Illinois Institute of Technology
IPRO 355

KlarAqua is devoted to supporting and educating communities via development and deployment of a low-cost, clay-based water purification system that improves health conditions and promotes the local economy.

IPRO 355 TEAM

Amanda Gilliam
5th year, Architecture and Construction Management minor
Elkhart Lake, Wisconsin

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4th year, Molecular Biochemistry and Biophysics
Tulsa, Oklahoma

Shea Lemley
4th year, Psychology with Premedical emphasis
Madison, Alabama

Armando Quintanilla
4th year, Chemical Engineering
Monterrey Tech, Mexico

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4th year, Chemical Engineering
Monterrey Tech, Mexico

Jose A. Ramirez
4th year Chemical Engineering
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3rd year, Aerospace Engineering and Entrepreneurship minor
Plano, Texas

Petre Ikonomov
5th year, Architecture
Samokov, Bulgaria

Katherine Hadou
3rd year, Biology with Biochemistry minor, Music minor and Premedical emphasis
Niles, Illinois

Samantha Staley
3rd year, Professional and Technical Communications
Lincoln, Nebraska

Snehalata Topgi
3rd year, Biomedical Engineering and Molecular Biochemistry and Biophysics
Palatine, Illinois

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Our work has also been aided by about 25 other students from IIT and from Monterrey Tech who have contributed their time and talent to this project over the past year.

IPRO 355 TEAM

Fall 2006

Throughout Semester: Finalization of Bacterial Testing
Arsenic Sorbent Testing

October: Market Research Trip to Monterrey, Mexico

November: Presentation to IIT Board of Trustees

I2P Competition, International Division

Finalization of Business Plan

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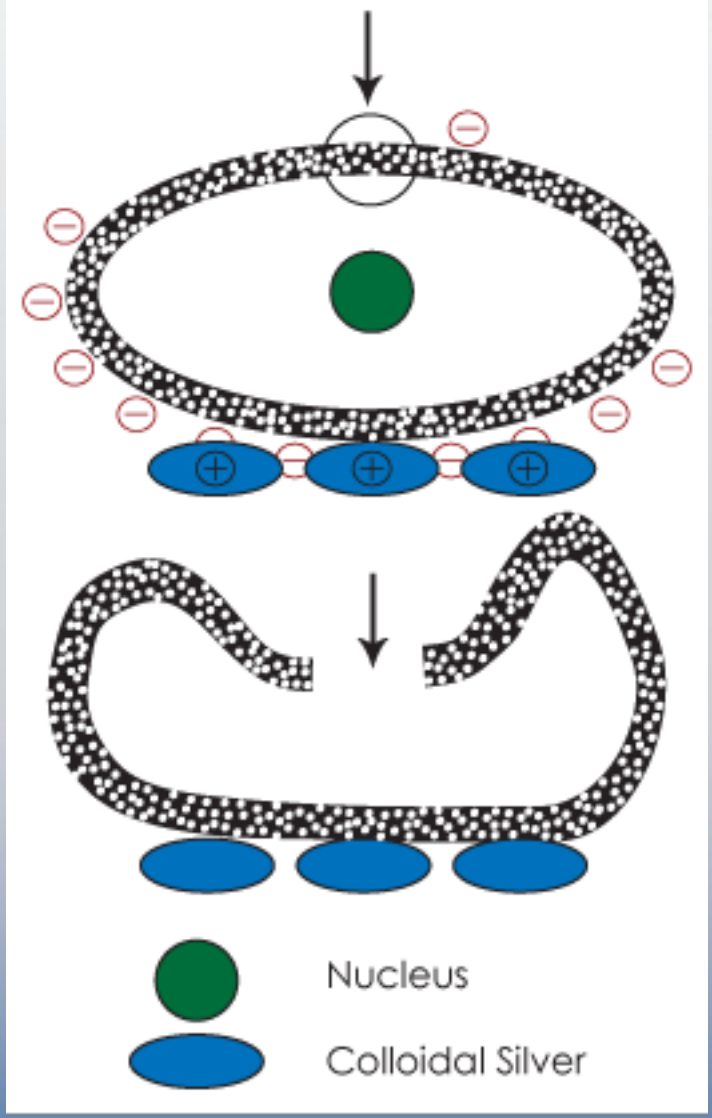
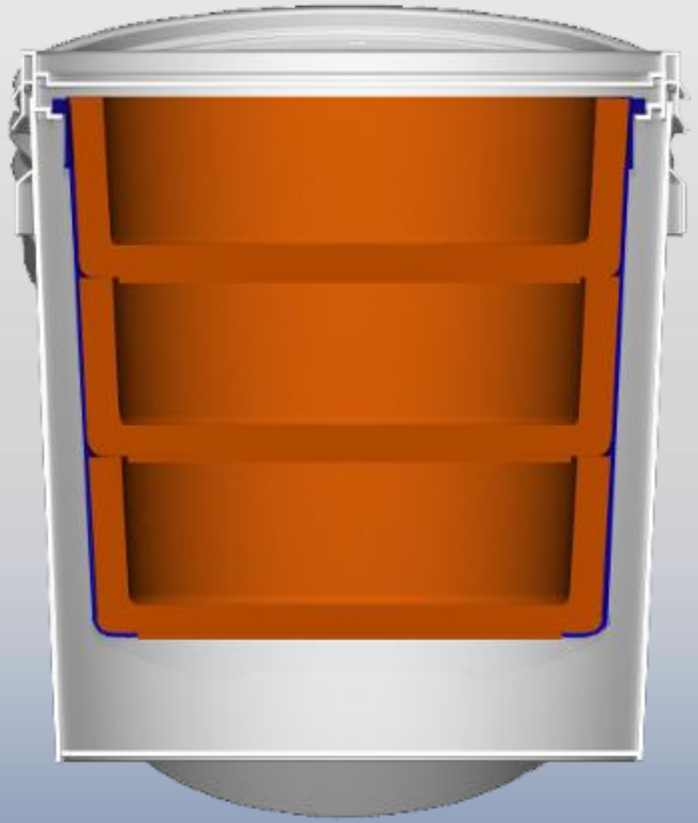
THE NEED

KlarAqua

KlarAqua's SOLUTION

An innovative water purification system





IP PROTECTION

Provisional utility U.S. patent filed

Will file international patent: Mexico

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ADVANTAGES

Technology

I. versatility

II. sustainability

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IMPLEMENTATION

ENGINEERS WITHOUT BORDERS

ILLINOIS INSTITUTE OF TECHNOLOGY

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OTHER UNIVERSITIES

KlarAqua

ADVANTAGES

Technology

I. versatility

II. sustainability

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ADVANTAGES

Technology

I. versatility

II. sustainability

Application

III. cultural relevance

IV. decentralization

V. community development

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EMPOWERMENT

The Volunteers

The Artisans

The Users

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PRELIMINARY PLANS

Before Mexico: Plans and Ideas

Mutiple Potters:

Assumptions: Potter in each community
Potters willing to make filters

Solution: One potter per region
Student volunteers liaisons to community

Locations:

Assumptions: Initial locations are easily accesible

Solution: Communities closer to Monterrey Tec were chosen

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PROGRESS

Market Research in Mexico

Family with System

Pottery in Monterrey, Mexico

Results

- Agua Nueva and Delgado
- Can be made
- Will be used

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BARRIERS TO ENTRY

- Resistance to new ideas
- Cultural factors
- Accountability

THE FUTURE

What's Next?

- Full Scale Working Prototype
- Establish KlarAqua
- Pilot Study Completion
- Partnership Development
- Expansion Strategy

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NOT JUST A PRODUCT

A SERVICE

EMPOWERING COMMUNITIES… ONE DROP AT A TIME

APPENDIX

Cost of System

Clay	$ .66
Colloidal Silver	$ .46
Arsenic Sorbent	$ .05
Utilities	$ 1.89
Labor	$ 1.73
Bucket & Lid	$ 2.09
Spigot	$ 1.64
TOTAL:	$ 8.52

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APPENDIX

Estimated Pilot Study Budget

System Production	$ 300
Travel	$ 3,000
Monitoring (2/07-8/07)	$ 2,500
Educational Material	$ 200
Misc.	$ 600
Communications	$ 400
Subtotal	$ 7,000
Deviation @ 10%	$ 700
Upper Level Cost	$ 7,700

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