at the last moment. I could not "pull it off" again, as I did in 1997! I am thus reporting what I heard and read about the meeting (INA Newsletter No. 20-2). There were 112 scientists in attendance from 20 countries. Pier Luigi Nicotera gave the Jacob Hooisma lecture, and he discussed "Factors controlling the balance between apoptotic and necrotic modes of neuronal death". The program consisted in several symposia on the neurotoxicity of organophosphates and of PCBs, sensory toxicology, clinical neurotoxicology, and susceptible sub-populations, for a total of 32 lectures. In addition, there were a debate on the usefulness of experimental animal research for human medicine (Lotti and Dayan), several various oral presentations, and 44 posters. Proceedings, with forewords by David Ray, were published in *Neurotoxicology* [21 (4), 569–640, 2000]. The social program was aided by the warm weather and consisted in a full day out at Warwick Castle. The traditional soccer game saw two teams, named A and B battling for victory: team B won 4 to 1. Other points of note were a vocal contribution by the City of Leicester Singers, who provided a pre-dinner entertainment of songs from



Fig. 9. Pictures from INA-6 in Szeged (1997). (A) Group photo at the horse show during the Wednesday trip (L.G. Costa); (B) touring the puszta on a horse carriage (L.G. Costa); (C) dangerous liasons!! (L.G. Costa); (D) Marcello Lotti and Lucio G. Costa enjoying the shade during a bus-stop due to a traffic jam (L.G. Costa); (E) Costa “forced-fed” excellent Tocai wine (L.G. Costa); and (F) dressed up to the part (L.G. Costa); (G) players and referees of the soccer game. Note Michael Csizsaky on the far left, next to Miki Aschner and Tomas Guilarte (L.G. Costa).

the different countries present at the meeting, and a highly vocal demonstration by anti-vivisection activists. Ironically, as said, the meeting included a debate on the use of animals in research, and several presentations on the use of *in vitro* alternatives.

Meetings of the Executive Committee and of INA membership discussed the usual issues: next meetings (beyond INA-8 in Portugal nothing was decided), Treasurer Report (INA finances were all-right), need to elect a President-Elect (since Aschner was moving on to become President), affiliation to IUTOX (it was decided to wait until after incorporation of INA).

Miki Aschner became the fourth President of INA in July of 1999, and the first newsletter under his presidency and the supervision

of new editor Crofton (No. 20-2; September 1999) was a whopping 16 pages! Of note is an amusing short article by David Ray who investigated the acronym INA, and discovered that there were various other INAs, which had “their own separate existence, blissfully unaware of ours. They are: International Neoplankton Association (they held INA-7 in Puerto Rico in 1999); International Nanny’s Association (almost certainly stricter than us); Illinois Nurseryman’s Association (probably prettier than us); Irish Northern Aid committee (possibly more dangerous than us); Institut National de l’Audiovisuel (far more film stars than us); Ina, King of Wessex (688–728), son of Ceadwall (deader than us, but still has his own web site)”.

11. Since 2000

And so the decade ended, and also the century and the millennium, and my personal account of the birth and of the early years of INA is also coming to an end. Since 2000, INA has continued to prosper. There have been regular meetings every other year. I attended some (INA-8 in Estoril, Portugal, in 2001, INA-9 in Dresden, Germany, in 2003, INA-11 in Asilomar, California, USA, in 2007), but could not make it to others (INA-10 in Tampere, Finland, in 2005, INA-12 Jerusalem, Israel, in 2009, INA-13 in Xian, China, in 2011). By talking with colleagues who attended these meetings, and by reading the meeting reports, I can assure that all were excellent in every aspect, and memorable. Fig. 10 shows some pictures of the INA meetings since 2000 (INA-8 to INA-13).

Several people have served as President of INA after Aschner, in order Larry Fechter, Carey Pope, David Ray, Will Boyes, Don Fox, Jordi Llorens, and Christoph van Thriel, who will take over in 2013 at INA-14 in the Netherlands. Yes, INA has come full circle, and the INA meeting is back in the Netherlands, where its first meeting took place back in 1987; this time in Egmond aan Zee. One of the

organizers of INA-14 is Remco Westerink, from the University of Utrecht. Remco attended his first INA meeting in 2001 (INA-8 in Portugal) when he was still in graduate school. He recently stated “As a young scientist, I was immediately charmed by the combination of the relaxed and informal atmosphere of this meeting with a broad range of excellent neurotoxic topics”. It is very rewarding for the “old-timers” to see that the torch has been passed on to a new generation of prominent neurotoxicologists who are contributing to keep moving INA forward. Indeed, we are already looking forward, as INA-15 is slated to take place in 2015 in Montreal, Canada.

As for the various issues that date back many years, I should say that incorporation of INA finally occurred. After the unsuccessful attempts to register INA with the U.K Charities Commission, on June 26, 2002 Beverly Kulig and Henk Vijverberg (INA Treasurer) signed the official legal statute of INA in the presence of a notary (Fig. 11), and from then INA is officially incorporated in the Netherlands. With regard to the affiliation to IUTOX, this also took place sometimes after 2001, most likely in 2004. INA is now listed among IUTOX affiliated Societies, with 266 members.



Fig. 10. Pictures from INA-8 to INA-13 (2001–2011). (A) Soccer players at INA-8 in Estoril, Portugal, (L-R): Y. Finkelstein, L.G. Costa, C. von Thriel, N. Zawia, T. Guilarte, M. Aschner, D. Di Monte, R. Lucchini, E. Kieswasser (W. Boyes, L.G. Costa); (B) Soccer players at INA-9 in Dresden, Germany; note Abby Li, only female player! (M. Aschner); (C) Toshio Narahashi and his wife at INA-10 in Tampere, Finland (D. Fox); (D) Markku Sainio and Don Fox at INA-10 (D. Fox); (E) some participants at INA-11 in Asilomar, CA, USA. (L-R): Rich Seegal, Remco Westerink, Kevin Crofton, Don Fox, Magda Sachana, Laura McIntosh (D. Fox); (F) Annette Kirshner, Larry Fechter, David Ray at INA-11 (G. Moser); (G) Some participants at INA-12 in Jerusalem, Israel (M. Aschner); (H) Carey Pope with wife and daughter at INA-12 (D. Fox); (I) a banquet at INA-13 in Xian, China, with some INA Presidents mastering the chopsticks (M. Aschner); (J) Jordi Llorens and Don Fox at INA-13.



Fig. 11. Formal incorporation of INA in the Netherlands. Beverly Kulig and Henk Vijverberg sign the statute of INA in the office of Mr. Nico Cussell, notary in Leiden. The original statute (in Dutch) was kept for a number of years by H. Vijverberg and was then handed to Jan Lammers, current INA treasurer. Henk and Beverly also made an English translation of the statute (not legally certified), which can be found in the 2004 INA Newsletter (23-1) on the INA web site (www.neurotoxicology.org) (H. Vijverberg).

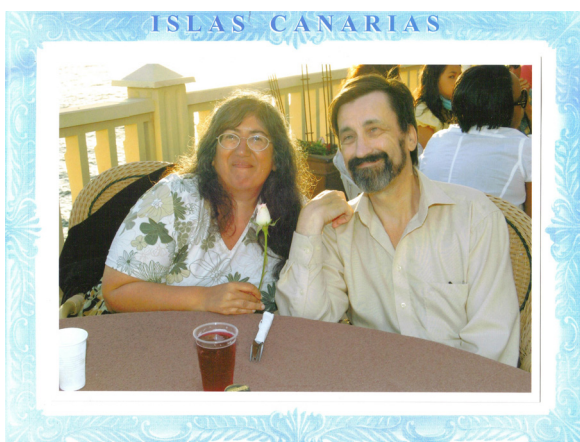


Fig. 12. David Ray and his wife, Rvd. Joanna Ray, vacationing in Tenerife just five months before his death in 2010 (J. Ray).

INA has always been a truly international organization, as indicated by its very diverse membership. Furthermore, INA meetings have been held in different countries, and only the U.S.A. and soon the Netherlands, had two. For the future, it would be nice to have meetings in other European countries where we know there are active neurotoxicologists, such as Sweden, Switzerland, or Russia, to cite only a few. It would also be interesting and important to further explore the possibility of having future meetings in Asia, in countries such as Japan, India, Singapore, as well as in South America (e.g. Brazil), where INA has never been, and why not, also in Australia.

The Hooisma lecture has been a great success. When it was established by INA's Executive Committee, shortly after his death, it was meant to honor the memory of Jacob, and his role and contributions to the birth and early development of INA. The original idea was that the Executive Committee would choose prominent neurotoxicologists, possibly with a history and ties with INA, who would be invited to deliver the Hooisma lecture at each INA meeting. Over the years the task has shifted to the Program committee, but the initial intent has been kept for the most part. I am thus particularly pleased to see that the Hooisma lecturer for INA-14 will be Peter Spencer, a distinguished

neurotoxicologist who was a speaker at the 1984 Belgirate meeting, and has contributed to several INA meetings since its inception, in addition of having served as a co-editor of the "Bible of Neurotoxicology" (Spencer et al., 2000).

In 2010, INA was saddened by the loss of David Ray, formerly at the Medical Research Council (UK), then at the University of Nottingham (Fig. 12). As you may know and have read in this article, David greatly contributed to INA, as one of its first members, editor of the newsletter, President, organizer of INA-7, and tireless promoter of INA's incorporation as a scientific society. I am pleased to learn that to honor his memory, starting with INA-14, the current Executive Committee has decided to establish a David Ray Student Travel Award. The winner will be selected among presenters at the Student Symposium (the old Lotti idea) who already receive partial INA support to attend the meeting.

Conflicts of interest

None.

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