

laboratory, r&d, & testing facility experience

by Steve Kimball & Chris Willis



programming & planning

Our laboratory programming & planning design is an integrated process with all critical stakeholders engaged throughout. Principles embedded in our programming & planning development include, workflow, occupancy group classification, laboratory module definition & separation, flexibility, equipment selection & layout, hazardous waste management, security, fire & life safety, gas & utility services, and high performance HVAC systems. Additional components of an overall strategy must include designing for automation and application of appropriate policies, procedures and processes.

laboratory design

Our programming and planning process establishes the basis for design that shifts the emphasis from individual activities or tests to an efficient and flexible lab workflow process. Design execution minimizes "motion", incorporates appropriate colocation of functions, minimizes space & equipment requirements, maximizes future configurability, and improves visual communication. We utilize our expertise with design of laboratory, research, testing and engineering facilities to create a custom well executed design for each clients specific needs.

experience

emersion DESIGN's has nearly two (2) million square feet (sf) of laboratory, R&D, and facility design that includes projects ranging in size from less than 10,000 SF to 400,000 SF. Our expertise with a broad variety of project types is represented below:

PROJECT	FACILITY TYPE					
	Size (SF)	Wet Lab	Dry Lab	Electronics Test	Data Center	Research
University of Cincinnati Muntz Hall Physics Classroom / Laboratory	2,000		X			
Clark State College Applied Science Center	3,000	X				
SRC Technologies Research & Development Office Renovation	6,000					X
Alion (MacAulay Brown) Engineering Office Renovation	6,000					X
Neuralink Histology Laboratory	7,500	X	X			X
Electronic Warfare Evaluation Simulator	8,000					X
Procter & Gamble Laboratory Renovation	10,000	X	X			
Intelligence Advanced Research Office Renovation	10,000					X
Wright State University Foundation 5G Emergence Center	10,000			X		X
Neuralink Vivarium	15,000					X
Aircraft Hangar Asset Lab	15,000					X
Integrated Vehicle Energy Technology Systems Laboratory	17,000		X			X
Rolls-Royce Aerospace Engineering Office Consolidation	30,000					X
Celanese Troy Research & Development Facility	31,500	X	X			X
Celanese Auburn Hills Research & Development Facility	2,500	X				X
CTI Clinical Testing	35,000	X	X			
Bionanotronics Research Facility	36,000		X	X		X
Optics Research Laboratory	37,000		X	X		X
Electronics Test & Evaluation Laboratory	51,000		X	X		X
Secured Testing & Engineering Facility	53,000			X		X
Advanced Power & Thermal Research Laboratory	54,000		X			X
Thermo Fisher Scientific Laboratory & Office Addition	60,000	X				
Aerospace Research Convergence Center Study	100,000		X	X		X
Information Technology Complex	106,000				X	X
Sensors Technology Complex	148,000	X	X	X		X
AeroHUB Innovation Center & District Master Plan	150,000			X		X
NASA Structures & Materials Complex	185,000	X	X			X
National Air & Space Intelligence Center Complex Renovation & Addition	256,000		X	X		X
National Air & Space Intelligence Center Study	400,000		X	X		X
Celanese	31,500	X	X			X
University of Dayton Research Institute— Burner Rig Laboratory	3,000		X			X
Huntington Ingalls Industries Electronics Research Facilities	10,000		X	X		X
Raytheon (RTX) Technologies Research Test Facilities	45,000		X	X		X
General Tool Company Production Facility	60,000		X			
UES Technologies Biological Materials and Processing Laboratory	6,000	X				X
TOTAL SF	2,045,000					

The laboratory planners and architects at emersion DESIGN are experts in Science & Technology architecture, as well as innovative laboratory and campus R&D designs from the ground up.



about the authors



steve kimball
PMP, LEED AP

Steve has over 40 years' experience with business leadership and project management. Prior to co-founding emersion DESIGN, he was the President and CEO for a 100-person A/E firm with offices in Ohio and Florida. He has an extensive 30-year history of managing projects such as campus master plans, office buildings, computer centers, research and testing facilities, healthcare facilities, labs, university academic buildings, and engineering centers.



chris willis
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Chris Willis is emersion DESIGN's Director of Laboratory Planning. Her expertise in laboratory planning and design includes a variety of project types and sizes. Lab typologies include: commercial, research and teaching labs, vivariums including large and small animals, aquatics, surgical suites, and cage wash areas. Chris' reputation and expertise led to her co-authoring the National Institute of Health's design requirements manual. Chris has spoken at esteemed symposia across the country, including the national AIA convention, on laboratory trends and design shaping the future.