

Dedication

It will be obvious that this book is dedicated to Doug Lappi, but now that the project is ready to go to press, I wanted to add a few personal words of appreciation.

When Doug returned from Italy to The Salk Institute in 1988, I was working as Administrative Assistant to Dr. Roger Guillemin. Doug, Darlene and I quickly became friends and shared many personal and work adventures over the years. Our greatest adventure was starting our own company, Advanced Jargeting Systems, in 1994. This took a huge leap of faith from Doug to move forward with the idea. I will be forever grateful for the opportunity and the crazy journey this small company has been on over the past 23 years.

The idea for the company was not such a leap for me. I had been working with Doug and observing his scientific interactions and discoveries for 6 years at that point and I knew that he had the genius, knowledge, connections, and charisma to turn his saporin technology into scientific tools that would make a difference to researchers and advance important scientific discoveries around the world. His sophistication, sense of humor, and easy way with people made it easy to grow a company and fill a book with memories of how much he has influenced our lives — not only with his scientific contributions, but also with his friendship.

With much appreciation, Denise December 17, 2017



Timeline 1970 to 2017



- * 1970 UCSD B.A. Biology
- * 1973 State University of Stony Brook M.A. Mol Cell Biology
- * 1973-1980 UCSD Chemistry Dept, Nathan Kaplan/Martin Kamen – Staff Research Associate
- 1981 National Cancer Institute,
 Milan Visiting Scientist

(cont.)



- * 1982-1983 Salk Institute, Neuroendocrinology, Roger Guillemin, Nick Ling – Research Associate
- * 1983-1984 Farmitalia Carlo Erba (now Pfizer), Milan, Italy – Visiting Scientist
- * 1985-1988 Farmitalia Carlo Erba (now Pfizer), Milan, Italy – Researcher

(cont.)



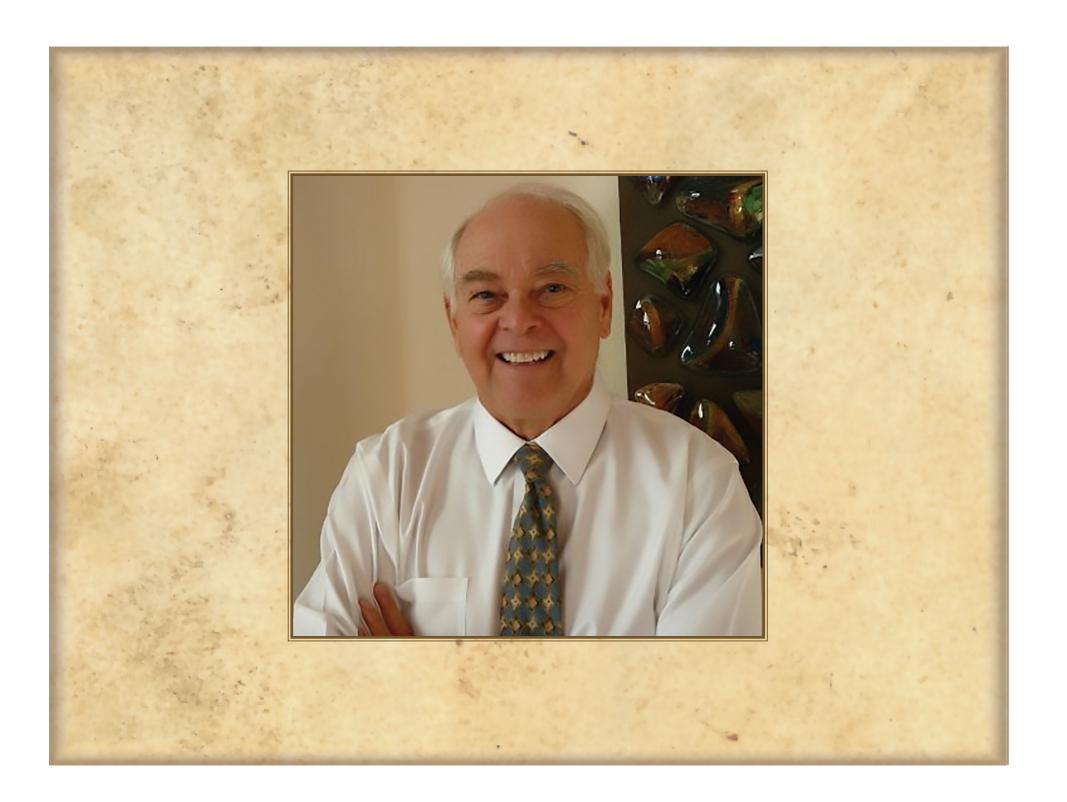
- 1988-1992 The Salk Institute/
 The Whittier Institute for
 Diabetes & Endocrinology, Mol
 Cell Growth Biol Staff Scientist
- 1992-1993 Prizm
 Pharmaceuticals, La Jolla CA –
 Founder, Senior Scientist
- * 1993-1994 The Whittier Institute for Diabetes & Endocrinology, Mol Cell Growth Biol – Staff Scientist

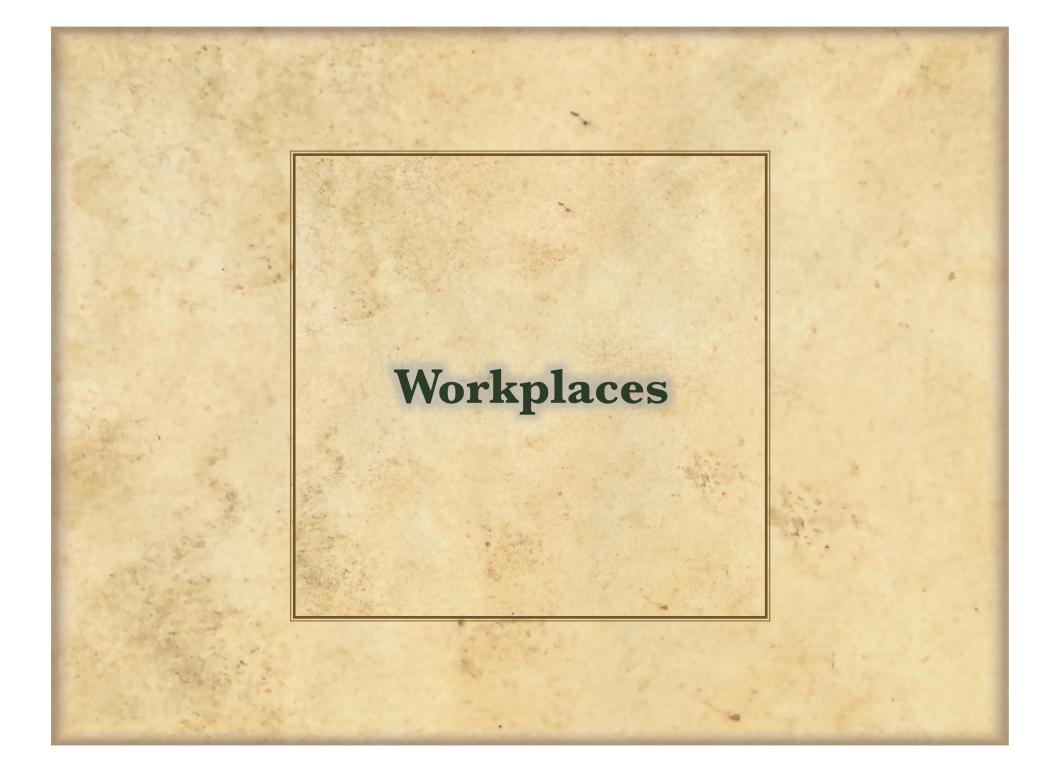
(cont.)



- 1995 University of Bologna, Italy
 Ph.D. Applied Biochemistry
 Thesis deposited in the National
 Libraries of Rome and Florence
- * 1994-2014 Advanced Targeting Systems – Founder, President, Chief Scientific Officer
- ❖ 2014-

 Advanced Targeting
 Systems Founder, President
 Emeritus, Scientific Consultant
- ❖ 2014- ∞ Veiove Animal Health Founder, Chief Executive Officer







1982-1983
The Salk Institute
La Jolla, CA





Doug and I have a long history of getting together in the 1990s, first in my laboratory at the Salk Institute, then at the Whittier Institute. That is also when and where he met a charming young lady then named Darlene Martineau...

And I have been following the remarkable evolution of what happened to these two young people including Doug's creation of the company he named ATS (Advanced Targeting Systems), its remarkable success both scientifically and financially, and lately these two still young people finding themselves on Denman Island, near Vancouver Island...

And looking at a nice summary of Doug's laboratory achievements in ATS as shown in Biosphere, the magazine from UCSD in a nice photograph of Doug in the lab ready to dialyze some material, I

could not avoid seeing the classic tops of 4 bottles of Champagne, on some shelves in the lab...!!!

OK Doug, congratulations on a famous BDay... / Old friend RG...

Roger Guillemin, M.D., Ph.D.
Nobel Laureate
Distinguished Professor, The Salk Institute
La Jolla, CA



Happy Birthday Doug!

I remember March of 1982 when Fred Esch introduced us at the photocopier in the Chemistry Lab of Dr. Roger Guillemin, at the Salk Institute. I had been working for more than 3 years in the Biology Lab of the same department. I fell in love at first sight with your

beautiful smile!

We continued doing fulfilling work (me with Paul Brazeau, and you with Nick Ling) on the exciting isolation and characterization of Growth Hormone Releasing Factor (GRF). An article in Science (5 November 1982) described GRF, a 44 amino acid peptide, as the long sought hypothalamic releasing factor for growth hormone.

In August 1983, Dr. Marco Soria and his wife Orietta joined us in Solana Beach for their summer vacation. After getting to know this delightful couple, Marco invited you Doug to work in the molecular biology laboratory that he directed at Farmitalia Carlo Erba in Milano Italy. And he also invited me to work with you on tissue culture assays. On August 23rd, 1983 we eloped in Torrey Pines State Reserve, and in the autumn we began a five year honeymoon in Italy.

As you know it was an extraordinary, and rewarding, time personally and professionally for both of us. I especially loved watching how you learned Italian quickly, by just talking courageously to the people who worked with you in the lab.

For five years at Farmitalia, and the following six years at the Whittier institute, I can honestly say that working with you was a joy! And the best part was we could just keep talking about the science when we got home.

After five years of excellent work in Italy, much of it on immunotoxins, do you remember how proud we were to be invited to return to the laboratory of Nobel Laureate Roger Guillemin at the Salk Institute. We returned in November of 1988, and Dr. Guillemin decided in early 1989 to move his research and his entire staff to the Whittier Institute. We worked there until 1994.

Throughout those 11 years that you were my supervisor I was constantly impressed with the work that you did. I was proud of your many outstanding publications, some published while we were in Italy, and others later, in San Diego at the Whittier Institute. You were awarded 10 patents and a number of others are pending. Perhaps the thing that is most extraordinary is that you were able to fulfill all the requirements, become a resident of the city of Bologna and graduate with a Ph.D. from the University there. You wrote your thesis, and defended it orally in Italian.

All of this has led to the founding of Advanced Targeting Systems. Others will write about the extraordinary work you have done there. All I know is that you have continued to publish articles and books, and have established yourself as a world renown expert in specific cell targeting. You have also had great success with writing grants for funding from the National Institutes of Health.

Darlene Martineau

Congratulations, Dearest Doug!

Friend, Wife, CoWorker

Del Mar, CA



Dear Boy Doug:

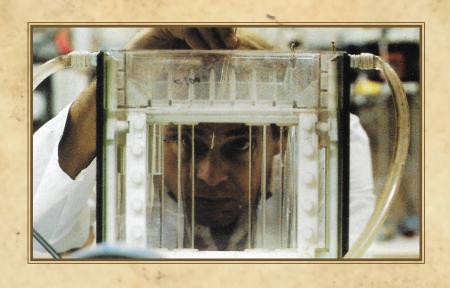
You have come a long way. I cannot believe that you are going to be 70 years old. I still remember the old days in the early 1980's

when you first came to join me to work on peptide synthesis in Guillemin's Lab at the Salk Institute. Fortunately for you but unfortunately for me, you ran away with Darlene to Italy a few years later.

Since then, you have successfully struck out on your own and built a very successful career.

Cheers,

Happy Birthday Doug!



1983-1988
Farmitalia Carlo Erba
(now Pfizer),
Milan, ITALY



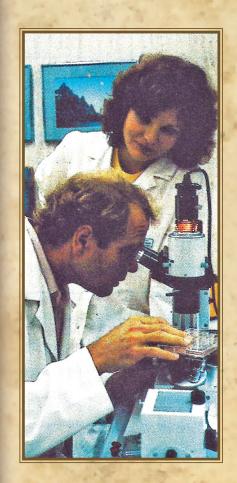


With Doug and Darlene we've been friends more than colleagues and collaborators in my lab. Looking back at those early pictures, I now realize how fortunate we all were, at that time, to have the Lappis in our lab.

Today I am very proud that most - if not all - of Doug's important scientific achievements originated from his previous work with us in Milano. Doug's efforts at purifying and obtaining the first amino acid sequences of saporin's peptide fragments were instrumental to the cloning of saporin cDNA. And the rest is history: a history of success - personal, scientific and of the company that he founded and developed.

I congratulate him, Darlene, and all his collaborators on the occasion of this important milestone in his life.

Marco



"Darlene e Douglas Lappi sono due ricercatori del Salk Institute di San Diego. Si sono trasferiti nel nostro paese dove lavorano alla Farmitalia." Molecole e Simpatia, Genius 8, 1985.

Excerpts and photographs from two articles published by the Italian magazine:

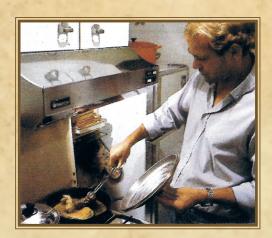
GENIUS

"Al laboratorio di biologia molecolare della Carlo Erba Farmitalia diretto da Marco Soria, Lappi ha trovato una struttura efficiente dove può condurre le sue ricerche nel campo degli antitumorali... Da Milano collabora con il professor Stirpe del l'Università di Bologna.

"Per questo motivo," precisa Lappi, "ci siamo orientati verso lo S06 ottenuto dalla Saponaria officinalis."







Nelle tre foto di questa pagina altrettanti momenti della vita privata di Darlene e Douglas Lappi. Li vediamo durante le compere in un negozio di scarpe, mentre preparano la cena (è quai sempre Douglas che cucina) e in posa come due sposini in luna di miele davanti al Duomo.





Darlene e Douglas sono due accaniti sostenitori della perfetta forma fisica.



My first contacts with Douglas Lappi go back to the early 1980's, after Dr. Marco Soria, a scientist working in Milan at a research laboratory of Farmitalia, an Italian pharmaceutical company, approached me in Bologna, asking for some advice on ribosome-inactivating proteins (RIPs) and related immunotoxins. Later on I was told that they intended to study immunotoxins and had been searching outside Italy for an expert in the field, until a recently employed scientist, Douglas Lappi, suggested my name as a local expert.

In fact, from 1970 until my retirement in 2005 I had worked at the university of Bologna, doing research on ricin, related plant toxins and other proteins, collectively called RIPs. We easily reached an agreement, and started a fruitful collaboration, which led to the publication of some articles and to obtain some patents. Doug remained with Farmitalia until 1988, when the company was sold and the research laboratories were closed. Whilst working in Italy Doug enrolled in a PhD course in Biochemistry at Bologna, which he completed successfully and presented orally in 1995.

After the closure of Farmitalia, Doug returned to the U.S. and became a Staff Scientist at the Whittier Institute for Diabetes and Endocrinology, La Jolla, CA. In 1990 he invited me there for a couple of months, and working with him and his wife Darlene we identified a type 1 (single-chain) RIP from Aptenia cordifolia. We intended to continue this research in Bologna, so at my return I took a branch of Aptenia, which I planted in my home. The plant grew well but, much to our surprise, we obtained by far less RIP from it than we had had in California, so the research was abandoned. Now we know that probably the lower yield was due to the more abundant watering in Bologna. In addition to work in the laboratory, whilst at La Jolla, with Doug and other collaborators we wrote a review on RIPS.

In 1994 Doug left the Whittier and founded, in San Diego, Advanced Targeting Systems (ATS), a Company of which he was President and Chief Scientific Officer until 2014, and Emeritus President since then. The company produced several immunotoxins and other conjugates with saporin, a RIP. Most of their products were for studies on the nervous system, and particularly important seems a substance P-saporin conjugate, potentially useful for the specific destruction of cells responsible for the transmission of some forms of intractable pain.

In 2010 a small Asian publisher asked me to write a book. I asked Doug for help, but he thought that the publisher was not big enough and contacted more important publishers, until he reached an agreement with Wiley. He accepted to be co-editor and we worked together to organize a plan of the book, Ribosome-inactivating Proteins - Ricin and Related Proteins. We had to select, contact and follow the authors of the various chapters, and read what they produced. It was a hard but pleasant work, greatly facilitated, if not made possible, by the invaluable help of Denise Higgins, at that time Vice-President of ATS. The book was eventually published in 2014.

We have not collaborated any longer in research, however we frequently exchange personal and scientific news, discuss ideas together, and ask and receive advice and suggestions. I have an excellent memory of my acquaintance with Doug, and am very grateful to him for the work we did together, for what I learnt from him, and for the precious help he gave me, especially with supporting my attempts to introduce RIPs to other scientists. But what I appreciated mostly was the human side of our relationship: in all these years we have never had serious contrasts, and actually Doug gave me support, encouragement and advice in difficult circumstances. This led to a long-lasting friendship, and my only regret is that due to distance (and age!) we have few occasions to meet. My wife Sybil and I wish him and Darlene many more years of happiness and satisfaction. Fiorenzo Stirpe, Ph.D. Emeritus Professor University of Bologna ITALIA



Dear Doug,

I was a young molecular biologist just graduated from University of Milan when I joined Farmitalia Research Labs. I believe it was 1985 (gosh!!!).

My first assignment was to work with Maria Dani to clone the saporin gene.

The Saponaria Saga

Chapter 1: Bubbles

I still remember the attempt of mixing saporin seeds to extract the RNA for preparing the cDNA library......it looked like we left the washing machine door opened with all the soap bubbling out from the flask !!!!! We didn't know whether to laugh or cry... But gene hunters cannot be stopped by this....

Chapter 2: look at your garden!

We soon started searching for alternatives and realized that in the small green area around the laboratories there were few saponaria plants. Now Serena my wife would say, I was not involved there I know you enough well to know you were not the one able to find the saponaria plants since you barely recognize a palm from a cypress..... We collected the leaves, extracted the RNA (with no bubbling issues!), made the library and started the second chapter of the saponaria cloning Saga.

Chapter 3: Garlic days.....

The great biochemists (Doug and his team) provided the N-terminal sequence of the seed protein, we designed a long oligo probe to be used for the screening. During the various attempts another American folk joined the group, John Puma. He was not directly involved with the saponaria Saga but clearly part of the fun of those days. He will be remembered as the "garlic" guy, because of his love of this typical Italian seasoning used in most of our dishes. He soon became a sort of legend for the young researchers in the lab because of his wine tour in the Barolo region where he fell in love with a lady owner of a winery and for his performance during the kayaking tour at the Durance river in France where he was wearing mountain boots in a hot summer time.

Chapter 4: Don't believe your first look

Back to the Saga, I still remember as it was today, when we hit few positive spots, selected cDNA clones, and got the first sequence coming that we inserted into the computer to compare with the amino acid N-terminal sequence of the protein. I remember John and most of the Team was behind me looking at DNA triplet after triplet, finding perfect matches with the

amino acid one till we got into a strange scrambled sequence and we got lost. It was like going from heaven to hell in a matter of seconds. Marco Soria (the Boss) went back in his office and for several days did not even want to speak to me, delusion was everywhere. It took several weeks to recover from the wounds but again, never give up.!!!

Chapter 5: The ghost

We discover that for still an unknown reason the oligo nucleotide used as a probe to screen the library went incorporated into the library and created a false positive, what a mess!!!

Chapter 6: Almonds

We decided we would need the sequence of another portion of the protein to be used in parallel with the one at the N-terminal to avoid risk of false positives, thus started reducing the saporin in pieces with cyanogen bromide. Here comes another funny story: I never worked with proteins and by looking at the manual for using the cyanogen bromide I just missed the information that procedures must be performed under an aspirating hood. Unfortunately I did not use it... ...and still remember Marco Soria screaming in the corridor: "where the hell is this smell of almonds coming from?"

Chapter 7: This is the end

Anyway, we passed this too, (no deaths reported in the lab....) and got a small C-terminal peptide separated and sequenced. Now with the use of a new oligo designed on the C-terminal along with the one on the N-terminal we screened again the library and finally found the real cDNA coding for saporin!!!!

That was 1987, one year later I met with Serena, who is my wife since 1989......while I finished working on saporin and switched to another program, Serena later followed the saporin Saga, for several years during her career as scientist and till very recently, before she decided to leave the lab and become a teacher.

So Doug, my friend you have reached an important step of your first 70-year cycle, I wish you the best for the next 70 and leave you with a small final remark:

Saporin sounds a bit like the Italian word "sapore" that means taste. The saporin saga has been the "sapore" of our friendship and the connection of my love in life (Serena)

Big kisses to You and Darlene.

Luca Benatti Chief Executive Officer EryDel, Milano ITALIA



Dear Doug,

It has been a long time since we met the first time in Italy. I remember a dinner in Milano while you and Darlene were both working in Farmitalia to give birth and (cell) death to Saporin's projects. I was really impressed by your or Darlene's cooking ability and of course, by your true love for Italy.

In those days every young Italian researcher was dreaming to travel to the United States and it was a big surprise to find someone who could happily live there, but instead decided to come and stay in our Country.

I still remember the great help I always received from Darlene and you whilst I was struggling with expression of recombinant saporin isoforms and setting up the translation inhibition assays with the luciferase reporter sometimes the old good radioactive BMV RNA translation assays are quite simpler to perform!

Our last get together dinner was also in a grey rainy Milano last year with Riccardo bringing the average age down and you telling us the huge amount of progress done with your Targeting System company without any investors help, a really hard goal to accomplish.

Serena Fabbrini Ministero dell'Istruzione dell'Università e della Ricerca Roma ITALIA

I know Doug since many years, since the time he worked at Carlo Erba in Milan, which is a long shot back, and I'm very happy that he has reached this time in life where he is about to celebrate such a milestone birthday surrounded by many friends and colleagues who think highly of him. I have very good memories of him and have chatted pleasantly with him in a number of occasions.

Please forward to Doug and his dears my very best wishes for a wonderful celebration and for a long and pleasant life after this milestone birthday.

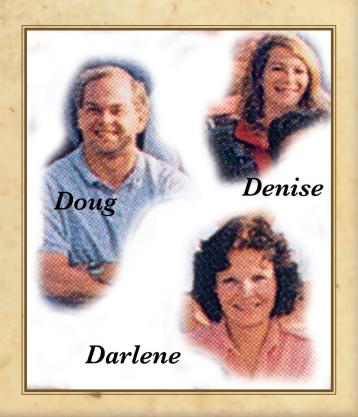
Marco Colombatti, PhD, Pathology and Diagnostics Universita di Verona Verona ITALIA

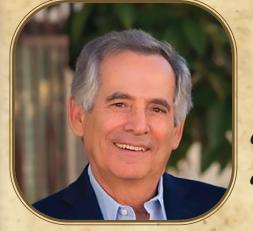


1988-1994
The Salk Institute/
The Whittier Institute
La Jolla, CA









From an elder statesman to an upcoming one: it doesn't get any easier. Glad to know you are doing well and soon to join the decade I have been a member of for 7 years.

It was certainly nice to have met you at the time of the move for the Salk guys to the Whittier Institute. A lot of expectations from all of us, some realized some not but the experience was quite interesting. You brought a lot of experience in your field that certainly helped our lab make some wonderful observation in the area of pancreatic islet biology.

I am happy we developed a nice friendship at the Whittier and glad to know you became independent with your company and able to maintain it through the years.

Happy birthday my friend and enjoy life,

Warm regards.
Alberto Hayek

Alberto Hayek, M.D., Senate Emeritus UCSD Pediatrics (1988-1992 The Whittier Institute)



You just never know what is going to happen when you go to meetings in Orlando. If either of us had not gone to the immunotoxin meeting at the Sheraton in Orlando in 1990(?), We might never have started on the interesting and rewarding journey we have shared for 27 years. Who knows what would have happened to either of us....?

I hope you have another fun 27 doing whatever you want.

Best wishes, Ron

Ronald G. Wiley, M.D., Ph.D.
Professor, Neurology, Pharmacology
Vanderbilt University Brain Institute
Nashville, TN

Poug Lappi, PhD is truly a Poctor of Philosophy. Here is a nugget of wisdom from the esteemed Dr. Lappi that guides my day to day life: It is always better to be pissed off than pissed on.

Happy Birthday Poug. The older you get, the closer you get to shooting your age.

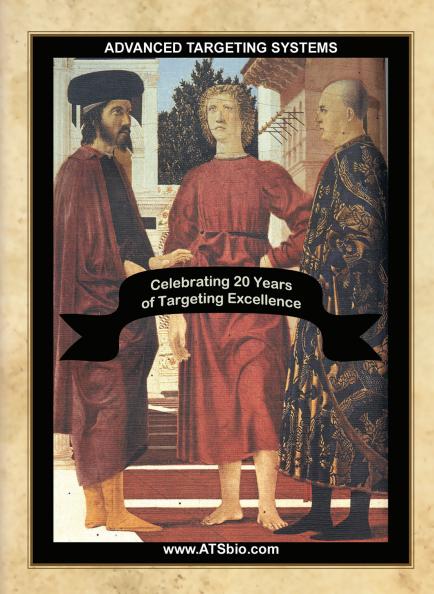
Mike Ong



Michael Ong Sr. Manager, Drug Deveopment Tanabe Research Laboratories San Diego, CA



1994 - 2014
Advanced Targeting Systems
San Diego, CA



Advanced Targeting Systems pioneered the use of targeted conjugates for use in a technique called "Molecular Surgery." These products include specific lesioning agents for cholinergic basal forebrain neurons, noradrenergic and adrenergic neurons, macrophages and microglia and a pan-neuronal agent that strikes an epitope expressed on all neurons. In addition, ATS sells "secondary conjugates" which allow users to convert their own targeting agents into specific cytotoxic tools and to screen antibodies for internalization.

Advanced Targeting Systems was founded in April of 1994 to commercialize and provide access to the Saporin technology platform developed and refined by Douglas Lappi, Ph.D. (Founder, President Emeritus and Chief Scientific Officer). Dr. Lappi collaborated with Ronald Wiley, M.D., Ph.D. (Co-founder) in their academic laboratories to validate the use of the premier saporin conjugate, 192-IgG-SAP to establish a model of Alzheimer's Disease. Denise Higgins (Co-founder and President) brought her business expertise and international sales/marketing experience to the team and continues to work to bring this innovative technology to scientists worldwide.



Advanced Targeting Systems (ATS) has always been a privatelyfunded company. Doug was able to achieve the successful launching and growth of the company through product sales and SBIR (Small Business Innovation Research) grant awards.

Doug Lappi and co-inventor, Ronald Wiley were able to patent a saporin conjugate, Substance P-Saporin (SP-SAP) for use as a chronic pain therapeutic. The preclinical development of this drug was funded through grants and contracts from the National Institute of Mental Health and made possible through the direction and facilitation of Dr. Margaret Grabb.

Doug was able to expand the reach of his saporin technology and obtain additional grant funding for important collaborations with scientists throughout the world. Key collaborations with Patrick Mantyh and Tony Yaksh were essential in developing SP-SAP and resulted in two highly-regarded publications in the prestigious journal, *Science*. The picture above was a result of their collaborative research and illustrates the specificity of SP-SAP.

Other scientific collaborations generated grant applications, patent applications and scientific publications with over 2100 citations for Doug's work.



Congratulations on your milestone birthday! I believe we first met in 2002, soon after I joined the National Institute of Mental Health (NIMH) to oversee the SBIR/STTR Programs.

You had received funding at NIMH for your SP-SAP project, as a chemical knock-out of pain fibers in the spinal cord. I had approached you and Denise at your booth at the Society for Neuroscience (SFN) meeting, to introduce myself. Immediately, you gave me a chair and we chatted about your research, company progress, and personal trips around the world. This moment launched a yearly get-together at SFN.

In my professional life, I was developing new programs to help small businesses further develop their technologies, including the creation of the Phase IIb SBIR Program. And YOU became the first test case; you received the first Phase IIb EVER IN THE FEDERAL GOVERNMENT. Through those funds you pursued IND enabling studies and subsequently received an award from the National Cancer Institute to pursue first in human studies, to treat patients with chronic pain due to cancer.

I am incredibly proud of you. You have been one of my "star" Principal Investigators and small business owners. You established a successful neuroscience research tool company and then ventured into the clinical treatment arena. You championed the Phase IIb award before anyone else did. And equally importantly, you are a brilliant, affable, and warm person.

May you have many more birthday celebrations that allow you to pursue more innovations, and visit more global locations. I can only hope that someday people think that I have accomplished even a 10th of what you have achieved. Congratulations again!

Sincerely, Meg

Margaret C. Grabb, Ph.D. NIMH
Program Officer
National Institutes of Health
Bethesda, MD



Dear Doug,

If you are celebrating your 70th birthday, it means that you are old. Now I have to admit that if you're celebrating your 70th birthday, it means that I'm old too, and I realize that our adventure started more than 25 years ago.

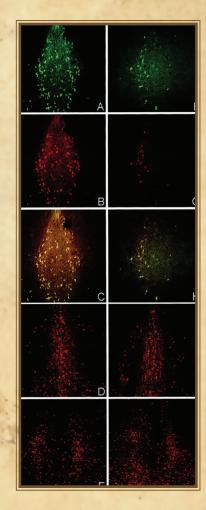
In 1992, I was a young assistant professor at Wellesley College. I was fascinated with the basal forebrain region of the brain. In graduate school at Johns Hopkins and during my post-doctoral fellowship in Paris, I had studied this small group of cells and its role in learning and memory and in neurodegenerative diseases such as Alzheimer's and in developmental disorders such as Down and Rett

Syndrome. How could one small region of the brain be so important for so many functions? Now with my own laboratory at Wellesley, I wanted to create definitive experiments to isolate the functions of the cholinergic basal forebrain in memory and disease.

Now it was so long ago, and I'm too old to remember exactly who contacted whom, but around 1992, we connected to look at this new thing called an immunotoxin that could target cholinergic basal forebrain cells specifically. Now, I would have the tools to probe the scientific questions that intrigued me.

In Doug, I found a scientist and pragmatist, who was interested in cancer treatment, but thought that this neuroscience stuff was potentially interesting. In me, he found a partner to test compounds with a tenacity to ensure that our work would be published in the most selective scientific venues possible. Together, we formed a partnership to develop selective immunotoxins of scientific and practical use. After several grants and lots of experiments, I will admit that we didn't always agree, and there was more than one frustrating phone call and email over the years. But we agreed completely on the importance of the work at hand and the essential nature of high quality research.

Doug, you have made an incredible impact in science and you have done so ethically, smartly, and always with a smile. I salute you on your 70th birthday, and I leave you with the picture below from J Neuroscience (2001), which shows what beautiful work we created together!



With love and respect,
Joanne Berger-Sweeney

Joanne Berger-Sweeney, Ph.D.
President
Trinity College
Hartford, CT



My fondest memories of Doug are golfing at Torrey Pines and visiting the ATS booth at Society of Neuroscience. I was out in San Diego visiting UCSD with two of my kids who were interested in seeing the campus. I asked Doug if he was interested in joining us for a twilight round of golf at Torrey Pines. Doug said sure and at 3pm the four of us met at the course and teed off at 3pm. For the next 3 hours Doug regaled the kids with his time on the UCSD surf club, his travels through Italy and both his and my foibles.

It was a delightful evening with the sun setting over the Pacific and Doug being his usual engaging self. As we drove off both of the kids told me they thought Doug was a "totally cool guy" which of course he is. It remains one of the my most memorable rounds of golf.

In the same vein, visiting the ATS booth at Society of Neuroscience was also an immersion in Doug's world. The pictures of Florence decorating the walls and Doug greeting you with a smile and his easy chuckle made you feel you were at a lovely café in Florence visiting an old friend.

My very best to my friend on this 70th birthday as just thinking about Doug makes me smile and look forward to the next time I see him.

So... Doug turns 70 ...Well, we have interacted with Doug and his gang at Advanced Targeting for well over 10 years. My earliest correspondence with Doug was involved in doing safety for intrathecal sP saporin in the rat and the large animals. The ground breaking application of coupling an internalized epitope to an otherwise cell impermeant toxin which served to target the toxin to a specific cell type and applying this motif to substance P to saporin was clearly a stroke of genius...doubtless inspired by the Italian opera singers that drove crazy those callers on hold. As the spinal NK1 receptor is largely on neurons that played pivotal roles in pain transmission, this strategy gave rise

was largely on neurons that played pivotal roles in pain transmission, this strategy gave rise to the notion of molecular surgery for pain.

The motif has come to be applied to a variety of targets and has played a major role in defining the functional role of neuronal circuits in a variety of biological systems. What an exciting contribution with which to be pivotally associated.

So...in recognition of these contributions and to the fact that he is just basically a great colleague (with maybe the exception of the Italian opera)....we here at UCSD Anesthesiology all say, 70 could not happen to



a nicer guy... Happy Birthday Doug and many, many, more!

Your friend and colleague,
Tony Yaksh

Tony Yaksh, Ph.D.
Professor, Anesthesiology
University of California, San Diego
San Diego, CA



You have been a dear friend for many, many years and I have enjoyed many wonderful moments with you. I got to know you after the publication of work from Pat Mantyh on substance P-SAP and I approached you to do a similar manipulation on mu opioid receptors in the rostral ventromedial medulla with dermorphin-SAP. Our interactions led to a friendship that we have

shared in professional settings including presentations in joint symposia and also to many wonderful afternoons on the golf course both in Sedona and at Torrey Pines. The golf was not so good but we had great fun. One of my fondest memories is of your presentation at the Spring Brain meeting in Sedona where you explained your amazing and insightful path to linking science and business. You told the story of PharmItalia and their new spin-off genetic division — I will let you fill in details that I am sure you remember.

Doug, many years have gone by and I look back with great fondness at friendship that we have shared. I look forward to sharing many more moments of friendship with you in the future.

All my best wishes for a most wonderful and Happy Birthday with all happiness.

Assoc Dept Head Pharmacology Professor Pharmacol Anesthesiol University of Arizona Tucson, AZ

Frank Porreca, Ph.D.

Frank



My memories of Doug include great discussions about science interspersed with a lot of laughter. I remember him patiently listening as I described posters as a young graduate student and always encouraging new ideas. At some point, he may have jokingly suggested that my level of enthusiasm about attentional task development was

not shared by everyone.

Another year at SFN, I looked up to see him making a bee-line to my poster. He introduced me to the woman who was with him and said she was having problems identifying cholinergic neurons so she "had to meet me." According to her, she had stopped by the booth and only "mentioned" her concern.

I can honestly say I don't know anyone else who would provide that level of direct service to support a customer. His warmth, sense of humor, and intellect make him a real asset to the field as well as a great friend.

Happy Birthday Doug!! I wish you many more years of laughs, scientific success and good health.



Doug, you're a real mensch and have had positive influences on many aspects of life and science, and probably business too (a part of your world I don't know much about).

This basically makes you The Renaissance Man...

Mark Tuszynski MD, PhD, Director, Professor of Neurosciences UC San Diego La Jolla, CA

Thanks, Doug, for designing and developing your saporin conjugates. These agents were very clever and inspired my desire to create toxin conjugates that manipulate the internal biochemistry of the cells. Without your work I doubt that I would have even thought about using G-protein coupled receptors to transport agents into cells.



Have a happy birthday! Rob Caudle

> Robert M. Caudle, Ph.D. Professor, Neuroscience Divison Oral & Maxillofacial Surgery Gainesville, FL



For untold years I have looked forward to talking to Doug Lappi at scientific meetings. The idea of specific targeting cells with a unique toxin is extremely powerful, and continues to be applicable in many fields. He has been unwaveringly helpful and generous with his suggestions."

Sincerely yours Si Reichlin

Seymour Reichlin, M.D., Ph.D. Professor of Medicine Emeritus Tufts University Boston, MA

To Doug,

I look forward to seeing you every year at the Society for Neuroscience meeting. It not only reminds me of the early experiments with 192IgG-saporin but brings back fond memories of days at the Salk Institute.



Happy Birthday!

Teri Milner

Teresa A. Milner, Ph.D.
Professor of Neuroscience
Weill Cornell Medicine
Feil Family Brain & Mind Research Institute
New York, NY



Hi Doug,

Happy Birthday. We haven't communicated for some years but your support and products were a great help in my research. You also included some of my paintings in Targeting Trends in 2004. I particularly appreciated this personal kindness because it came at a time when my research was being seriously affected by the activities of anti-vivisectionists and the

bureaucratic difficulties of working with animals in the UK. You cheered me up. I am now retired and spend as much time as possible painting and enjoying museums and art galleries. I hope you have a great day. Best wishes, Ros Ridley.









Rosalind Ridley, Ph.D.
Retired, Professor of Psychology
Head, Medical Research Council's
Comparative Cognition External Scientific Staff Team
Cambridge University, UK

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U, A. J., et al. (2006). "Differential responsiveness of depending beta hydroxylase gage expression to glucoprivation in

CAREER!

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W. Sue Ritter, Ph.D.
Regents Professor
Integrative Physiology and Neuroscience
Washington State University
Pullman, WA



I found a photo from SFN 2008 of me and Doug!

I think my best professional memory of Doug is when we were preparing the manuscript on the second-generation mouse p75-saporin immunotoxin, work that was led by Joanne Berger-Sweeney's laboratory at Wellesley. We sent the paper to Doug for comments and feedback, and he very kindly told Joanne to promote me to final author in the list (in the original order he was last/senior and I was second-to-last). This paper was published in Journal of

Neuroscience in 2001 (Berger-Sweeney et al.) and was a huge

shot in the arm for my career and publication record as I was in the first years of my assistant professorship. Warmest wishes to him on the occasion of his birthday.

I have fond memories of that dinner in New Orleans too:) New Orleans is probably my favorite city in the world and I'm sad we aren't having SFN there any more. Also sorry that I didn't see you guys in DC this year - I had a cold during the meeting so I didn't stay the whole time and didn't make it to much - I managed the slide session my student was presenting in and that was about it!

I hope I'll see you guys in San Diego next year!

all the best, Mark

> Mark Baxter, Ph.D., Professor Geriatrics & Palliative Medicine, Anesthesiology, Periop & Pain Medicine Icahn School of Medicine at Mount Sinai

Dear Doug,

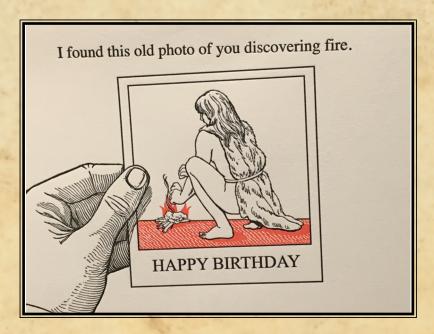
As someone who in October joined you as you enter the 8th decade of your life (sheesh), I can only assume that we were born at a young age. It has been my pleasure to share good times together, notably at Spring Brain, but definitely also

at your booth at SIN: Great candies, and the saporin conjugates aren't bad either.

Enjoy and happy birthday, and thanks for the memorable discovery noted in the attached image.

Warmest wishes,

Allan





Doug, I admire your creativity, enterprising spirit and passion for discovery. You made it possible to create orexin-SAP. Wishing you a very Happy Birthday and good health.

Warm regards,

Peter Shiromani

The Journal of Neuroscience, September 15, 2001, 21(18):7273-7283

Hypocretin-2-Saporin Lesions of the Lateral Hypothalamus Produce Narcoleptic-Like Sleep Behavior in the Rat

Dmitry Gerashchenko,¹ Matthew D. Kohls,⁴ MaryAnn Greco,¹ Nahid S. Waleh,³ Rafael Salin-Pascual,¹¹² Thomas S. Kilduff,³ Douglas A. Lappi,⁴ and Priyattam J. Shiromani¹

¹West Roxbury Veterans Affairs Medical Center and Harvard Medical School, West Roxbury, Massachusetts 02132, ²Facultad de Medicina, Universidad Nacional Autónoma de México, Mexico City, Mexico 04510, ³SRI International, Menlo Park, California 94025, and ⁴Advanced Targeting Systems, San Diego, California 92121

From: Douglas A. Lappi, Ph.D. <102@ats.nxlkhost.com>

Sent: Tuesday, December 18, 2001 12:21 PM

Peter Shiromani, Ph.D

Subject: Re: new orexin conjugate for saporin---more selective to the type2 receptor

Hi Peter--your greeting is so nice I would like to wish you the same.

As to the ligand, I would have to know more about the structure; please let me know what you can about that. If needed, we can sign a confidentiality agreement.

Best,

Doug

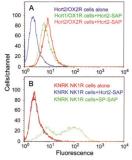


Figure 1. FACS analysis of Hert2-SAP binding to Hert receptor transfected cells and cells expressing the NK1 receptor, Binding was measured using FTC-slabeled anti-saporin antibody to determine whether the entire conjugate was bound to the receptors. A Hert2-SAP binding to cells transfected with the HertRiDON, receptor (green into) or the Hert2-SAP lack binding (blue into). B Hert2-SAP also to his day cells transfected with the NK-1 receptor (blue line). As a positive control, SF-SAP is shown binding to the inc.) B Hert2-SAP are shown bind to cells transfected with the NK-1 receptor (blue line). As a positive control, Peter Shiromani, Ph.D.
Psychiatry and Behavioral Sciences
Medical University of South Carolina
Charleston, SC



Congratulations to Doug Lappi, who has made a unique and significant contribution to science, and who has always been a very knowledgeable and helpful colleague in a pioneering area of research. His warmth and friendly personality made it easy for me to do experiments that I probably would not have otherwise been able to do.

Happy Big Birthday Doug!

Bob Sloviter

Robert S. Sloviter, Ph.D.
Professor, Neurobiol Pharmacol Toxicol
Morehouse School of Medicine
Atlanta, GA

Happy Birthday Doug!!

It was such a great time sharing the laboratory with you back in the Chemicon days; and to watch ATS' continued success has been inspirational.

I have fond memories of our rendezvous up Little Cottonwood Canyon for some world-class skiing at Snowbird/Alta. I hope that you and Darlene are still carving some turns now that you're semi-retired.

You represent the best of what research and development science is all about. Incredible insight, creativity and perseverance, and a great sense of humor as well.

Best wishes for you on your birthday and always.

Dale Dembrow

Dale Dembrow Laboratory Director BluePoint Bioscience, LLC Ijamsville, MD





College of DentistryDepartment of Orthodontics

Box 100444, J Hillis Miller Health Center Gainesville, Florida 32610-0444 Tele: (352) 392-4135 Fax: (352) 846-0459

Dear Doug,

Congratulations on reaching the magical age when your able to look around and say "this has been a pretty good ride, but don't look now because it ain't over yet." You and I go back a long time and over the years we were part of many good discussions. From the talks we had with Chuck Vierck and Ron Wiley regarding our little project that led to what I consider one of the truly remarkable studies related to spinal cord injury pain (see attached) to the fun talks we had in Sedona at the Spring Brain Conference. You were one of our first corporate sponsors and provided us with the support needed to help take the meeting to new heights. From what I hear the meeting is still going on and the group in charge has done a tremendous job continuing the tradition. I always enjoyed seeing you at your booth at the Neuroscience meetings and seeing the progress of your company in the ATS Newsletter.

I have moved on to a new chapter in my life and spend my time enjoying the relaxed day to day living of retirement. There are many new challenges which include planning my next trip, who I am playing golf with today and figuring out the day of the week. Everyday is like Saturday which is something that you get accustomed to as time goes by.

I wish you all the best on this special day and hope you and your family as well as your extended ATS family have many more years of success and happiness. Don't forget though there is always room for you at the retirement table so long as you bring your clubs and some cash to cover your bets.

All the best,

Robert P. Yezierski, Ph.D. Professor Emeritus

University of Florida

Robert P. Yezierski, Ph.D.
Professor Emeritus
University of Florida
Gainesville, FL



Pear Poug,

Best wishes to you and your family for this milestone in your life and congratulations for an incredible first half.

I looked you up on ovid and below are your first 3 publications (out of 83, enough to be professor anywhere!). It looks like NO Kaplan was a mentor or at least an early close colleague. You have made a huge contribution to science. Thank you for that.

- #1. Lee CY; Lappi DA; Wermuth B; Everse J; Kaplan NO.
 8-(6-Aminohexyl)-amino-adenine nucleotide derivatives for affinity chromatography.
 Archives of Biochemistry & Biophysics. 163(2):561-9, 1974 Aug.
- #2. Lappi DA; Stolzenbach FE; Kaplan NO; Kamen MD.
 Immobilization of hydrogenase on glass beads.
 Biochemical & Biophysical Research Communications. 69(4):878-84, 1976 Apr 19.
- #3. Everse J; Lappi DA; Beglau JM; Lee CL; Kaplan NO.
 Investigations into the relationship between structure and function of diphtheria toxin.
 Proceedings of the National Academy of Sciences of the United States of America. 74(2):472-6, 1977 Feb.

Also, you have been a wonderful person to work with and I appreciate your friendship and kindness. Few people would have tolerated us as you did. You are most forgiving and gentlemanly.

You have also been successful in business for a long period of time in a difficult industry. I don't know how you managed that but I admire that as much as anything.

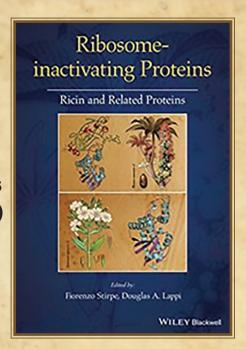
I hope the second half is even better than the first and I hope we meet again soon.

Carl Noe, M.D.

Carl Noe

Professor, Pain Management/Anesthesiol
Univ Texas SW
Dallas, TX

Ribosome-inactivating Proteins: Ricin and Related Proteins
1st Edition, by Fiorenzo Stirpe (Editor), Douglas Lappi (Editor)



Dear Doug,

We had the pleasure to collaborate at the occasion of the book, entitled 'Ribosome-inactivating Proteins: Ricin and Related Proteins'. I have great appreciation for all the work and the science you have done, and have enjoyed working with you on the book.

I heard that you will be celebrating your birthday soon. I wish you all the best and hope you will keep on enjoying science for many years to come... Have a wonderful birthday.

Very best wishes,

Els

ATS Employees



Happy Birthday to the Original Jedi Master!

You always talk about how Saporin and ATS Products have changed or "made" someone's career, but I would like to just take this second to say how YOU, have been the one to change and make these people's careers, especially mine.

We could spend time talking about all our science accomplishments (that would take another 70 years), but how about the personal lives of the people you have mentored?

I have spent the past 14 years of my life learning and being counselled by a master in his field. You have helped shape my future both professionally and personally. You have seen me mature from that shy, freshout-of-college boy, to a confident scientist with a growing family. You have definitely created a legacy, and I am proud to be a part of it.

The Ancheta Family wants to wish you a most joyful birthday and we pray your days with Darlene and the kitties will always have you smiling.

Dear Doug,

Happy 70th Birthday! Turning 70 is like turning 21 in Celsius, so it's basically your 21st birthday.

You've been an amazing mentor to me, and I've learned so much from you. Not only science related things, but life lessons that I will keep with me and cherish. I could not ask for a better mentor, boss, and friend.



It's crazy to think of all the things you've accomplished in your career and it's quite inspirational. You're an amazing person and a genuine attribute that the science community has. Your contributions to this field are remarkable. All the reagents and research opportunities we've provided are because of you. Countless scientific advancements are because of you. My job and success are because of you. There's not enough appreciation in the world to express the proper gratitude that you deserve.

This company owes so much to you. Besides the company, we owe you so much for your guidance and advice you readily give us. I can't say how nice it is to be able to ask you questions or bounce ideas off of you. I'm extremely lucky that I get the opportunity to do so.

I wish you all the best, not just for today, but always. Enjoy your special day and please continue making our lives a bit brighter every day. Thank you, Doug, may you live for another 70.

Happy Birthday, Patrick Patrick Shramm Research Scientist/Product Manager Advanced Targeting Systems San Diego, CA The use of targeted cytotoxins to produce highly selective neural lesions is a process that I truly do not comprehend or understand. I'm equally at loss when the subject is Ribosome-inactivating proteins. Don't even get me started on samatosin-sap but I'd like trying to use it in a sentence some day now that I can pronounce it. Ok I still can't pronounce it.

I do understand that what you have accomplished brings hope and comfort to the four legged creatures of this planet. You are a producer of tail wags. It's my honor to work with you, for you and call you my friend.

I hope you have a great birthday and please remember it's a scientific proven fact that people who have more birthdays...... live longer.

Tom

Tom Cobb Administration Manager Advanced Targeting Systems San Diego, CA

We first worked together at the Whittier Institute. I'm not sure that I was ever mentioned in the ground-breaking science and publications that took place, but I remember many an afternoon standing at the sink and washing labware that contained the seeds of future success. Not to mention the hours at the UCSD library making photocopies of papers that would spur on your creativity and collaborations. I watched the science as an onlooker and celebrated victories with everyone in the office during Happy Hours. It was only natural when I had children that their first lab experience was with Dr. Doug. They still talk about how amazing it was to see a leaf shatter like glass after being put in dry ice. Thank you for always making us feel like part of the family.

Kristen Hartman Website/Database Manager Advanced Targeting Systems Sherwood, OR First and foremost I would like to thank you Doug. Your constant curiosity and willingness to help serves as an inspiration to what a true scientist should be.

Constantly exploring and learning while offering your wisdom to all of us. Although I haven't been working here for that long I feel like your respect for us young scientists was so very humbling and motivating for us to do our best and keep ATS at its high standard that you have brought it up to. Being all UCSD graduates you inspire me to see what we are all capable of. We all truly appreciate everything you have

given to the company and hope to do you proud as we continue working here. Thank you for being a sincere and ambitious mentor while at the same time being so passionate about your droids as Crux Mofario. You have made this whole experience very enjoyable thus far and I look forward to doing my part in continuing the legacy you have built.

Miguel Galvan Research Assistant

- Miguel

Happy birthday! It is an honor to work beside such a bright and innovative scientist as yourself. Your ambition, intellect, and passion for science inspires me. Thank you for your optimism in my unsuccessful transfections and your guidance as a new scientist in this industry. Your impact on the scientific community and on my scientific career will always be remembered. On a side note, I have given it some thought and I would like to join you and your droid manufacturing empire. I was pretty impressed by your skills in killing a master Jedi and I believe that with our powers combined, we will rule the world. Anyway, I hope you enjoy your special day!

San Diego, CA

Advanced Targeting Systems

Esther Wu Research Assistant Advanced Targeting Systems San Diego, CA

Sincerely, Esther



Happy birthday, Doug! I hope you have a wonderful day!

Andrew Moore Administrative Intern Advanced Targeting Systems San Diego, CA Happy birthday Doug! Congrats on all of your success and contributions to the scientific community!

Alexander Chang Laboratory Intern Advanced Targeting Systems San Diego, CA





Soon after I started at ATS (although after we moved down to Sorrento Valley), Doug and I went to UCSD to shoot baskets. I think we played two on two with a couple of younger guys, who then asked if Doug was my dad.

• The wind up for the slam in ping pong, as well as the teeny little serve.

Holding court in the booth at the Neuroscience meeting.

The tour around the preserve

 The tour around Sorrento Valley after one of the huge rainstorms - most of the parking lots were flooded. Matthew Kohls Scientist, 1998-2016 Advanced Targeting Systems San Diego, CA

I'm sure there are lots of workplace events and memories that could be shared, but two things stand out to me when I think about Doug and the company he helped found.

The first, is that when standing in one of the most famous French Quarter hotels in NOLA, Doug says, "this place isn't seedy enough to be a real Jazz experience." I loved that!

The second, relates to the images from my wedding. It speaks to the environment of the company he helped build that he went to the weddings of at least 3 employees.

That's a pretty nice family to work amongst.

Brian Russell Scientist, 2000-2017 Advanced Targeting Systems San Diego, CA



Wow... I know there is no scientifically possible way, that you could be turning 70! Doug, it is amazing to think back over the years, what seems like eons ago, to the time that I first met you! I can't remember the exact year, but I believe it must have been around 1989-90 or so. I was writing a paper for school on Diabetes, and you were so gracious to agree to an interview. I remember coming to the Whittier Institute for the interview, and I was absolutely terrified to be meeting with such a big, important scientist! I just knew that my questions would be too silly, and not smart enough, but I decided to carry on and proceed with the interview anyway. You couldn't have been more kind or approachable and you made me so comfortable in asking all my questions. Such a fond memory!

You have been a constant, and foundational presence throughout my life! Your partnership and collaboration with my Mom has been so wonderful to see, and you have always been so warm and welcoming to me, and our entire family! You undoubtedly have a list a mile long of your scientific and biotechnological accomplishments, but I would personally put some of your other accomplishments much higher on the list. Your love and compassion, and genuine kind heart are of a priceless value.

I wish you the happiest of birthdays, and many many more! There has been nothing in life that could slow you down so far, and I know you have some amazing adventures in store for you in the future!



Special Friends

I met Doug in 1963 when we both attended an all-boys Catholic high school in Los Angeles. He and I became fast friends along with four others who came to call ourselves the badly-misnamed Sexy Six: John, John, Tom, Tom, Doug, and Dan. We were inseparable for more than 30 years.

Doug was always a little different from the rest of us. For one thing he was from Michigan and closely held on to his Grand Rapids identity. For another, he wouldn't tell us anything about his girlfriends. We called him Dateless Doug, because we didn't know that he had a secret girlfriend in Michigan. However, he evolved rather quickly into Lusty Lappi for his activities in California which he also refused to discuss. Doug's diabetes was

also a part of who he was, even as a teenager. He was disciplined about when he needed to eat and how he needed to care for himself. So he called the shots in some of our social endeavors.

Doug's colleagues may think of him as a scientist and a leader. His closest friends are all very proud of his scientific accomplishments and the humanitarian purposes which underlie them. Since I'm woefully ignorant about scientific matters, Doug has always been my personal science advisor. When there is something I don't understand, I call Doug and he explains it. Even though I don't fully understand Doug's work, I respect his intelligence and passion for what he does. I also admire that his work is intended to help people such as those with chronic pain. I respect that Doug has made significant contributions to his field, does important work, and has founded and run a very successful company.

But what of Doug the person? He's a man of many interests and, in some ways, a surprising person. He is quite a good athlete: he spent many years surfing, countless hours playing basketball (quite well), throwing the shot put, and playing volleyball. He has always been a huge fan of rock and roll and impressed my millennium-age daughter by playing a little Dr. Dre. He is a terrific cook (Italian food of course), a lover of his cats, a staunch environmentalist, and an avid and adventurous traveler. He also started playing the clarinet late in life. I have always respected Doug's keen interest in politics, manifested in his steadfast opposition to evil in the world. He is passionate in his political beliefs and will often engage in robust debate.

There is a softer side to Doug too. My parents moved to San Diego late in their lives. They were very fond of Doug and Darlene, and the feeling was mutual. They became close, and my parents soon considered them part of the family, as do my bride, my siblings, and I. In fact, Doug became my father's favorite son (bumping me somewhere down on the list). After my mother became too frail to prepare and host Christmas dinner, Doug and Darlene took over the responsibility and hosted the family dinner. When my younger brother experience personal difficulties, it was Doug and Darlene who took him in and helped



him achieve the stability he still maintains. When my older sister became estranged from the family, it was Doug who intervened and pulled the family back together. He did so because he has a kind heart and because he knew my father and mother would want it that way. If anyone were to doubt Doug's softer, gentler side, they need only to spend time around him when he is with Darlene whom he adores.

So, happy birthday Doug, you old goat! Congratulations on this milestone! You have lived a wonderful life and have won the love and respect of all who know you.

With love and great affection,

John O'Toole and Jean Hom Your Biggest Fans



December 17th, 2017
To: Douglas Arnold Lappi
on the occasion of your 70th
Birthday

Hello Doug,

Happy Birthday! I will spare you the audio track of me singing to you. Something about decency on the internet.

I have tried to briefly record short memories, recollections and some other thoughts and names that I hope will trigger memories in you. As usual, I will be more than happy to expound should you wish.

Congratulations on doing so much so great in your life, yet never having lost the common touch. I appreciate being able to witness it and interact with you.

Thank you.

John

Thoughts Memories Recollections

 Doug's dog "Norman", sometimes running with us, and sometimes interacting with Fawn, my dog

 Norman and Doug's Mom (a great site, Doug's mom was delicate and petite - Norman was a very large Doberman Pinscher, and although very friendly was strong as an ox and not afraid to pull when it suited him). I was fearful of her fate but she always handled him.

Winter hiking and camping Reeds lake

 Fishing on East Grand Rapids police pier Electric Worm production

 Trips to Lake Macatawa, Duck Lake, Grand Haven State Park with Doug's Mom (and sometimes Bob came)

• Ski Lessons at Caberfae near Cadillac Michigan

with Doug's Dad

 Aviation bezels and other fun airplane-type props from Monroe Industries (Doug's dad's employer)

- Doug's Brother Bob

- Baseball Creston High School

- Reason to keep quiet on Saturday mornings (fear of his wrath)

7th Grade Track

- St. Stephen's unexpectedly won

- Doug was on 440-yard relay and several other running events, sprints I think

Doug's House

- Sun Deck upstairs

- Basement

Wood paneled bar

Cub Scout meetings with Doug's mom as den mother Unfinished portion

Chemistry Set

Fire in Doug's Basement with Alcohol lamp

- Reading books in your tree along Ethyl

Doug's Cars

- Thunderbird hard top convertible

- Mercedes Benz (1st one I'd ever seen)

Same day multiple accident story (ie accident, tow truck got in accident, second tow truck in accident)

Playing Risk

Hardy Boys Detective stuff

- Fingerprint kits

 Fingerprint data book included my family, Doug's family, etc.

- Read every Hardy Boy book

- We seemed to identify more with Fenton Hardy, the dad rather than sons
- Blessed Sacrament Schoolmates (I only know these from later)

- Jeff Davis, Daniel Bresnahan

• Doug's California Trips and letters

- Sent St. Christopher Surfer medals

- Explanation of "Surfin' USA"

Doug Corrected "If everybody a notion..." Explained Huarache sandals Explained all of the named beaches

Neighborhood kids

- Steve Moore, Chuck Bukrey, Lee Keller, Bob Howald, John Jaracz, Steve Bright, Caroline McGregor

WWII play

- Doug's Dad's trophies

Big machete
German Battle Flag
Officer's knife
German Helmets
Playing Finns vs Russians in reenactment of
Winter War (great snowball fight, my little sister
often represented the Russians)

• Little politics in neighborhood (adults found this more serious than we did)

 Ricardo Meana (next door to Doug in house that later Chuck Bukrey lived in) fought in Spain on Republican side

Ham radio operator caused tv's to have interference

- Son Charles

School

- Robin Hood Play

Doug was Robin, I (as Richard, was supposed to knight him with the "Big Machete" in its sheath which was stuck in my belt so when the blade came out to touch Doug's shoulders, his mom uttered a very audible "ooh!".

Teachers

- Sr. Leonessa 5th grade (portion for Doug)

- Sister Wanda 6th grade

- Sister Amadeus 7th grade

Gave lecture on behavior with girls (I told this

story at Doug's SF dinner)

Doug's Nickname for her was Suedama. A small paper doll figure labeled "Suedama" was found by Sr. Amadeus pinned to the low ceiling above the drinking fountain in the classroom. She loudly said, "this is wrong, would whomever is responsible for this, please take care of it immediately?" Doug got up from the rear of the classroom and walked to it and tightened the noose a little and then calmly returned to his seat. He then paid a visit to the principal but was very honored by classmates for courage.

- Sisters Karl and Marjorie (music)

- Richard ("Dick" Drenovsky)

• Students at St. Stephens

- Bob Howald, Bob Kite, Bill Kelly, Darry Riebel, Ted Swart, Pat Walsh, Doug Plese, Paul Haviland (older), Denny Patterson (older), Jim Sproule (older), Joan Kiel, Kitty Hassock, Jane Rademacher, Pat Lillie, Joan Moleski, Gary McInerny, Paul Murphy, Linda Zanella, Paul Flanagan, Randy Thomas
- Immaculate Heart of Mary
 - "HIM" nickname

Students

- Randy Denisty, Lynn Inman, Betsy Bowles, Bob Sherwood, John Casey, Jeff Quirk, Herm Boruta, Judy Cantile
- Rocket Baseball:
 - Jim Plafkin (pitcher), Tim Milloy (sp?)

(cont.)

Rocket Football

- Doug was a halfback

- Thunderbirds or Ravens? One was baseball, other football)
- Franklin Park (Now MLK Park)

- Hilltop Park (Michigan and Fuller)

- Excursions on trains to East Lansing and to Detroit Briggs Stadium (to watch MSU and Tigers)
- Bicycle jaunts
 - John Ball Zoo
 - Ottawa Hills Branch Library (Hall and Giddings)
 - Petersons Drug Store
 Its Fountain bar
 Comic book Section especially the classic comics that
 have provided the necessary background for me to
 appear cultured for short moments from time to
 time
 - Downtown Library
 - Cooks Root beer stand, Kalamazoo near Eastern Plaster Creek (Hall and Plymouth)
 - Haunted house at Plymouth and Franklin
- Franklin St. Neighborhood Attractions

- Calvin College across and down the street

- "Witch Hazel" tree in the woods on Franklin (probably not more than 4 acres but seemed big). Helping me frighten the wits out of Marybeth (my little sister at the Witch Hazel tree - priceless.
- Astronomer across the street

Cliff Strauble

Set up 10" reflecting scope in parking lot of church sufficient to see rings on Saturn and moons of Mars and Jupiter)

- Franklin Park tennis
- Ice skating at Rose's on Reeds Lake
- Books and Reading
 - John Guenther: Inside Europe, Inside Japan
 - My Friend Flicka series: Flicka, Thunderbird, Green Grass of Wyoming

 My recollections of you as an adult(ish) for which I am especially grateful:

- Seeing you by UCSD and your letting me stay in your

apartment on the beach in Del Mar.

- Receiving the note that you had visited our place in Santa Cruz and your shock that I was living with kids.

- Visiting you and your roommate (I forgot his name, but I think you will remember) in San Diego in 1970 (I think).

- Your Dad's visit to our house in Ocean Park in 1977 and his tremendous pride at your having become a scientist.

 The Sun Valley Ski trip you hosted. Getting completed out drunk by your roommate in drinking games in town.
 It may have affected my skiing the next day.

- Your visit to us at our Topanga house and offering to

let me experiment with your rockets.

- Your great hospitality in Milan on our first trip to Europe. I really enjoyed the tour of the Duomo, and the other great places but especially the introduction to gnocchi, a relationship I have continuously maintained. My daughter Adriana still has and uses the ski boot storage bag from the Milan sporting goods store you took us to.

- The meeting in Lone Pine with you and Darlene when I kept you two up most of the night explaining recombinant DNA to me. Most of the next day skiing I

was trying to envision the process.

- Your explanations of organic molecules to someone that barely understands the water molecule.

- The great drama of your dilemma and resolution of the angioplasty cure molecule. I think of this often. I still think that it has the makings of a good movie or book.
- And lastly (next), your gentle communication that my learning "all about enzyme catalysis" was not really possible in my lifetime without exposing my extreme naiveté, even to me.

John M. Huskey Chairman and CEO Meta Housing Corporation Los Angeles, CA We were classmates at UCSD, in Biology.

From the very late 60s through the mid-70s we spent lots of "relaxation time" together. We (Doug & Darlene, Jill & I) have maintained a close, but long-distance friendship ever since. My favorite beer-buddy.

Of my friends from 45 years ago, there is no one I more admire.

HAPPY 70th BIRTHDAY !!

Love, Don and Jill





Doug and I have recently been reminiscing about our times surfing in Southern California and realizing how lucky we were to have had those wonderful times! We had a good friend named Steve Campion who unfortunately passed away a number of years ago. Steve was an avid surfer and probably had the best skills in our group.

Doug, Steve and I would actually camp out at a beach called Latigo, just above Malibu, when we were in junior high school. As I recall, one of our parents would drop us off in the early evening and we would spend the night on the beach in hopes of catching great surf the following morning at Latigo!! The concept of having parents let their kids sleep on what was a remote beach in the middle of winter might not happen in this day and age but it was no big deal back then.

My memory tells me that our hope of huge surf never really materialized but the weather was always sunny and good times were had.

Other surf spots were also in play particularly Dana Point, San Juan Capistrano and further south in Encinitas and even Baja California. The crowded conditions that exist today were never a factor for us and we just had the best times. I really miss just paddling out and waiting for waves....just a serene and calm time with nothing but the sound of waves, wind and seagulls to break the silence.

We once decided to surf out in front of Steve's parents beach house in San Juan Capistrano at about 9pm with no light other than the house lights!! Needless to say that did not go well.

And of course I have to mention Doug's famous trip to visit Kathy, my beautiful wife, and I in the early 80's! We were living on my brother's farm in La Selva Beach and Doug needed some time away from San Diego. All I can say is that for about a week, we did nothing but laugh, drink, laugh, drink and have one hilarious time with the famous 'Whoopie Cushion'!!

We took that thing to restaurants and even up to the Wharf in San Francisco. There was absolutely NO SHAME, especially with Doug and Kathy, igniting farts as we walked in public or as we ate at restaurants. It was a hoot and just what the Doctor ordered!! People around us had the most incredulous looks on their faces which made it all the more fun. It was, as Doug said, a 'sophisticated' way of having fun.

Anyway, happy birthday Or. Lappi!! You've been a great friend and look forward to many years to come. Who knows, we might even get out in the water again!

Zeke & Kathy

12-13-17



I first met Doug in January 1979 at Kaplan's lab at UCSD and from then started a long friendship that will never end!!

Later, I found Doug the most "European" open minded American; he helped us to understand the "US world" and was a lifesaver for our family in a foreign country.

I clearly remember and I still appreciate that, he was the first to give us congratulations for the victory of the Italian soccer team at the 1982 World Soccer Championship, opening a bottle of sparkling wine.

I shall always remember Doug trying to teach Simone surfing with no success.

I am proud to have helped Doug in finding a job in a distinguished italian biotechnology lab (where he was an appreciated scientist: ".....sono scienziato americano....!!!!), this gave us the opportunity to see each other for a couple of years in Milan.

I am really happy for the success Doug reached with his company.

We never scientifically worked closely but since we both loved research we discuss several time the "research philosophy" and since we have different political position I do not forget the highly discussions we had in Italy and in SD.

I always thought loving someone is the greatest feeling, but I realized that loving friends is even better.

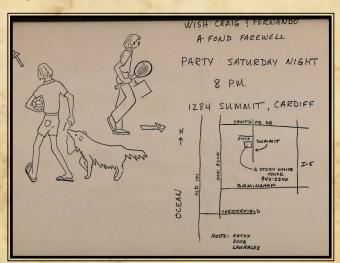
We lose people we love, but we never lose true friends.

Happy birthday my friend.

1) Doug's house in Milan, August, 1988



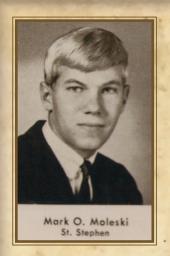
3) Invitation for the party held in Doug's house in Cardiff when I left, for the first time SD in 1980.



2) Doug's house Del Mar, June, 2014



Fernando and Carla Giuliani Milano, ITALY





This is Mark's idea to make you your own Slam Book. I'm sure the answers will be much more mature than the ones back in 8th grade. I hope your friends will play along.

The pictures are from senior year in high school as I could not find any from grade school. I tried! Also, this was usually made with a stenographer notebook but those seem to have become extinct along with grade school pictures. Feel free to add categories and Mark and I will catch up.

Have a wonderful birthday and remember you are only as old as you feel. "How old would you be if you didn't know how old you are?" (Satchel Paige)

Take care, The Moleski's

Doug's comments: Judy (Cantile) and Mark Moleski were students in 8th Grade with me in Grand Rapids, Michigan. We had a nice discussion about those days a couple of years ago. For some reason, Facebook came into the conversation. I asked them if they remembered Slam Books. Judy thought for a moment and brought up a description of a Slam Book: a spiral notebook that had on the first page numbered names of participants, followed by questions at the top of the following pages and numbers followed by the answers of the appropriately numbered person. Judy and Mark sent me a Slam Book for my birthday, filled out by them as number 1 and 2.

Slam Books were all the rage in 8th Grade. It was a method of declaring your identity, of discovering what others were up to, to declare gossip, or deny gossip, to declare a crush or deny a crush, and a means to find out what other people, especially of the opposite sex, were about. I personally loved Slam Books, you could communicate with girls without having the "embarrassment" seeing them face-to-face. My claim in our discussion was that this was the forerunner of Facebook, which did the same things except online. Maybe I'll make a Facebook page for this. We're older now, but not too old to have easy fun.

Below is Judy and Mark's suggestions for each page. I do love their idea and the suggestion to add your own questions.

-	
	ame
	ame

2. Favorite color

3. Favorite Music

4. Best Friend

5. Favorite Singer

6. Favorite Band

7. Favorite Vacation

8. Favorite Music

9. Favorite Movie

10. Favorite Book

11. Favorite Hobby

12. Favorite Place

13. Favorite Flower

14. Favorite food

15. Favorite Sport

Judy and Mark Moleski Grand Rapids, MI



My memories of work time with Doug are many. Sitting opposite him in his office, he on his grand, throne-like chair, taller legs than normal ...and

me, in the straight-backed wooden chair with most of the legs sawed off, looking up at him in the posture of a supplicant, Doug, with a big, wide grin on his face. I loved those moments! (he has offered, for a fee, to recreate those times for me. A stellar example of his Giving nature.)

As a hugely successful Sales Rep for one of the world's most well thought of biotech supply companies, I still feel today, a Singular Sense of Pride of having, Year after Year, appealed to Doug's somewhat deep and wonderfully broad Scientific Knowledge which would help him see the brilliance of my superior products, splashed across his desk in flashy, colourful

brochures! (for the younger readers....brochures are advertising pamphlets made of paper, full of pictures and words)

Regardless, back to my proudest moment: I never managed to sell Doug One-Substantial-bit-of-Equipment in all the years of trying ... Never! As a Sales Rep, we learn to spot the easy marks. I thought "I saw him coming" as they say... but in fact, he saw me!

The best part of all this is that during these years of back and forth, pulling out the big guns by singing Pharmacia Christmas songs for Doug and his staff, thinking they couldn't resist that...we became friends. Which is a much, much better result, by light years, than selling an FPLC system to him!

Thank you, Doug!!!
I love you, Man!
friend Richard

Richard Armstrong Amersham/GE Healthcare Sales Rep Greater San Diego



This joke made me think of Doug. I really don't know him well enough to be able to relate personal stories but have always really enjoyed our interactions. Get together with him and a few other guys (including a Swede) now and then. Doug's presence always makes a difference even if he doesn't talk that much. I always appreciate his pithy comments and dry sense of humor. I know that Doug is justifiably proud of his Finnish heritage, so I hope he likes the joke. Of course he may think it is the truth not a joke.

God sighed a deep sigh of satisfaction and proudly pointed downwards through the clouds, "Look, Michael, look what I've made". Archangel Michael looked puzzled and said, "What is it?"

It's a planet," replied God, "and I've put Life on it. I'm going to call it Earth and it's going to be a great place of balance."

"Balance?", inquired Michael, still confused. God explained, pointing to different parts of earth, "For example, northern Europe will be a place of great opportunity and wealth while southern Europe is going to be poor; Over there I've placed a continent of white people and over there is a continent of black people,"

God continued, pointing to different countries. "This one will be extremely hot and arid while this one will be very cold and covered in ice."

The Archangel, impressed by God's work, then pointed to a large landmass and said, "What's that one?"

"Ah," said God. "That's Finland, the most glorious place on earth. There are beautiful lakes, rivers, sunsets, and rolling hills. The people from Finland are going to be modest, intelligent, and humorous and they are going to be found travelling the world. They will be extremely sociable, hardworking, and high-achieving, and they will be known throughout the world as diplomats and carriers of peace."

Michael gasped in wonder and admiration but then proclaimed, "What about balance, God? You said there would be balance!"

God replied wisely, "Wait until you see the idiots I'm putting next to them in Sweden and Russia."

