

DAN DULL

ORIGINAL COPY:

Dan has 23 years of experience designing inkjet printers and 13 years designing medical devices

His skills include digital and analog design, FPGA design and simulation using VHDL, Motor control, power supplies, circuit simulation, embedded firmware and mechanical design.

He is named on 8 issued U.S. patents, earned a Solidworks mechanical design associate certificate and completed UCSD's leadership & management program (LAMP).

VERSION ONE — EXPERTISE-FOCUSED:

With over two decades of experience designing inkjet printers and 13 years designing medical devices, Dan has cultivated a specialized skillset in firmware engineering and FPGA design and simulation using VHDL.

As an electrical engineer, Dan's expertise in digital and analog design, motor control, power supplies, circuit simulation, embedded firmware, and mechanical design have led to his contributions on 8 issued US patents.

Dan holds a BSEE in Electrical Engineering & Computer Science from San Diego State University and a Solidworks mechanical design associate certificate. He also completed UC San Diego's Leadership and Management Program (LAMP).

VERSION TWO — CHRONOLOGICAL/PERSON-FOCUSED:

After obtaining his BSEE in Electrical Engineering & Computer Science from San Diego State University, Dan began his career as an electrical engineer creating inkjet printer control boards. His work as a system architect allowed him to build expertise in FPGAs, microprocessors, and embedded software.

Dan designed inkjet printers for 23 years before joining NOVO Engineering, where he is a Senior Electrical Engineer, designing and developing medical devices with a focus in electrical and firmware engineering.

He is named on 8 issued US patents, holds a Solidworks mechanical design associate certificate, and completed UC San Diego's Leadership and Management Program (LAMP).

VERSION THREE — NOVO FIRST, BACKGROUND SECOND:

Dan has designed and developed medical devices at NOVO for 15 years, focusing on electrical and firmware engineering.

Prior to his time at NOVO, Dan designed inkjet printers, gaining 23 years of experience using FPGAs, microprocessors, and embedded software.

Dan is also a Solidworks Certified Associate (CSWA) and completed UCSD's Leadership and Management Program (LAMP). His skills also include digital and analog design, motor control, power supplies, circuit simulation, embedded firmware, and mechanical design. He is named on 8 issued US patents.

VERSION FOUR — COMPANY SPOTLIGHT STYLE:

A master of digital, analog, and mechanical design, Dan has been a valued Senior Engineer at NOVO for 15 years. Dan's product design and development focus on electrical and firmware engineering.

Dan's skills in firmware engineering, FPGA design, VHDL, and circuit simulation come from his more than two decades of experience as a system architect for inkjet printer control boards.

He is also dedicated to his own professional development and growth, completing UC San Diego's Leadership and Management Program (LAMP) and earning a Solidworks mechanical design associate certificate.

Dan's ingenuity, design savvy, and expertise in electrical engineering have led him to be named on 8 issued US patents.

JOSH DOAN

Josh's impressive expertise in biomechanics, bioengineering, and 3D imaging have led him to a diverse career designing medical devices, lab and test equipment, lab and test imaging, and optics. He is also the Contributing Author of more than 20 articles on these subjects.

With a MS in Bioengineering and over 8 years of design experience, his skills are especially notable in opto-mechanical design, investment casting, plastic injection molding, 2D and 3D image analysis, signal processing, and mechanism, spring, jig, and fixture design.

These skills, along with his quantitative problem-solving skills, bring a vital energy and keen eye to NOVO's bioengineering team.

JOHN LOVE

With over 25 years of experience in product development, ___ years at NOVO, and a BSME from MIT, John is well versed in every stage of the development process, from brainstorming and architecture to testing and manufacturing.

Throughout his career, he has undertaken this process for a broad range of products, including 2D and 3D printers, medical devices, surgical instruments, and custom manufacturing equipment. John's skills include mechanical design, product architecture, testing and analysis, DFM, DFA, and custom equipment and fixturing. He is named on numerous patents.

John brings his expertise and a specialty in molded plastic, sheet metal, and CNC-machined part design and assembly to NOVO's clients, ensuring their products are optimized and excellent.

NATE PETERSON

Nate's fluency in programming languages and 17 years of experience in software engineering are indispensable in providing our clients with top-tier HW/SW interfaces, motor control, embedded device user interfaces, and beyond.

He has experience developing software and electronics for 2D and 3D printers, medical devices, and industrial automation equipment from initial proof of concept through production.

A well-rounded engineer, he also has worked with automated testing and custom test fixture development and has designed and implemented the control electronics and software for devices in languages such as Verilog, VHDL, C, C++, C#, and Python.

Nate holds a BS in Electrical and Computer Engineering and is named on 2 issued and 3 pending U.S patents.

NATHAN BALCOM

Nathan is committed to advancing medical technology and dedicated to engineering, creative product design, problem-solving, and teamwork, allowing him to help clients realize their vision.

With over 9 years as a mechanical engineer at NOVO, he has experience in all stages of product development and is named on 5 publications and 3 patents. He is skilled in concept development and always prioritizes optimal manufacturing solutions.

His passion for and experience in biomedical engineering is evidenced in Nathan's BS and MS in Biomedical Engineering from Cal Poly SLO and his previous work as a cartilage tissue

engineering researcher at UCSD, where he focused in altering the geometric and mechanical properties of articular cartilage for future repair or replacement of damaged cartilage.

ROB SIMON

Using his early-career experience in manufacturing as a foundation for his system-based approach to design and product development, Rob is an asset to concept development, system architecture, and design execution at NOVO.

As a mechanical engineer, Rob's 28 years of experience include developing medical devices and complex electromechanical systems from concept to prototype to implementation. This includes inkjet 2D and 3D systems and subsystems, FDM, and industrial automation. He is named on 4 US Patents and 2 design patents.

Rob's focus on design for manufacture and assembly to accelerate product development is crucial to creating optimal engineering solutions for NOVO's clients.

JEFF JOHNSON

As Chief Technology Officer, Jeff is responsible for the technical management of project execution for all engineering groups at NOVO.

Throughout his 18 years developing innovative products in all the industries served by NOVO, including print tech, med tech, and biotech, Jeff has gained well-rounded expertise in system architecture and the design of complex systems involving multiple engineering disciplines. He specializes in mechanical design and system modelling and analysis.

Jeff's ability to approach complex engineering challenges with a focus on communication and attention to detail have allowed him to successfully lead teams in the development of highly technical product development from concept to manufacture while ensuring technical excellence.

He holds a BS and MSME and is named inventor on more than 20 patents.

STEVE GORSKI

Steve's technical prowess, mastery of the first principles of engineering, and hands-on approach allow him to quickly turn ideas into functional prototypes. His collaborative spirit and team management skills help him thrive as a Senior Mechanical Engineer.

In his 13 years as an engineer, including more than 8 years of esteemed work at NOVO, Steve has focused largely on designing and developing medical devices, ranging from laparoscopic surgical tools to drug delivery devices. This experience has allowed him to establish an expertise in bioengineering research, design, and development, and he is dedicated to the creation of devices that exceed clients' expectations and serve a larger functional purpose.

Steve is known for utilizing creative mechanisms in his designs and was awarded patent US-11406373. He holds a BS in Bioengineering from UC San Diego and is a Certified Solidworks Professional (CSWP).

PAUL FAUCHER

With the goal of working with great people designing state-of-the-art electromechanical systems, Paul has been a Principal Systems Engineer at NOVO for over 15 years, where he is actively involved in the detailed design of bio-compatible and bio-capable products utilizing the latest engineering, material science, and manufacturing technologies to create superior solutions for the medical field.

Over 27 years, Paul's impressive and versatile career has led him to take on ink jet printer architecture, semiconductor wet fab acid reprocess and purification, strain gauge-based load cell and sensor development, and medical device architecture. He has experience in mechanism design that includes miniature gear transmissions, belt systems, and clutch and friction drive systems.

Paul's professional achievements include designing in vitro testing for a major pharmaceutical drug delivery system, designing, prototyping, and testing an innovative gastric device, being the mechanical designer for the bottom-purge waste management of a sulfuric acid distillation column for use in the semiconductor fabrication industry, and being the lead engineer on an all-mechanical accessory paper tray.

At NOVO, he is responsible for system architecture of mechanical and electromechanical systems, subsystems, devices, and components. He has expertise in complex electromechanical devices, designing for high-volume manufacturing, system hardware analysis and debug, root cause failure analysis, and more.

Paul holds a BSME in Engineering from San Diego State University and has had more than 12 patents issued.

ANTONIO UBACH

As a Principal Mechanical Engineer with nearly 14 years at NOVO and 26 years in the industry, Antonio's expertise in medical device design, machine design, system modeling, automation of molecular biology protocols, molecular cloning, antibody design, production, and purification, and beyond are well-proven.

Some of Antonio's many impressive mechanical design achievements include an aseptic fluid connection system for wearable drug delivery, multiple orthopedic surgical instruments, an automated lane closure system used to manage traffic around construction sites, a cutting-edge inkjet print engine and service station, lab equipment that automates molecular cloning protocols, and analytical instruments used to detect and identify chemical compounds used for national security applications.

Antonio's experience undertaking product design, development, and engineering in a wide variety of industries including medical devices, biotech, custom equipment, digital printing, and imaging make him an asset in delivering thoughtful, technically capable, and operationally excellent products to NOVO's clients.

He obtained a BSME from Polytechnique Montréal, A BS in Biochemistry from Université de Montréal, an MS in Biological Systems from McGill University, and Solidworks Associate and Professional certifications.

BOB WEBER

Bob's expertise in cross-functional team collaboration and communication, drive for action, hands-on technical approach, and 35 years of software engineering experience allow him to achieve successful project development, planning, and execution while ensuring the commitments and quality standards NOVO's clients expect are exceeded.

As a Senior Software Developer, he proactively seeks and resolves software development challenges, dynamically and efficiently solves technical problems, and improves software development processes.

His versatile career has included the medical device, aerospace, in-flight entertainment, consumer electronics, and Internet of Things industries. Bob is a master of numerous software languages and development tools including, C, C++, Python, STM32CubeMX, ST32CubeIDE, Qt, IAR Embedded Workbench, TI's Code Composer, Eclipse, and GCC. He also has experience with microcontrollers, digital signal processors, ARM processors, and a wide variety of off-the-shelf boards, analytical tools, operating systems, version control systems, and communication protocols.

Bob holds a BS in Electrical Engineering from University of Wisconsin-Platteville and an MS in Electrical Engineering from Northern Illinois University. During his career, he also obtained a JD in Law from Concord Law School.

MARIANNA OLIYNYK

With over 8 years of experience designing and developing medical devices including atherectomy systems, coronary stents, and electromechanical catheters, Marianna plays an essential part in bringing products from concept to regulatory submission to sustainable commercialized device.

As a Senior Mechanical Engineer, Mariana approaches problems and challenges as a puzzle she can solve with theoretical analysis, hands-on work, and her expertise in SolidWorks, prototyping, verification and validation testing, tolerance analysis, MATLAB analytical modeling, and FEA modeling.

Her dedication to biomedical and mechanical engineering is also evident in her past research, which has included cartilage structure modeling, intradural spinal cord simulator dynamic

testing, rigid esophagoscopy simulator design, and development of an implantable acoustic sensor for hip implant infections, which involved the design of a printed circuit board for benchtop tests of the sensor.

Marianna holds a BS in Biomedical Engineering from the University of Virginia and an MSME from Carnegie Mellon University. She is a Certified SolidWorks Associate and the author of 2 publications.

BEN SMITH

In Ben's 17 years of experience as a software engineer and electronics technician, he has gained specialized expertise in several industries, including medical devices, life sciences, and print tech.

As a result, he has gained a dynamic skillset that includes embedded development, application development, Visual Studio and embedded integrated development environments, user interface design, test-driven development, testing frameworks and systems, web application and services, and hardware control for test equipment.

He has the ability to adapt to a wide variety of equipment, specifications, and programming languages, including C, C#, and Ruby on Rails. This has allowed him to lead the design of a user interface for an electromagnetic survey source generator, be the primary software architect of test equipment for major pharmaceutical companies, and be the primary developer for a proprietary web application for internal workflow processes, project management, and document tracking. He is also the founding designer of a verification and validation station at a major printer manufacturer's distribution center and was a key contributor to the user interface for a second-generation all-in-one inkjet printer.

Ben holds a BS in Cognitive Science from UC San Diego.

MIKHAIL TIKH

Mikhail has over 13 years of dynamic design and development experience in diverse industries ranging from off-highway vehicles to high-precision robotic systems to Class II and III medical devices. As a Senior Mechanical Design Engineer at NOVO, he is responsible for mechanical design and system integration from initial concept through prototype build and manufacturing hand-off.

A master of Finite Element Analysis and 3D Computer Aided Design, he is skilled in ideation and prototyping, design for manufacturability, and electro-mechanical integration.

Mikhail uses his broad knowledge base and innovative problem-solving skills to strengthen and optimize cross-functional collaboration and product development processes.

Mikhail obtained a BSME from the University of Minnesota and studied abroad at the Hong Kong University of Science and Technology. He is named on 4 issued U.S. patents for his work at NOVO.

JEFF LIND

As a mechanical engineer, Jeff's 10 years of well-rounded and versatile experience have included the mechanical design of medical devices such as autoinjectors, aortic heart valves, and catheters, and non-medical devices such as printers, hard drives, and paint sprayers.

Jeff is passionate about new product design and development, and he has obtained an impressive expertise in FEA and CFD for structural and thermal design and part design for 3D printing, injection molding, sheet metal, and machining. This prowess makes him an asset to mechanical concept development, rapid prototyping, system analysis, verification testing, and data analysis at NOVO.

As a result of his innovative, forward-thinking, and goal-oriented work, Jeff is named inventor on 4 US patents.

Jeff holds a BA in Physics from the University of Minnesota-Morris and an MS in Mechanical Engineering from the University of Minnesota.

NICK BORING

Nick is an Electrical Development Engineer with more than 6 years of experience leading clients through the design and development process of cutting-edge medical, consumer, and industrial products.

With an expertise in quick turn PCB design and fabrication and skills in Altium, design validation testing, failure mode and effects analysis, and design for manufacturing, Nick has often taken on the role of Test Engineer during his 5 years at NOVO. When taking on this responsibility, he meticulously creates and executes test procedures to ensure the prototypes he and other NOVO engineers have created are not only effective, but excellent.

In his work, Nick values and prioritizes integrity, drive, and clear communication to help clients exceed their goals.

Nick holds degrees in electrical engineering and computer science from California Polytechnic State University – San Luis Obispo.

TOM KALISKY

With over 7 years in product development with a focus on robotics and medical devices and nearly 2 years at NOVO, Tom is passionate about making an impact through innovation by conceptualizing complex designs and engineering prototypes and products, to improve lives globally.

As a Development Engineer at NOVO, he uses his expertise in CAD software and mastery of mechanical design and engineering fundamentals to solve engineering challenges and increase product and manufacturing efficiencies.

Tom's past research has included differential pressure control of 3D-printed soft fluidic actuators at UC San Diego's Bioinspired Robotics and Design Lab and cold-formed steel research at the UNT Structural Testing Laboratory.

He is named on 3 US patents and authored 3 publications.

Tom holds a BSET in Mechanical Engineering Technology from the University of North Texas and an MS in Mechanical Engineering from UC San Diego.

SAM WAGNER

Sam is a Mechanical Development Engineer with a diverse career and background, including over 7 years in engineering and over 6 years in entrepreneurship and investor relations. He has an expertise in project management and has developed and tested products in the medical device and oceanographic industries.

His professional accomplishments include the development and routine testing of low-power, low-noise hydrophone datalogging systems for passive acoustic oceanographic monitoring, deploying and recovering instruments on the largest single expedition for the Scripps Whale Acoustics Laboratory, developing an SD card retainer clip 3D-printed to support miniaturized HARP systems (Ultimaker 3), utilizing Solidworks to update over 200 component assemblies for datalogging systems, project managing the refurbishment and transfer function modification for a fleet of miniaturized datalogging systems, leading the construction of a cell culture chamber to investigate the electro-mechanical effects on stem cell proliferation and differentiation, and acting as the CEO, CBO, and VP, respectively, of multiple biological and biotechnological laboratory companies.

Sam is passionate about learning and values curiosity, making him an asset in developing products at NOVO.

He holds a BS in Mechanical Engineering from UC San Diego.

JOSH WARNER

In his 6 years of experience as a mechanical engineer, Josh has developed an expertise in Solidworks and the ability to handle complex and varied projects.

Josh approaches design challenges with inventive thinking and problem solving in addition to his skills in solid modeling and assemblies, design for manufacturing, and CNC machining and fixturing. He has worked as a mechanical, development, and manufacturing engineer in various industries, including medical devices and aerospace.

He is practiced in identifying and eliminating costly errors from the manufacturing process, performing root cause analysis on non-conforming parts and implementing corrective actions, and designing and developing products with specific and complex parameters for large-scale production.

Some of Josh's professional achievements include designing an iteration of steerable catheter handle eliminating all screws from assembly, developing the first units of trans-septal catheter scheduled for 10,000 unit per month production, automating systems for efficacy and error reduction, and designing a custom extrusion calculator to eliminate OD failures in steerable catheters.

Josh holds a BS in Mechanical Engineering from California Polytechnic State University.

SERGIO ENRIQUEZ

Sergio's 14 years of experience have led him to develop software for embedded and desktop applications in the medical and automotive industries. He has worked as a Software Engineer at NOVO for nearly 6 years, where he specializes in the design, development, and testing of medical device projects running on a wide variety of microcontroller platforms.

He has a well-rounded expertise in numerous languages, platforms, and programs, including SQL, Linux, Android, Java, and Perl. He is also skilled in database development and security. In the past, Sergio has created systems including a custom product quote generation module and has researched wireless network management and sensor data collection using low-power embedded devices. His commitment to engineering related to medical research and philanthropic causes make him an asset to NOVO and NOVO's client's missions.

Sergio holds a BS in Computer Engineering and an MS in Electrical Engineering, Computer Networks from San Diego State University.

MIKE BELIE

Mike is a Principal Software Engineer who is passionate about leveraging software to solve problems and improve processes. With over 22 years of experience, including more than 5 at NOVO, Mike is responsible for software and database architecture, development, documentation, unit testing, and SCM/CI.

He is skilled in developing web and desktop applications, designing new product features, unit testing with TestNG, NUnit, MSTest, Fakes, and Mockito, defect management and resolution, code reviews, MSCRM/AX integration and customization, automation using CodedUI and UIA libraries, relational database design and concepts, and both agile and waterfall methodologies.

His mastery of software engineering includes expertise in C#, .NET, WCF, Java, C++/CLI, JavaScript, Vue.js, AngularJS, Reactive Extensions, SignalR, Android, Machine vision (Cognex VisionPro & OpenCV), Motion control (ACS, Maxon, Copley), Jenkins, Python and Ruby/Rails.

Mike's noteworthy accomplishments include designing and implementing a status recorder feature that records encrypted user interactions and client/server traffic in order to aid in troubleshooting defects, working as the UX developer on a high profile mutual authentication/SSO initiative, co-authoring a managed-coding standards and unit testing best practices for a UX group, and designing and implementing an MSCRM-AX validation tool that allowed a client to check customer and product information in AX, from CRM, and dynamically via web services in order to reduce errors in the client's ERP.

Mike holds a BA in Interdisciplinary Computing and the Arts from UC San Diego.

LANCE CLEVELAND

As a Senior Program Manager at NOVO with over four decades of experience, Lance is responsible for leading hardware, firmware, and software programs for biomed and robotics companies in the chemistry, biology, and proprietary technology industries from concept to production.

Lance's expertise in research and development management of consumer and medical products has a strong foundation in his passion for innovation, technology, and people. His multi-functional engineering teams—which over the course of his career have been based in the US, Spain, Singapore, and China—have been responsible for the design and development, applications engineering, hardware quality, NPI, and production line setup of cutting-edge consumer mechatronics products with high frequency drop generators, micro-fluidics, and micron level positioning accuracies.

He holds a BS in Mechanical Engineering from San Diego State University, a BA in Studio Art from UC San Diego, an MBA Certificate from UC San Diego's Executive Program for Scientists and Engineers, and an MS in Dynamics and System Control Theory from UC Davis. Lance is named on 8 US and international patents.

MIKE ENGELMANN

With over 24 years in technology, product development, and project and program management, including more than a decade in executive and management roles, Mike brings vital and impressive experience to his role as Senior Program Manager at NOVO.

Mike has extensive expertise in software, electrical, mechanical, optical, and thin-film semiconductor development in both the DoD and medical device spaces. He is also skilled in software and languages including MATLAB, LabVIEW, and C++.

Previously, he was the Vice President of Research & Development for a biometric intelligence medical systems company, as well as a Senior Scientist for a defense and aerospace research, development, and manufacturing company.

He holds a BS in Physics and Mathematics from Stockton University and a Ph.D. in Condensed Matter and Materials Physics from the University of Delaware. Mike is named on 9 issued U.S. patents and an author on 4 journal publications.

MIKE MACCOLLUM

As a Senior Program Manager with nearly 40 years of experience in design engineering, product development, manufacturing, and project management primarily in the medical device industry, Mike manages engineering teams with FDA and ISO compliant processes to achieve feasibility assessment, concept development, detailed design, and verification.

In addition to his proven record of results in delivering projects that meet stakeholder needs and bringing programs successfully to market, Mike has wide-ranging engineering expertise, including in Solidworks, Failure Mode and Effects Analysis, injection molding, and manufacturing. He is a certified Project Management Professional, registered as a Professional Mechanical Engineer in California, and has been a member of the American Society of Mechanical Engineers for 32 years.

He holds a BS in Mechanical Engineering from the University of Massachusetts Lowell and an MBA from San Diego State University. He is named on 23 design and utility patents in the US and internationally.

LEE MACKLEM

Lee is a Senior Program Manager with 36 years of experience as an engineer specializing in medical device, consumer products, and industrial products.

In addition to his mastery of engineering skills such as design for manufacturing, medical device development, mold design, human factors engineering, and industrial design integration, Lee is also skilled and well versed in leadership, staff training, and project, quality, and cross functional management.

His impressive career includes several notable accomplishments, such as being the lead engineer of a device for mitral valve repair and of a tissue stimulation device from concept to production for clinical trials, implementing CAD systems and developing multi-disciplinary training materials, and being a project manager and product development consultant for startups through Fortune 500 companies.

Lee holds an AAS in Mechanical Design Technology from North Dakota State College of Science and a BA in Engineering Technology and Management with a minor in Business Administration from Metro State University. He is the named inventor on 5 patents.

JOSH TAMSKY

With 23 years of experience including 9 years at NOVO, Josh undertakes his role as a Program Manager with a foundation of versatile mechanical engineering specialties.

Josh has utilized his well-rounded skills, ranging from mechanism design, CIS scanner design, design for high-volume manufacturing (DFM/DFA), design validation and verification, failure analysis, injection-molded plastic, sheet metal, and machined-part design, distributed product development and vendor management (ODM, CDM, CM), SolidWorks, and beyond, in industries including medical devices, imaging and printing, and kiosks and vending machines.

His many noteworthy professional accomplishments include being the lead product architect for an innovative kiosk vending machine, designing a semi-automated fluid dispensing machine with custom closed-loop feedback system to control dispensation of materials of varying viscosities, developing product architecture that allowed for quick transition between fluids while minimizing waste and cross-contamination, creating specialized test fixtures to qualify servo drive system on advanced Class I medical device and supervising its field deployment and the troubleshooting of the first systems that were delivered to customers, designing single- and multi-camera modules for high-speed IC “chip” inspection equipment, and designing and co-developing a Class II medical device.

Josh holds a BSME and was issued a patent for a multi-function imaging and printing device.

ERIK SIERKS

With over 11 years as an engineer in the aerospace, mechanical equipment, consumer products, and medical device industries, including nearly 3 years at NOVO, Erik brings a marked passion for product development to his role as a Senior Mechanical Engineer.

Erik has dedicated more than half of his career thus far to the development, manufacturing, and launch of consumer products. He uses rigorous engineering analysis and client-focused product decisions to turn ideas into products—through both low volume concept prototypes and high-volume production manufacturing—that exceed expectations. He has expertise in 3D modeling, 2D drawing, programs like CAD, CATIA, and MATLAB, and Geometric Dimensioning and Tolerancing.

He holds a BS in Mechanical Engineering from UC San Diego and an MS in Engineering from San Diego State University.