

Not on file: *Engineer Highlights*

Title: Manager, International Space Station Portable Computer Systems Software.

Time at JSC: 15 years.

Education: Texas A&M University, B.S. Electrical Engineering.

Favorite book or movie: Any Tom Clancy novel. For movies, *The Matrix* or *The Sixth Sense*.

Favorite music: Alternative.

When away from JSC: I like to work on my ham radio, play golf, or go hunting.

What you like about NASA...and your job at JSC: The people and the challenges of the projects make this a great place to work. Plus, NASA has a great legacy behind it and a great future we're building. What else can I say? I love what I do!

Background: Seeing a 6-year-old taking apart the phones and radios is always a tell-tale sign of a budding engineer. Nothing was truer of JSC's John Maca, who says he pretty much knew all along that he would do something with electronics when he grew up.

"I was always tinkering with things," explained Maca. "I nearly drove my parents crazy always taking stuff apart, but it always worked when I put it back together."

By 15, he had discovered the limitless world of ham radio through a neighbor and obtained an amateur radio operator's license. That teenage introduction sparked a passion that continues today and is what led him to pursue engineering in college.

"I wanted to go somewhere with a really strong engineering program" said Maca. "I asked several family friends what they recommended, including Gerry Griffin who was a flight director at the time. Being an Aggie himself, he recommended A&M."



NASA JSC Photo JSC-2000-00137 by James Blair

Name: John Maca

That was pretty much the consensus, so that's where I went."

Maca graduated in 1984 with an electrical engineering degree and joined the JSC team as a digital voice intercom systems engineer where he progressed to project manager. In 1990, he transitioned to the simulator development for the ISS training facility. In 1993, he spent about eight months on-loan to the Assured Crew Return Vehicle Project Office working training simulator issues. In 1996, he joined the Portable Computer Systems Project as a systems engineer.

"Those first positions gave me valuable experience and job diversity," said Maca. "But my early mentors also were important. Leroy Penn and C.W. Vowell were two people who 'took me under their wings' and provided invaluable guidance in my early days."

Now Maca leads a group of nearly 30 software engineers to develop the PCS software.

"PCS is very diverse and I get to do a lot of hands-on work and be directly involved with the development," said Maca.

Maca is responsible for production of the laptop software, including the different displays for every flight, and providing the software to ISS for command and control of the vehicle. However, like most positions, there's always a unique project that comes up. For Maca, it's working on the International Display and Graphics Standards Panel – a forum of representatives from all the IPs who define the official style and format for all ISS displays.

According to Linda Uljon, Maca's supervisor, he's a perfect match for such a role.

"He works hard and is open to new ideas and ways of improving things," said Uljon. "This attitude has been wonderful in negotiating commonality of laptop hardware and software with the Russians. They have come to trust that he will consider their ideas on an equal footing with NASA ideas, and work to provide the best common solution."

Maca finds satisfaction in being part of the project.

"It's neat creating a standard," said Maca. "This one in particular because it entails negotiating with the international community to agree on numerous icons, symbols and methods. It's quite an accomplishment and I understand there are outside agencies interested in it."

You can imagine the hundreds of icons, colors, fonts, sizes and layout methods that have to be determined and agreed upon. It can be challenging, but it does have its perks.

"Getting to work so closely with the astronaut crew is really a neat part of the job," he said. "There are some really dedicated and brilliant people to work with."

Maca still remains very active with his amateur radio hobby. Aside from being the station manager for the JSC Amateur Radio Club and past president of the Clear Lake Amateur Radio Club, Maca also serves as an amateur radio volunteer examiner, working with local Boy Scout troops and other groups to introduce them to the world of radio technology.

"It's rewarding that you may have sparked an interest in ham radio and maybe even increased their interest in science in general," said Maca. "It's fun when parents bring their kids out and, after showing them briefly how to operate the radio and what to say, seeing them get all excited when they make their first contact with a person in another state or country. That's priceless." ■

Title: Russian Training Integration Instructor.

Time at JSC: Eight years with the space program including four within crew training.

Education: University of Texas, B.S. Aerospace Engineering and a B.A. in Plan II Honors (an honors liberal arts program).

Favorite book or movie: My favorite movie is *Bringing Up Baby* with Kathryn Hepburn, Cary Grant, and a leopard named Baby because it's a good, off-the-wall comedy. *Snowcrash* by Neil Stephenson is my favorite book because it's so radically different and energetic.

Favorite music: Darden Smith and Elvis Costello.

When away from JSC: I enjoy reading. It annoys my wife sometimes how fast I can turn through books. I'll go through two or three on one plane ride to Moscow.

What you like about NASA...and your job at JSC: The challenge of it all – my everyday job is to learn how things work, which has always been something that I enjoy.

Background: Although many people would consider international travel as a perk to any job, meeting your spouse while overseas has got to top the list of fringe benefits.

Such is the case for Chris Niemann. As a Russian training integration instructor, the 31-year-old has spent more than half his time during the past two years living in Russia, and has readily adapted to a schedule packed with visits to the cosmonaut training center at Star City. Niemann had studied Russian in college, so he already had a good grasp of the language when he met Natasha Doroshenko, a Russian native serving as an



NASA JSC Photo JSC-2000-00962 by James Blair

Name: Chris Niemann

office manager/translator for the Director of Operations – Russia office in Star City.

Niemann mixes well with most Russians, but this one was special. He and Natasha were married this past summer and are expecting twins this March. As Niemann's primary project is supporting crew training for the Expedition 1 and 3 missions, he continues to spend the majority of his time in Russia, where Natasha and her 8-year-old daughter, Olga, still live.

"It's been a wonderful experience," says Niemann. "I've always enjoyed my job in Russia."

Niemann says that building personal rapport with the Russians is an integral part of working with them.

"It is a totally different culture," says Niemann. "Relationships are how you get

things done in Russia. Job titles, especially at the lower levels, don't have the same initial impact that they have here. You have to earn the respect of each individual if you want cooperation."

Niemann explains there are understood traditions in Russia for building team camaraderie.

"It is different how you socially interact there," said Niemann. "You are expected to share with them outside of work occasionally, and that may mean a throw-together feast of black bread, vodka, sliced meats and pickles after work. They get to know you, you get to know them, and after that, you see a willingness and a flexibility from them that you haven't seen before."

Establishing successful relationships with the Russians is only part of Niemann's job.

The core of his position revolves around the U.S. flight crewmembers, ensuring their mission training is concise, relevant and valuable. The training and preparation for Expeditions One through Four can be intense and problematic, and crewmembers long ago recognized the value of having advocates to help streamline the workload – especially in Russia. As a trial run, four Russian integration instructors are now permanently assigned to the crews and oversee all aspects of their training.

"To know that you have something you can teach astronauts or flight controllers is a good feeling," said Niemann, who says an average day might entail reviewing and editing Russian system schematics, negotiating the content of lessons with Russian instructors, bringing crew operational issues to the attention of the proper boards, and reviewing a system with a crew in preparation for exams.

Niemann feels it takes patience, flexibility and perseverance to be successful in this role.

"In this project, you have to expect everything is going to change underneath you continuously," explained Niemann. "You won't always get results the first time, but you must be ready to try again and again, if necessary. You can't let things get to you in this job."

It's that calm approach that Niemann's supervisors think contribute so much to his success.

William O'Keefe, the Motion Control lead and Niemann's supervisor for the past four years, agrees. "Stress apparently doesn't affect him," said O'Keefe, "his pulse never gets above 50. He has an outstanding ability to understand extremely complex technical material and the ability to do the work of three people. From him, I realize that 'low key' and high performance are not mutually exclusive." ■