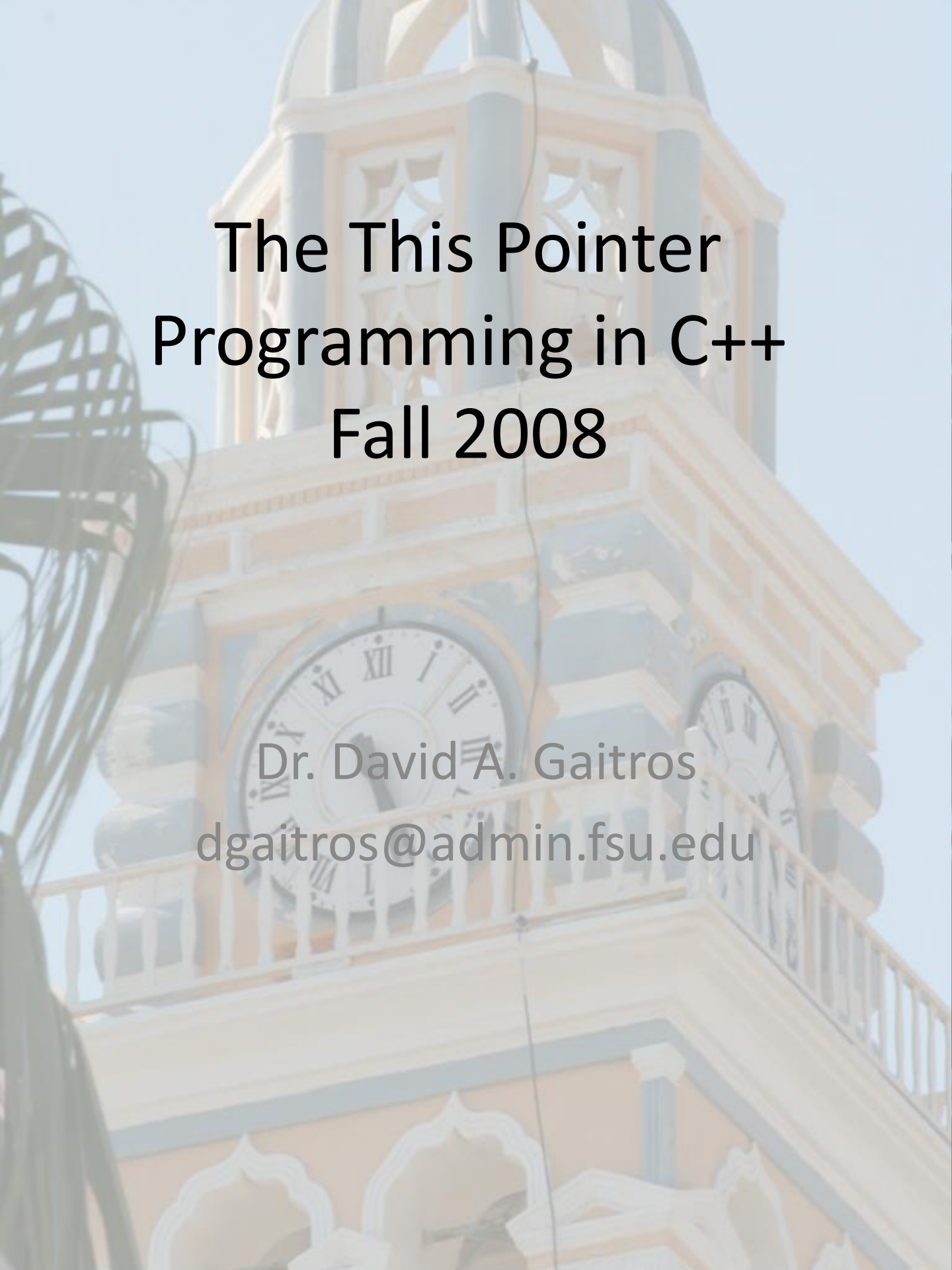

# The This Pointer
# Programming in C++
# Fall 2008

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# The This Pointer

- The Problem:  “Yes, inside of a class you have access to all of the private data, but how do you access the object itself like a client would?”
- Each object maintains a pointer to itself which is called the “this” pointer.
- Each object can determine it’s own address by using the “this” keyword.
- Many member functions of a class in C++ require no arguments because of the use of the implicit pointer “this”. Very handy to use this which avoids the overhead of passing parameters but still enforces the rules of good sound software engineering by using the appropriate class functions.

# The This Pointer

```
// Example of using the this pointer

#include <iostream.h>
using namespace std;

class Test{

public:
  Test (int=0);
  void print () const;

private:
   int x;
};
```

# The This Poiner

```
Test::Test (int a )  // Constructor
   { x = a;}
void Test::print() const
{
   cout << "    x is equal to " << x ;
   cout << "\n this-> is equal to "<<this->x;
   cout << "\n (*this).x is equal to "<<
    (*this).x <<endl;
}
int main (void)
{
   Test testobject(12);
   testobject.print();
   return 0;
}
```

# The This Pointer

- It may seem redundant but the "this" pointer does have some uses:
  - Prevents an object from being assigned to itself.
  - Enables cascading member function calls.