



**6th Annual**

**Bergen County Silent Flyers**

**Micro-Technology seminars**

at the NEAT

**September 15 – 17, 2006**

**Talks and presentations on the smallest / lightest models and components in the world**

## Introductory Notes

The BCSF micro-technology seminars at the NEAT are intended to provide a Forum for technological exchange of information about the miniaturization of our flying models. In an interactive informal environment, creative concepts, innovative designs, techniques and ideas will be presented by many qualified speakers. This exchange should lead to a better understanding of our small, lightweight models and their components.

This year will be our sixth year of micro-technology seminars at the NEAT. The established theme for the seminars is “Smallest and lightest models and components in the world”. The mix of the talks is such as to provide a wide range of information, covering many aspects of our exciting modeling hobby.

The speakers you will be listening to, represent a small fraction of the talented contributors to the miniaturization of our models and components. We have many designers and tireless modelers who over the years contribute each in their own way. We plan on inviting them to participate in the upcoming NEAT seminars.

The next section of this flyer includes a brief intro of each one of the seminars speakers (current and previous years seminars), in alphabetical order, and the last page shows the 2-day seminars agenda.

The organizer of the seminars Sergio Zigras and the coordinator Joe Beshar, together with all the Bergen County Silent Flyers would like to thank Tom Hunt (recipient of the prestigious 2005 Howard Mc Entee award), Bob Aberle and the hard working SEFLI volunteers for organizing and producing the NEAT fair for all of us.

We would also like to thank all the seminars speakers for coming to the NEAT and sharing with us their knowledge, new technology, creative ideas and some secrets of their own.

For more information related to the NEAT seminars please contact Sergio, [zigras\\_sergio@yahoo.com](mailto:zigras_sergio@yahoo.com)  
This flyer is available on-line. Please visit our club's Web site, [www.geocities.com/silentflyers/](http://www.geocities.com/silentflyers/)

Enjoy the seminars.

Sergio Zigras, organizer  
Joe Beshar, coordinator

# Current and previous NEAT Seminars Speakers

( In Alphabetical order )

## **Dave Burley (Oregon)**

[d.burley@worldnet.att.net](mailto:d.burley@worldnet.att.net)

Dave retired at age 68 from a long career in the aero-space and electronics industry. Retirement allowed him time to work on past modeling ideas he had. Those ideas which became projects included constant speed ESC, Desktop CNC routing machine (Dave and Bob Selman use that machine to make their PCBs since late 2000), a thickness sander for Styrofoam, remote control Infrared systems using push-buttons instead of joysticks, the bitSC, a speed control for the toy car Rx's, and a method of fastening ends of Muscle Wire for easy replacement. Some time ago he put together the smallest and lightest Infrared receivers and took the best close up pictures of them. He has developed some handy equipment for building and reworking surface mount component boards and he is also an avid model train enthusiast that built a few gadgets for that hobby as well.

At the 2001 Toledo show he introduced the proportional Field Effect sensors on his 1.5 gram micro-servo prototype and most recently (2003 NEAT) he came up with the ingenious idea of replacing the complex reduction gears on the micro servos by twisting pairs of thin threads.

Dave moves constantly from one project to the another. He intends to experiment with every possible facet of our hobby.

## **Ramon Crichlow (CANADA)**

Email: [ramon@plantraco.com](mailto:ramon@plantraco.com)

Ramon holds an Electrical Engineering degree from the University of Saskatchewan in Canada. Ramon's first introduction to modeling was by his father with whom he built several rubber free-flight planes as a child. Ramon's background include fiber optic manufacturing and software development. He is experienced in the development of RF electronics and software. His childhood fascination with model aircraft was rekindled during the development of the 900MHZ radio system at Plantraco, where he is the senior design engineer. Ramon has designed several custom 900 MHZ systems, including several for micro helicopters. Ramon's recent interests span Nitinol actuators, micro wireless video systems, and inertial attitude systems using mems sensors.

Ramon together with Bud Kays will talk about Plantraco's 900Mhz radio control system.

## **Mark Denham (ENGLAND)**

Email : "Mark" <[mark@a123567.flyer.co.uk](mailto:mark@a123567.flyer.co.uk)>

Mark is one of the very creative and world known modelers at the Aeronutz club in South Leicester, England ([www.aeronutz.flyer.co.uk](http://www.aeronutz.flyer.co.uk)). Mark knows everything about models made from thin foam which carries the flight loads in a "stressed skin" manner like full size metal planes.

These planes are very light and quick to build. They are cheap and you can change the size of the plane by photo copying the patterns. The foam has some flexibility so it absorbs shocks rather than breaks. You can paint the parts before you cut them out of the sheet foam so it's easy to do artwork.

His range of planes is very wide too, gliders, multi-engine planes, WW1, WW2, flying wings, jets, etc.

Mark's web site (Aeronutz) is full of beautiful models (jets, retracts, multi-engine machines, multi channel models), techniques and other useful information you won't find anywhere else.

## **Mario DiDiego (New York)**

Email: [mmdidi@juno.com](mailto:mmdidi@juno.com)

Mario has produced many technological gadgets in his life. He loves to experiment and explain his work. You've seen him around the raffle table at the NEAT because he's one of the hard-working SEFLI volunteers that take care of the NEAT functions.

Many remember his MMT (Magical Mystery Throttle) project that controlled the throttle of two concentric CO2 engines. He also experimented widely with Infrared systems and built many Infrared controlled micro-models. He produced some interesting little magnetic actuators at the beginning of the actuators era, about 2000 and more recently produced some light weight motor/gear systems for some indoor miniature plane modelers. In addition, he experimented with some airborne tiny color cameras/transmitters with very good results. Now he is converting CDROM brushless motors to sensorless outrunner motors for use in the light weight indoor or outdoor models. When you have a question for Mario make sure you have allocated at least half an hour because his answers are given in great detail and enhanced with appropriate stories.

## **Gordon Johnson (Massachusetts)**

Email: [gordon-johnson@comcast.net](mailto:gordon-johnson@comcast.net)

Gordon's modeling background is in rubber and gas FF with a little CL back when he was a kid with his brother. He got started by his dad and uncle who flew models when they were kids as well. Gordon got back into models in 2001 after college, grad school, more grad school, marriage, starting a family, etc. He immediately gravitated to the small RC versions of planes like he did rubber FF with as a kid. He also had to teach himself how to fly RC, much to the enjoyment of his neighbors as he crashed a lot in the beginning. He co-founded the Boston Micronauts with a few friends in 2003, a club dedicated to micro indoor RC.

Gordon has written articles on various aspects of RC Micro planes in publications including RC Micro World, Fly RC, RC Microflight, and the Inside Story. Topics include LiPo cells, actuator torque, various micro receivers, carbon fiber prop molding, 6mm pager motors, 7mm Super Slicks pager motors, N20 motors, micro brushless motors, etc. He has published a few micro plane constructions articles including the Stechmucke, the Quick Junior, and Micro Bombshell. The Quick Junior was kitted by BSDmicroRC and is now also kitted under the Micro Scout name by Plantraco.

Recently Gordon has been testing almost all the LiPo cells under 300mAh (including the latest crop of high discharge cells) as well as testing the latest crop of micro brushless motors and controllers. He has recently purchased a laser cutter and is delving in the mysteries of CAD design and cutting various materials for micro planes

Gordon, together with his Boston Micronauts club members and some Bergen County Silent Flyers volunteers produces the annual NEAT Indoor meet on Saturday, from 5:00pm to 10pm at the Downsville School, with lots of goodies donated by many RC manufacturers and dealers.

## **Gary W Jones (Missouri)**

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Gary has been flying model airplanes since 1994 and starting in 2000 he has been flying small indoor electric airplanes. Since there wasn't much equipment available on the market that you could buy everything was pretty much scratch built. At that time he met Bob Selman who pretty much supplied the electronics for Gary to use. He was using Rick Ruijsink's radio system and that's what he started using as well. Gary still flies with Rick's receiver and speed controller on his small planes. When Rick stopped producing his system there was a need for replacement actuators to use with his receiver. So it was either throw the receiver away and look for something else or make his own actuators. So he decided to make his own actuators (great for all of us). It wasn't too long before people found out that he was making his own actuators that they wanted some too. He now manufactures

them and Bob Selman (BSD Micro RC) markets them.

Gary is currently employed by Pitsco, Inc. as a mechanical designer in their research and development department.

### **Bud Kays (CANADA)**

Email: [bud@plantraco.com](mailto:bud@plantraco.com)

Bud has a lifelong interest in indoor flying models, R/C blimps, telepresence, virtual reality, robots, and mechanical gadgets. Although he holds degrees in human physiology, acupuncture and Chiropractic, his flare for business and a burning desire propelled him towards the creation of new micro R/C products. Since 1995, Plantraco (Planrite Trading Company Ltd.) has been designing and manufacturing hobby and toy products under his management. Lithium polymer technology caused Bud to realize that development of new low weight R/C equipment would enable production of indoor R/C models in large quantities. Additionally, it would enable novice modelers to experiment with Micro R/C with easy to use plug and play components.

Bud will talk about Plantraco's 900Mhz radio control system and accessories and would be happy to answer questions.

### **Matt Keennon (California)**

Email: [keenon@aerovironment.com](mailto:keenon@aerovironment.com)

Matt has 28 years of model aircraft experience although he doesn't look more than 28. His early years were spent scratch-building peanut scale free flight models. His interest was mainly in the aircraft design aspect of peanut scale and how to take a full size airplane design and make it into a successful model.

Later years spent doing 1/2A RC models, and slope soaring RC gliders.

In the 1980s he did a small electric model with Cannon RC and Astro equipment. In 1996 started doing micro RC electric models with muscle wire actuators. At the same time started working for Paul MacCready's company AeroVironment on micro spy planes for the government.

Matt has developed some custom micro RC equipment, and his main hobby now is scale micro RC aircraft. Also he does robotics. He wrote very interesting and very complete articles and reviews for the RC Microflight magazine. Matt also developed the very successful "Spin-Blade" micro heli at the end of 2005, sold at the Radio Shack stores.

Given the nature of Matt's classified aspects of his government projects he won't understandably go into some details but he can explain quite a bit, because much of it is now public domain.

Also Matt would talk about the tiny Muscle Wire actuators and PIC processor chips. Time permitting Matt will additionally talk about motor performance, battery performance, milled Depron construction, various scale model building techniques including scale detailing using airbrush with acrylic paint and similarly a bit on prop design and testing.

Don't miss Matt's amazing outdoor flying demos at noon and also at the Boston Micronauts indoor meet in Downsville.

### **Nick Leichty (Florida)**

Email: [microflier@aol.com](mailto:microflier@aol.com)

Nick has been a modeler for many years and has designed model planes and helicopters, as well as full-size ultra-light planes.

He is best known for his incredibly tiny RC receivers, actuators, micro-ESC/Timers and all the associated micro parts that made possible Henry Pasquet's sub-gram RC models. He builds those fantastic little jewels one at a time by hand, with remarkable accuracy and neatness. His new 75mg receiver is one example of his amazing work.

Nick's receivers, speed controls, actuators, battery holders, switches, plugs, and the recent tiny electronic ESC/timers for free-flight will be available for viewing in a case, so you can see and appreciate the size of these little components.

Make sure you attend the Saturday night indoor meet at Downsville where some of Nick's miniature models will be flown.

### **Joe Malinchak (Pennsylvania)**

Email: [joemal@echoes.net](mailto:joemal@echoes.net)

In 2004 Joe was inducted in the NIRAC Indoor R/C Hall Of Fame. Well deserved honor.

Joe has been an active and superb pilot of model and real planes as well, for many years. He started flying model airplanes and full size aircraft at the age of 9. He was fortunate enough to grow up around a family with a strong aviation background. He soloed at 16, and he is now a captain for US Airways Express on the de Havilland DASH 8. He has been flying commercially for over 18 years.

Joe's most recent awards were best Micro, and best Scale model at the 2005 JR Indoor Festival.

His wife Cindy started sharing her modeling interests eight years ago with the, "If you can't beat 'em join them" approach. Her first model was a peck Cougar peanut scale kit that she converted to single channel C02 R/C with a Ceto system. She won the best in show award for her modeling efforts at the 1998 Little Rock SMALL fly-in and last year she was inducted in the NIRAC Indoor R/C Hall Of Fame !!!

Joe will be talking about Small Scale planes and construction techniques, intro to micro R/C scale modeling, choosing a scale subject to model, airbrushing techniques, detailing-painting etc. He'll also talk about micro-helicopters.

He will show some of his fantastic little planes, mostly small and medium size and fly most of them at the Saturday night indoor meet at the Downsville school.

### **Fred Marks (Maryland)**

Email: [fred@fmadirect.com](mailto:fred@fmadirect.com)

Fred began building models during WW II at age 8 and he has been a modeler for 64 years.

He progressed from rubber models, to control line models, to free flight, to RC over the period from 1941 to 1959. He took time out from modeling to matriculate at Glenville State College and WV University, graduating with a BSAE in 1957.

Fred married Patsy Greene in 1956 and spent honeymoon of three months working for Boeing in Wichita, KS. Built a Sterling Curtis Hawk P6 E that summer. They have three wonderful children, Diana, Jamie, and Timothy and grandchildren Christine and Paul Marks (Jamie's) and Adriana and Anthony Delgrosso.

Fred wrote articles for American Aircraft Modeler, Junior American Modeler, Popular Electronics, et all during the 1960s and early 70s and co-authored two books on RC with Bill Winter in the 1960s and 1970s. "The Basics of Radio Control Modeling" set records for Kalmbach with sales over 0.5 million copies. Wrote a third book for Kalmbach in the 1980s, "Getting the Most from Your RC System".

Fred has been a Member of the AMA Frequent Committee since 1978. Last chairman of the committee from 1983 through 1986. He developed the plan and made the presentation to the FCC commissioners in 1981-82 that brought approval of the 80 frequencies in the 72 - 76 MHz spectrum. Authored the Guidelines that led to the development of radios that meet those guidelines.

Fred received the Distinguished Service Award from the AMA, and elected to AMA Hall of fame. In addition he received a WRAMs Howard Mc Entee Award and he was elected to the Vintage RC Hall Of Fame.

He designed all ACE RC radios from 1972 to 1994.

Fred started FMA, Inc in 1985 to do Contract Engineering and consulting then with Tim Marks, and began FMA Direct to serve the RC modeling market in 1996. Joined by his son Jamie Marks and his spouse Cindy in 1998.

FMA, Inc became the exclusive agent for Kokam Engineering Co. Ltd, the manufacturer of Lithium Polymer

batteries, in 2002.

Fred's primary task now is promotion and education re Lithium Polymer batteries for RC and for the industry.

### **Petter Muren (NORWAY)**

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Petter is a 45 year old engineer from Norway. He has a Master degree in Aero & Hydro Dynamics from the Norwegian Institute of Technology and he is experienced in development of mechanics, electronics and software. Currently he holds the position of Manager Design & Mechanical Development in the video-conferencing company Tandberg asa and he is the owner of the company Proxflyer AS as well.

Petter started modeling at the age of 6, building rubber band powered scale models in balsa wood. He built and flew the first RC glow engine airplane in 1973 and at the age of 14 he designed and built his first F3A competition model. He also designed and built his first unconventional two rotor electric powered helicopter in 1993. Since 1998 his main focus has been on the development of the Proxflyer helicopter concept, probably the first aerodynamically stable helicopter ever made.

The Proxflyer helicopter concept was developed with the following goals: Make a helicopter that is passively stable in hover, that is very easy to fly, has few and simple parts, is ideal for indoor flying, and it is silent and safe to operate. After 5 years of development the current Proxflyer prototype has achieved all of these goals and even more. During the NEAT seminars and at the indoor meets, Petter amazes everybody with his Proxflyer flying demos. Last year he demonstrated the tiny 3 gram "Picoflyer" heli, a small version of the Proxflyer and his new toy, the "BladeRunner2" which looks great. The BladeRunner appeared in the US toy market at the beginning of 2005 and it produced such a commotion and excitement amongst thousands of modelers, not mentioning the kids and adults that love to fly their heli in their bedroom. Many internet special groups have hundreds of emails from users with comments, modifications, pictures and suggestions. Petter must be very proud of his excellent work that inspired so many modelers and added so much joy to their indoor modeling. Knowing the very hard working and creative Petter, be sure to attend his micro-technology seminal talk because he'll bring in some new surprises, like a twin tail Proxflyer, maybe a new Micro Mosquito helicopter, and who knows what else.

### **Martin Newell (California)**

Email: [mnewell000222@yahoo.com](mailto:mnewell000222@yahoo.com)

Martin got back into RC modeling relatively recently after an absence of several decades, attracted by the possibilities of building and flying really tiny airplanes. He started out with a 1 ounce model and has been working his way down from there. Last year he crossed a major barrier with the first radio controlled, electric powered plane under 1 gram. (It had been done earlier that year by David DeWit with IR control). To achieve these weights it is necessary to re-engineer, or build from scratch, every component. This has required learning or developing techniques ranging from rebuilding tiny motors, to CNC machining props smaller than any you can buy, turning down carbon rods to diameters smaller than any you can buy, programming PIC chips, modifying tiny radios, winding actuator coils with wire less than 0.001" in diameter, and developing an on-off switch that weighs less than 2 milligrams. Many of these techniques are described on his website at <http://mnewell.rchomepage.com>. Meanwhile, the quest for ever lighter planes continues. Martin will be flying his tiny models at the Indoor meet on Saturday.

### **Jean-Daniel Nicoud (SWITZERLAND)**

Email : [nicoud@didel.com](mailto:nicoud@didel.com)

Jean-Daniel built many models as a kid, having one of the first 27MHz single channel transmitters.

After a multi-year involvement with microprocessors and miniature robots at the Swiss Federal Institute of

Technology, he came back to his flying models interest with the objective of building ultralight planes. Jean-Daniel's passion is to push the technology to its limits, covering actuators, microcontroller boards, motors and gear sets, Infrared systems, and connectors that increase modularity and aid experimentation. He loves to experiment and share information about microcontroller based projects. We've seen samples of his excellent work in many aspects of our hobby. Recently in collaboration with Stefan Gasparin he developed a beautiful motor/gear set, and the lightest available 1.3 gram microservo. A few years ago Jean-Daniel worked with Sergio Zigras in the development of a sub-gram stepper motor digital servo that looked very good for production till the watch manufacturer of the motor refused to sell.

DiDel's web site ([www.didel.com](http://www.didel.com)) is full of interesting parts for micro flight projects and the miniCeline, a 6 gram RTF crash-resistant carbon model with a 3 foot turning radius, a real home flyer.

### **Henry Pasquet (Missouri)**

Email: [hwpask@semo.net](mailto:hwpask@semo.net)

Henry is a retired Air Force Pilot who became interested in Model Airplanes at a young age at an annual Model Airplane contest at the Garden City NY elementary school, which was just across the street from their house. He flew free flight and U-Control until 1962, when he built his first R/C airplane. He has always preferred small airplanes, building a Cox .020 airplane in 1965. In 1969 he built the 7" Gnat with a Cox .010. In 1971 he built some small CO2 R/C airplanes, based on a modified Page Boy.

Henry worked with Astro Flight in the 1970's, helping to develop the Astro 05 and 15. He lost interest in models until he read an article by Don Ross in the January 1995 Flying Models magazine. He has tried to build ever smaller airplanes ever since.

Henry's "Little bit Slow" model is down to 4.25 grams and his "Little Bit Electric" is now down to 1.34 grams. His latest tiny model is a 2 1/3 inch plane at 1.15 gram. Those are remarkable numbers for 3-channel proportional models. He is constantly working on shaving a few more milligrams from lighter LiPo cells, lighter receivers and smaller motors.

Henry set a new indoor endurance record at the AMA Nats on May 2004 of 30:40 with 6 cells and then breaking it a week later at NIRAC with 33:37 on 4 cells. In 2005 he set a record in AMA 627 Duration of 48:40 on April and 53:05 on June 2<sup>nd</sup>. On AMA 629 Duration he set another record on May 31<sup>st</sup> of 4 hours, 1 minute and 3 seconds and broke it on July 2 with 6 hours and 32 seconds. We can certainly call him the "record man".

In 2005 Henry developed the Butterfly model for Plantraco.

Henry was rightfully inducted to the 2004 Indoor RC Hall of Fame.

### **Jean-Marie Piednoir (FRANCE)**

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Jean-Marie was born in 1943. He has a mechanical and automation engineering degree and he is a modeler since 1955. Free-flight at first, then control-line until 1962. Built and flew his first single-channel radio in 1963. By 1964, he had designed his own analog feedback proportional system (rudder + trimmable throttle), flying in a great Ted Strader design : the low-wing "Whirlwind". In 1966 visited the US and brought back receiver and servo kits for two Digitrio systems. He scratch-built the transmitters and 4-channel decoders. These systems gave good service in Merco 49 powered Taurus, at a time when the then not so reliable Simprop was tops in Europe.

In 1969, following a summer trip to Bulgaria, took up tethered speed hydroplanes (B1 class - 2.5 cc airscrew driven), and entered many competitions, including the 1973 European Championships in Czechoslovakia, where he won the title and set a 214 km/h record, breaking for the first time the Iron curtain monopoly. In 1985, was a founder member of the "Association des Amateurs d'Aéromodèles Anciens" or 4A, the French SAM chapter no. 70, in which he is still active. In 1989, with two friends, established the French straight line speed record for R/C power planes at 297 km/h. This record was improved to 328 km/h three years later, and

is still standing. In 1996, he decided to learn how microprocessors work. The first product was put on the market in 1997 by Wes Technik as the 0.7 gram, 4A, JMP7, which set a new standard in small ESC's. A bit later, at Walter Scholl's request, designed the high-frequency JMP HF9 for coreless motors, which also was a success. In 2000, two things happened : Jean-Yves Martin designed the "Moins que Rien" of 8.9 gram, another world first, and a company was set up under the name of JMP Solutions. At the end of 2003, the narrow-band JMP RxCombo was developed, which enabled indoor flyers to routinely fly several at a time. Jean-Marie demonstrated the Variante Horten-type wings and the Martinet birds designed by Gérard Jumelin before the heavy floods at the 2004 NEAT seminars.

### **Rick Ruijsink (NETHERLANDS)**

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Rick started model flying in a warm summer of 1958 at the age of 10. Mainly Free Flight and some control-line. He watched the beginning of R/C with electronic tubes (before transistors) and heavy batteries.

FreeFlight competition with A-1 gliders and Coupe d' Hiver rubber has been important to him through the 60's.

He was twice Dutch Champion Cd'H. In 1973 he started to pioneer with electric flight which in 1974 progressed out of the prolonged glide until a reasonable climb.

Rick has a degree from the Delft University in Aeronautical engineering, on a theoretical and wind-tunnel study of MPV propellers.

From 1978 he has been active in the contest field, from the first F3E (now F5B) competitions that were held throughout Europe. From Italy through all the central countries to Sweden.

From the start he has been a member of the Electric Flight Sub-Committee of the FAI-CIAM, where he was the president for two years. In addition he has been active in all World Championships from the first in 1986 until 1996, either as team manager, pilot or judge.

In 1991 he won the Militky Cup in Switzerland for the most innovative model, being a 13 inch three channel RC model with magnetic actuators.

In further years he perfected the radio system (with programming help from Bob Selman) into the MicroMag. Now ideas are growing for new generation systems to come.

In his working life he is a Vehicle Aerodynamic Specialist, formerly working for Volvo, now self employed. An important specialty of Rick is the measurement of cooling airflow.

### **Bob Selman (Missouri)**

Email: [bselman@joplin.com](mailto:bselman@joplin.com)

Bob Selman, 9054 Gum Rd., Carthage, MO 64836, (417)358-9521

Bob has been modeling since 1953. He started in control line models, then tried free flight and finally his first successful RC in 1965. His venture into micro models began in the early 90's with an attempt to make a small receiver using a microprocessor for a decoder. He then made a connection with Rick Ruijsink and collaborated on the MicroMag system by writing the decoder software. Bob next collaborated with Paul Garrett on the Garrett receiver decoder microprocessor. Bob Selman Designs started in 1998 with a speed control and then a charger for 50 mAh NiCads. Now he's got a full house of very interesting micro flying products.

His full time job is designing microprocessor based electronics for a weighing systems manufacturer – Cardinal/Detecto Scale.

His new Web site [www.BSDMicroRC.com](http://www.BSDMicroRC.com) has all kinds of useful micro-parts, the narrow-band JMP actuator receiver, receiver decoders, tiny ESCs, actuator drivers, LiPo monitors and chargers. Don't miss his new Plantraco 900MHz remarkable system, as well as, the new tiny BLC motors, controllers and lots of micro-plane kits.

### **Phil Smith (Michigan)**

Email: [philsmith@tc3net.com](mailto:philsmith@tc3net.com)

Phil has been a modeler for many years and he has hardly missed any of the KRC or NEAT meets.

He started modeling at the age of 10 and his first gas model was a BABY PLAYBOY.

Phil was in the army Air Force during WW2. Hobby shop owner from 1945 to 1950.

He retired in 1989 and returned to model building and electric powered R/C. He developed an IR control system for indoor models, built some of the first small speed controls for electric models, worked on small R/C receivers, and developed home-made brushless motors and controllers of his own design. He also worked on converting 72 Mhz GWS receivers to the 50Mhz ham band.

Phil will be showing everybody his carbon fiber construction for indoor models. He has a new and unpublished system for rib and spar construction, and some other interesting projects

### **John Worth (Virginia)**

Email: [johnworth@cox.net](mailto:johnworth@cox.net)

John is an 82 years young man who started modeling back in 1938 when he built his first model. Very few modelers can match this fact alone.

In 1947 he built his first RC model ! Born in New York City, moved to Virginia in 1942. In He serviced in the Army Air Force between 1943 and 1946, where he ended up as a B-29 crewman in Okinawa.

Worked in NACA which then became NASA, from 1946 till 1964.

John was elected AMA President in 1963, and he was the AMA Executive Director for 27 years, from 1964 to 1991 !

He operated Control Research, RC parts company from 1949 to 1955.

John started the Cloud9 RC parts company in 1995, and still doing it today. He Produced the Cloud 9 Micro RC Newsletter, from 1995 to 1999. That was the first microflight related magazine. He served as the Founding Editor of the RC Micro Flight publication, from 1999 till February 2005. A few months later he started the RC Micro World online internet magazine with a May 2005 first issue, which has continued with monthly issues ever since.

Some of John's awards are AMA Fellow, AMA Hall of Fame, NFFS Hall of Fame, Vintage RC Society Hall of Fame, Howard McEntee Award, Society of Antique Modelers Hall of Fame, FAI Tissandier Diploma for International Aeromodeling Leadership, Elder Statesman of Aviation, National Aeronautic Association and last year's NIRAC Hall of Fame.

John has been following and writing about the microtechnology and microflight evolution more than anybody else. He'll tell us more during his microtechnology seminar talk.

### **Sergio Zigras (New Jersey)**

Email: [zigras\\_sergio@yahoo.com](mailto:zigras_sergio@yahoo.com)

Sergio began his airplane modeling in Greece at an early age by flying all kinds of paper airplanes because that's all he could afford at that time. He resumed his flying activities in Venezuela in the late 60's where he formed a local RC club "Ikaros". He organized a National flying demo in his own town and he participated in three National competition events as one of the three judges.

He continued his modeling activities in the US while working as a communications engineer and getting his BSEE and MSCS in New Jersey.

He pioneered the microprocessor based projects in the RC hobby with his "beepo" timer, back in the late 80's and soon after the micro-based 2 KiloWatt ESC, the MAXCELL, sold by Jomar. Dave Baron uses one of them in his huge B17 that Joe Beshar built many years ago. During the 1997 KRC Electric Fly meet Sergio introduced the

Infrared Proportional control system. Today more than 50 of Sergio's microcontroller-based designs are commercially available from Jomar, EMS, Subtech, Nick Leichty, FMA Direct, Windy CL products, Fritz Mueller, BSD Micro RC and Z TRON. His designs cover just about anything related to RC, such as receivers (his Extreme FMA receivers and later models M5 and Encore, pioneered the concept of SMART decoding, soft deglitching and error integration for fail-safe application), transmitters, plane and boat speed controllers, differential motor drivers, pulse generators, servo reversers and buffers, gear /door cyclers, glitch recorders, plane and heli mixers/ESCs, FF timers, digital servos, battery checkers and chargers, etc. etc. His FMA superESC series pioneered the concept of automatic battery type and voltage detection for Motor cutoff which now is added by the rest of the ESC manufacturers.

His Infrared systems were sold worldwide with the most successful user's group today being the Aeronutz club in England ([www.aeronutz.flyer.co.uk](http://www.aeronutz.flyer.co.uk)). The very talented Aeronutz made creative improvements to the system and Infrared applications. The Infrared Control Line system, as well as the ESC Controller/Timer, promoted by the recently Hall Of Fame inducted Windy Urtnowski are also gaining popularity with multiple magazine articles and National demonstrations.

Sergio wrote a few articles in Electronics and RC magazines but many magazines local and European, wrote about his projects.

Sergio has been involved with the miniaturization of RC models and components from the beginning, he has been the president of the BCSF club for the past 12 years and now, together with Joe Beshar, organizes the annual BCSF micro-technology seminars at the NEAT, a forum for innovative micro models and components. Sergio is currently a project engineer with Intel, NJ.

# Program - BCSF Micro-Technology Seminars at the NEAT Smallest and Lightest models and components

*Friday September 15 to Sunday, September 17, 2006*

<b>Day - Time</b>	<b>Speaker</b>	<b>From</b>	<b>Topic(s)</b>
<b>Friday 9/15</b>			
1:30 – 1:45	<b>Sergio Zigras John Worth</b>	NJ VA	Introduction  Microflight Evolution, RC Micro World Newsletter.
1:45 – 2:30	<b>Joe Malinchak</b>	PA	Small scale planes and micro-helis. Construction techniques
2:30 – 3:15	<b>Gordon Johnson</b>	MA	Mighty Midget BL and 7mm Super Slick motors, motor constants and performance, profile and printed tissue planes
3:15 – 4:00	<b>Bud Kays and Ramon Crichlow</b>	CANADA	PLANTRACO 900MHz micro system and accessories
4:00 – 4:45	<b>Petter Muren</b>	NORWAY	Proxflyer Twin Tail Heli, BladeRunner #3 super toy heli and maybe the latest “ Micro-Mosquito” microheli ?
4:45 – 5:15	<b>Jean-Marie Piednoir</b>	FRANCE	Micro receivers (narrow band), lightest models, tiny ESCs and accessories from JMP, France
5:15 – 9:00	<b>Everybody</b>	From everywhere	Informal “show and tell” and some flying, inside and outside the BCSF tent.
<b>Saturday 9/16</b>			
1:30 – 2:15	<b>Martin Newell</b>	CA	Smallest and lightest RC planes (less than a gram total), plus building techniques
2:15 – 3:00	<b>Matt Keennon</b>	CA	Muscle-wire actuators, Motor performance and tests, milled DEPRON construction, prop design and testing, and Micro-heli details.
3:00 – 3:45	<b>Dave Burley</b>	OR	Micro-magnetic actuators. New innovative machine for winding your own coils. Also foam micro-slicers.
3:45 – 4:30	<b>Phil Smith</b>	MI	Carbon fiber and rib - spar construction for indoor models. Other interesting projects
4:30 – 5:00	<b>Fred Marks</b>	MD	LiPo batteries, proper care and usage, new high C versions and LiPo chargers
Sat, 5:00 – 10:00	<b>BM Indoor meet</b>	From everywhere	Downsville Central High School (see <b>Gordon Johnson</b> )

**Sunday 9/17:** Informal discussions and demos inside and outside the BCSF tent.

For a complete NEAT 2006 Micro-Technology Seminars flyer that includes the speakers bios, please visit the BCSF web site [www.geocities.com/silentflyers/](http://www.geocities.com/silentflyers/)