

*Nomination:* **Jim Madden**, Network Architect, IT Services, UC San Diego

*Specified category:* Lifetime Impact

*Submitters:*

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*UC Location:* UC San Diego

After 50 years (in August 2022) of exemplary service to the University of California, Jim Madden has had an exceptional lifetime impact on the institution. Hired in 1972 as a Sr. Programmer supporting the Burroughs B6700 mainframe, Jim quickly advanced to a position managing systems administrators, added support of additional operating systems including Unix, subsequently created and served as manager of the campus Network Operations group for over 20 years, and is now our brilliant senior network engineer.

The **complexity** of the work he undertakes cannot be overstated: Jim routinely solves our most complex system- and network-related technical challenges, even those that challenge network staff across the UC system. His deep insight into systems and processes, his calm persistence in the face of enormous difficulties, and his uncanny troubleshooting skills have helped resolve major campus problems more quickly—from wireless outages and switch/router misbehavior in his official bailiwick to helping out system administration teams trying to figure out complex multi-system communications and timing issues. He has earned the respect of our most knowledgeable computer science and engineering faculty, who routinely seek his advice and judgment.

Regarding **impact**, Jim is known for his dedication to resolving problems and his commitment to mentorship of colleagues and staff. His kind, deeply patient instruction has facilitated staff in and outside the department to grow into new skills and advance their careers. He always makes time to assist with technical conundrums, and partners willingly with faculty and staff. He listens to all, including students and student employees, which has led both to new student services like ResNet and to student employees deciding to stay on and commit to long-term University service. To quote a long-time colleague, “[Jim] has been a mentor for dozens of IT professionals not just in networking, but across the scope of informational technology. Those folks have gone on to great things in private industry, public and private universities—as well as those of us that have stayed at UCSD and can’t imagine what our world would look like without him and all of the foundational network support he’s put in place.”

These qualities mean Jim has been able to engage trust across the campus and achieve things others cannot—e.g. to broaden faculty’s individual successes (such as grant-funded high-speed network connections) to benefit many researchers, to train staff to solve difficult technical problems methodically and successfully, and, by his own uncomplaining example, inspire increased tenacity and commitment in colleagues. His activity with CalREN/CENIC TAC has expanded the impact of his wise counsel across the UC system and the California research & education community.

In these ways, Jim has truly advanced the UC **mission**, facilitating research and instruction and always striving for excellence for the university and care and respect for individuals.

*Among Jim's impressive portfolio of accomplishments:*

- Installed the first UC San Diego **ARPAnet** connection in 1973
- In 1984-6, designed/installed UC San Diego's first **LAN**, an Ungermann-Bass network
- Architected, guided installation and supported cutting-edge network technologies campus-wide through the years, from **FDDI, IPX/SPX, Appletalk, ATM and TCP/IP** networks all the way to our **400Gbps Ethernet backbone switches** installed in 2022
- Helped architect and drive the installation of the first **data network in the San Diego Convention Center** & nearby hotel for the EDUCOM conference
- Negotiated/architected UC San Diego's first **Internet connection** to in 1988/9
- Developed (and continually updated) a **dial-up modem program** in the mid-1980s and ran it until its closure after over 20 years of service
- Architected/implemented the first UC San Diego-wide **email system** in the early 1990s
- Installed the first connections to student dorms in 1995 and architected/built UC San Diego's fully fledged **ResNet** program (initially DOCSIS-based) in 1997
- Developed and ran UC San Diego's first **network security** program
- Developed UC San Diego's first **DNS** and **DHCP** databases and our first **RADIUS** server
- Architected/drove conversion of unmanaged ad-hoc 802.11b wireless access points into a coordinated, authenticated **wireless network** in early 2000's and then to a fully managed, secured state-of-the-art **802.11ax wifi 6** network serving more than **40,000 clients a day**
- Brought **Anyroam/Eduroam** connectivity to our wifi network and enabled UCSD users to use the service anywhere it's offered across the world
- Helped architect and assisted with the implementation of a **VoIP backbone** network in support of voice services campus-wide
- Played a key role in early design discussions of what would become **CalREN** (California Research & Education Network) in the 1990s, and participated in every development of the network as well as its operation and deployment during the early years
- As a founding and key member of the **CENIC Technology Advisory Committee**, helped design/develop **California-wide networking for research & education**
- In late 1990s, spearheaded the effort to develop the campus' **Next Generation Network technology plan and funding model**, which ensures UC San Diego's data network meets ongoing campus needs—including the demanding needs of research
- Architected multiple iterations of UC San Diego's cutting-edge **high-speed production network** and **high-speed campus gateway** connections
- Architected the campus approach to **IPv6**
- Architected extension of campus network to **AWS** and other cloud providers
- At the outset of the pandemic, deployed new **VPN** equipment/capabilities to ensure UC San Diego staff and faculty had access to resources for continuity of instruction and operations

***We can think of no more deserving candidate than Jim Madden  
for UC Tech's inaugural Lifetime Impact Award.***