

UNE Behavior Core

MISSION: To provide a comprehensive approach to the research needs of COBRE investigators, UNE researchers, and the external research community using the highest level of expertise, training, and instrumentation. The core provides in-house validation of cutting-edge models of pain and relevant comorbidities to advance the pain field and early stage drug discovery.



CORE LEADERSHIP



Tamara King, Ph.D.
*Professor, Biomedical
Science; Core Director*

Tamara King has over 20 years of experience in behavioral research including design, analysis, and interpretation of behavioral studies incorporating motivational/affective aspects of pain and pain relief in the preclinical setting.



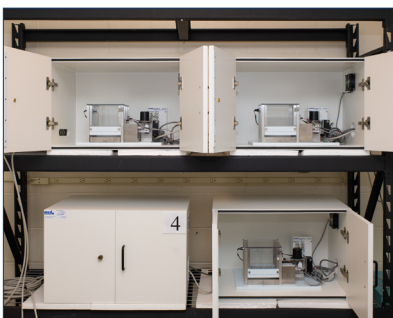
Denise Giuvelis
Core Manager

Denise Giuvelis has over 15 years of experience in running pre-clinical behavior testing including compound administration, side-effect profiling, drug addiction and neuropathic pain states.



SERVICES

- **EXPERTISE** including surgical methods for producing pain models; dosing of drugs/anesthetics, including central, systemic, and localized administration; and blood and tissue extractions
- **AID** in behavioral test design and statistical analysis of results
- **TRAINING** of laboratory personnel in a variety of testing, injection, and surgical techniques

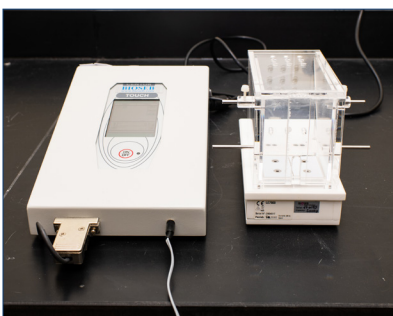


MODELS

- Acute Pain
- Musculoskeletal Pain
- Neuropathic Pain
- Inflammation Pain
- Craniofacial Pain
- Post-operative Pain
- Learning and Memory
- Anxiety and Depression
- Addiction

PROCEDURES

- Handling and Behavioral Analysis
- Drug Administration
- Blood and Plasma Collection
- Surgical Models
- Tissue Collection and Fixation
- Gastro-intestinal Transit
- Viral Delivery
- Optogenetics



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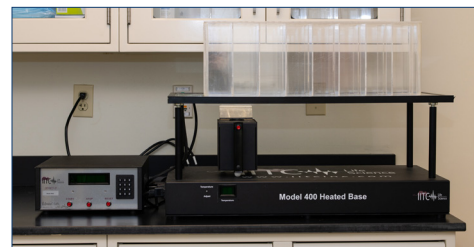
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TABLE 1: MODELS

Acute Pain	Formalin, AITC (mustard oil), capsaicin, acetic acid, etc.
	Sensory thresholds: mechanical, thermal (heat and cold)
Musculoskeletal Pain	Osteoarthritis
	Cancer bone pain
Neuropathic Pain	Nerve injury (SNI, nerve crush)
	Chemotherapy-induced neuropathy
Inflammation Pain	CFA
	Carrageenan
	PGE2
Craniofacial Pain	Temporomandibular joint pain
	Medication overuse headache
	Ocular pain
Post-operative Pain	Incision Injury (hindpaw)
Learning and Memory	Novel object recognition
	T-Maze
	Morris water maze
Anxiety and Depression	Tail suspension
	Forced swim test
	Elevated plus maze
Addiction	CPP
	Addiction

TABLE 2: PROCEDURES

Drug Administration	ICV
	Spinal (intrathecal)
	Intraperitoneal
	Subcutaneous
	Intramuscular
	Intravenous
	Oral (gavage)
	Pellet implantation
Blood and Plasma	Osmotic mini pumps
	Catheter collection/low volume for multiple draws (chronic)
Blood and Plasma	Cardiac puncture for terminal collection
Gastro-Intestinal Transit	Charcoal assay
Viral Delivery	AAV techniques for transfection of fluorescent proteins and opsins into brain areas, spinal cord, etc.
Neural Tissues (Fixed or Fresh/ Snap Frozen)	Brain
	Spinal cord
	Dorsal root ganglia
	Saphenous or sciatic nerve
Non-neural Peripheral Tissues (Fixed or Fresh/ Snap Frozen)	Whole organ or tissue biopsies (skin, bone)
	Synovial fluid
	Ex vivo tissue bath (smooth muscle)



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 une.edu/research/cobre/behavioral