**A three weeks training course on Real-time PCR**

**(Research Center – Hawler Medical University)**

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| **Date** | | **Time** | **Program** | **Topics** | **Tutor** |
| W1 | 14/4 | 9: 00-12:00 AM | Introduction to Quantitative Real-Time PCR (qPCR) | -Role of Molecular techniques in research and diagnostics  - Basic of Real Time PCR | Dr. Yassin Amin  Dr. Bashdar Hussein |
| 15/4 | 9: 00-12:00 AM | Applications of Real-time PCR | Real Time PCR fluorescence detection system | Dr. Bashdar Hussein |
| 16/4 | 9: 00-12:00 AM | Practical Session 1 | DNA and cDNA library  Mastermix preparation  Starting a Real time PCR run | Dr. Amin Bakr |
|  | 21/4 | 9: 00-12:00 AM | Gene Expression Quantification | **Diagnostics**: Detection, Quantification, Genotyping, Gene Expression | Dr. Taman Mahdi Hamed |
| W2 | 22/4 | 9: 00-12:00 AM | Applications of Real-time PCR | **Diagnostics**: Detection, Quantification, Genotyping, Gene Expression  mRNA extraction, Reverse Transcription, Quality Control of amplification, Normalization, Fold changes | Dr. Bashdar Hussein |
| 23/4 | 9: 00-12:00 AM | Practical Session 2 | Running HBV Viral load with standards | Dr. Amin Bakr |
| 28/4 | 9: 00-12:00 AM | DNA Quantification in Diagnostics | Standard curve analysis  ΔCt calculation,  Applications in Diagnostics and research | Dr. Amin Bakr |
| W3 | 29/4 | 9: 00-12:00 AM | Genotyping | Multiplex qPCR  Channels and Filters | Dr. Amin Bakr |
| 30/4 | 9: 00-12:00 AM | Practical Session 3 | Data analysis and reporting of HBV viral load | Dr. Amin Bakr |
| 2/5 | 9: 00-12:00 AM | Quality control and Confirmation  Other alternative and advanced technologies | Accuracy of test and compatibility with other molecular techniques.  Other qualitative DNA detection methods, microarray and sequencing | Dr. Amin Bakr |