

## PERSONAL INFORMATION

## Ahmed Hammam



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## OBJECTIVE

Milk and dairy products are vital and illustrious foods that we consume daily, such as yogurt, cheese, etc. Consumption of those products has increased widely and become significant for many nations around the world. Dairy products provide minerals, including calcium and phosphorus, in a form that meets our needs. I am interested in working in Dairy Manufacturing, which could help me to develop and enhance my experience in the dairy science major (e.g., cheese technology, membrane filtration, dairy ingredients, dairy products processing).

## WORK EXPERIENCE

### Aug 2020\_Present Lecturer/Instructor

South Dakota State University, Brookings, SD, USA. <http://www.sdstate.edu/>

- Teaching DS 202 Dairy Products Judging.
- Teaching DS 401 Advanced Dairy Products Judging.

### Aug 2018\_Jul2020 Assistant Coach/Teaching Assistant of the Dairy Products Judging Team

South Dakota State University, Brookings, SD, USA. <http://www.sdstate.edu/>

- Training the students at the judging class on different Dairy products (such as Milk, Cheddar cheese, Cottage cheese, Ice cream, Butter, and Yogurt).
- Preparing the SDSU Judging Team for the Collegiate Dairy Products Evaluation Contest: [CDPEC](http://www.cdpec.com/).

### Jan 2017\_Present Research Assistant at Dairy Science Department at SDSU

South Dakota State University, Brookings, SD, USA. <http://www.sdstate.edu/>

- [My PhD project](#) is “**Manufacturing of process cheese without emulsifying salts using acid curd and micellar casein concentrate**” with [Dr. Lloyd Metzger](#)
- I am also helping the dairy plant of SDSU on conducting filtration and drying trials plus cheese manufacture for dairy companies.
- [My master project](#) was “**Production and Storage Stability of High Concentrated Micellar Casein and its Effect on the Functional Properties of Process Cheese Products**” with [Dr. Lloyd Metzger](#)

### Mar 2013\_Dec 2016 Teaching and Research Assistant at Dairy Science Department at Assiut University

Assiut University, Assiut, Egypt. <http://www.aun.edu.eg/>

**As a teaching assistant, I was teaching courses related to;**

- Cheese Technology.
- Dairy (Principles).
- Agricultural Bacteriology.
- Physiology of Bacteria.
- Principles of Dairy Microbiology.
- Production of Milk
- Principles of Dairy Chemistry.
- Application of Dairy Microbiology.
- Technology of Chilling and Freezing.
- Application on Manufacturing of Liquid Milks.
- Dairy Analyses.
- Quality Control of Dairy Production.
- Fermented Milk and By-products.
- Concentrated Milk, Dried milk, and Ice cream.
- Milk and Dairy Products.
- Dairy Chemistry.
- Technology of Milk Products.



As a research assistant, [My project](#) was about “Effect of Heat Treatment and starter cultures on the chemical and microbiological characteristics of Ras Cheese during Ripening”

- Also, I was helping in conducting research projects at the dairy plant and dairy science department fo Assiut University.

Sep 2012\_Mar 2013 **Research Assistant at the Dairy Science Department at Assiut University Assiut University, Egypt.** <http://www.aun.edu.eg/>

**Assist in conducting research projects**

- Working with professors of dairy science department and the dairy plant of Assiut University to study the changes and the composition of milk during the lactation period, cheese technology, chemical, and microbiological studies as well as the sensory analysis of several dairy products such as cheese, yogurt, and Ice cream.

Sep 2008\_July 2012 **Undergraduate/Junior Research Assistant at the Dairy Plant of Assiut University Assiut University, Egypt.**

- Manufacture of different types of cheese, including soft cheese(Domiati cheese and Karish cheese), semi-hard cheese (Memphis cheese), and hard cheese (Cheddar cheese and Ras cheese)
- Manufacture of other dairy products, including ice cream, butter, yogurt, and ghee.
- Analyze samples of received milk.
- Study effects of cow's and buffalo's milk on the characteristics of dairy products.



## EDUCATION AND TRAINING

July 2019\_Present **Ph.D. Degree in Dairy Science**

**South Dakota State University, Brookings, SD, USA.** <http://www.sdstate.edu/>

**Ph.D. courses:**

- My accumulative GPA is **4/4**.
- My dissertation is titled by “**Manufacture of ingredients for use in clean-label process cheese**”

Jan 2017\_May 2019 **Master's Degree in Dairy Science**

**South Dakota State University, Brookings, SD, USA.** <http://www.sdstate.edu/>

**Master courses:**

- My accumulative GPA is **3.95/4**.
- [My thesis](#) is titled by “**Production and storage stability of highly concentrated micellar casein and studying the effect of storage on the functional properties of process cheese**”



Jan 2014\_Dec 2016 **Master's Degree in Dairy Science**

**Dairy Science Department, Assiut University, Egypt.**

**Master courses;**

- I studied 12 advanced courses in dairy science and related subjects; Excellent 90.2% grade (3.97/4 GPA)
- My thesis work was titled by “**Effect of Heat Treatment and starter cultures on the chemical and microbiological characteristics of Ras Cheese during Ripening**”

Sep 2008\_Jul 2012 **Bachelor Degree in Dairy Science, Faculty of Agriculture**

**Assiut University, Assiut, Egypt.** <http://www.aun.edu.eg/>

**I Graduated with Excellent 92.79% grade(4/4 GPA).**

I ranked the top of 2012's class with an honor degree.

- I studied 50 courses in the agricultural and dairy sciences.



## Experience Awards

**Team Awards: (Presenting South Dakota State University Team)**

- **2<sup>nd</sup> Place:** 97th Collegiate [Dairy Products Evaluation Contest](#). (Madison, WI) 2019
- **1<sup>st</sup> Place:** Midwest Regional [Dairy Products Evaluation Contest](#). (Fair life, Michigan) 2019
- **1<sup>st</sup> Place:** 96th Collegiate [Dairy Products Evaluation Contest](#). (Milwaukee, WI) 2018
- **1<sup>st</sup> Place:** Midwest Regional [Dairy Products Evaluation Contest](#). (Fair life, Michigan) 2018
- **2<sup>nd</sup> Place:** IMPA Annual Conference 2017 “New Product Development Competition” Idaho
- **2<sup>nd</sup> Place:** IMPA Annual Conference 2018 “New Product Development Competition” Idaho

**Individual Awards:**

- **1<sup>st</sup> Place** Ice Cream: 96th Collegiate [Dairy Products Evaluation Contest](#). (Milwaukee, WI) 2018



- **1<sup>st</sup> Place** Cheddar Cheese: Midwest Regional [Dairy Products Evaluation Contest](#). (Fair life, Michigan) 2018
- Alfred and Hilde Tobkin Memorial Award (2018)
- The Top of 2012's Class, Faculty of Agriculture, Assiut University.
- The winner of the "Privilege Award " Top of 2010's class.
- The winner of the " Privilege Award " Top of 2009's class.



## Conferences

- IFT Institute of Food Technologists 2020. (July 2020, Virtual meeting)
- AOCS American Oil and Chemists Society 2020. (June-July 2020, Virtual meeting)
- ADSA American Dairy Science Association 2020. (June 2020, Virtual meeting)
- Global Cheese Technology Forum 2019. (November 2019, Reno, Nevada).
- ADSA American Dairy Science Association 2019. (June 2019, Cincinnati, OH)
- Wisconsin Cheese Industry Conference. (April 2019, Madison, WI)
- ADSA American Dairy Science Association 2018. (June 2018, Knoxville, TN)
- IMPA Annual Conference 2018 "New Product Development Competition". (August 2018, Sun Valley, ID)
- International Cheese Technology Exposition. (April 2018, Milwaukee, WI)
- IMPA Annual Conference 2017 "New Product Development Competition". (August 2017, Sun Valley, ID)
- The **8<sup>th</sup> Junior researcher's conference** in Agriculture College, Assiut University (April 2015, Assiut, Egypt).
- The **7<sup>th</sup> Junior researcher's conference** in Agriculture College, Assiut University (April 2014, Assiut, Egypt).



## Publication and Scientific Research

- 1- Sayed, I.M.; **Hamam, A.R.A.**; Elfaruk, M.S.; Alsaleem, K.A.; Gaber, M.A.; Ezzat, A.A.; Salama, E.H.; Elkhawaga, A.A.; El-Mokhtar, M.A. Enhancement of the Molecular and Serological Assessment of Hepatitis E Virus in Milk Samples. *Microorganisms* 2020, 8, 1231. <https://doi.org/10.3390/microorganisms8081231>
- 2- Mahmoud E. Ahmed., Ahmed M. Hamdy., **Ahmed R. A. Hamam**. 2020. Therapeutic benefits and applications of whey protein. *International Journal of Current Microbiology and Applied Sciences* 9(7):1-11.
- 3- **Hamam A. R. A.**, and L. E. Metzger. 2020. Manufacture of culture-based acid curd using micellar casein concentrate. *J. Dairy Sci.* 103(Suppl. 1):129-130. ([Link](#))
- 4- **Hamam A. R. A.**, and L. E. Metzger. 2020. Manufacture of imitation Mozzarella cheese without emulsifying salts using acid curd and micellar casein concentrate. *J. Dairy Sci.* 103(Suppl. 1):178. ([Link](#))
- 5- **Hamam, A. R. A.**, Mohamed S. Elfaruk, Mahmoud E. Ahmed, and Venkateswarlu Sunkesula. 2020. Characteristics and Technological Aspects of the Egyptian Cheeses. *International Journal of Current Microbiology and Applied Sciences* 9(6):3338-3354. <https://doi.org/10.20546/ijcmas.2020.906.397>
- 6- **Hamam, A. R. A.**, and M.S.I. Ahmed. 2019. Technological aspects, health benefits, and sensory properties of probiotic cheese. *SN Appl. Sci.* 1:1113. doi: <https://doi.org/10.1007/s42452-019-1154-4>
- 7- **Hamam A. R. A.**, and L. E. Metzger. 2019. Manufacturing of process cheese without emulsifying salt using acid curd. *J. Dairy Sci.* 102(Suppl. 1):81-82. ([Link](#))
- 8- **Hamam, A. R. A.**, S. L. Beckman, V. Sunkesula, and L. E. Metzger. 2019. Effect of storage of high concentrated micellar casein on the functional properties of process cheese. *J. Dairy Sci.* 102(Suppl. 1):34. ([Link](#))
- 9- Sunkesula, V., **A. R. A. Hamam**, and L. E. Metzger. 2019. Partial demineralization and deacidification of Greek yogurt acid whey by nanofiltration for improving the drying characteristics of Greek yogurt acid whey. *J. Dairy Sci.* 102(Suppl. 1):45. ([Link](#))
- 10- **Hamam, A.R.A.** 2019. Technological, applications, and characteristics of edible films and coatings: a review. *SN Appl. Sci.* 1:632. doi: <https://10.1007/s42452-019-0660-8>
- 11- **Hamam, A.R.A.** 2019. Compositional and Therapeutic Properties of Camel Milk: A Review. *Emirates J. Food Agric.* 31:148–152. doi: <https://doi.org/10.9755/ejfa.2019.v31.i3.1919>
- 12- **Hamam, A.R.A.**, and M.S.I. Ahmed. 2019. Technological and Characteristics of Low-Fat Cheeses: A Review. *Assiut J. Agric. Sci.* 50:15–27. doi: <https://10.21608/ajas.2019.33455>
- 13- **Hamam, A.R.A.**, and L.E. Metzger. 2018. Production and storage stability of liquid micellar casein concentrate. *J. Dairy Sci.* 101(Suppl. 2):8. ([Link](#))
- 14- **Hamam, A.R.A.**, A.A. Tammam, and A.M.A. El-Rahim. 2018. Effect of different heat treatments on the characteristics of Ras cheese during ripening. *Egypt. J. Dairy Sci.* 46:111–119. ([Link](#))
- 15- **Hamam, A.R.A.**, A.A. Tammam, Y.M.A. Elderwy, and A.I. Hassan. 2017. Functional Peptides in Milk Whey: An Overview. *Assiut J. Agric. Sci.* 48:77–91. doi: <https://dx.doi.org/10.21608/ajas.2017.19875>.



#### Submitted manuscripts (under review)

- 1- **Ahmed. R. Hammam**, Saleh M. Salman. Goat milk: compositional, technological, nutritional, and therapeutic aspects. (**Review article: International Journal of Food Science**)
- 2- **Ahmed. R. Hammam**, Khalid A. Alsaleem, Mohamed S. Elfaruk. Effect of ultrasound intensity on the functional properties of rennet-coagulated skim milk. (**Regular article: Emirates Journal of Food and Agriculture**)
- 3- **Ahmed. R. Hammam**, Khalid A. Alsaleem. Effect of fat extraction methods on the fatty acids composition of bovine milk using gas chromatography. (**Regular article: Emirates Journal of Food and Agriculture**)
- 4- **Ahmed. R. Hammam**, Khalid A. Alsaleem. Measurement of carbohydrates and organic acids in varieties of cheese using high-performance liquid chromatography. (**Regular article: Alexandria Journal of Agricultural Science**)
- 5- Mahmoud E. Ahmed, Ahmed M. Hamdy, Yasser M. El-Derwy, Dipakkumar Mehta, Fathy E. Al-Gazzar, Ibrahim G. Abo-Elnaga, **Ahmed R. A. Hammam**. Enhancement of low-fat Feta cheese characteristics using probiotic bacteria. (**Regular article: Food Science & Nutrition**)

#### Finalized manuscripts (ready for submission)

- 1- **Ahmed R. A. Hammam**, Sergio I. Martínez-Monteagudo, Lloyd E. Metzger. Progress in Micellar Casein Concentrate: Production and Applications. (**Review article: Journal of Dairy Science**)
- 2- **Ahmed R. A. Hammam**, Lloyd E. Metzger. Manufacture of process cheese without emulsifying salt using acid curd and micellar casein concentrate. (**Regular article: Journal of Dairy Science**)
- 3- **Ahmed R. A. Hammam**, Lloyd E. Metzger. Effect of storage of high concentrated micellar casein on the functional properties of process cheese products. (**Regular article: Journal of Dairy Science**)
- 4- **Ahmed R. A. Hammam**, Steven L. Beckman, Lloyd E. Metzger. Production and storage stability of high concentrated micellar casein. (**Regular article: Journal of Dairy Science**)
- 5- Mahmoud E. Ahmed, Nancy Awasti, Ahmed M. Hamdy, **Ahmed R. A. Hammam**. Development of probiotic starter cultures for enhancing nutritional and functional characteristics of low-fat Feta cheese. (**Regular article: Journal of Food Science and Technology**)
- 6- Safety, regulatory aspects, and environmental impacts of using non-thermal processing techniques for dairy industries in Non-Thermal Processing Technologies for the Dairy Industry. (**Chapter**)
- 7- Application of supercritical CO<sub>2</sub> extraction process for dairy product processing industry in Non-Thermal Processing Technologies for the Dairy Industry. (**Chapter**)

#### Presentations

- 1- **Ahmed R. A. Hammam**., and Lloyd E. Metzger. June 2020. Manufacture of culture-based acid curd using micellar casein concentrate. American Dairy Science Association.
- 2- **Ahmed R. A. Hammam**., and Lloyd E. Metzger. April 2020. Manufacture of micellar casein concentrate and its applications in the dairy industry. Dairy Productions Processing II class taught by Dr. Sergio Martinez-Monteagudo.
- 3- **Ahmed R. A. Hammam**., and Lloyd E. Metzger. November 2019. Using Micellar Casein Concentrate for Clean Label Process Cheese. [Global Cheese Technology Forum](#). Reno, Nevada.
- 4- **Ahmed R. A. Hammam**., and Lloyd E. Metzger. June 2019. Manufacturing of process cheese without emulsifying salt using acid curd. [American Dairy Science Association](#), Cincinnati, Ohio.

#### Book chapters

- 1- Nancy Awasti, Venkateswarlu Sunkesula, **Ahmed R. A. Hammam**. Current and Emerging Food Safety Systems and Tools to Prevent Food Hazards in the Food Processing Industry in Food Safety Hazards: Scope, Potential and Practices (2020).

#### Posters

- 1- **Ahmed R. A. Hammam**., and Lloyd E. Metzger. June 2020. Manufacture of imitation Mozzarella cheese without emulsifying salts using acid curd and micellar casein concentrate. American Dairy Science Association.
- 2- Venkateswarlu Sunkesula., **Ahmed R. A. Hammam**., and Lloyd E. Metzger. June 2019. Partial demineralization and deacidification of Greek yogurt acid whey by nanofiltration for improving the drying characteristics of Greek yogurt acid whey. [American Dairy Science Association](#), Cincinnati, Ohio.
- 3- **Ahmed R. A. Hammam**., Steve Beckman., Venkateswarlu Sunkesula., and Lloyd E. Metzger. June 2019. Effect of storage of high concentrated micellar casein on the functional properties of process cheese. [American Dairy Science Association](#), Cincinnati, Ohio.

- 4- **Ahmed R. A. Hammam**., and Lloyd E. Metzger. June 2018. Production and storage stability of liquid micellar casein concentrate. [American Dairy Science Association](#), Knoxville, Tennessee.

#### Thesis/Dissertation

- 1- **Ahmed Hammam**, Production and Storage Stability of High Concentrated Micellar Casein and its Effect on the Functional Properties of Process Cheese Products. [Master Thesis](#).

#### Patent

- 1- [U. S. Patent](#): Lloyd E. Metzger., **Ahmed R. A. Hammam**. Process for Manufacture of Process Cheese without Emulsifying Salt. Filled on February 18<sup>th</sup>, 2020. United States application or PCT international application number 16/793,818.

#### Scholarships

- The **2019** John Brandt Memorial Foundation Scholarship from Land O' Lakes.

#### Projects

Jan 2017–Present **Dairy Science Department, South Dakota State University, Brookings, USA.**

- Manufacture of culture-based acid curd using micellar casein concentrate (2019-Now).
- Manufacture of imitation Mozzarella cheese without emulsifying salts using acid curd and micellar casein concentrate (2019-Now).
- Manufacturing of process cheese without emulsifying salt using acid curd (2019-Now).
- Manufacturing of process cheese using high concentrated micellar casein (2018-2019).
- Production and storage stability of liquid micellar casein concentrate (2017-2018).

Mar 2013–Dec 2016 **Dairy Science Department, Faculty of Agriculture, Assiut University, Egypt.**

- Effect of Heat Treatment and Starter Cultures on the Chemical and Microbiological Characteristics of Ras Cheese during Ripening (2014-2016)

#### Other projects

- Conducting and running drying experiments (lab-scale single droplet drying and pilot-scale spray drying) for the dairy industry at the Dairy plant of South Dakota State University.
- Conducting and running evaporating experiments for the dairy industry at the Dairy plant of South Dakota State University.
- Manufacture and studying the stability of drinkable Greek Yogurt.

#### Professional Memberships

- 1- [American Dairy Science Association](#).
- 2- [Assiut University](#).

#### PERSONAL SKILLS

Native Language (s)      **Arabic**      Other language (s)      **English**

#### Communication skills

##### **Developed communication skills;**

- I have around 4 years of experience in teaching and research in dairy science. Because of my job as a teaching assistant in the dairy field, I enhanced many merits and skills that help me to empower my expertise in dairy science.

#### Organizational / Managerial skills

##### **Developed the ability to assist in organizing significant events and scientific conferences;**

- Participated in the 7<sup>th</sup> and 8<sup>th</sup> Scientific Conference for junior researchers 2014 and 2015 on the organization committee.

#### ICDL

- The International Computer Driving License certificate **ICDL 4.0 - December 2012**.

#### Other skills and activities

##### **Regular reviewer for Dairy and Food Science journals, including**

- [Emirates Journal of Food and Agriculture](#) (EJFA)

#### My profile on:

